



Alder Avenue and Casmalia Street Fuel Station Expansion Project

Air Quality and Greenhouse Gas Emissions Study

prepared for

A & S Engineering
28405 Sand Canyon Road, Suite B
Canyon Country, California 91387
Contact: Ahmad Ghaderi

prepared by

Rincon Consultants, Inc.
2215 Faraday Avenue, Suite A
Carlsbad, California 92008

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RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

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1 Project Description

1.1 Introduction

This study analyzes the potential air quality, health risk, and greenhouse gas (GHG) impacts of the proposed Alder Avenue and Casmalia Street Fuel Station Expansion Project (project) located in the city of Rialto, California. Rincon Consultants, Inc. (Rincon) prepared this study for A&S Engineering, Inc. (applicant) for use in support of environmental documentation pursuant to the California Environmental Quality Act (CEQA). The purpose of this study is to analyze the project's air quality and GHG impacts related to both temporary construction activity and long-term operation of the project. The conclusions of this study are summarized in Table 1.

Table 1 Summary of Impacts

Impact Statement	Proposed Project's Level of Significance	Applicable Recommendations
Air Quality		
Would the project conflict with or obstruct implementation of the applicable air quality plan?	Less than significant Impact	None
Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?	Less than significant impact	None
Would the project expose sensitive receptors to substantial pollutant concentrations?	Less than significant impact	None
Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than significant impact	None
Greenhouse Gas Emissions		
Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than significant impact	None
Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less than significant impact	None

1.2 Project Summary

Project Location

The project site is located at 2281 West Casmalia Street in the City of Rialto, San Bernardino County. The project site is an approximately 2.6-acre property at the intersection of West Casmalia Street and North Alder Avenue. The site is regionally accessible by State Route 210 (SR-210) and locally accessible by West Casmalia Street and North Alder Avenue. The project site is within the City of Rialto Renaissance Specific Plan and borders the Rialto Airport Specific Plan zoning area. North and south of the project site are commercial distribution centers, and west and east of the site are vacant lots. Figure 1 shows the location of the project site in the region, and Figure 2 shows the location of the project site in its neighborhood context.

