DEEMARCO COMMERCIAL CENTER PROJECT

AIR QUALITY and GREENHOUSE GAS STUDY

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PERRIS, CALIFORNIA

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Table of Contents

Appendices

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This report is an analysis of the potential air quality and greenhouse gas impacts associated with the proposed Deemarco Commercial Center project in west of Perris, California in unincorporated Riverside County. This report has been prepared by Birdseye Planning Group (BPG) under contract to Deemarco, to support preparation of the environmental documentation pursuant to the California Environmental Quality Act (CEQA). This study analyzes the potential for temporary impacts associated with construction activity and long-term impacts associated with operation of the proposed project.

PROJECT DESCRIPTION

The proposed project is located on one parcel comprising 3.2 acres in the Mead Valley Area Plan, west of the City of Perris in unincorporated Riverside County. The site is at 21750 Cajalco Road which is located at the southwest corner of the Cajalco Road/Carroll Street intersection on APN 318-130-012 (Figure 1 – Vicinity Map).

The applicant is proposing construction and operation of a 4,283 square foot convenience store, a 1,632 square foot restaurant with drive-thru in one building located along the eastern site boundary, a 4,199 square foot canopy over a 16 dispenser gasoline fueling island to the west, a 1,481 square foot car wash in the center of the site and a 6,630 square foot retail building with one 1,632 square foot drive thru restaurant and one 4,998 square foot high-turnover sit-down restaurant along the eastern site boundary. All fuel tanks would be underground and located beneath the fueling areas. A total of 40 surface parking spaces would be provided. Primary access would be from Cajalco Road near the center of the site. The primary entrance would be improved to a minimum of 24-feet in width to accommodate emergency vehicle and semi-truck access. Driveways to all areas of the project site would utilize the common entrance. A secondary access would be located at the southeast corner of the site to and from Carroll Street. The preliminary site plan is shown on Figure 2 – Proposed Site Plan.

The site is zoned Mixed-Use (MU). The proposed project would require approval of a zone change to allow development of the car wash. Adjacent land uses are vacant land to the north, a landscape materials business to the south, a vacant land and then single-family residential to the east and a storage yard to the west. The proposed Project is expected to be begin construction in mid-2021 and be operational by early 2022.

Figure 1—Vicinity Map

- Project Site

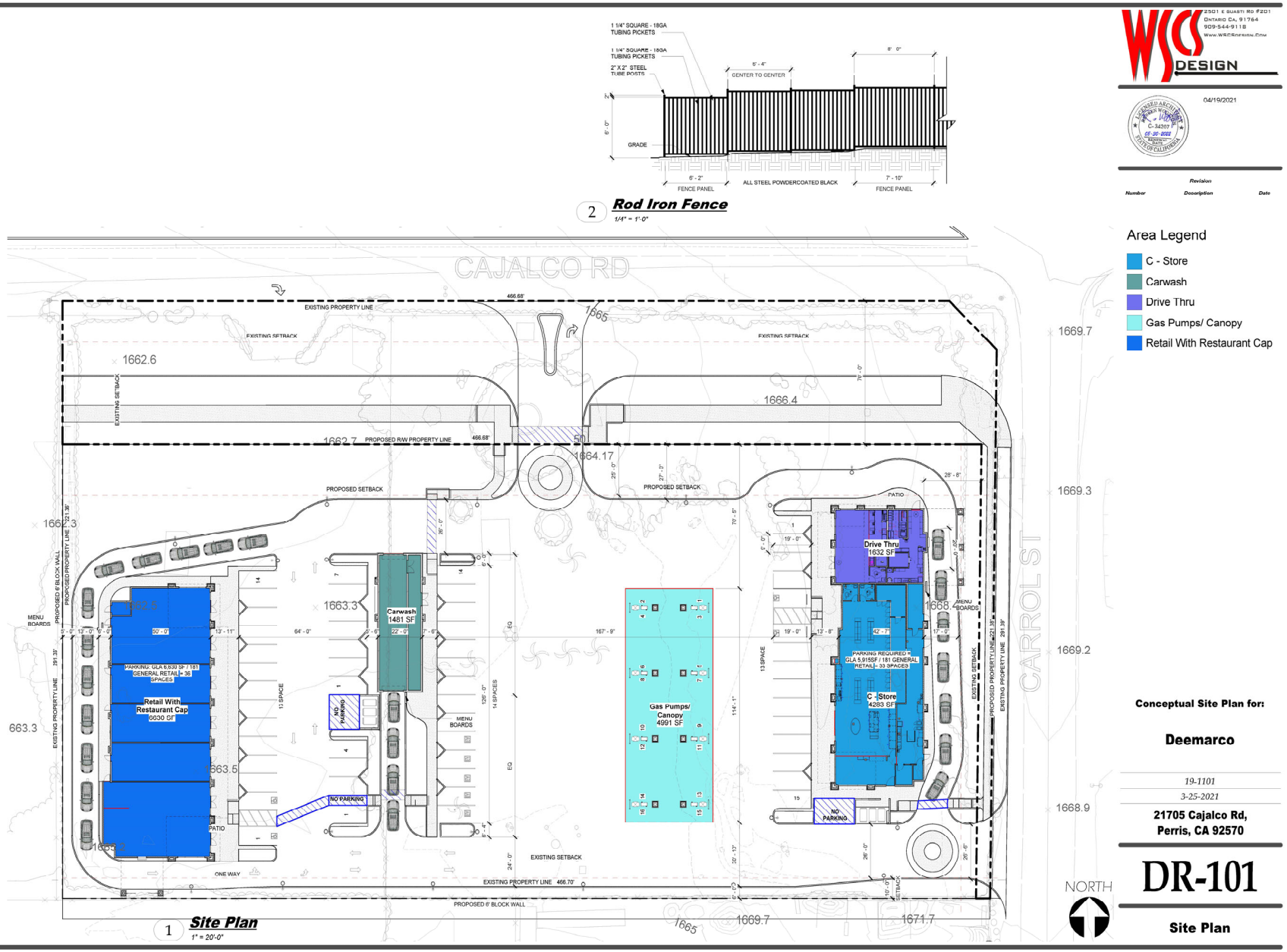

Figure 2—Site Plan

SETTING

Air Pollution Regulation

The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate emissions of airborne pollutants and have established ambient air quality standards for the protection of public health. The EPA is the federal agency designated to administer air quality regulation, while the California Air Resources Board (ARB) is the state equivalent in California. Federal and state standards have been established for six criteria pollutants, including ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulates less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$), and lead (Pb). California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Table 1 lists the current federal and state standards for each of these pollutants. Standards have been set at levels intended to be protective of public health. California standards are generally more restrictive than federal standards for each of these pollutants except lead and the eight-hour average for CO.

Table 1
State and Federal Ambient Air Quality Standards

POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS[1]		NATIONAL STANDARDS[2]		
		Concentration[3]	Method[4]	Primary[3, 5]	Secondary[3, 6]	Method[7]
Ozone[8] (O_3)	1 hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 hours	0.070 ppm (137µg/m³)		0.070 ppm (137 µg/m³)		
Carbon Monoxide (CO)	8 hours	9.0 ppm (10 mg/m³)	Non-Dispersive Infrared Spectroscopy (NDIR)	9 ppm (10 mg/m³)	--	Non-Dispersive Infrared Spectroscopy (NDIR)
	1 hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
Nitrogen Dioxide (NO_2)[10]	Annual Average	0.030 ppm (57 µg/m³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m³)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 hour	0.18 ppm (339 µg/m³)		100 ppb (188 µg/m³)	--	
Sulfur Dioxide (SO_2)[11]	Annual Average	--	Ultraviolet Fluorescence	0.03 ppm (80 µg/m³)	--	Pararosaniline
	24 hours	0.04 ppm (105 µg/m³)		0.14 ppm (365 µg/m³)	--	
	3 hours	--		--	0.5 ppm (1300 µg/m³)	
	1 hour	0.25 ppm (655 µg/m³)		75 ppb (196 µg/m³)	--	
Respirable	24 hours	50 µg/m³		150 µg/m³	150 µg/m³	

POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS[1]		NATIONAL STANDARDS[2]		
		Concentration[3]	Method[4]	Primary[3, 5]	Secondary[3, 6]	Method[7]
Particulate Matter (PM_{10})[9]	Annual Arithmetic Mean	20 µg/m³	Gravimetric or Beta Attenuation	--	--	Inertial Separation and Gravimetric Analysis
Fine Particulate Matter ($PM_{2.5}$)[9]	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12 µg/m³	15 µg/m³	Inertial Separation and Gravimetric Analysis
	24 hours	--		35 µg/m³	Same as Primary Standard	
Sulfates	24 hours	25 µg/m³	Ion Chromatography	--	--	--
Lead[12, 13] (Pb)	30-day Average	1.5 µg/m³	Atomic Absorption	--	--	High Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 µg/m³	Same as Primary Standard	
	3-month Rolling Average	--		0.15 µg/m³		
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence	--	--	--
Vinyl Chloride[12]	24 hours	0.010 ppm (26 µg/m³)	Gas Chromatography	--	--	--

Notes:

ppm = parts per million
µg/m³ = micrograms per cubic meter
mg/m³ = milligrams per cubic meter
Source: California Air Resources Board 2017

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 three 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 µg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. 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 U.S. 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 U.S. 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 μg/ m^3 to 12.0 μg/ m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/ m^3, as was the annual secondary standard of 15 μg/ m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/ 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 national 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 one 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 μg/ m^3 as a quarterly average) remains in effect until one 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 standard 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.

Local control in air quality management is provided by the ARB through county-level or regional (multi-county) Air Pollution Control Districts (APCDs). The ARB establishes air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The ARB has established 15 air basins statewide. The project site is located within the South Coast Air Basin (Basin), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and

San Bernardino Counties. Air quality conditions in the Basin are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in "attainment" or "non-attainment." The Basin, in which the project area is located, is a non-attainment area for both the federal and state standards for ozone and $PM_{2.5}$. The Basin is designated nonattainment for state standards and a maintenance area for federal PM_{10} standards. For nitrogen oxide and carbon monoxide, the Basin is designated attainment for state standards and unclassified/attainment for federal standards. Characteristics of ozone, carbon monoxide, nitrogen dioxide, and suspended particulates are described below.

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

Carbon Monoxide. Carbon monoxide is a local pollutant that is found in high concentrations only near the source. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes. Carbon monoxide's health effects are related to its affinity for hemoglobin in the blood. At high concentrations, carbon monoxide reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity and impaired mental abilities.

Nitrogen Dioxide. Nitrogen dioxide (NO_2) is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_x. Nitrogen dioxide is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of PM_{10} and acid rain.

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

Suspended Particulates. PM_{10} is particulate matter measuring no more than 10 microns in diameter, while $PM_{2.5}$ is fine particulate matter measuring no more than 2.5 microns in diameter. Suspended particulates are mostly dust particles, nitrates and sulfates. Both PM_{10} and $PM_{2.5}$ are by-products of fuel combustion and wind erosion of soil and unpaved roads and are directly emitted into the atmosphere through these processes. Suspended particulates are also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with the small particulates (those between 2.5 and 10 microns in diameter) and fine particulates ($PM_{2.5}$) can be very different. The small particulates generally come from windblown dust and dust kicked up from mobile sources. The fine particulates are generally associated with combustion processes as well as being formed in the atmosphere as a secondary pollutant through chemical reactions. Fine particulate matter is more likely to penetrate deeply into the lungs and poses a health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the small and fine particulate matter that is inhaled into the lungs remains there. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

Toxic Air Contaminants/Diesel Particulate Matter. Hazardous air pollutants, also known as toxic air pollutants (TACs) or air toxics, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. Examples of toxic air pollutants include:

- benzene, which is found in gasoline;
- perchloroethylene, which is emitted from some dry-cleaning facilities; and
- methylene chloride, which is used as a solvent.

Transportation related emissions are focused on particulate matter constituents within diesel exhaust and TAC constituents that comprise a portion of total organic gas (TOG) emissions from both diesel and gasoline fueled vehicles. Diesel engine emissions are comprised of exhaust particulate matter and TOGs which are collectively defined for the purpose of an HRA, as Diesel Particulate Matter (DPM). DPM and TOG emissions from both diesel and gasoline fueled vehicles is typically composed of carbon particles and carcinogenic substances including polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. Diesel exhaust also contains gaseous pollutants, including volatile organic compounds and oxides of nitrogen (NO_x). Information on TAC and DPM is provided herein for reference only. The project would not be a sensitive air emission receptor; however, vehicle operation and operation of the fueling station would generate DPM and TACs. Further, operation of the fueling station would generate evaporative emissions. A health risk assessment using SCAQMD assessment procedures for Rules 1401, 1401.1 and 212 released in 2017was performed and is provided herein to address the potential health risk from the fueling operation on residential properties located nearest to the site.

Regional Climate and Local Air Quality

South Coast Air Basin. The combination of topography, low mean mixing height, abundant sunshine, and emissions from the second largest urban area in the United States gives the SCAB the worst air pollution problem in the nation. Climate in the SCAB is determined by its terrain and geographical location. The SCAB consists of a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border, and high mountains surround the rest of the SCAB. The SCAB lies in the semi-permanent high-pressure zone of the eastern Pacific. The resulting climate is mild and is tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms or easterly Santa Ana wind conditions can occur.

Annual average temperatures vary little throughout the SCAB, ranging from the low-to-middle 60s, measured in degrees Fahrenheit. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The majority of annual rainfall in the SCAB occurs between October and March. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the SCAB and along the coastal side of the mountains. Average temperatures in winter months in the project area range from a low of 34 degrees F to a high of 68 degrees F. In the summer, average temperatures range from a low of 59 degrees F to a high of 98 degrees F. During an average year, the greatest amount of precipitation, 2.86 inches, occurs in February.

The SCAQMD operates a network of 38 ambient air monitoring stations throughout the South Coast Air Basin. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the California and federal standards. The air quality monitoring station located nearest to the project site is the Perris station, located approximately 15 miles west of the project site. As referenced in Table 2, data were also obtained from the Lake Elsinore monitoring station located on West Flint approximately 9 miles southwest of the project site. Table 2 provides a summary of monitoring data at the Perris station for ozone and PM_{10}. Nitrogen oxide and PM2.5 data from the West Flint Street monitoring station are also provided as referenced, the SCAB is a nonattainment area for these two pollutants.