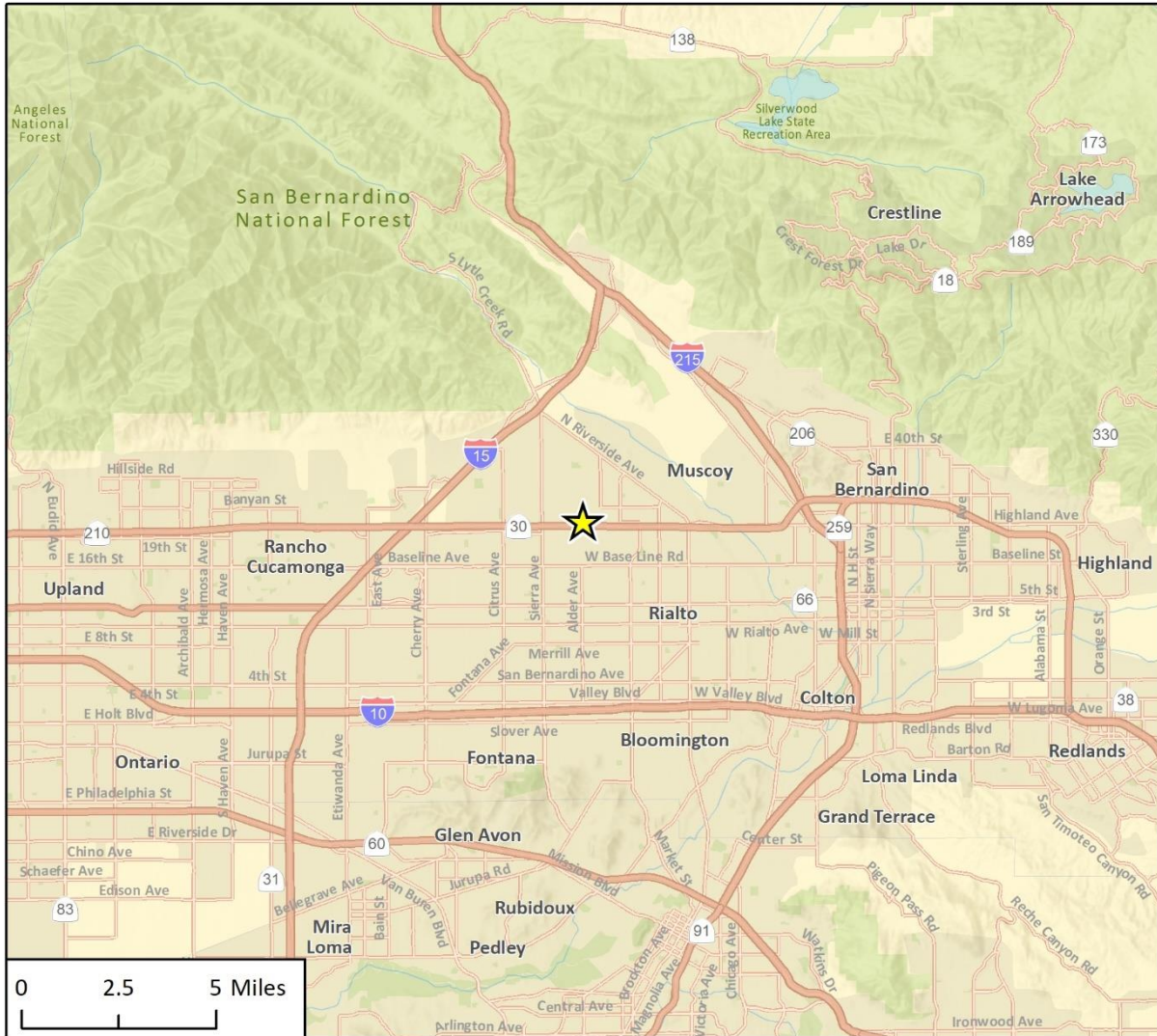
Project Description

The Alder Avenue and Casmalia Street Fuel Station Expansion Project (hereafter referred to as “proposed project” or “project”) is a commercial development on an approximately 2.6-acre site. The project would include modifications to an existing vehicle fuel station (gas station), consisting of the demolition of an existing car wash, an existing overhead canopy, and two diesel fuel dispensers. The project would construct an 1,844-square foot overhead canopy and four diesel fuel dispensers. The project would also construct 34 parking spaces. Figure 3 shows the proposed site plan.

Construction

Construction of the project is assumed to start in 2023. Construction activities would include demolition, site preparation, grading, building construction, paving, and architectural coating (e.g., painting). Excavated soil would be balanced on-site. Detailed construction phasing and equipment assumptions are summarized in Section 3.1, *Methodology*.

Figure 1 Regional Location



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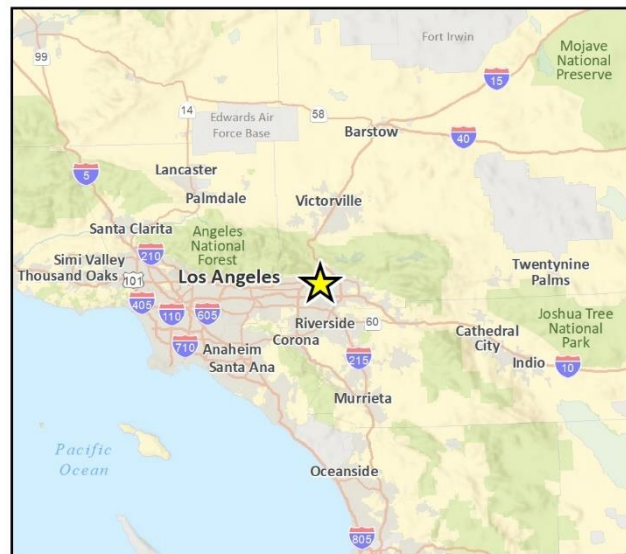


Fig 1 Regional Location

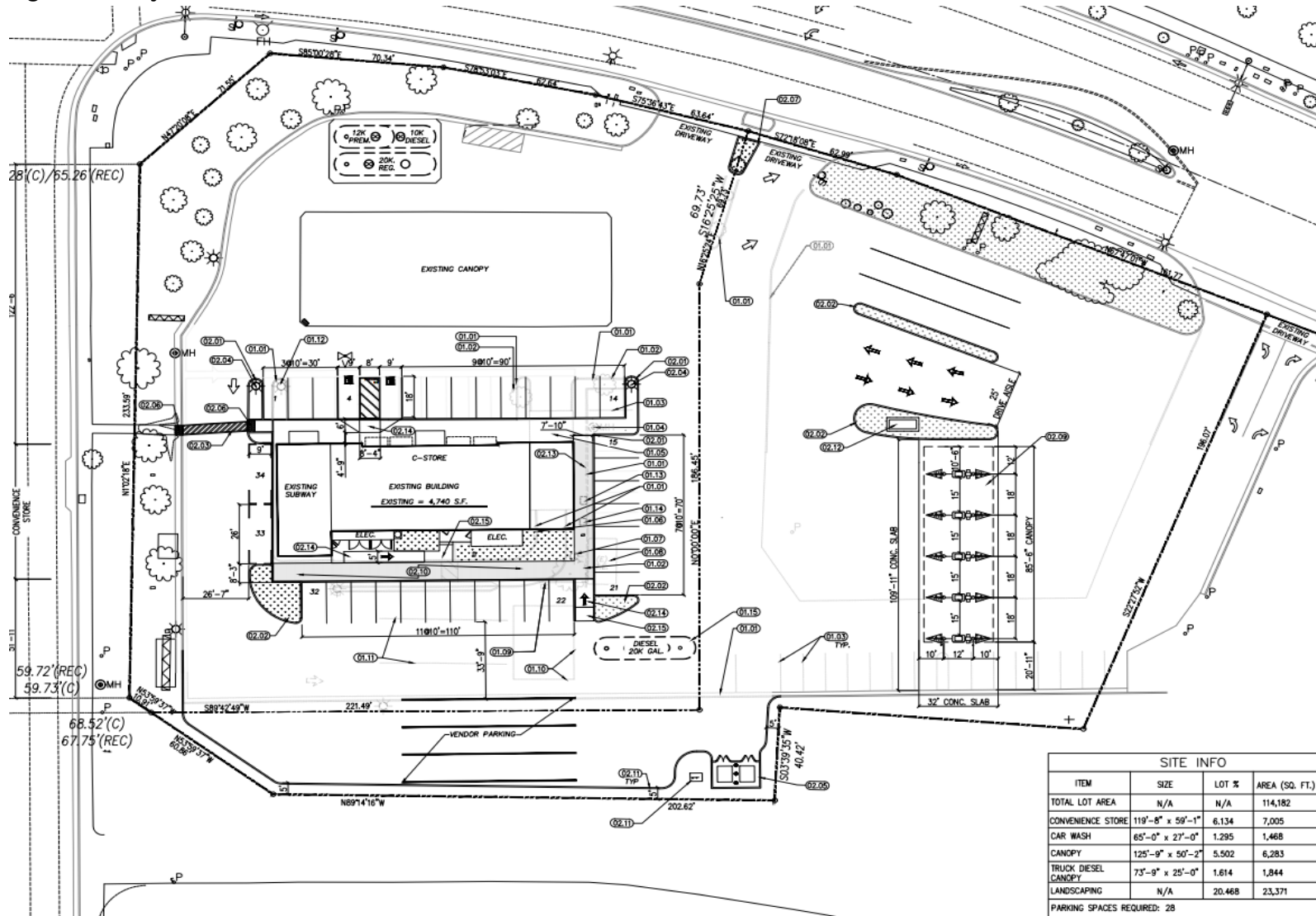
Figure 2 Project Site



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Fig. 2 Project Location

Figure 3 Project Site Plans



2 Background

2.1 Local Climate and Meteorology

The project site is in the South Coast Air Basin (SCAB), which is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The regional climate in the SCAB is semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. Air quality in the SCAB is primarily influenced by meteorology and a wide range of emission sources, such as dense population centers, substantial vehicular traffic, and industry.

Air pollutant emissions in the SCAB are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

The maximum average daily temperature near the project area (City of San Bernardino) is approximately 80 degrees Fahrenheit (°F), and the minimum average daily temperature for the year is approximately 52°F. Total precipitation in the project area averages approximately 16.37 inches annually (U.S. Climate Data 2022).

2.2 Air Pollutants of Primary Concern

Primary criteria pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere. Primary criteria pollutants include carbon monoxide (CO), nitrogen dioxide (NO₂), fine particulate matter (PM₁₀ and PM_{2.5}), sulfur dioxide (SO₂), and lead (Pb). Ozone (O₃) is considered a secondary criteria pollutant because it is created by atmospheric chemical and photochemical reactions between reactive organic gases (ROG) and nitrogen oxides (NO_x). The project would generate CO, PM₁₀, PM_{2.5}, SO₂, and Pb as well as ozone precursors ROG and NO_x (including NO₂) during construction and operation. These pollutants can have adverse impacts on human health at certain levels of exposure. The following subsections describe the characteristics, sources, and health and atmospheric effects of air pollutants.

Ozone

Ozone (O₃) is a highly oxidative unstable gas produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_x) and reactive organic gases (ROG)/volatile organic

compounds (VOC).¹ VOC is composed of non-methane hydrocarbons (with specific exclusions), and NO_x is composed of different chemical combinations of nitrogen and oxygen, mainly nitric oxide and NO₂. NO_x is formed during the combustion of fuels, while ROG is formed during the combustion and evaporation of organic solvents. As a highly reactive molecule, O₃ readily combines with many different atmosphere components. Consequently, high O₃ levels tend to exist only while high VOC and NO_x levels are present to sustain the O₃ formation process. Once the precursors have been depleted, O₃ levels rapidly decline. Because these reactions occur on a regional rather than local scale, O₃ is considered a regional pollutant. In addition, because O₃ requires sunlight to form, it mainly occurs in concentrations considered serious between April and October. Groups most sensitive to O₃ include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors (USEPA 2022a). Depending on the level of exposure, O₃ can cause coughing and a sore or scratch throat; make it more difficult to breathe deeply and vigorously and cause pain when taking a deep breath; inflame and damage the airways; make the lungs more susceptible to infection; and aggravate lung diseases such as asthma, emphysema, and chronic bronchitis.

Carbon Monoxide

Carbon monoxide (CO) is a localized pollutant found in high concentrations only near its source. The primary source of CO, a colorless, odorless, poisonous gas, is automobile traffic's incomplete combustion of petroleum fuels. Therefore, elevated concentrations are usually only found near areas of high traffic volumes. Other sources of CO include the incomplete combustion of petroleum fuels at power plants and fuel combustion from wood stoves and fireplaces during the winter. When CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability to get oxygenated blood to their hearts in situations where they need more oxygen than usual. As a result, they are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain, also known as angina (USEPA 2022a).

Nitrogen Dioxide

Nitrogen dioxide (NO₂) is a by-product of fuel combustion. The primary sources are motor vehicles and industrial boilers, and furnaces. The principal form of NO_x produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO₂, creating the mixture of NO and NO₂, commonly called NO_x. NO₂ is a reactive, oxidizing gas and an acute irritant capable of damaging cell linings in the respiratory tract. Breathing air with a high concentration of NO₂ can irritate airways in the human respiratory system. Such exposures over short periods can aggravate respiratory diseases leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms. Longer exposures to elevated concentrations of NO₂ may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma and children and the elderly are generally at greater risk for the health effects of NO₂ (USEPA 2022a). NO₂ absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of O₃/smog and acid rain.