As shown, both the federal and state ozone standards were exceeded at the Perris monitoring station during each of the last three years. The federal PM_{10} standard was not exceeded during the last three years. Insufficient data was available to determine whether the state standard was exceeded.

Table 2
Ambient Air Quality Data

Pollutant	2017	2018	2019
Ozone, ppm – First High 8-Hour Average (2015 Standard)	0.105	0.103	0.095
Number of days of above 2015 standard (>0.070 ppm)	80	67	64
Nitrogen Dioxide, ppm – First High National	49.0	41.3	38.0
Nitrogen Dioxide, ppm – First High State	49	41	38
Days above the State standard (>0.18 ppm)	0	0	0
Days above the national standard (>100 ppb)	0	0	0
Particulate Matter <10 microns, $\mu g/m^3$ First High Federal	75.4	64.4	97
Particulate Matter <10 microns, $\mu g/m^3$ First High State	75.4	64.4	92.1
Estimated number of days greater than national 24-hour standard (>150 $\mu g/m^3$)	0	0	0
Estimated number of days greater than state standard (>50 $\mu g/m^3$)	68.7	12.1	24.5
Particulate Matter <2.5 microns, $\mu g/m^3$ First High	27.2	31.3	17.6
Annual average (exceedances of 12 $\mu g/m^3$ standard not reported)	*	*	*
Number of samples of Federal exceedances (>12 $\mu g/m^3$)	*	*	*

Perris – 237 ½ North D Street Monitoring Station
Note – Nitrogen Dioxide and PM2.5 data from Lake Elsinore West Flint Street monitoring station
**Data insufficient to determine the value*
Source: California Air Resources Board, 2017, 2018, 2019 Annual Air Quality Data Summaries available at http://www.arb.ca.gov/adam/topfour/topfour1.php

Air Quality Management Plan

Under state law, the SCAQMD is required to prepare a plan for air quality improvement for pollutants for which the District is in non-compliance. The SCAQMD updates the plan every three years. Each iteration of the SCAQMD's Air Quality Management Plan (AQMP) is an update of the previous plan and has a 20-year horizon. SCAQMD adopted the 2016 AQMP in March 2017. The 2016 AQMP incorporates new scientific data and notable regulatory actions that have occurred since adoption of the 2012 AQMP.

The 2016 AQMP was prepared to ensure continued progress towards clean air and comply with state and federal requirements. This AQMP builds upon the approaches taken in the 2012 AQMP for the South Coast Air Basin for the attainment of State and federal ozone air quality standards. The 2016 AQMP incorporates the 2016 Regional Transportation Plan/Sustainable Communities Strategy and updated emission inventory methodologies for applicable source

categories. The 2016 AQMP also includes the new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches. The 2016 AQMP is available to download at

http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp.

Sensitive Receptors

Sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to air pollutants. Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare as well that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases. The closest properties defined herein as sensitive receptors are single-family residences located approximately 200 feet to the south and east of the site.

AIR QUALITY IMPACT ANALYSIS

Methodology and Significance Thresholds

This air quality analysis conforms to the methodologies recommended in the SCAQMD's *CEQA Air Quality Handbook* (1993). The handbook includes thresholds for emissions associated with both construction and operation of proposed projects. All emissions were calculated using the California Emissions Estimator Model (CalEEMod) software version 2016.3.2.

Construction activities such as clearing, grading and excavation would generate diesel and dust emissions. Construction equipment that would generate criteria air pollutants includes excavators, graders, dump trucks, and loaders. It was assumed that all construction equipment used would be diesel-powered. Construction emissions associated with development of the proposed project by estimating the types of equipment (including the number) that would be used on-site during each of the construction phases. Construction emissions are analyzed using the regional thresholds established by the SCAQMD and published in the *CEQA Air Quality Handbook.*

Operational emissions include mobile source emissions, energy emissions, and area source emissions. Mobile source emissions are generated by motor vehicle trips associated with operation of the project. Emissions attributed to energy use include electricity and natural gas consumption for space and water heating. Area source emissions are generated by landscape maintenance equipment, consumer products and architectural coatings (i.e., paints). Additionally, gasoline vapor emissions from gasoline transfer and dispensing were estimated. To determine whether a regional air quality impact would occur, the increase in emissions are compared with the SCAQMD's recommended regional thresholds for operational emissions.

Regional Thresholds. Based on Appendix G of the *CEQA Guidelines (2021)*, a project would have a significant air quality impact if it would:

a) Conflict with or obstruct implementation of the applicable air quality plan;

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard;

c) Expose sensitive receptors to substantial pollutant concentrations;

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

The SCAQMD has developed specific quantitative thresholds that apply to projects within the SCAB. The following significance thresholds apply to short-term construction activities:

- *75 pounds per day of ROG*
- *100 pounds per day of NO_X*
- *550 pounds per day of CO*
- *150 pounds per day of SOx*
- *150 pounds per day of PM_{10}*
- *55 pounds per day of $PM_{2.5}$*

The following significance thresholds apply to long-term operational emissions:

- *55 pounds per day of ROG*
- *55 pounds per day of NO_X*
- *550 pounds per day of CO*
- *150 pounds per day of SO_X*
- *150 pounds per day of PM_{10}*
- *55 pounds per day of $PM_{2.5}$*

Construction Emissions

Project construction would generate temporary air pollutant emissions. These impacts are associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction vehicles, work crew vehicle trips in addition to ROG that would be released during the drying phase upon application of paint and other architectural coatings. Construction would generally consist of demolition, site preparation, grading, construction of the proposed buildings, paving, and architectural coating (i.e., paint) application.

This analysis assumes that graded soils would be balanced on the project site and that no soil import or export would be required. The project would be required to comply with SCAQMD Rule 403, which identifies measures to reduce fugitive dust and is required to be implemented at all construction sites located within the South Coast Air Basin. Therefore, the following conditions, which are required to reduce fugitive dust in compliance with SCAQMD Rule 403, were included in CalEEMod for site preparation and grading phases of construction.

1. **Minimization of Disturbance.** Construction contractors should minimize the area disturbed by clearing, grading, earth moving, or excavation operations

to prevent excessive amounts of dust.

2. **Soil Treatment.** Construction contractors should treat all graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways to minimize fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll compaction as appropriate. Watering shall be done as often as necessary, and at least three times daily, preferably in the late morning and after work is done for the day.
3. **Soil Stabilization.** Construction contractors should monitor all graded and/or excavated inactive areas of the construction site at least weekly for dust stabilization. Soil stabilization methods, such as water and roll compaction, and environmentally safe dust control materials, shall be applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area shall be seeded and watered until landscape growth is evident, or periodically treated with environmentally safe dust suppressants, to prevent excessive fugitive dust.
4. **No Grading During High Winds.** Construction contractors should stop all clearing, grading, earth moving, and excavation operations during periods of high winds (20 miles per hour or greater, as measured continuously over a one-hour period).
5. **Street Sweeping.** Construction contractors should sweep all on-site driveways and adjacent streets and roads at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.

Construction emissions modeling for demolition, site preparation, grading, building construction, paving, and architectural coating application is based on the overall scope of the proposed development and construction phasing which is expected to begin mid-2021 and extend through early 2022. The total area disturbed as a result of the project would be 3.2 acres with construction of the commercial buildings, fueling station, car wash, parking and stormwater basins. For modeling purposes, it was assumed the site would be watered two times daily. In addition to SCAQMD Rule 403 requirements, emissions modeling also accounts for the use of low-VOC paint (50 g/L for non-flat coatings) and 100 g/L for parking lot coating as required by SCAQMD Rule 1113. Further, the application of architectural coatings was overlapped with the building construction phase to reflect a typical construction scenario and reduce daily VOC emissions. It is recommended that overlapping the architectural coating phase with building construction by approximately 20 workdays be implemented as a design feature to avoid a daily exceedance of the ROG threshold during architectural coating application. Table 3 summarizes the estimated maximum mitigated daily emissions of pollutants occurring during construction.

Table 3
Estimated Maximum Mitigated Daily Construction Emissions

Construction Phase		Maximum Emissions (lbs/day)				
	ROG	NO_x	CO	SOx	PM_{10}	$PM_{2.5}$
2021 Maximum lbs/day	4.0	43.4	22.2	0.05	10.0	5.9
2022 Maximum lbs/day	10.5	19.2	20.9	0.04	1.8	1.1
SCAQMD Regional Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded 2021	**No**	**No**	**No**	**No**	**No**	**No**
Threshold Exceeded 2022	**No**	**No**	**No**	**No**	**No**	**No**

As shown in Table 3, construction of the proposed project would not exceed the SCAQMD regional thresholds. However, modeling assumes the site would be watered at least three times daily to meet Local Significance Threshold criteria which are addressed below. This frequency is not required to meet SCAQMD daily emission thresholds. No mitigation in addition to compliance with SCAQMD Rule 403 and Rule 1113 would be required to reduce construction emissions to less than significant.

Localized Significance Thresholds. The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (South Coast Air Quality Management District 2011). CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. Construction-related emissions reported by CalEEMod are compared to the localized significance threshold lookup tables. The CalEEMod output in Appendix A shows the equipment assumed for this analysis.

LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area (SRA), project size and distance to the sensitive receptor. However, LSTs only apply to emissions within a fixed stationary location, including idling emissions during both project construction and operation. LSTs have been developed for NO_x, CO, PM_{10} and $PM_{2.5}$. LSTs are not applicable to mobile sources such as cars on a roadway (Final Localized Significance Threshold Methodology, SCAQMD, June 2003). However, according to SCAQMD LST methodology, LSTs would apply to the operational phase of a project, if the project includes stationary sources, or attracts mobile sources that may spend long periods queuing and idling at the site; such as warehouse/transfer facilities or drive-thru window aisles. Because the proposed project includes drive-thru windows and a drive-thru car wash, an operational LST evaluation is provided herein.

LSTs have been developed for emissions within areas up to five acres in size, with air pollutant modeling recommended for activity within larger areas. The SCAQMD provides lookup tables for project sites that measure one, two, or five acres. Based the mix of construction used on-site, a total of 3.5 acres would be disturbed daily during site preparation and 4.0 acres disturbed during grading. To provide a conservative evaluation of project consistency with the LSTs, look up table values for two acres were used. The project site is located in Source Receptor Area 24 (SRA-24, Perris Valley). LSTs for construction related emissions in the SRA 24 at varying distances between the source and receiving property are shown in Table 4.

Table 4
SCAQMD LSTs for Construction

Pollutant	Allowable emissions as a function of receptor distance in meters from a two-acre site (lbs/day)				
	25	**50**	**100**	**200**	**500**
Gradual conversion of NO_x to NO_2	170	200	264	379	684
CO	883	1,262	2,232	5,136	18,947
PM_{10}	7	20	38	75	186
$PM_{2.5}$	4	6	10	23	91

Source: http://www.aqmd.gov/CEQA/handbook/LST/appC.pdf, October 2009.

As referenced, the nearest sensitive receptors to the project site are located approximately 200 feet (63 meters) south of the southern property boundary. To provide a conservative evaluation of construction emissions relative to LST thresholds, allowable emissions for 50 meters were used. As shown in Table 3, total emissions of NOx, CO, PM_{10} and $PM_{2.5}$ would not exceed the LST thresholds shown in Table 4 for 50 meters with mitigation to reduce $PM_{2.5}$ emission during the site preparation phase With Mitigation Measure AQ-1, $PM_{2.5}$ emissions would be reduced to less than significant. Project-related construction impacts would be less than significant per thresholds (b) and (c) referenced above.

> **Mitigation Measure AQ-1**: The disturbed construction area shall be watered three times daily during the site preparation phase.

Construction-Related Toxic Air Contaminant Impacts

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk". The California Office of Environmental Health Hazard Assessment (OEHHA) health risk guidance states that a residential receptor should be evaluated based on a 30-year exposure period. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year

lifetime will contract cancer, based on the use of standard risk-assessment methodology. Given the short-term construction schedule, the proposed project would not result in a long-term (i.e., 30 or 70 year) exposure to a substantial source of toxic air contaminant emissions; and thus, would not be exposed to the related individual cancer risk. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project.

Construction-Related Odor Impacts

Potential sources of odor during construction activities include equipment exhaust and activities such as paving. The objectionable odors that may be produced during the construction process would occur periodically and end when construction is completed. No significant impact related to odors would occur during construction of the proposed project per threshold (d) referenced above.

Long-Term Regional Impacts

Regional Pollutant Emissions

Table 5 summarizes emissions associated with operation of the proposed project. Operational emissions include emissions from electricity consumption (energy sources), vehicle trips (mobile sources), and area sources including landscape equipment and architectural coating emissions as the structures are repainted over the life of the project. The majority of operational emissions are associated with vehicle trips to and from the project site. Trip volumes based on trip generation defaults for the uses comprising the project were modified based on trip generation rates in the Traffic Impact Assessment prepared for the proposed project by Mizuta Traffic Consultants, Inc., (May 2021).

Area source emissions from the project include stationary combustion emissions of natural gas used for space and water heating (shown in a separate row as energy), yard and landscape maintenance, consumer use of solvents and personal care products, and an average building square footage to be repainted each year. CalEEMod does not estimate emissions from the loading/fueling operations at the gasoline station. Therefore, the volatile organic compounds (Reactive Organic Gases) (VOC/ROG) emissions were estimated based on the project's estimated annual throughput of 2.4 million gallons per year and the emission rates provided by SCAQMD's Risk Assessment Procedures for Rules 1401, 1401.1, and 212.11. CalEEMod computes area source emissions based upon default factors and land use assumptions.

As shown in Table 5, daily unmitigated emissions would not exceed the SCAQMD thresholds for ROG, NO_X, CO, SO_X, PM_{10} or $PM_{2.5}$. Therefore, the project's regional air quality impacts (including impacts related to criteria pollutants, sensitive receptors and violations of air quality standards) would be less than significant per threshold b. Further, the project would not contribute to a cumulatively considerable impact. Impacts relative to threshold c would be less than significant.