¹ CARB defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term VOC is used in this report.

Sulfur Dioxide

Sulfur dioxide (SO₂) is included in a group of highly reactive gases known as “oxides of sulfur.” The largest sources of SO₂ emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of SO₂ emissions include industrial processes such as extracting metal from ore and burning fuels with a high sulfur content by locomotives, large ships, and off-road equipment. Short-term exposures to SO₂ can harm the human respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to these effects of SO₂ (USEPA 2022a).

Particulate Matter

Suspended atmospheric PM₁₀ and PM_{2.5} are comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. Both PM₁₀ and PM_{2.5} are emitted into the atmosphere as by-products of fuel combustion and wind erosion of soil and unpaved roads. The atmosphere, through chemical reactions, can form particulate matter. The characteristics, sources, and potential health effects of PM₁₀ and PM_{2.5} can be very different. PM₁₀ is generally associated with dust mobilized by wind and vehicles. In contrast, PM_{2.5} is generally associated with combustion processes and formation in the atmosphere as a secondary pollutant through chemical reactions. PM₁₀ can cause increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling. For PM_{2.5}, short-term exposures (up to 24-hours duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases (CARB 2022a).

Lead

Pb is a metal found naturally in the environment, as well as in manufacturing products. The major sources of lead emissions historically have been mobile and industrial. However, due to the U.S. EPA’s regulatory efforts to remove lead from gasoline, atmospheric Pb concentrations have declined substantially over the past several decades. The most dramatic reductions in Pb emissions occurred before 1990 due to the removal of Pb from gasoline sold for most highway vehicles. Pb emissions were further reduced substantially between 1990 and 2008, with reductions occurring in the metals industries at least partly due to national emissions standards for hazardous air pollutants (USEPA 2013). As a result of phasing out leaded gasoline, metal processing is currently the primary source of Pb emissions. The highest Pb level in the air is generally found near Pb smelters. Other stationary sources include waste incinerators, utilities, and Pb-acid battery manufacturers. Pb can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and cardiovascular system depending on exposure. Pb exposure also affects the oxygen-carrying capacity of the blood. The Pb effects most likely encountered in current populations are neurological in children. Infants and young children are susceptible to Pb exposures, contributing to behavioral problems, learning deficits, and lowered IQ (USEPA 2022a).

Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial

operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as diesel particulate matter (DPM). More than 90 percent of DPM is less than one micron in diameter (about 1/70th the diameter of a human hair) and thus is a subset of PM_{2.5}. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs (CARB 2022a).

TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health.

TACs include both organic and inorganic chemical substances. One of the main sources of TACs in California is diesel engines that emit exhaust containing solid material known as diesel particulate matter; however, TACs may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs commonly associated with gasoline dispensing stations include the organic compounds of benzene, toluene, and xylene. In particular, benzene is a known human carcinogen and can result in short-term acute and long-term chronic health impacts (USEPA 2012). Between 1990 and 2005, benzene in California's air was reduced by over 75 percent due to implementation of control technologies, such as vapor recovery systems, and reductions of benzene levels in gasoline (CARB 2005). Today, gasoline dispensing facilities account for a relatively small fraction of total benzene emissions. However, near source exposure resulting from gasoline dispensing facilities, particularly very high throughput retail or wholesale facilities, can result in elevated health risks to nearby sensitive receptors. People exposed to toxic air pollutants at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (USEPA 2020).

2.3 Air Quality Regulation

The federal and state governments have authority under the federal and state Clean Air Acts to regulate emissions of airborne pollutants and have established ambient air quality standards (AAQS) for the protection of public health. An air quality standard is defined as “the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without harming public health” (CARB 2022b). The USEPA is the federal agency designated to administer air quality regulation, while CARB is the state equivalent in California. Federal and state AAQS have been established for six criteria pollutants: O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, and Pb. AAQS are designed to protect those segments of the public most susceptible to respiratory distress, such as children under the age of 14, the elderly (over the age of 65), persons engaged in strenuous work or exercise, and people with cardiovascular and chronic respiratory diseases (USEPA 2016). In addition, the State of California has established health-based ambient air quality standards for these and other pollutants, some of which are more stringent than the federal standards (CARB 2022c). The federal and state Clean Air Acts are described in more detail below.

Federal Air Quality Regulations

The Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 [42 United States Code (USC) 7401] for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, to achieve the purposes of Section 109 of the CAA [42 USC 7409], the USEPA developed primary and secondary National Ambient Air Quality Standards (NAAQS).

The primary NAAQS "in the judgment of the Administrator², based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health," and the secondary standards are to "protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air" [42 USC 7409(b)(2)]. The USEPA classifies specific geographic areas as either "attainment" or "nonattainment" areas for each pollutant based on the comparison of measured data with the NAAQS. States are required to adopt enforceable plans, known as a State Implementation Plan (SIP), to achieve and maintain air quality meeting the NAAQS. State plans also must control emissions that drift across state lines and harm air quality in downwind states. Table 2 lists the current federal standards for regulated pollutants.