Table 5
Estimated Operational Emissions

	Estimated Emissions (lbs/day)					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Proposed Project						
Area	0.3	0.01	0.01	0.01	0.01	0.01
Energy	0.06	0.6	0.5	0.01	0.04	0.04
Mobile	3.7	24.5	21.1	0.08	4.5	1.2
Maximum lbs/day	**4.2**	**25.1**	**21.7**	**0.08**	**4.6**	**1.3**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

See Appendix for CalEEMod version. 2016.3.2 computer model output - summer emissions shown.
VOC (ROG) emissions from gasoline transfer and dispensing activities at the proposed gas station are included in the area source and were based on maximum VOC (ROG) limits of 0.15, 0.024, 0.32, 0.009, and 0.24 pounds (lbs) VOC (ROG) per 1,000 gallons from the loading, storage tank breathing, refueling, hose permeation, and spillage processes, respectively. Daily emissions equal approximately 4.84 pounds of VOC/ROG.

The operational LST analysis generally includes on-site sources (area, energy and mobile) CalEEMod does not calculate and report separate on-site and off-site emissions for mobile sources. To establish a maximum potential impact scenario for analytic purposes, the emissions shown on Table 5 represent all on-site project-related stationary (area) sources and project-related mobile sources. This approach provides a conservative estimate of on-site mobile source emissions as not all vehicles accessing the site will utilize the drive-thru aisles, car wash or otherwise idle on-site for extended periods. Further, mobile source emissions shown in Table 5 reflect off-site mobile emissions which comprise the majority of all emissions associated with project operation. As stated, LSTs for a two-acre site during operations are used as a screening tool to determine if further detailed analysis is required. The threshold values presented in Table 6, are from the look-up tables for operational emissions on a two-acre site at 50-meter receiver distance.

Table 6
SCAQMD LSTs for Operation

Pollutant	**Allowable emissions as a function of receptor distance in meters from a two-acre site (lbs/day)**				
	25	**50**	**100**	**200**	**500**
radual conversion of NO_x to NO_2	170	200	264	379	684
CO	883	1,262	2,232	5,136	18,947
PM_{10}	2	5	10	18	45
$PM_{2.5}$	1	2	3	6	22

Source: http://www.aqmd.gov/CEQA/handbook/LST/appC.pdf, October 2009.

Total daily operational emissions associated with project operation shown in Table 5 would not exceed the LSTs for a two-acre site and a 50-meter receiver distance shown in Table 6. Thus, operation emissions relative to the LSTs, would be **less than significant.**

Objectionable Odors

The primary source of odors during operation would be operation of the restaurant; however, odors from gasoline dispensing may be detectable within the canopy area. During operation, the project would be subject to SCAQMD Rule 1138 which addresses restaurant emissions, specifically from chain-driven char-broilers. Rule 1138 requires the use of a catalytic oxidizer control device to control emission. SCAQMD Rule 461 requires use of CARB certified Phase I and Phase II enhanced vapor recovery systems on the dispensing equipment. These systems are designed to reduce odorous emissions. With the implementation of Rule 1138 and 461, odors would be **less than significant** per threshold (d).

AQMP Consistency

A project may be inconsistent with the AQMP if it would generate population, housing, or employment growth exceeding forecasts used in the development of the AQMP. The 2016 AQMP, the most recent AQMP adopted by the SCAQMD, incorporates local city General Plans and the Southern California Association of Government's (SCAG) Regional Transportation Plan socioeconomic forecast projections of regional population, housing and employment growth.

The proposed project involves the construction of commercial buildings for use convenience store/fast-food drive-thru restaurant and fueling station and another for retail purposes. The proposed project would not create housing and jobs are expected to be filled by local or regional residents. With approval of a zone change to accommodate the car wash, the proposed project would be consistent with the existing zoning and commercial uses along Cajalco Road west and east of the site. Vehicle trips associated with the project would be consistent with similar uses in the area and as discussed herein, project-related emissions would not exceed thresholds recommended by the SCAQMD. Thus, the project would be consistent with the AQMP and not cause an adverse impact under threshold (a).

Fueling Station Health Risk Assessment

The purpose of this analysis is to address potential risks to human health caused by exposure to toxic air contaminants generated by operation of the proposed fueling station. The methodology follows the Emission Inventory and Risk Assessment Guidelines for Gasoline Dispensing Stations and Risk Assessment Procedures mandated per Rules 1401, 1401.1 & 212 prepared by the SCAQMD for quantification of health risk and evaluation of potential impacts.

According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk". A cancer risk greater than 10 cases per 1,000,000 people exposed would be considered a significant impact. The California Office of Environmental Health Hazard Assessment (OEHHA) health risk guidance states that a residential receptor should be evaluated based on a 30-year exposure period. "Individual

Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. Thus, an individual cancer risk of less than 10 cases per 1,000,000 is considered less than significant for the purpose of evaluating impacts per CEQA.

Fueling station emissions may include toxic air contaminants (TACs) (e.g., benzene, hexane, methyl tert-butyl ether (MTBE), toluene, xylene) and have the potential to contribute to health risk in the project vicinity. Standard regulatory controls such as the SCAQMD's Rule 461 (Gasoline Transfer and Dispensing) would apply to the project in addition to the following permits/regulatory controls that apply to gasoline fueling facilities:

- 2013 California Fire Code Title 24, Part 9 (CFC 8003.1.3.2) Spill Control Requirements;
- California Code of Regulations Title 13, Motor Vehicles Division 1, 2 and 3;
- California Code of Regulations Title 27, Environmental Protection, as applicable
- California Mechanical Code (CMC);
- California Code of Regulations, Title 8, Industrial Relations, Chapter 4, Industrial Safety;
- Health and Safety Code, Section 13240 – 1343.6 (California Propane Storage and Handling Safety Act); and
- National Fire Protection Association (NFPA) Code Section 30a.

Prior to issuance of a Permit to Operate, each individual gasoline dispensing station is required to obtain the required permits from SCAQMD which would identify the maximum annual throughput allowed based on specific fuel storage and dispensing equipment proposed by the operator.

The analysis presented here reflects a maximum annual throughout of approximately 2,400,000 gallons. Ultimate fuel throughput allowances/requirements would be established by SCAQMD through the fueling station permitting processes noted above. For purposes of this evaluation, cancer risk estimates have been made consistent with the methodology presented in SCAQMD's *Risk Assessment Procedures for Rules 1401, 1401.1 & 212* which provide screening-level risk estimates for gasoline dispensing operations.

Sensitive receptors, as identified by SCAQMD, may include residences, schools, playgrounds, athletic facilities, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes. Sensitive receptors in proximity to the project are rural residential. As shown in Figure 3, the nearest sensitive receptors are the residential properties located approximately 220 feet (69 meters) south of the proposed gasoline canopy. Existing commercial receptors include a landscaping supply yard, animal feed stores and uses supporting rural residential/animal husbandry uses. The nearest use is a landscaping yard located to the south of the site and approximately 252 feet (79 meters) south of the gasoline canopy.

Based on the SCAQMD Risk Tool version 1.103 that implements the SCAQMD Risk Assessment Procedures for Rule 1401, 1401.1, and Rule 212 and Permit Application Package "N" Version

Figure 3—Distance from Fueling Canopy to Receivers

- Project Site

8.12 it is estimated that the cancer risk to sensitive and commercial receptors from the proposed gasoline dispensing station would be 2.1 in one million and 0.13 in one million, respectively (Appendix B).

As stated in the Risk Assessment Procedures for Rules 1401, 1401.1 & 212, although gasoline vapors and its TAC constituents (for example, benzene, toluene, and xylene) have non-cancer impacts, the risks from retail gasoline dispensing facilities are dominated by cancer risk. Therefore, the chronic and acute non-cancer health risk do not need to be calculated. Health risks associated with operation of the proposed gasoline dispensing facility would be less than significant. No mitigation is required.

Friant Ranch Case Overview and Project Applicability

In response to the California Supreme Court decision on December 24, 2018, Sierra Club v. County of Fresno (Friant Ranch), this section provides a discussion on the potential for identifiable health impacts to result from air pollutants analyzed in environmental documents prepared pursuant to the California Environmental Quality Act (CEQA). The discussion focuses on significant impacts and the feasibility of directly relating any identified significant adverse air quality impact to likely health consequences. The Supreme Court opinion in Friant Ranch requires projects with significant air quality impacts to relate the expected adverse air quality impacts to likely health consequences or explain why it is not feasible at the time of drafting to provide such an analysis, so that the public may make informed decisions regarding the costs and benefits of the project.

The purpose of CEQA is to inform the public as to the potential for a proposed project to result in one or more significant adverse effects on the environment (including health effects). This includes the potential for a project to result in a considerable contribution towards one or more significant cumulative impacts. CEQA does not require detailed analysis of impacts that are found to be less than significant or less than a considerable contribution to a significant cumulative impact. In accordance with CEQA requirements and the CEQA review process, air quality impacts associated with proposed local plans and development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation. The State CEQA Guidelines Section 15064.7 states that the significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance.

As stated, the project is located within the SCAB under the jurisdiction of the SCAQMD. Riverside County defers to threshold guidance established by the SCAQMD and utilizes the SCAQMD's CEQA Air Quality Handbook (approved by the AQMD Governing Board in 1993) and subsequent guidance provided on the SCAQMD website. Note the SCAQMD is currently in the process of developing an Air Quality Analysis Guidance Handbook to replace the 1993 Handbook. In addition, when considering potential air quality impacts under CEQA, consideration is given to the location of sensitive receptors within proximity to land uses that

emit TACs. CARB has published and adopted the Air Quality and Land Use Handbook: A Community Health Perspective (2005), which considers impacts to sensitive receptors from facilities that emit TAC emissions. CARB has also published Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways: Technical Advisory, a supplement to the handbook that is intended to provide scientifically based strategies to reduce exposure to traffic emissions near high-volume roadways to protect public health and promote equity and environmental justice. The SCAQMD has also adopted land use planning guidelines in the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning (2005). Together, the documents introduce land use-related policies and strategies that rely on design and distance parameters to minimize emissions and lower potential health risks.

Federal and state ambient air quality standards are designed to prevent the harmful effects of air pollution. These standards are continually updated based on evolving research, including research which relates air quality impacts with health effects. At the regional level, plans such as the SCAQMD's AQMP and SCAG's RTP/SCS work to ensure that the South Coast Air Basin reaches and maintains attainment with these federal and state standards. At the local level, environmental documents evaluate a plan or project's consistency with applicable policies identified in the SCAQMD's AQMP and SCAG's RTP/SCS as well as regulatory compliance measures which work to limit risk and exposure to TACs. In addition, in evaluating air quality impacts at the project-level, Riverside County utilizes thresholds guidance and air quality models established by the SCAQMD, which have been developed to implement these regional plans for attainment and protection of public health. For local projects that exceed any identified SCAQMD air quality threshold, CEQA documents typically identify and disclose generalized health effects of certain air pollutants but are currently unable to establish a reliable connection between any local plan or project and a particular health effect. In addition, no expert agency has yet to approve a quantitative method to reliably and meaningfully do so. Many factors contribute to this uncertainty, including the regional scope of air quality monitoring and planning, technological limitations for modeling at a local plan- or project-level, and the intrinsically complex nature between air pollutants and health effects in conjunction with local environmental variables. Therefore, at the time, it is infeasible for CEQA documents to directly link a project's significant air quality impacts with a specific health effect. However, as air quality modeling and research on health effects advances over time, the City will continue to seek the latest guidance from local air quality agencies and experts and refine its approach based on future information as it becomes available.

As stated herein, the proposed project will not exceed the daily emission thresholds established by the SCAQMD nor will operation of the fueling station component expose nearby sensitive properties to levels of TACs that would cause or contribute to a health risk. Thus, for the purpose of this evaluation, potential project impacts have been adequately evaluated with respect to the Friant Ranch case and related findings.

GREENHOUSE GAS EMISSION DISCUSSION

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

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and sulfur hexafluoride (SF_6) (California Environmental Protection Agency [CalEPA], 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the

amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2E), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a GWP of one. By contrast, methane (CH_4) has a GWP of 28, meaning its global warming effect is 28 times greater than carbon dioxide on a molecule per molecule basis (IPCC, 2014).

Total U.S. GHG emissions were 6,577 MMT CO_2E in 2019 (U.S. EPA, February 2021). Total U.S. emissions decreased from 2018 to 2019 by 1.8 percent primarily as a result of less fossil fuel combustion. Total U.S. emissions have increased by 2.0 percent from 1990 to 2019, down from a high of 15.7 percent above 1990 levels in 2007. Emissions decreased from 2018 to 2019 by 1.7 percent (116.0 MMT CO2e). Net emissions (including sinks) were 5,788 MMT CO2e. Overall, net emissions decreased 1.8 percent from 2018 to 2019 and decreased 12.9 percent from 2005 levels. The decline reflects many long-term trends, including population, economic growth, energy market trends, technological changes including energy efficiency and carbon intensity of energy fuel choices. Between 2018 and 2019, the decrease in total greenhouse gas emissions was largely driven by the decrease in CO2 emissions from fossil fuel combustion. The decrease in CO2 emissions from fossil fuel combustion was a result of a 1.3 percent decrease in total energy use and reflects a continued shift from coal to less carbon intensive natural gas and renewables. (U.S. EPA, February 2021).

In 2018, statewide emissions from GHG emitting activities statewide were 425 million metric tons of carbon dioxide equivalent (MMTCO2e), 0.8 MMTCO2e higher than 2017 levels and 6 MMTCO2e below the 2020 GHG Limit of 431 MMTCO2e. California statewide GHG emissions dropped below the 2020 GHG Limit in 2016 and have remained below the 2020 GHG Limit

since then. Transportation emissions decreased in 2018 compared to the previous year, which is the first year over year decrease since 2013. Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2018, solar power generation has continued to grow. Emissions from high-GWP gases increased 2.3 percent in 2018 (2000-2018 average year-over year increase is 6.8 percent), continuing the increasing trend as Ozone Depleting Substances (ODS) are phased out under the 1987 Montreal Protocol.

The largest source of GHG in California is transportation, contributing 39.9 percent of the state's total GHG emissions. The industrial sector is the second largest source, contributing 21 percent of the state's GHG emissions. California emissions result in part to its geographic size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. In July 2017, California's state legislature passed Assembly Bill (AB) 398 to reauthorize and extend until 2030 the state's economy-wide greenhouse gas (GHG) reduction program. The bill sets a new GHG target of at least 40% below the 1990 level of emissions by 2030.