Table 2 Federal and State Ambient Air Quality Standards

Pollutant	NAAQS	CAAQS
Ozone	0.070 ppm (8-hr avg)	0.09 ppm (1-hr avg) 0.070 ppm (8-hr avg)
Carbon Monoxide	35.0 ppm (1-hr avg) 9.0 ppm (8-hr avg)	20.0 ppm (1-hr avg) 9.0 ppm (8-hr avg)
Nitrogen Dioxide	0.100 ppm (1-hr avg) 0.053 ppm (annual avg)	0.18 ppm (1-hr avg) 0.030 ppm (annual avg)
Sulfur Dioxide	0.075 ppm (1-hr avg) 0.5 ppm (3-hr avg) 0.14 ppm (24-hr avg) 0.030 ppm (annual avg)	0.25 ppm (1-hr avg) 0.04 ppm (24-hr avg)
Lead	0.15 µg/m ³ (rolling 3-month avg) 1.5 µg/m ³ (calendar quarter)	1.5 µg/m ³ (30-day avg)
Particulate Matter (PM ₁₀)	150 µg/m ³ (24-hr avg)	50 µg/m ³ (24-hr avg) 20 µg/m ³ (annual avg)
Particulate Matter (PM _{2.5})	35 µg/m ³ (24-hr avg) 12 µg/m ³ (annual avg)	12 µg/m ³ (annual avg)
Visibility-Reducing Particles	No Federal Standards	Extinction coefficient of 0.23 per kilometer – visibility of ten miles or more (0.07 - 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape. (8-hr avg)
Sulfates	No Federal Standards	25 µg/m ³ (24-hr avg)

² The term "Administrator" means the Administrator of the USEPA.

Pollutant	NAAQS	CAAQS
Hydrogen Sulfide	No Federal Standards	0.03 ppm (1-hr avg)
Vinyl Chloride	No Federal Standards	0.01 ppm (24-hr avg)

NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; ppm = parts per million; avg = average; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
Source: CARB 2016

To derive the NAAQS, the USEPA reviews data from integrated science assessments and risk/exposure assessments to determine the ambient pollutant concentrations at which human health impacts occur, then reduces these concentrations to establish a margin of safety (USEPA 2018). As a result, human health impacts caused by the air pollutants discussed above may affect people when ambient air pollutant concentrations are at or above the concentrations established by the NAAQS. The closer a region is to attaining a particular NAAQS, the lower the human health impact is from that pollutant (SJVACPD 2015). Accordingly, ambient air pollutant concentrations below the NAAQS are considered to be protective of human health (CARB 2022b and 2022c). The NAAQS and the underlying science that forms the basis of the NAAQS are reviewed every five years to determine whether updates are necessary to continue protecting public health with an adequate margin of safety (USEPA 2015).

NAAQS and CAAQS Attainment Status

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

The project is within the SCAB, which is designated extreme nonattainment for the federal 8-hour ozone standard moderate nonattainment for the federal annual $\text{PM}_{2.5}$ standard, and serious nonattainment for the federal 24-hour $\text{PM}_{2.5}$ standard. The air basin is also designated nonattainment for the state ozone, $\text{PM}_{2.5}$, and PM_{10} standards (CARB 2020a).

State Air Quality Regulations

California Clean Air Act

The California Clean Air Act (CCAA) was enacted in 1988 (California Health & Safety Code (H&SC) §39000 et seq.). Under the CCAA, the State has developed the California Ambient Air Quality Standards (CAAQS), which are generally more stringent than the NAAQS. Table 2 lists the current state standards for regulated pollutants. In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. Similar to the federal CAA, the CCAA classifies specific geographic areas as either “attainment” or “nonattainment” areas for each pollutant, based on the comparison of measured data within the CAAQS.

Toxic Air Contaminants

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

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

The SCAQMD regulates TAC emissions in the SCAB. SCAQMD's Rule 1401, *New Source Review of Toxic Air Contaminants*, establishes limits for maximum individual cancer risk, cancer burden, and non-cancer acute and chronic hazard indices from new permit units, relocations, or modifications to existing permit units emitting various TACs. Benzene, including benzene from gasoline, is included on SCAQMD's list of TACs subject to cancer risk and non-cancer hazard index limits.

State Implementation Plan

The SIP is a collection of documents that set forth the state's strategies for achieving the AAQS. In California, the SIP is a compilation of new and previously submitted plans, programs (such as monitoring, modeling, and permitting), district rules, state regulations, and federal controls. The CARB is the lead agency for all purposes related to the SIP under state law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register. The items included in the California SIP are listed in the Code of Federal Regulations (CFR) at 40 CFR 52.220.

As the regional air quality management district, the SCAQMD is responsible for preparing and implementing the portion of the SIP applicable to the portion of the SCAB within its jurisdiction. The air pollution control district for each county adopts rules, regulations, and programs to attain federal and state air quality standards and appropriates money (including permit fees) to achieve these objectives.

In addition, the following California Code of Regulations would be applicable to the project:

- **Engine Idling.** In accordance with Section 2485 of Title 13 of the California Code of Regulations, the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes at any location.
- **Emission Standards.** In accordance with Section 93115 of Title 17 of the California Code of Regulations, operation of any stationary, diesel-fueled, compression-ignition engines shall meet specified fuel and fuel additive requirements and emission standards.

Regional Air Quality Regulations

Air Quality Management Plans

As the local air quality management agency, the SCAQMD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. In areas designated as non-attainment for one or more air pollutants, a cumulative air quality impact exists for those air pollutants, and the human health impacts described in Section 2.2 Air Pollutants of Primary Concern, are already occurring in that area as part of the environmental baseline condition.

Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. The SCAQMD adopted the Final 2016 Air Quality Management in March 2017 to reach attainment for federal and state standards. It incorporates new scientific data and notable regulatory actions that have occurred since adoption of the 2012 AQMP, including the approval of the new federal 8-hour ozone standard of 0.070 ppm that was finalized in 2015. The Final 2016 AQMP addresses several state and federal planning requirements and incorporates new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and meteorological air quality models. The Southern California Association of Governments' (SCAG) projections for socio-economic data (e.g., population, housing, employment by industry) and transportation activities from the 2016 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) are integrated into the 2016 AQMP.

The plan builds upon the approaches taken in the 2012 AQMP for the attainment of federal PM and ozone standards and highlights the significant amount of reductions to be achieved. It emphasizes the need for interagency planning to identify additional strategies to achieve reductions within the timeframes allowed under the federal Clean Air Act, especially for mobile sources. The 2016 AQMP also includes a discussion of emerging issues, such as fugitive toxic particulate emissions. In addition, the 2016 AQMP discusses emerging opportunities including zero-emission mobile source control strategies, and the interacting dynamics among climate, energy, and air pollution. The plan also demonstrates strategies for attainment of the new federal 8-hour ozone standard and vehicle miles traveled (VMT) emissions offsets, pursuant to recent USEPA requirements (SCAQMD 2017a).

Project-level significance thresholds established by local air districts set the level at which a project would cause or have a cumulatively considerable contribution to an exceedance of a federal or state ambient air quality standard. Therefore, if a project's air pollutant emissions exceed the significance thresholds, the project could cause or contribute to the human health impacts.

To minimize potential impacts from project emissions, the SCAQMD implements rules and regulations for emissions that may be generated by various uses and activities. The rules and regulations detail pollution-reduction measures that must be implemented during construction and operation of projects. Rules and regulations relevant to the project include the following:

- **Rule 403 (Fugitive Dust).** This rule pertains to any activity or man-made condition capable of generating fugitive dust. The rule has best available control measures that are applicable to all construction activity sources. The new construction would be required to comply with all provisions of Rule 403, including the following measures:
 - All unpaved demolition and construction areas shall be wetted at least twice daily during excavation and construction, and temporary dust covers shall be used to reduce dust emissions and meet SCAQMD Rule 403.

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- The construction area shall be kept sufficiently dampened to control dust caused by grading and hauling, and at all times provide reasonable control of dust caused by wind.
- All clearing, earth moving, or excavation activities shall be discontinued during periods of high winds (i.e., greater than 15 mph), so as to prevent excessive amounts of dust.
- All dirt/soil shall be secured by trimming, watering, or other appropriate means to prevent spillage and dust.
- All dirt/soil materials transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions.
- Trucks having no current hauling activity shall not idle but be turned off.
- Exposed surfaces shall be maintained at a minimum soil moisture of 12 percent and vehicle speeds shall be limited to 15 miles per hour on unpaved roads.

- **Rule 461 (Gasoline Transfer and Dispensing).** This rule applies to the transfer of gasoline from any tank truck, trailer, or railroad tank car into any stationary storage tank or mobile fueler, and from any stationary storage tank or mobile fueler into any mobile fueler or motor vehicle fuel tank. This rule has specific requirements for how facility equipment and operation, such as operating signs, daily maintenance inspection protocol, and periodic compliance inspection protocol.
- **Rule 1113 (Architectural Coatings).** This rule limits the content of VOCs in architectural coatings that are supplied, sold, offered for sale, and manufactured within the Air District. Effective January 1, 2019, all building envelope coatings were limited to a VOC content of 50 grams per liter (SCAQMD 2016).

Local Regulations

City of Rialto General Plan

The City of Rialto’s General Plan, adopted in 2010, lists several air quality policies as part of its Conservation Element that supplement those of the SCAQMD. The following are goals and policies applicable to the proposed project (City of Rialto 2010):

Goal 2-30: Incorporate green building and other sustainable building practices into development projects.

- | | |
|---------------|--|
| Policy 2-30.2 | Promote sustainable building practices that go beyond the requirements of Title 24 of the California Administrative Code, and encourage energy-efficient design elements, as appropriate. |
| Policy 2-30.3 | Support sustainable building practices that integrate building materials and methods that promote environmental quality, economic vitality, and social benefit through the design, construction, and operation of the built environment. |

Goal 2-31: Conserve energy resources

- | | |
|---------------|--|
| Policy 2-31.1 | Require the incorporation of energy conservation features into the design of all new construction and site development activities. |
|---------------|--|

Goal 2-36: Reduce the amount of fugitive dust released into the atmosphere.

Policy 2-36.2	Support programs and policies of the South Coast Air Quality Management District regarding restrictions on grading operations at construction projects.
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2.4 Current Air Quality

The SCAQMD operates a network of air quality monitoring stations throughout the SCAB. The monitoring stations aim to measure ambient concentrations of pollutants and determine whether ambient air quality meets the California and federal standards. SCAQMD has divided the air basin into general forecast and air monitoring areas. The closest monitoring station to the project is the Fontana-Arrow Highway station, located at 14360 Arrow Boulevard in Fontana, approximately five miles southwest of the project site. This station collects 8-hour O₃, hourly O₃, NO₂, CO, PM_{2.5}, and PM₁₀ measurements. Table 3 indicates the number of days each federal and State standard exceeded at Fontana-Arrow Highway. As shown for the 2019 through 2021, O₃ measurements exceeded the federal and State O₃ standards. PM₁₀ measurements exceeded the State standard in the years 2019 through 2021. Also, PM_{2.5} measurements exceeded the federal PM_{2.5} standard exceedances in 2019 and 2021. No other State or federal standards were exceeded at these monitoring stations. Since SO₂ is in attainment with the SCAB region, it is not monitored at the nearest air monitoring stations and therefore ambient air quality is not reported for this pollutant.

Table 3 Ambient Air Quality at the Nearest Monitoring Station

Pollutant	2019	2020	2021
8-Hour Ozone (ppm), 8-Hour Average	0.109	0.111	0.103
Number of Days of State exceedances (>0.070 ppm)	67	89	81
Number of days of federal exceedances (>0.070 ppm)	67	89	81
Ozone (ppm), Worst Hour	0.124	0.151	0.125
Number of days of State exceedances (>0.09 ppm)	41	56	44
Carbon Monoxide (ppm)-Worst Hour¹	2.7	1.7	1.5
Number of days of State exceedances	0	0	0
Nitrogen Dioxide (ppm) - Worst Hour	0.076	0.066	0.067
Number of days of State exceedances (>0.18 ppm)	0	0	0
Number of days of federal exceedances (>0.10 ppm)	0	0	0
Particulate Matter 10 microns, µg/m³, Worst 24 Hours	88.8	76.8	73.8
Number of days of State exceedances (>50 µg/m ³)	11	6	3
Number of days above federal standard (>150 µg/m ³)	0	0	0
Particulate Matter <2.5 microns, µg/m³, Worst 24 Hours	81.3	57.6	55.1
Number of days above federal standard (>35 µg/m ³)	3	4	2

Measurements were taken from Fontana-Arrow Highway monitoring station
Source: CARB 2022d, CARB 2022e¹

Sensitive Receptors

Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with a margin of safety, to protect public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14, the elderly over 65, people engaged in strenuous work or exercise, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, long-term health care facilities, rehabilitation centers, convalescent centers, hospitals, retirement homes, and schools, playgrounds, and childcare centers (SCAQMD 2005). Sensitive receptors nearest to the project site consist of residences approximately 2,750 feet northwest of the project site and 2,915 feet southwest of the project site.

3 Air Quality Impact Analysis

3.1 Methodology

Air pollutant emissions generated by project construction and operation were estimated using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. The model was developed by BREEZE Software for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air districts. CalEEMod allows for the use of standardized data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices A, D, and E (CAPCOA 2021). The analysis reflects construction and operation of the project as described in Section 1.2, *Project Summary*.

Construction

Project construction would primarily generate temporary criteria pollutant and GHG emissions from construction equipment operation on-site, construction worker vehicle trips to and from the site, and export of materials off-site. Construction of the proposed project was analyzed based on the applicant provided land use type and square footage, which includes constructing approximately 1,844 square feet of diesel canopy with eight diesel fuel pumps (i.e., four dispensers). In addition, the project would provide 34 parking spaces and approximately 23,371 square feet of the project site would be landscaped. The proposed construction start date was assumed to begin in January 2023. Based on the applicant-provided land uses, the CalEEMod provides assumptions for construction schedule, equipment lists, and vehicle trips. CalEEMod estimates construction would occur over approximately six months with excavated soils balanced onsite. CalEEMod inputs include the project demolishing approximately 1,627 square feet of the existing car wash and overhead canopy with four diesel fuel pumps (i.e., two dispensers). The project removes four diesel fuel pumps; however, the analysis conservatively models a net addition of eight diesel fuel pumps. The analysis assumes that construction equipment used would be diesel-powered and that the project would comply with applicable regulatory standards. In particular, the project would comply with SCAQMD Rule 403 for dust control measures and Rule 1113 for architectural coating VOC limits, which are discussed under Section 2.3, *Air Quality Regulation*.

Operation

In CalEEMod, operational sources of criteria pollutant emissions include area, energy, and mobile sources. The project model uses CalEEMod default assumptions for energy, area, and mobile sources for the gas station.

Energy Sources

Emissions from energy use include electricity and natural gas use. The emissions factors for natural gas combustion are based on USEPA's AP-42 (*Compilation of Air Pollutant Emissions Factors*) and California Climate Action Registry (CCAR) General Reporting Protocol (CCAR 2009).

Area Sources

Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating were calculated in CalEEMod and utilize standard emission rates from CARB, USEPA, and emission factor values provided by the local air district (CAPCOA 2021).

Mobile Sources

According to the Traffic Impact Analysis Scoping Agreement for the project, despite an increase in fuel pumps, the proposed project would result in a reduction of 385 trips per day due to the removal of the car wash.