California Regulations

In 2005, former Governor Schwarzenegger issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 states that by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent of 1990 levels (CalEPA, 2006). In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report") (CalEPA, 2006). The 2006 CAT Report recommended various strategies that the state could pursue to reduce GHG emissions. These strategies could be implemented by various state agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture.

Assembly Bill 32 and CARB's Scoping Plan

To further the goals established in EO S-3-05, the Legislature passed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020. Under AB 32, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_2E). CARB's adoption of this limit is in accordance with Health and Safety Code, Section 38550.

Further, in 2008, CARB adopted the Scoping Plan in accordance with Health and Safety Code, Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards;
2. Achieving a statewide renewable energy mix of 33%;
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions;
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

In the Scoping Plan (CARB 2008), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5% from the otherwise projected 2020 emissions level (i.e., those emissions that would occur in 2020) absent GHG reducing laws and regulations (referred to as Business-As-Usual (BAU)). To calculate this percentage reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (CARB 2011a), CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the BAU conditions. When the 2020 emissions level projection was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–

2016) and the Renewables Portfolio Standard (RPS) (12% to 20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the BAU conditions.

In 2014, CARB adopted the First Update to the Climate Change Scoping Plan: Building on the Framework (First Update; CARB 2014). The stated purpose of the First Update is to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050" (CARB 2014). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California could reduce emissions further by 2030 to levels needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050" (CARB 2014). Those six areas are (1) energy, (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure), (3) agriculture, (4) water, (5) waste management, and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal (CARB 2014).

Based on CARB's research efforts presented in the First Update, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050" (CARB 2014). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the state's 1990 emissions level using more recent GWPs identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO_2E) and the revised 2020-emissions-level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the BAU conditions (CARB 2014).

In January 2017, CARB released, *The 2017 Climate Change Scoping Plan Update (*Second Update; CARB 2017b), for public review and comment. This update proposes CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20%. The Second Update incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017), acknowledges the need for reducing emissions in agriculture, and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon. During development of the Second Update, CARB held a number of public workshops in the Natural and Working

Lands, Agriculture, Energy, and Transportation sectors to inform development of the 2030 Scoping Plan Update (CARB 2016). The Second Update has not been considered by CARB's Governing Board at the time this analysis was prepared.

Executive Order S-01-07 was enacted on January 18, 2007. The order mandates that a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020.

Other regulations affecting state and local GHG planning and policy development are summarized as follows:

Assembly Bill 939 and Senate Bill 1374
Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004 suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

Senate Bill 1368
Senate Bill 1368 (SB 1368) is the companion Bill of AB 32 and was adopted September, 2006. SB 1368 required the California Public Utilities Commission (CPUC) to establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1, 2007 and for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas-fired plant. Furthermore, the legislation states that all electricity provided to the State, including imported electricity, must be generated by plants that meet the standards set by California Public Utilities Commission (CPUC) and California Energy Commission (CEC).

Senate Bill 97
Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is an environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010. Pursuant to the requirements of SB 97 as stated above, on December 30, 2009 the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed sections of the CEQA Guidelines and incorporated GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance were provided and no specific mitigation measures were identified. The GHG emission reduction amendments went into effect on March 18, 2010 and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.

- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.

- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.

- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.

- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."

- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.

- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

Senate Bills 1078, 107, and X1-2 and Executive Orders S-14-08 and S-21-09
Senate Bill 1078 (SB 1078) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) changed the target date to 2010. Executive Order S-14-08 was signed on November 2008 and expands the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

California Code of Regulations (CCR) Title 24, Part 6
CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to

allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008 and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. All buildings for which an application for a building permit is submitted on or after July 1, 2014 must follow the 2013 standards. The 2013 commercial standards are estimated to be 30 percent more efficient than the 2008 standards; 2013 residential standards are at least 25 percent more efficient. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

Senate Bill 375

Senate Bill 375 (SB 375) was adopted in September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable community's strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, beginning October 2018, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. In April 2016, SCAG adopted the 2016-2040 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS), which meets the CARB emission reduction requirements. The Housing Element Update is required by the State to be completed within 18 months after RTP/SCS adoption. The current Riverside County Housing Element 2013-2021 was adopted October 7, 2015.

City and County land use policies, including General Plans, are not required to be consistent with the RTP and associated SCS or APS. However, CEQA incentivizes, through streamlining and other provisions, qualified projects that are consistent with an approved SCS or APS and categorized as "transit priority projects."

Senate Bill X7-7

Senate Bill X7-7 (SB X7-7), enacted on November 9, 2009, mandates water conservation targets and efficiency improvements for urban and agricultural water suppliers. SB X7-7 requires the Department of Water Resources (DWR) to develop a task force and technical panel to develop alternative best management practices for the water sector. Additionally, SB X7-7 required the DWR to develop criteria for baseline uses for residential, commercial, and industrial uses for both indoor and landscaped area uses. The DWR was also required to develop targets and regulations that achieve a statewide 20 percent reduction in water usage.

California Green Building Standards

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402(b)(1)). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402(d)) and cost effectiveness (California Public Resources Code, Sections 25402(b)(2) and (b)(3)). These standards are updated to consider and incorporate new energy efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2019 Title 24 building energy efficiency standards and became effective on January 1, 2020. In general, single-family homes built to the 2019 standards are anticipated to use approximately 7% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2016 standards, and nonresidential buildings built to the 2019 standards will use an estimated 30% less energy than those built to the 2016 standards (CEC 2015a).

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as "CALGreen," and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings and schools and hospitals. The CALGreen 2019 standards became effective on January 1, 2020. The mandatory standards require the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings;
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance;
- Diversion of 65% of construction and demolition waste from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency;
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations; and
- Low-pollutant-emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle board.

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements, stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs (24 CCR Part 11).

The California Public Utilities Commission, CEC, and CARB also have a shared, established goal of achieving zero net energy (ZNE) for new construction in California. The key policy timelines include the following: (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030 (CPUC 2013).[2] As most recently defined by the CEC in its 2015 Integrated Energy Policy Report (CEC 2015b), a ZNE code building is "one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building" using the CEC's Time Dependent Valuation metric.

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video

[2] It is expected that achievement of the ZNE goal will occur through revisions to the Title 24 standards.

equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

Executive Order B-30-15

EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO2E. EO B-30-15 also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

Senate Bill 32 and Assembly Bill 197

SB 32 and AB 197 (enacted in 2016) are companion bills that set new statewide GHG reduction targets, make changes to CARB's membership, increase legislative oversight of CARB's climate change–based activities, and expand dissemination of GHG and other air quality–related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

SB 350— Clean Energy and Pollution Reduction Act of 2015

In October 2015, the legislature approved and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.

- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly-owned utilities.

- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

SB 100

On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18

On September 10, 2018, Governor Brown signed Executive Order B-55-2018 which established a new statewide goal to achieve carbon neutrality as soon as possible and no later than 2045. The executive order also states that California will achieve and maintain net negative emissions thereafter.

AB 2127

AB 2127 promotes better planning for EV infrastructure build-out across all vehicle classes. AB 2127 would help the state meet the goal of 5 million zero-emission vehicles (ZEV) on the road by 2030.

Local Regulations and CEQA Requirements

As referenced, pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted CEQA Guidelines provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, but contain no suggested thresholds of significance for GHG emissions. Instead, lead agencies are given the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. The general approach to developing a Threshold of Significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move the state towards climate stabilization. If a project would generate GHG

emissions above the threshold level, its contribution to cumulative impacts would be considered significant. To date, the Bay Area Air Quality Management District (BAAQMD), the South Coast Air Quality Management District (SCAQMD), and the San Joaquin Air Pollution Control District (SJVAPCD) have adopted quantitative significance thresholds for GHGs. However, in March 2013 the Bay Area's thresholds were overruled by the Alameda County Superior Court (*California Building Industry Association v. Bay Area Air Quality Management District*), on the basis that adoption of the thresholds constitutes a "project" under CEQA, but did not receive the appropriate environmental review. As a result, BAAQMD has elected to not recommend specific GHG thresholds for use in CEQA documents.

The SCAQMD threshold, which was adopted in December 2008, considers emissions of over 10,000 metric tons CO2E /year to be significant. However, the SCAQMD's threshold applies only to stationary sources and is expressly intended to apply only when the SCAQMD is the CEQA lead agency. Although not formally adopted, the SCAQMD has developed a draft quantitative threshold for all land use types of 3,000 metric tons CO_2E /year (SCAQMD, September 2010). Note that lead agencies retain the responsibility to determine significance on a case-by-case basis for each specific project.

Riverside County Climate Action Plan

The Riverside County Climate Action Plan was adopted in December 2015 and updated November 2019 to ensure consistency with the new statewide emission reduction goals associated with SB 32. As referenced, SB 97 allows climate action plans and other greenhouse gas reduction plans to be used for determining whether a project has significant impacts, based upon its compliance with the plan. The specific goals and actions included in the County of Riverside Climate Action Plan that pertain to the proposed project include those addressing energy and water use reduction, promotion of green building measures, waste reduction, and reduction in vehicle miles traveled. The proposed project would also be required to implement all mandatory green building measures for new commercial development under the CALGreen Code. This would require the project be designed to reduce water consumption, increase building system efficiencies, divert construction waste from landfills, and install low pollutant emitting finish materials. The implementation of these stricter building and appliance standards would result in water, energy, and construction waste reductions for the proposed project.

The Riverside County Climate Action Plan was adopted in December 2015. As referenced, SB 97 allows climate action plans and other greenhouse gas reduction plans to be used for determining whether a project has significant impacts, based upon its compliance with the plan. Following the state's adopted AB 32 GHG reduction target, Riverside County has set a goal to reduce emissions back to 1990 levels by the year 2020. This target was calculated as a 15% decrease from 2008 levels, as recommended in the AB 32 Scoping Plan referenced above. The estimated community-wide emissions for the year 2020, based on population and housing growth projections associated with the assumptions used in the proposed General Plan Update, are 12,129,497 MT CO2e. To reach the reduction target, Riverside County must offset this growth in emissions and reduce community-wide emissions to 5,960,998 MT CO2e by the year 2020.

In 2016 the Sierra Club, Center for Biological Diversity, San Bernardino Audubon Society, and respondents challenged particular aspects of the CAP related to commitments to solar, electric vehicles (EV), energy efficient traffic signals, and future updates of the CAP. In 2017 the County and the Petitioners entered into a Settlement Agreement which included commitments to solar, EV chargers, LED traffic signals and periodic updates that enhances the CAP goals and maintains the County's Land Use authority.

Since the 2015 CAP adoption and 2017 Settlement Agreement, new legislation and several policies have been proposed, such as Executive Order (EO) B-30-153 and SB 324 that extended the goals of AB 32 and set a 2030 goal of reducing emissions to 40 percent below 1990 levels by 2030. Further, the emissions reduction target of 40 percent below 1990 levels by 2030 is an interim-year goal to make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This action keeps California on target to achieve the level of reductions scientists say is necessary to meet the Paris Agreement goals. Developing methods to achieve statewide goals at the County level were incorporated into the Riverside County Climate Action Plan Update which was adopted in November 2019.

Per the CAP Update, Riverside County's 2017 GHG emissions totaled 4,905,518 MT of CO_2e for that year. Under the Business As Usual (BAU) forecast, emissions will be 5,158,305 MT CO2e in 2020; 6,368,781 MT CO2e in 2030; and 11,305,026 MT CO2e in 2050. These emissions levels are 5.1 percent higher in 2020 than 2017, 29.8 percent higher in 2030 than 2017, and more than double 2017 emissions by 2050. Under the Adjusted Business As Usual (ABAU) forecast (which represents State efforts focused on reducing GHG emissions within the County), emissions will be 4,861,256 MT CO2e in 2020; 4,102,109 MT CO2e in 2030; and 4,175,146 MT CO2e in 2050. Compared to 2017, these emissions levels are 0.9 percent lower in 2020, 16.0 percent lower in 2030, and 14.8 percent lower in 2050. The CAP Update assesses the previous GHG reduction targets identified in the 2015 CAP and proposes new targets that are consistent with the State policies to meet the requirements of Senate Bill 32. The State recommends a 15 percent reduction below 2005–2008 baseline levels by 2020, a 49 percent reduction below 2008 levels by 2030, and an 80 percent reduction below 2008 levels by 2050. To continue reductions consistent with the State's long-term emissions reduction goals, the County would need to reduce emissions in 2030 by 525,511 MT CO2e from an ABAU forecast and by 2,982,947 MT CO2e from an ABAU forecast by 2050.

The specific goals and actions included in the County of Riverside Climate Action Plan that pertain to the proposed project include those addressing energy and water use reduction, promotion of green building measures, waste reduction, and reduction in vehicle miles traveled. The proposed project would also be required to implement all mandatory green building measures for new commercial development under the CALGreen Code. This would require the project be designed to reduce water consumption, increase building system efficiencies, divert construction waste from landfills, and install low pollutant emitting finish materials. The implementation of these stricter building and appliance standards would result in water, energy, and construction waste reductions for the proposed project.

The tool developed by Riverside County for determining project consistency with the CAP is referred to as the "Riverside County GHG Screening Table document". The Riverside County GHG Screening Table document provides guidance for the analysis of development projects and divide projects into two broad categories based upon the type of CEQA review being conducted. The screening table provides a menu of reduction options. If a project can obtain 100 points from the screening table, the mitigated project will implement pertinent reduction measures such that it meets the reduction goals of the CAP and a less than significant finding can be made for the project. The CAP also recognizes that not all projects are large enough to warrant review per the screening tables. Projects that are projected to generate less than 3,000 metric MT CO2e annually are defined as small projects with less than significant GHG emissions. These projects do not require evaluation per the screening tables (County of Riverside, 2015).

CLIMATE CHANGE IMPACT ANALYSIS

Thresholds of Significance

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions in March 2010. These guidelines are used in evaluating the cumulative significance of GHG emissions from the proposed project. According to the adopted CEQA Guidelines, impacts related to GHG emissions from the proposed project would be significant if the project would:

- *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or*
- *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). The proposed project is evaluated herein based on 3,000 MT CO2e significance standard adopted in the Riverside County CAP as referenced above.

Methodology

GHG emissions associated with construction and operation of the proposed project and existing development have been estimated using California Emissions Estimator Model (CalEEMod) version 2016.3.2.

Construction Emissions

Construction of the proposed project would generate temporary GHG emissions primarily associated with the operation of construction equipment and truck trips. Site preparation and grading typically generate the greatest emission quantities because the use of heavy equipment is greatest during this phase of construction. Emissions associated with the construction period were estimated based on the projected maximum amount of equipment that would be used on-site at one time. Air districts such as the SCAQMD have recommended amortizing construction-related emissions over a 30-year period to calculate annual emissions. Complete CalEEMod results and assumptions can be viewed in the Appendix.

Operational Emissions

Default values used in CalEEMod version 2016.3.2 are based on the California Energy Commission (CEC) sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies. CalEEMod provides operational emissions of CO_2, N_2O and CH_4. This methodology has been subjected to peer review by numerous public and private stakeholders, and in particular by the CEC; and therefore, is considered reasonable and reliable for use in GHG impact analysis pursuant to CEQA. It is also recommended by CAPCOA (January 2008).
Emissions associated with area sources (i.e., consumer products, landscape maintenance, and architectural coating) were calculated in CalEEMod based on standard emission rates from CARB, USEPA, and district supplied emission factor values (CalEEMod User Guide, 2016). Emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CalEEMod User Guide, 2016). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

Emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California. Emissions from mobile sources were quantified based on trip generation estimates included in CalEEMod version 2016.3.2 for commercial projects.

Estimate of GHG Emissions

Construction Emissions

Construction activity is assumed to occur over a period of approximately 12 months beginning in mid-2021 and concluding in early 2022. Based on CalEEMod results, construction activity for the project would generate an estimated 470 metric tons of carbon dioxide equivalent (CO_2E), as shown in Table 7. Amortized over a 30-year period (the assumed life of the project), construction of the proposed project would generate 16 metric tons of CO_2E per year.

Table 7
Estimated Construction Related Greenhouse Gas Emissions

Year	Annual Emissions (metric tons CO_2E)
2021	256
2022	214
Total	**470**
Amortized over 30 years	**16 metric tons per year**

See Appendix for CalEEMod software program output

Operational Indirect and Stationary Direct Emissions

Long-term emissions relate to energy use, solid waste, water use, and transportation. Each source is discussed below and includes the emissions associated with existing development and the anticipated emissions that would result from the proposed project.

Energy Use. Operation of onsite development would consume both electricity and natural gas (see Appendix for CalEEMod results). The generation of electricity through combustion of fossil fuels typically yields CO_2, and to a smaller extent, N_2O and CH_4. Natural gas emissions can be calculated using default values from the CEC sponsored CEUS and RASS studies which are built into CalEEMod. As shown in Table 8, the overall net increase in energy use at the project site would result in approximately 286 metric tons of CO_2E per year.

Water Use Emissions. The CalEEMod results indicate that the project would use approximately 3.7 million gallons of water per year. Based on the amount of electricity generated to supply and convey this amount of water, as shown in Table 9, the project would generate approximately 15 metric tons of CO_2E per year. Emissions related to water consumption would be reduced by 20% by implementing measures that include the installation of low flow plumbing fixtures (i.e., faucets, toilets, show heads) and water efficient irrigation systems.

Solid Waste Emissions. Implementation of a municipal recycling program that would achieve a 75% diversion rate statewide is required for residential uses per the California Integrated Waste Management Act of 1989 (AB 939). However, no requirements exist for

businesses. The CalEEMod results indicate that the project would result in approximately 61 metric tons of CO_2E per year associated with solid waste disposed within landfills.

Table 8
Estimated Annual Energy-Related Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Proposed Project	
Electricity	162 metric tons
Natural Gas	124 metric tons
Total	**286 metric tons**

See Appendix for CalEEMod software program output.

Table 9
Estimated Annual
Solid Waste and Water Use Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Water	18 metric tons
Solid Waste	58 metric tons
Total Water and Solid Waste	**76 metric tons**

See Appendix for CalEEMod software program output.

Transportation Emissions. Mobile source GHG emissions were estimated using the trip generation rates provided in the Traffic Impact Assessment (Mizuta Traffic Consulting, Inc., May 2021). Trip generation rates for the project were developed utilizing the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition.* Trip credits such as passby trips were applied to the proposed use based on standard rates published in the *ITE Trip Generation Handbook, 3rd Edition*. Passby trips are trips that are already on the road network and "passing by" the project site. The trip generation rates were revised to reflect pass by trip credits which reduces the number of new trips that would be generated by the project. Table 10 shows the estimated mobile emissions of GHGs for the project based on the estimated annual VMT of 2,127,030. As shown in Table 9, the project would generate approximately 1,355 metric tons of CO_2E associated with new vehicle trips.

Combined Construction, Stationary and Mobile Source Emissions

Table 11 combines the net new construction, operational, and mobile GHG emissions associated with the proposed project. As discussed above, temporary emissions associated with construction activity (approximately 470 metric tons CO_2E) are amortized over 30 years (the anticipated life of the project).

Table 10
Estimated Annual Mobile Emissions of Greenhouse Gases

Emission Source	Annual Emissions (CO_2E)
Proposed Project	
Mobile Emissions (CO_2 & CH_4)	1,355 metric tons
Total	**1,355 metric tons**

See Appendix for CalEEMod software program output.

Table 11
Combined Annual Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Construction	16 metric tons
Operational Energy Solid Waste Water	 286 metric tons 58 metric tons 18 metric tons
Mobile	1,355 metric tons
Total	**1,733 metric tons**

See Appendix for CalEEMod software program output (demolition and new construction).

For the proposed project, the combined annual emissions would total approximately 1,733 metric tons per year in CO_2E. The majority (78%) of the project's GHG emissions are associated with motor vehicular travel. The proposed project is evaluated based on the threshold of 3,000 MT CO_2E annually. Project-related annual GHG emissions would not exceed the threshold of 3,000 metric tons per year; therefore, impacts from GHG emissions would be less than significant per threshold a.

GHG Cumulative Significance. As referenced, specific goals and actions included in the County of Riverside Climate Action Plan and Title 24 that pertain to the proposed project include those addressing energy and water use reduction, promotion of green building measures, waste reduction, and reduction in vehicle miles traveled. The proposed project would also be required to implement all mandatory green building measures for new commercial development under the CALGreen Code. This would require the project be designed to reduce water consumption, increase building system efficiencies, divert construction waste from landfills, and install low pollutant emitting finish materials. Implementation of these building and appliance standards would result in water, energy, and construction waste reductions for the proposed project. This would result in a less than significant impact under threshold b.

Consistency with EO S-3-05 and SB 32

EO S-3-05. This EO establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050.

SB 32. This bill establishes a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by December 31, 2030. As stated, the Riverside County CAP Update (2019) summarizes various State and local policies that will contribute to reduced GHG emissions in Riverside County by the year 2020 and beyond. Some of these policies include updated building codes for energy efficiency, the low carbon fuel standard, Pavley (California Assembly Bill) vehicle emissions standards, and the Renewable Portfolio Standards for utility companies. The CAP summarizes the 2030 and 2050 emissions for Riverside County based on the anticipated growth rates included in Riverside County's General Plan update. The reductions needed to meet the County's 2030 and 2050 goals are also addressed.

After 2020, GHG emissions would continue to increase within Riverside County; however, the growth in Riverside County's future emissions would be offset by the reductions from incorporation of the State and local policies identified in this CAP Update. The additional, reduction measures included in the CAP Update have been developed to meet the reduction targets for the year 2020 and beyond; however, the implementation of the CAP Update would require periodic updates to ensure that Riverside County is continually tracking GHG emissions and making adjustments as necessary to ensure that future targets are met. It is important to note that post 2030, the reduction needed to meet the 2050 targets would be 73 percent below BAU. The proposed State and local measures that will continue beyond 2030 are expected to yield significant reductions. However, the policy and regulatory landscape beyond 2030 (for example, Senate Bill 1008, which requires 100 percent renewables by 2045) and technological innovations will require a re-consideration of the future GHG reduction targets.

As stated, the proposed project would not exceed the 3,000 MT CO2e annual screening threshold defined in the CAP; and thus, is not considered a cumulatively considerable source of GHG emissions. However, the project would be required to implement efficiency strategies intended to reduce overall energy and water demand and related GHG emissions associated with generating and conveying energy to the site as well the energy required to treat and convey potable water to the project site.

CARB has indicated that statewide, California is on track to achieving both the 2030 and 2050 goals. CARB stated in the First Update to the Climate Change Scoping Plan that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014, p. ES2).This is confirmed in the 2017 Scoping Plan, which states that the Scoping Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new,

technologically feasible and cost-effective strategies to ensure that California meets its GHG reduction targets.

As stated, the project would not generate enough GHG emissions to cumulatively contribute to global climate change; and thus, would not adversely impact the attainment of statewide reductions in GHG emissions referenced above. However, the measures implemented by the project to reduce overall GHG emissions would contribute to GHG reduction goals mandated by AB 32 and further address in EO S-3-05 and SB 32.

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Appendix A

CalEEMod Air Quality and Greenhouse Gas Emissions Model Results – Summer/Annual

Deemarco

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	2.88	Acre	2.88	125,452.80	0
Fast Food Restaurant with Drive Thru	1.63	1000sqft	0.04	1,632.00	0
Fast Food Restaurant with Drive Thru	1.63	1000sqft	0.04	1,632.00	0
High Turnover (Sit Down Restaurant)	5.00	1000sqft	0.11	4,998.00	0
Automobile Care Center	1.48	1000sqft	0.03	1,481.00	0
Convenience Market With Gas Pumps	4.28	1000sqft	0.10	4,283.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
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

Deemarco - Riverside-South Coast County, Summer

Project Characteristics -

Land Use -

Construction Phase - Schedule modified to reflect actual projections and overlap the painting phase with building construction.

Grading - Assumes 20 haul trips w/ 16 yards per truck for removal of demo material.
Area disturbed based SCAQMD Guidelines for using CalEEMod to calculate area of disturbance for LST.

Vehicle Trips - Auto care center = car wash
Trip rates revised to match trip rates and reduction to reflect to 47% pass by trips as specified in the Traffic Impact Assessment (May 2021).

Construction Off-road Equipment Mitigation - Assumes watering three times daily for dust control to meet LST.

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	230.00	220.00
tblConstructionPhase	NumDays	8.00	30.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	NumDays	5.00	3.00
tblConstructionPhase	PhaseEndDate	7/22/2022	6/16/2022
tblConstructionPhase	PhaseEndDate	6/2/2022	6/16/2022
tblConstructionPhase	PhaseEndDate	7/15/2021	8/12/2021
tblConstructionPhase	PhaseEndDate	6/28/2022	6/30/2022
tblConstructionPhase	PhaseEndDate	7/5/2021	7/1/2021
tblConstructionPhase	PhaseStartDate	6/29/2022	5/20/2022
tblConstructionPhase	PhaseStartDate	7/16/2021	8/13/2021
tblConstructionPhase	PhaseStartDate	7/6/2021	7/2/2021
tblConstructionPhase	PhaseStartDate	6/3/2022	6/17/2022
tblGrading	AcresOfGrading	15.00	4.00

tblGrading	AcresOfGrading	0.00	3.50
tblGrading	MaterialExported	0.00	320.00
tblVehicleTrips	ST_TR	23.72	0.66
tblVehicleTrips	ST_TR	1,448.33	393.70
tblVehicleTrips	ST_TR	722.03	221.30
tblVehicleTrips	ST_TR	158.37	52.70
tblVehicleTrips	SU_TR	11.88	0.66
tblVehicleTrips	SU_TR	1,182.08	393.70
tblVehicleTrips	SU_TR	542.72	221.30
tblVehicleTrips	SU_TR	131.84	52.70
tblVehicleTrips	WD_TR	23.72	0.66
tblVehicleTrips	WD_TR	845.60	393.70
tblVehicleTrips	WD_TR	496.12	221.30
tblVehicleTrips	WD_TR	127.15	52.70

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.0384	43.4438	22.2009	0.0500	19.7515	2.0545	21.8059	10.1836	1.8904	12.0741	0.0000	4,943.0921	4,943.0921	1.2585	0.0000	4,974.5544
2022	10.5167	19.2024	20.9173	0.0430	0.9297	0.8986	1.8283	0.2499	0.8503	1.1002	0.0000	4,177.0018	4,177.0018	0.6888	0.0000	4,194.2221
Maximum	**10.5167**	**43.4438**	**22.2009**	**0.0500**	**19.7515**	**2.0545**	**21.8059**	**10.1836**	**1.8904**	**12.0741**	**0.0000**	**4,943.0921**	**4,943.0921**	**1.2585**	**0.0000**	**4,974.5544**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.0384	43.4438	22.2009	0.0500	7.9681	2.0545	10.0225	4.0432	1.8904	5.9336	0.0000	4,943.0921	4,943.0921	1.2585	0.0000	4,974.5544
2022	10.5167	19.2024	20.9173	0.0430	0.9297	0.8986	1.8283	0.2499	0.8503	1.1002	0.0000	4,177.0018	4,177.0018	0.6888	0.0000	4,194.2221
Maximum	**10.5167**	**43.4438**	**22.2009**	**0.0500**	**7.9681**	**2.0545**	**10.0225**	**4.0432**	**1.8904**	**5.9336**	**0.0000**	**4,943.0921**	**4,943.0921**	**1.2585**	**0.0000**	**4,974.5544**

	ROG	NOx	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**	**56.98**	**0.00**	**49.86**	**58.85**	**0.00**	**46.61**	**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	0.3675	2.0000e-005	1.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.7000e-003	3.7000e-003	1.0000e-005		3.9400e-003
Energy	0.0685	0.6223	0.5227	3.7300e-003		0.0473	0.0473		0.0473	0.0473		746.7485	746.7485	0.0143	0.0137	751.1861
Mobile	3.7521	24.5058	21.1705	0.0842	4.5358	0.0523	4.5881	1.2135	0.0489	1.2624		8,651.2347	8,651.2347	0.7555		8,670.1212
Total	**4.1881**	**25.1281**	**21.6949**	**0.0879**	**4.5358**	**0.0996**	**4.6354**	**1.2135**	**0.0962**	**1.3097**		**9,397.9869**	**9,397.9869**	**0.7698**	**0.0137**	**9,421.3112**

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	0.3675	2.0000e-005	1.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.7000e-003	3.7000e-003	1.0000e-005		3.9400e-003
Energy	0.0685	0.6223	0.5227	3.7300e-003		0.0473	0.0473		0.0473	0.0473		746.7485	746.7485	0.0143	0.0137	751.1861
Mobile	3.7521	24.5058	21.1705	0.0842	4.5358	0.0523	4.5881	1.2135	0.0489	1.2624		8,651.2347	8,651.2347	0.7555		8,670.1212
Total	**4.1881**	**25.1281**	**21.6949**	**0.0879**	**4.5358**	**0.0996**	**4.6354**	**1.2135**	**0.0962**	**1.3097**		**9,397.9869**	**9,397.9869**	**0.7698**	**0.0137**	**9,421.3112**

	ROG	NOx	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	Demolition	Demolition	6/1/2021	6/28/2021	5	20	
2	Site Preparation	Site Preparation	6/29/2021	7/1/2021	5	3	
3	Grading	Grading	7/2/2021	8/12/2021	5	30	
4	Building Construction	Building Construction	8/13/2021	6/16/2022	5	220	
5	Paving	Paving	6/17/2022	6/30/2022	5	10	
6	Architectural Coating	Architectural Coating	5/20/2022	6/16/2022	5	20	

Acres of Grading (Site Preparation Phase): 3.5

Acres of Grading (Grading Phase): 4

Acres of Paving: 2.88

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 21,039; Non-Residential Outdoor: 7,013; Striped Parking Area: 7,527 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	40.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	58.00	23.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

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	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.3170	0.0000	19.3170	10.0663	0.0000	10.0663			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**19.3170**	**2.0445**	**21.3615**	**10.0663**	**1.8809**	**11.9472**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0649	2.8981	0.3811	0.0100	0.2332	8.8200e-003	0.2421	0.0639	8.4400e-003	0.0724		1,065.7801	1,065.7801	0.0619		1,067.3277
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	0.0853	0.0486	0.6655	1.9200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		191.6552	191.6552	4.5700e-003		191.7694
Total	**0.1502**	**2.9467**	**1.0466**	**0.0120**	**0.4344**	**0.0100**	**0.4444**	**0.1173**	**9.5300e-003**	**0.1268**		**1,257.4352**	**1,257.4352**	**0.0665**		**1,259.0971**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.5336	0.0000	7.5336	3.9259	0.0000	3.9259			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**7.5336**	**2.0445**	**9.5781**	**3.9259**	**1.8809**	**5.8068**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0649	2.8981	0.3811	0.0100	0.2332	8.8200e-003	0.2421	0.0639	8.4400e-003	0.0724		1,065.7801	1,065.7801	0.0619		1,067.3277
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	0.0853	0.0486	0.6655	1.9200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		191.6552	191.6552	4.5700e-003		191.7694
Total	**0.1502**	**2.9467**	**1.0466**	**0.0120**	**0.4344**	**0.0100**	**0.4444**	**0.1173**	**9.5300e-003**	**0.1268**		**1,257.4352**	**1,257.4352**	**0.0665**		**1,259.0971**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1635	0.0000	6.1635	3.3255	0.0000	3.3255			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.1635**	**1.1599**	**7.3234**	**3.3255**	**1.0671**	**4.3926**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	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	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

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					2.4038	0.0000	2.4038	1.2969	0.0000	1.2969			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**2.4038**	**1.1599**	**3.5637**	**1.2969**	**1.0671**	**2.3641**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	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	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0537	2.1284	0.3797	5.9600e-003	0.1473	4.0500e-003	0.1513	0.0424	3.8700e-003	0.0463		628.4774	628.4774	0.0450		629.6014
Worker	0.2750	0.1567	2.1443	6.2000e-003	0.6483	3.8200e-003	0.6521	0.1719	3.5200e-003	0.1755		617.5555	617.5555	0.0147		617.9237
Total	**0.3287**	**2.2851**	**2.5241**	**0.0122**	**0.7956**	**7.8700e-003**	**0.8035**	**0.2143**	**7.3900e-003**	**0.2217**		**1,246.0329**	**1,246.0329**	**0.0597**		**1,247.5251**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0537	2.1284	0.3797	5.9600e-003	0.1473	4.0500e-003	0.1513	0.0424	3.8700e-003	0.0463		628.4774	628.4774	0.0450		629.6014
Worker	0.2750	0.1567	2.1443	6.2000e-003	0.6483	3.8200e-003	0.6521	0.1719	3.5200e-003	0.1755		617.5555	617.5555	0.0147		617.9237
Total	**0.3287**	**2.2851**	**2.5241**	**0.0122**	**0.7956**	**7.8700e-003**	**0.8035**	**0.2143**	**7.3900e-003**	**0.2217**		**1,246.0329**	**1,246.0329**	**0.0597**		**1,247.5251**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0501	2.0081	0.3532	5.9100e-003	0.1473	3.4000e-003	0.1507	0.0424	3.2600e-003	0.0457		623.1279	623.1279	0.0426		624.1925
Worker	0.2572	0.1410	1.9779	5.9700e-003	0.6483	3.7200e-003	0.6520	0.1719	3.4200e-003	0.1754		594.9907	594.9907	0.0132		595.3214
Total	**0.3073**	**2.1491**	**2.3311**	**0.0119**	**0.7956**	**7.1200e-003**	**0.8027**	**0.2143**	**6.6800e-003**	**0.2210**		**1,218.1186**	**1,218.1186**	**0.0558**		**1,219.5138**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0501	2.0081	0.3532	5.9100e-003	0.1473	3.4000e-003	0.1507	0.0424	3.2600e-003	0.0457		623.1279	623.1279	0.0426		624.1925
Worker	0.2572	0.1410	1.9779	5.9700e-003	0.6483	3.7200e-003	0.6520	0.1719	3.4200e-003	0.1754		594.9907	594.9907	0.0132		595.3214
Total	**0.3073**	**2.1491**	**2.3311**	**0.0119**	**0.7956**	**7.1200e-003**	**0.8027**	**0.2143**	**6.6800e-003**	**0.2210**		**1,218.1186**	**1,218.1186**	**0.0558**		**1,219.5138**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504		1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.7546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7311**	**9.5221**	**12.1940**	**0.0189**		**0.4877**	**0.4877**		**0.4504**	**0.4504**		**1,805.1297**	**1,805.1297**	**0.5672**		**1,819.3091**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0887	0.0486	0.6820	2.0600e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		205.1692	205.1692	4.5600e-003		205.2832
Total	**0.0887**	**0.0486**	**0.6820**	**2.0600e-003**	**0.2236**	**1.2800e-003**	**0.2248**	**0.0593**	**1.1800e-003**	**0.0605**		**205.1692**	**205.1692**	**4.5600e-003**		**205.2832**

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	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504	0.0000	1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.7546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7311**	**9.5221**	**12.1940**	**0.0189**		**0.4877**	**0.4877**		**0.4504**	**0.4504**	**0.0000**	**1,805.1297**	**1,805.1297**	**0.5672**		**1,819.3091**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0887	0.0486	0.6820	2.0600e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		205.1692	205.1692	4.5600e-003		205.2832
Total	**0.0887**	**0.0486**	**0.6820**	**2.0600e-003**	**0.2236**	**1.2800e-003**	**0.2248**	**0.0593**	**1.1800e-003**	**0.0605**		**205.1692**	**205.1692**	**4.5600e-003**		**205.2832**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.2454					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**8.4500**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0532	0.0292	0.4092	1.2400e-003	0.1341	7.7000e-004	0.1349	0.0356	7.1000e-004	0.0363		123.1015	123.1015	2.7400e-003		123.1699
Total	**0.0532**	**0.0292**	**0.4092**	**1.2400e-003**	**0.1341**	**7.7000e-004**	**0.1349**	**0.0356**	**7.1000e-004**	**0.0363**		**123.1015**	**123.1015**	**2.7400e-003**		**123.1699**

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	8.2454					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**8.4500**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0532	0.0292	0.4092	1.2400e-003	0.1341	7.7000e-004	0.1349	0.0356	7.1000e-004	0.0363		123.1015	123.1015	2.7400e-003		123.1699
Total	**0.0532**	**0.0292**	**0.4092**	**1.2400e-003**	**0.1341**	**7.7000e-004**	**0.1349**	**0.0356**	**7.1000e-004**	**0.0363**		**123.1015**	**123.1015**	**2.7400e-003**		**123.1699**

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	3.7521	24.5058	21.1705	0.0842	4.5358	0.0523	4.5881	1.2135	0.0489	1.2624		8,651.2347	8,651.2347	0.7555		8,670.1212
Unmitigated	3.7521	24.5058	21.1705	0.0842	4.5358	0.0523	4.5881	1.2135	0.0489	1.2624		8,651.2347	8,651.2347	0.7555		8,670.1212

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.98	0.98	0.98	1,309	1,309
Convenience Market With Gas Pumps	1,686.22	1,686.22	1686.22	1,006,460	1,006,460
Fast Food Restaurant with Drive Thru	361.16	361.16	361.16	380,082	380,082
Fast Food Restaurant with Drive Thru	361.16	361.16	361.16	380,082	380,082
High Turnover (Sit Down Restaurant)	263.39	263.39	263.39	358,962	358,962
Parking Lot	0.00	0.00	0.00		
Total	2,672.91	2,672.91	2,672.91	2,126,896	2,126,896

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	16.60	8.40	6.90	0.80	80.20	19.00	14	21	65
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
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	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Convenience Market With Gas Pumps	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Fast Food Restaurant with Drive Thru	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
High Turnover (Sit Down Restaurant)	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Parking Lot	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0685	0.6223	0.5227	3.7300e-003		0.0473	0.0473		0.0473	0.0473		746.7485	746.7485	0.0143	0.0137	751.1861
NaturalGas Unmitigated	0.0685	0.6223	0.5227	3.7300e-003		0.0473	0.0473		0.0473	0.0473		746.7485	746.7485	0.0143	0.0137	751.1861

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	131.829	1.4200e-003	0.0129	0.0109	8.0000e-005		9.8000e-004	9.8000e-004		9.8000e-004	9.8000e-004		15.5093	15.5093	3.0000e-004	2.8000e-004	15.6015
Convenience Market With Gas Pumps	26.05	2.8000e-004	2.5500e-003	2.1500e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		3.0647	3.0647	6.0000e-005	6.0000e-005	3.0829
Fast Food Restaurant with Drive Thru	1222.61	0.0264	0.2397	0.2014	1.4400e-003		0.0182	0.0182		0.0182	0.0182		287.6739	287.6739	5.5100e-003	5.2700e-003	289.3834
High Turnover (Sit Down Restaurant)	3744.26	0.0404	0.3671	0.3084	2.2000e-003		0.0279	0.0279		0.0279	0.0279		440.5006	440.5006	8.4400e-003	8.0800e-003	443.1183
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		**0.0685**	**0.6223**	**0.5227**	**3.7400e-003**		**0.0473**	**0.0473**		**0.0473**	**0.0473**		**746.7485**	**746.7485**	**0.0143**	**0.0137**	**751.1861**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	0.131829	1.4200e-003	0.0129	0.0109	8.0000e-005		9.8000e-004	9.8000e-004		9.8000e-004	9.8000e-004		15.5093	15.5093	3.0000e-004	2.8000e-004	15.6015
Convenience Market With Gas Pumps	0.02605	2.8000e-004	2.5500e-003	2.1500e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		3.0647	3.0647	6.0000e-005	6.0000e-005	3.0829
Fast Food Restaurant with Drive Thru	1.22261	0.0264	0.2397	0.2014	1.4400e-003		0.0182	0.0182		0.0182	0.0182		287.6739	287.6739	5.5100e-003	5.2700e-003	289.3834
High Turnover (Sit Down Restaurant)	3.74426	0.0404	0.3671	0.3084	2.2000e-003		0.0279	0.0279		0.0279	0.0279		440.5006	440.5006	8.4400e-003	8.0800e-003	443.1183
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		**0.0685**	**0.6223**	**0.5227**	**3.7400e-003**		**0.0473**	**0.0473**		**0.0473**	**0.0473**		**746.7485**	**746.7485**	**0.0143**	**0.0137**	**751.1861**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive 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	0.3675	2.0000e-005	1.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.7000e-003	3.7000e-003	1.0000e-005		3.9400e-003
Unmitigated	0.3675	2.0000e-005	1.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.7000e-003	3.7000e-003	1.0000e-005		3.9400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0452					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3222					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.7000e-003	3.7000e-003	1.0000e-005		3.9400e-003
Total	**0.3675**	**2.0000e-005**	**1.7300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.7000e-003**	**3.7000e-003**	**1.0000e-005**		**3.9400e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0452					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3222					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.7000e-003	3.7000e-003	1.0000e-005		3.9400e-003
Total	**0.3675**	**2.0000e-005**	**1.7300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.7000e-003**	**3.7000e-003**	**1.0000e-005**		**3.9400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

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

Deemarco

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	2.88	Acre	2.88	125,452.80	0
Fast Food Restaurant with Drive Thru	1.63	1000sqft	0.04	1,632.00	0
Fast Food Restaurant with Drive Thru	1.63	1000sqft	0.04	1,632.00	0
High Turnover (Sit Down Restaurant)	5.00	1000sqft	0.11	4,998.00	0
Automobile Care Center	1.48	1000sqft	0.03	1,481.00	0
Convenience Market With Gas Pumps	4.28	1000sqft	0.10	4,283.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
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 -

Construction Phase - Schedule modified to reflect actual projections and overlap the painting phase with building construction.

Grading - Assumes 20 haul trips w/ 16 yards per truck for removal of demo material.
Area disturbed based SCAQMD Guidelines for using CalEEMod to calculate area of disturbance for LST.

Vehicle Trips - Auto care center = car wash
Trip rates revised to match trip rates and reduction to reflect to 47% pass by trips as specified in the Traffic Impact Assessment (May 2021).

Construction Off-road Equipment Mitigation - Assumes watering three times daily for dust control to meet LST.

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	230.00	220.00
tblConstructionPhase	NumDays	8.00	30.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	NumDays	5.00	3.00
tblConstructionPhase	PhaseEndDate	7/22/2022	6/16/2022
tblConstructionPhase	PhaseEndDate	6/2/2022	6/16/2022
tblConstructionPhase	PhaseEndDate	7/15/2021	8/12/2021
tblConstructionPhase	PhaseEndDate	6/28/2022	6/30/2022
tblConstructionPhase	PhaseEndDate	7/5/2021	7/1/2021
tblConstructionPhase	PhaseStartDate	6/29/2022	5/20/2022
tblConstructionPhase	PhaseStartDate	7/16/2021	8/13/2021
tblConstructionPhase	PhaseStartDate	7/6/2021	7/2/2021
tblConstructionPhase	PhaseStartDate	6/3/2022	6/17/2022
tblGrading	AcresOfGrading	15.00	4.00

tblGrading	AcresOfGrading	0.00	3.50
tblGrading	MaterialExported	0.00	320.00
tblVehicleTrips	ST_TR	23.72	0.66
tblVehicleTrips	ST_TR	1,448.33	393.70
tblVehicleTrips	ST_TR	722.03	221.30
tblVehicleTrips	ST_TR	158.37	52.70
tblVehicleTrips	SU_TR	11.88	0.66
tblVehicleTrips	SU_TR	1,182.08	393.70
tblVehicleTrips	SU_TR	542.72	221.30
tblVehicleTrips	SU_TR	131.84	52.70
tblVehicleTrips	WD_TR	23.72	0.66
tblVehicleTrips	WD_TR	845.60	393.70
tblVehicleTrips	WD_TR	496.12	221.30
tblVehicleTrips	WD_TR	127.15	52.70

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1850	1.7489	1.4486	2.8900e-003	0.1657	0.0848	0.2506	0.0769	0.0792	0.1561	0.0000	254.4535	254.4535	0.0550	0.0000	255.8283
2022	0.2125	1.1206	1.1821	2.4200e-003	0.0490	0.0518	0.1008	0.0132	0.0488	0.0620	0.0000	213.1571	213.1571	0.0389	0.0000	214.1288
Maximum	**0.2125**	**1.7489**	**1.4486**	**2.8900e-003**	**0.1657**	**0.0848**	**0.2506**	**0.0769**	**0.0792**	**0.1561**	**0.0000**	**254.4535**	**254.4535**	**0.0550**	**0.0000**	**255.8283**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1850	1.7489	1.4486	2.8900e-003	0.0917	0.0848	0.1765	0.0373	0.0792	0.1164	0.0000	254.4532	254.4532	0.0550	0.0000	255.8280
2022	0.2125	1.1206	1.1821	2.4200e-003	0.0490	0.0518	0.1008	0.0132	0.0488	0.0620	0.0000	213.1569	213.1569	0.0389	0.0000	214.1286
Maximum	**0.2125**	**1.7489**	**1.4486**	**2.8900e-003**	**0.0917**	**0.0848**	**0.1765**	**0.0373**	**0.0792**	**0.1164**	**0.0000**	**254.4532**	**254.4532**	**0.0550**	**0.0000**	**255.8280**

	ROG	NOx	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**	**34.50**	**0.00**	**21.08**	**43.97**	**0.00**	**18.18**	**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	6-1-2021	8-31-2021	0.9541	0.9541
2	9-1-2021	11-30-2021	0.7129	0.7129
3	12-1-2021	2-28-2022	0.6592	0.6592
4	3-1-2022	5-31-2022	0.6923	0.6923
5	6-1-2022	8-31-2022	0.2268	0.2268
		Highest	0.9541	0.9541

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	0.0671	0.0000	2.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.2000e-004	4.2000e-004	0.0000	0.0000	4.5000e-004
Energy	0.0125	0.1136	0.0954	6.8000e-004		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003	0.0000	284.6367	284.6367	9.0200e-003	3.6400e-003	285.9474
Mobile	0.5573	4.4409	3.7625	0.0145	0.8120	9.6300e-003	0.8217	0.2176	9.0100e-003	0.2266	0.0000	1,351.4467	1,351.4467	0.1297	0.0000	1,354.6894
Waste						0.0000	0.0000		0.0000	0.0000	23.4576	0.0000	23.4576	1.3863	0.0000	58.1153
Water						0.0000	0.0000		0.0000	0.0000	0.9402	13.8511	14.7913	0.0971	2.4000e-003	17.9344
Total	**0.6369**	**4.5545**	**3.8582**	**0.0152**	**0.8120**	**0.0183**	**0.8303**	**0.2176**	**0.0176**	**0.2352**	**24.3978**	**1,649.9350**	**1,674.3328**	**1.6222**	**6.0400e-003**	**1,716.6869**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0671	0.0000	2.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.2000e-004	4.2000e-004	0.0000	0.0000	4.5000e-004
Energy	0.0125	0.1136	0.0954	6.8000e-004		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003	0.0000	284.6367	284.6367	9.0200e-003	3.6400e-003	285.9474
Mobile	0.5573	4.4409	3.7625	0.0145	0.8120	9.6300e-003	0.8217	0.2176	9.0100e-003	0.2266	0.0000	1,351.4467	1,351.4467	0.1297	0.0000	1,354.6894
Waste						0.0000	0.0000		0.0000	0.0000	23.4576	0.0000	23.4576	1.3863	0.0000	58.1153
Water						0.0000	0.0000		0.0000	0.0000	0.7521	11.2973	12.0494	0.0777	1.9200e-003	14.5647
Total	**0.6369**	**4.5545**	**3.8582**	**0.0152**	**0.8120**	**0.0183**	**0.8303**	**0.2176**	**0.0176**	**0.2352**	**24.2098**	**1,647.3811**	**1,671.5909**	**1.6028**	**5.5600e-003**	**1,713.3171**

	ROG	NOx	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**	**0.77**	**0.15**	**0.16**	**1.20**	**7.95**	**0.20**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2021	6/28/2021	5	20	
2	Site Preparation	Site Preparation	6/29/2021	7/1/2021	5	3	
3	Grading	Grading	7/2/2021	8/12/2021	5	30	
4	Building Construction	Building Construction	8/13/2021	6/16/2022	5	220	
5	Paving	Paving	6/17/2022	6/30/2022	5	10	
6	Architectural Coating	Architectural Coating	5/20/2022	6/16/2022	5	20	

Acres of Grading (Site Preparation Phase): 3.5

Acres of Grading (Grading Phase): 4

Acres of Paving: 2.88

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 21,039; Non-Residential Outdoor: 7,013; Striped Parking Area: 7,527 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	40.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	58.00	23.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0144**	**0.0144**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	4.3000e-004	4.7200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3333	1.3333	3.0000e-005	0.0000	1.3341
Total	**6.4000e-004**	**4.3000e-004**	**4.7200e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3333**	**1.3333**	**3.0000e-005**	**0.0000**	**1.3341**

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	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0144**	**0.0144**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	4.3000e-004	4.7200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3333	1.3333	3.0000e-005	0.0000	1.3341
Total	**6.4000e-004**	**4.3000e-004**	**4.7200e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3333**	**1.3333**	**3.0000e-005**	**0.0000**	**1.3341**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0290	0.0000	0.0290	0.0151	0.0000	0.0151	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8300e-003	0.0608	0.0317	6.0000e-005		3.0700e-003	3.0700e-003		2.8200e-003	2.8200e-003	0.0000	5.0154	5.0154	1.6200e-003	0.0000	5.0559
Total	**5.8300e-003**	**0.0608**	**0.0317**	**6.0000e-005**	**0.0290**	**3.0700e-003**	**0.0321**	**0.0151**	**2.8200e-003**	**0.0179**	**0.0000**	**5.0154**	**5.0154**	**1.6200e-003**	**0.0000**	**5.0559**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	4.4400e-003	6.1000e-004	1.0000e-005	3.4000e-004	1.0000e-005	3.6000e-004	9.0000e-005	1.0000e-005	1.1000e-004	0.0000	1.4350	1.4350	9.0000e-005	0.0000	1.4372
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	1.2000e-004	8.0000e-005	8.5000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2400	0.2400	1.0000e-005	0.0000	0.2401
Total	**2.2000e-004**	**4.5200e-003**	**1.4600e-003**	**1.0000e-005**	**6.4000e-004**	**1.0000e-005**	**6.6000e-004**	**1.7000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**1.6750**	**1.6750**	**1.0000e-004**	**0.0000**	**1.6773**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0113	0.0000	0.0113	5.8900e-003	0.0000	5.8900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8300e-003	0.0608	0.0317	6.0000e-005		3.0700e-003	3.0700e-003		2.8200e-003	2.8200e-003	0.0000	5.0154	5.0154	1.6200e-003	0.0000	5.0559
Total	**5.8300e-003**	**0.0608**	**0.0317**	**6.0000e-005**	**0.0113**	**3.0700e-003**	**0.0144**	**5.8900e-003**	**2.8200e-003**	**8.7100e-003**	**0.0000**	**5.0154**	**5.0154**	**1.6200e-003**	**0.0000**	**5.0559**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	4.4400e-003	6.1000e-004	1.0000e-005	3.4000e-004	1.0000e-005	3.6000e-004	9.0000e-005	1.0000e-005	1.1000e-004	0.0000	1.4350	1.4350	9.0000e-005	0.0000	1.4372
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	1.2000e-004	8.0000e-005	8.5000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2400	0.2400	1.0000e-005	0.0000	0.2401
Total	**2.2000e-004**	**4.5200e-003**	**1.4600e-003**	**1.0000e-005**	**6.4000e-004**	**1.0000e-005**	**6.6000e-004**	**1.7000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**1.6750**	**1.6750**	**1.0000e-004**	**0.0000**	**1.6773**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0925	0.0000	0.0925	0.0499	0.0000	0.0499	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0344	0.3711	0.2379	4.4000e-004		0.0174	0.0174		0.0160	0.0160	0.0000	39.0806	39.0806	0.0126	0.0000	39.3965
Total	**0.0344**	**0.3711**	**0.2379**	**4.4000e-004**	**0.0925**	**0.0174**	**0.1099**	**0.0499**	**0.0160**	**0.0659**	**0.0000**	**39.0806**	**39.0806**	**0.0126**	**0.0000**	**39.3965**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	9.6000e-004	6.5000e-004	7.0800e-003	2.0000e-005	2.4700e-003	1.0000e-005	2.4900e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	1.9999	1.9999	5.0000e-005	0.0000	2.0011
Total	**9.6000e-004**	**6.5000e-004**	**7.0800e-003**	**2.0000e-005**	**2.4700e-003**	**1.0000e-005**	**2.4900e-003**	**6.6000e-004**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**1.9999**	**1.9999**	**5.0000e-005**	**0.0000**	**2.0011**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0361	0.0000	0.0361	0.0195	0.0000	0.0195	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0344	0.3711	0.2379	4.4000e-004		0.0174	0.0174		0.0160	0.0160	0.0000	39.0805	39.0805	0.0126	0.0000	39.3965
Total	**0.0344**	**0.3711**	**0.2379**	**4.4000e-004**	**0.0361**	**0.0174**	**0.0535**	**0.0195**	**0.0160**	**0.0355**	**0.0000**	**39.0805**	**39.0805**	**0.0126**	**0.0000**	**39.3965**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	9.6000e-004	6.5000e-004	7.0800e-003	2.0000e-005	2.4700e-003	1.0000e-005	2.4900e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	1.9999	1.9999	5.0000e-005	0.0000	2.0011
Total	**9.6000e-004**	**6.5000e-004**	**7.0800e-003**	**2.0000e-005**	**2.4700e-003**	**1.0000e-005**	**2.4900e-003**	**6.6000e-004**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**1.9999**	**1.9999**	**5.0000e-005**	**0.0000**	**2.0011**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0960	0.8803	0.8371	1.3600e-003		0.0484	0.0484		0.0455	0.0455	0.0000	116.9768	116.9768	0.0282	0.0000	117.6824
Total	**0.0960**	**0.8803**	**0.8371**	**1.3600e-003**		**0.0484**	**0.0484**		**0.0455**	**0.0455**	**0.0000**	**116.9768**	**116.9768**	**0.0282**	**0.0000**	**117.6824**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7700e-003	0.1083	0.0208	3.0000e-004	7.3400e-003	2.1000e-004	7.5400e-003	2.1200e-003	2.0000e-004	2.3100e-003	0.0000	28.3375	28.3375	2.1600e-003	0.0000	28.3915
Worker	0.0126	8.4600e-003	0.0922	2.9000e-004	0.0322	1.9000e-004	0.0324	8.5500e-003	1.8000e-004	8.7300e-003	0.0000	26.0343	26.0343	6.1000e-004	0.0000	26.0495
Total	**0.0153**	**0.1168**	**0.1131**	**5.9000e-004**	**0.0395**	**4.0000e-004**	**0.0399**	**0.0107**	**3.8000e-004**	**0.0110**	**0.0000**	**54.3718**	**54.3718**	**2.7700e-003**	**0.0000**	**54.4410**

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	0.0960	0.8803	0.8371	1.3600e-003		0.0484	0.0484		0.0455	0.0455	0.0000	116.9767	116.9767	0.0282	0.0000	117.6822
Total	**0.0960**	**0.8803**	**0.8371**	**1.3600e-003**		**0.0484**	**0.0484**		**0.0455**	**0.0455**	**0.0000**	**116.9767**	**116.9767**	**0.0282**	**0.0000**	**117.6822**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7700e-003	0.1083	0.0208	3.0000e-004	7.3400e-003	2.1000e-004	7.5400e-003	2.1200e-003	2.0000e-004	2.3100e-003	0.0000	28.3375	28.3375	2.1600e-003	0.0000	28.3915
Worker	0.0126	8.4600e-003	0.0922	2.9000e-004	0.0322	1.9000e-004	0.0324	8.5500e-003	1.8000e-004	8.7300e-003	0.0000	26.0343	26.0343	6.1000e-004	0.0000	26.0495
Total	**0.0153**	**0.1168**	**0.1131**	**5.9000e-004**	**0.0395**	**4.0000e-004**	**0.0399**	**0.0107**	**3.8000e-004**	**0.0110**	**0.0000**	**54.3718**	**54.3718**	**2.7700e-003**	**0.0000**	**54.4410**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1015	0.9291	0.9736	1.6000e-003		0.0481	0.0481		0.0453	0.0453	0.0000	137.8765	137.8765	0.0330	0.0000	138.7023
Total	**0.1015**	**0.9291**	**0.9736**	**1.6000e-003**		**0.0481**	**0.0481**		**0.0453**	**0.0453**	**0.0000**	**137.8765**	**137.8765**	**0.0330**	**0.0000**	**138.7023**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	3.0500e-003	0.1202	0.0229	3.5000e-004	8.6400e-003	2.1000e-004	8.8500e-003	2.4900e-003	2.0000e-004	2.6900e-003	0.0000	33.1005	33.1005	2.4100e-003	0.0000	33.1609
Worker	0.0139	8.9700e-003	0.1001	3.3000e-004	0.0379	2.2000e-004	0.0382	0.0101	2.0000e-004	0.0103	0.0000	29.5548	29.5548	6.4000e-004	0.0000	29.5708
Total	**0.0169**	**0.1292**	**0.1230**	**6.8000e-004**	**0.0466**	**4.3000e-004**	**0.0470**	**0.0126**	**4.0000e-004**	**0.0130**	**0.0000**	**62.6553**	**62.6553**	**3.0500e-003**	**0.0000**	**62.7317**

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	0.1015	0.9291	0.9736	1.6000e-003		0.0481	0.0481		0.0453	0.0453	0.0000	137.8764	137.8764	0.0330	0.0000	138.7021
Total	**0.1015**	**0.9291**	**0.9736**	**1.6000e-003**		**0.0481**	**0.0481**		**0.0453**	**0.0453**	**0.0000**	**137.8764**	**137.8764**	**0.0330**	**0.0000**	**138.7021**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	3.0500e-003	0.1202	0.0229	3.5000e-004	8.6400e-003	2.1000e-004	8.8500e-003	2.4900e-003	2.0000e-004	2.6900e-003	0.0000	33.1005	33.1005	2.4100e-003	0.0000	33.1609
Worker	0.0139	8.9700e-003	0.1001	3.3000e-004	0.0379	2.2000e-004	0.0382	0.0101	2.0000e-004	0.0103	0.0000	29.5548	29.5548	6.4000e-004	0.0000	29.5708
Total	**0.0169**	**0.1292**	**0.1230**	**6.8000e-004**	**0.0466**	**4.3000e-004**	**0.0470**	**0.0126**	**4.0000e-004**	**0.0130**	**0.0000**	**62.6553**	**62.6553**	**3.0500e-003**	**0.0000**	**62.7317**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.8800e-003	0.0476	0.0610	9.0000e-005		2.4400e-003	2.4400e-003		2.2500e-003	2.2500e-003	0.0000	8.1879	8.1879	2.5700e-003	0.0000	8.2523
Paving	3.7700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.6500e-003**	**0.0476**	**0.0610**	**9.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**8.1879**	**8.1879**	**2.5700e-003**	**0.0000**	**8.2523**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.6000e-004	2.9000e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8564	0.8564	2.0000e-005	0.0000	0.8569
Total	**4.0000e-004**	**2.6000e-004**	**2.9000e-003**	**1.0000e-005**	**1.1000e-003**	**1.0000e-005**	**1.1100e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8564**	**0.8564**	**2.0000e-005**	**0.0000**	**0.8569**

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	4.8800e-003	0.0476	0.0610	9.0000e-005		2.4400e-003	2.4400e-003		2.2500e-003	2.2500e-003	0.0000	8.1879	8.1879	2.5700e-003	0.0000	8.2522
Paving	3.7700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.6500e-003**	**0.0476**	**0.0610**	**9.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**8.1879**	**8.1879**	**2.5700e-003**	**0.0000**	**8.2522**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.6000e-004	2.9000e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8564	0.8564	2.0000e-005	0.0000	0.8569
Total	**4.0000e-004**	**2.6000e-004**	**2.9000e-003**	**1.0000e-005**	**1.1000e-003**	**1.0000e-005**	**1.1100e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8564**	**0.8564**	**2.0000e-005**	**0.0000**	**0.8569**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0825					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.0845**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.1000e-004	3.4800e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.0277	1.0277	2.0000e-005	0.0000	1.0283
Total	**4.8000e-004**	**3.1000e-004**	**3.4800e-003**	**1.0000e-005**	**1.3200e-003**	**1.0000e-005**	**1.3300e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.0277**	**1.0277**	**2.0000e-005**	**0.0000**	**1.0283**

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	0.0825					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.0845**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.1000e-004	3.4800e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.0277	1.0277	2.0000e-005	0.0000	1.0283
Total	**4.8000e-004**	**3.1000e-004**	**3.4800e-003**	**1.0000e-005**	**1.3200e-003**	**1.0000e-005**	**1.3300e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.0277**	**1.0277**	**2.0000e-005**	**0.0000**	**1.0283**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5573	4.4409	3.7625	0.0145	0.8120	9.6300e-003	0.8217	0.2176	9.0100e-003	0.2266	0.0000	1,351.4467	1,351.4467	0.1297	0.0000	1,354.6894
Unmitigated	0.5573	4.4409	3.7625	0.0145	0.8120	9.6300e-003	0.8217	0.2176	9.0100e-003	0.2266	0.0000	1,351.4467	1,351.4467	0.1297	0.0000	1,354.6894

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.98	0.98	0.98	1,309	1,309
Convenience Market With Gas Pumps	1,686.22	1,686.22	1686.22	1,006,460	1,006,460
Fast Food Restaurant with Drive Thru	361.16	361.16	361.16	380,082	380,082
Fast Food Restaurant with Drive Thru	361.16	361.16	361.16	380,082	380,082
High Turnover (Sit Down Restaurant)	263.39	263.39	263.39	358,962	358,962
Parking Lot	0.00	0.00	0.00		
Total	2,672.91	2,672.91	2,672.91	2,126,896	2,126,896

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	16.60	8.40	6.90	0.80	80.20	19.00	14	21	65
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
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	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Convenience Market With Gas Pumps	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Fast Food Restaurant with Drive Thru	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
High Turnover (Sit Down Restaurant)	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Parking Lot	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Deemarco - Riverside-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive 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	161.0041	161.0041	6.6500e-003	1.3800e-003	161.5801
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	161.0041	161.0041	6.6500e-003	1.3800e-003	161.5801
NaturalGas Mitigated	0.0125	0.1136	0.0954	6.8000e-004		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003	0.0000	123.6326	123.6326	2.3700e-003	2.2700e-003	124.3673
NaturalGas Unmitigated	0.0125	0.1136	0.0954	6.8000e-004		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003	0.0000	123.6326	123.6326	2.3700e-003	2.2700e-003	124.3673

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	48117.7	2.6000e-004	2.3600e-003	1.9800e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5677	2.5677	5.0000e-005	5.0000e-005	2.5830
Convenience Market With Gas Pumps	9508.26	5.0000e-005	4.7000e-004	3.9000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5074	0.5074	1.0000e-005	1.0000e-005	0.5104
Fast Food Restaurant with Drive Thru	446254	4.8100e-003	0.0438	0.0368	2.6000e-004		3.3300e-003	3.3300e-003		3.3300e-003	3.3300e-003	0.0000	47.6276	47.6276	9.1000e-004	8.7000e-004	47.9107
High Turnover (Sit Down Restaurant)	1.36665e+006	7.3700e-003	0.0670	0.0563	4.0000e-004		5.0900e-003	5.0900e-003		5.0900e-003	5.0900e-003	0.0000	72.9298	72.9298	1.4000e-003	1.3400e-003	73.3632
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		**0.0125**	**0.1136**	**0.0954**	**6.7000e-004**		**8.6400e-003**	**8.6400e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**123.6326**	**123.6326**	**2.3700e-003**	**2.2700e-003**	**124.3673**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	48117.7	2.6000e-004	2.3600e-003	1.9800e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5677	2.5677	5.0000e-005	5.0000e-005	2.5830
Convenience Market With Gas Pumps	9508.26	5.0000e-005	4.7000e-004	3.9000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5074	0.5074	1.0000e-005	1.0000e-005	0.5104
Fast Food Restaurant with Drive Thru	446254	4.8100e-003	0.0438	0.0368	2.6000e-004		3.3300e-003	3.3300e-003		3.3300e-003	3.3300e-003	0.0000	47.6276	47.6276	9.1000e-004	8.7000e-004	47.9107
High Turnover (Sit Down Restaurant)	1.36665e+006	7.3700e-003	0.0670	0.0563	4.0000e-004		5.0900e-003	5.0900e-003		5.0900e-003	5.0900e-003	0.0000	72.9298	72.9298	1.4000e-003	1.3400e-003	73.3632
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		**0.0125**	**0.1136**	**0.0954**	**6.7000e-004**		**8.6400e-003**	**8.6400e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**123.6326**	**123.6326**	**2.3700e-003**	**2.2700e-003**	**124.3673**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	15032.2	4.7896	2.0000e-004	4.0000e-005	4.8067
Convenience Market With Gas Pumps	54094.3	17.2356	7.1000e-004	1.5000e-004	17.2973
Fast Food Restaurant with Drive Thru	77487.4	49.3783	2.0400e-003	4.2000e-004	49.5549
High Turnover (Sit Down Restaurant)	237305	75.6105	3.1200e-003	6.5000e-004	75.8810
Parking Lot	43908.5	13.9902	5.8000e-004	1.2000e-004	14.0402
Total		**161.0041**	**6.6500e-003**	**1.3800e-003**	**161.5801**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	15032.2	4.7896	2.0000e-004	4.0000e-005	4.8067
Convenience Market With Gas Pumps	54094.3	17.2356	7.1000e-004	1.5000e-004	17.2973
Fast Food Restaurant with Drive Thru	77487.4	49.3783	2.0400e-003	4.2000e-004	49.5549
High Turnover (Sit Down Restaurant)	237305	75.6105	3.1200e-003	6.5000e-004	75.8810
Parking Lot	43908.5	13.9902	5.8000e-004	1.2000e-004	14.0402
Total		**161.0041**	**6.6500e-003**	**1.3800e-003**	**161.5801**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive 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	0.0671	0.0000	2.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.2000e-004	4.2000e-004	0.0000	0.0000	4.5000e-004
Unmitigated	0.0671	0.0000	2.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.2000e-004	4.2000e-004	0.0000	0.0000	4.5000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.2500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0588					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.2000e-004	4.2000e-004	0.0000	0.0000	4.5000e-004
Total	**0.0671**	**0.0000**	**2.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.2000e-004**	**4.2000e-004**	**0.0000**	**0.0000**	**4.5000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.2500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0588					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.2000e-004	4.2000e-004	0.0000	0.0000	4.5000e-004
Total	**0.0671**	**0.0000**	**2.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.2000e-004**	**4.2000e-004**	**0.0000**	**0.0000**	**4.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	12.0494	0.0777	1.9200e-003	14.5647
Unmitigated	14.7913	0.0971	2.4000e-003	17.9344

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.13924 / 0.0853407	0.9240	4.5700e-003	1.1000e-004	1.0725
Convenience Market With Gas Pumps	0.31703 / 0.194309	2.1037	0.0104	2.6000e-004	2.4418
Fast Food Restaurant with Drive Thru	0.98952 / 0.0631608	4.6428	0.0324	8.0000e-004	5.6913
High Turnover (Sit Down Restaurant)	1.51767 / 0.0968725	7.1209	0.0497	1.2200e-003	8.7289
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**14.7913**	**0.0971**	**2.3900e-003**	**17.9344**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.111392 / 0.0801349	0.7812	3.6600e-003	9.0000e-005	0.9001
Convenience Market With Gas Pumps	0.253624 / 0.182456	1.7786	8.3300e-003	2.1000e-004	2.0494
Fast Food Restaurant with Drive Thru	0.791616 / 0.059308	3.7453	0.0259	6.4000e-004	4.5842
High Turnover (Sit Down Restaurant)	1.21413 / 0.0909632	5.7444	0.0398	9.8000e-004	7.0310
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**12.0494**	**0.0777**	**1.9200e-003**	**14.5647**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	23.4576	1.3863	0.0000	58.1153
Unmitigated	23.4576	1.3863	0.0000	58.1153

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	5.65	1.1469	0.0678	0.0000	2.8414
Convenience Market With Gas Pumps	12.86	2.6105	0.1543	0.0000	6.4673
Fast Food Restaurant with Drive Thru	37.55	7.6223	0.4505	0.0000	18.8840
High Turnover (Sit Down Restaurant)	59.5	12.0780	0.7138	0.0000	29.9226
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**23.4576**	**1.3863**	**0.0000**	**58.1153**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	5.65	1.1469	0.0678	0.0000	2.8414
Convenience Market With Gas Pumps	12.86	2.6105	0.1543	0.0000	6.4673
Fast Food Restaurant with Drive Thru	37.55	7.6223	0.4505	0.0000	18.8840
High Turnover (Sit Down Restaurant)	59.5	12.0780	0.7138	0.0000	29.9226
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**23.4576**	**1.3863**	**0.0000**	**58.1153**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

SCAQMD Risk Tool version 1.103 Spreadsheet

GASOLINE DISPENSING SERVICE STATION

(Procedure Version 8.1 & Package N, September 1, 2017) - Risk Tool V1.103

AN:

Facility Name: Deemarco

Deem Complete Date: 6/22/2022

Storage Tank Type	Underground		MET Station	Perris	
Annual Throughput	2.5	million gallons /year	Distance to Resident	69	meter
T-BACT	YES		Distance to Commercial	79	meter

MICR Calculation: MICR = MICR per 1 Million gallons/yr x Annual Throughput (Million gallons/yr)

HIA & HIC Calculation: Negligible compared to Cancer risk and is not calculated.

MICR Result

	Resident	Commercial
MICR	2.107	0.134
MICR ≤ 10	**PASS**	**PASS**

Interpolation for MICR from Nearest Distances

	Residential			**Commercial**		
	near	**actual**	far	near	**actual**	far
Distance (meter)	50	**69**	75	75	**79**	100
MICR (per 1 million gasoline gallon throughput per year)	1.310	**0.8426**	0.695	0.057	**0.054**	0.036

Look up from Table 12 - MICR for Underground Storage Tank

		Downwind Distance (m)							
Station	**Receptor**	**25**	**50**	**75**	**100**	**200**	**300**	**500**	**1000**
Perris	Resident	3.494	1.310	0.695	0.436	0.127	0.063	0.026	0.008
	Commercial	0.288	0.108	0.057	0.036	0.010	0.005	0.002	0.001