CO Hotspots

A CO hotspot is a localized concentration of CO that is above a CO ambient air quality standard. The entire Basin is in conformance with state and federal CO standards, and most air quality monitoring stations no longer report CO levels. The Fontana-Arrow Highway monitoring station in Source Receptor Area (SRA) 34 (Central San Bernardino Valley) reports CO emissions data and reports maximum 1-hour and 8-hour CO concentrations. In 2020, the Fontana-Arrow Highway monitoring station in reported maximum 1-hour and 8-hour concentrations of 1.9 ppm and 1.4 ppm, respectively (CARB 2022c).³ These are well below the respective 1-hour and 8-hour standards of 20 ppm and 9 ppm. Given the ambient concentrations, which include mobile as well as stationary sources, a project in the SCAB would need to emit concentrations 11 times the hourly maximum ambient emissions for all sources near the Fontana-Arrow Highway station before project emissions would exceed the 1-hour standard. Additionally, the project would need to emit six times the daily average for ambient concentrations near the monitoring station within eight hours to exceed the 8-hour standard. Typical development projects would not emit the levels of CO necessary to result in a localized hot spot. Therefore, CO hotspots are not discussed further in this document.

3.2 Significance Thresholds

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

- Conflict with or obstruct implementation of the applicable air quality plan;
- 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;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

³ Data for 2020 was used as the data for 2021 has not been fully verified for all sites.

The SCAQMD has adopted guidelines for quantifying and determining the significance of air quality emissions.

SCAQMD Significance Thresholds

The SCAQMD recommends quantitative regional significance thresholds for temporary construction activities and long-term project operation in the SCAB, shown in Table 4, are used to evaluate a project's potential air quality impacts.

Table 4 SCAQMD Air Quality Significance Thresholds

Pollutant	Construction (pounds per day)	Operation (pounds per day)
NO _x	100	55
VOC	75	55
PM ₁₀	150	150
PM _{2.5}	55	55
SO _x	150	150
CO	550	550

NO_x = Nitrogen Oxides; VOC = Volatile Organic Compounds; PM₁₀ = Particulate Matter with a diameter no more than 10 microns; PM_{2.5} = Particulate Matter with a diameter no more than 2.5 microns; SO_x = Sulfur Oxide; CO = Carbon Monoxide

Source: SCAQMD 2019

Localized Significance Thresholds

In addition to the above regional thresholds, the SCAQMD has developed Localized Significance Thresholds (LSTs) in response to the Governing Board's Environmental Justice Enhancement Initiative (1-4), which was prepared to update the *CEQA Air Quality Handbook* (1993). LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities and have been developed for NO_x, CO, PM₁₀, and PM_{2.5}. 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 SRA, distance to the sensitive receptor, and project size. LSTs have been developed for emissions within site areas that measure one, two, or five acres. If a site is greater than five acres, SCAQMD recommends a dispersion analysis be performed. However, LSTs only apply to emissions in a fixed stationary location (such as fugitive dust, equipment exhaust, and operational energy and area sources) and are not applicable to mobile sources, such as cars on a roadway (SCAQMD 2008a, 2009).

The project parcel totals approximately 2.6 acres, but project construction would only disturb a total area of approximately 0.90 acres. Therefore, this analysis utilizes the one-acre LSTs, which provides a conservative analysis. LSTs are provided for receptors at a distance of 82 feet (25 meters) to 1,640 feet (500 meters) from the project disturbance boundary to the sensitive receptors. Main construction activities would occur approximately 2,750 feet (838 meters) northeast of the closest sensitive receptor, which are single-family residential properties. Therefore, LSTs at a distance of 1,640 feet are used. The project is in SRA-34 (Central San Bernardino Valley) and the LST threshold for construction is shown in Table 5.

Table 5 SCAQMD LSTs for Construction

Pollutant	Allowable Emissions for a One-Acre Site in SRA-34 for a Receptor 1,640 Feet Away (pounds per day)
Gradual conversion of NO _x to NO ₂	362 ¹
CO	21,708
PM ₁₀	196
PM _{2.5}	78 ²

NO_x = Nitrogen Oxides; NO₂ = Nitrogen Dioxide; CO = Carbon Monoxide; PM₁₀ = Particulate Matter with a diameter no more than 10 microns; PM_{2.5} = Particulate Matter with a diameter no more than 2.5 microns

¹The screening criteria for NO_x were developed based on the 1-hour NO₂ CAAQS of 0.18 ppm. Subsequently to publication of the SCAQMD’s guidance the USEPA has promulgated a 1-hour NO₂ NAAQS of 0.100 ppm. This is based on a 98th percentile value, which is more stringent than the CAAQS. Because SCAQMD’s LSTs have not been updated to address this new standard, to determine if project emissions would result in an exceedance of the 1-hour NO₂ NAAQS, an approximated LST was estimated to evaluate the federal 1-hour NO₂ standard. The revised LST threshold is calculated by scaling the NO₂ LST for by the ratio of 1-hour NO₂ standards (federal/state) (i.e., 652 lbs/day * (0.10/0.18) =362.2 lbs/day).

²The screening criteria for PM_{2.5} were developed based on an Annual CAAQS of 15 mg/m³. Subsequently to publication of the SCAQMD’s guidance the annual standard was reduced to 12 mg/m³. Because SCAQMD’s LSTs have not been updated to address this new standard, to determine if project emissions would result in an exceedance of the annual PM_{2.5} CAAQS, an approximated LST was estimated. The revised LST threshold is calculated by scaling the PM_{2.5} LST for by the ratio of 24-hour PM_{2.5} standards (federal/state) (i.e., 98lb/day * (12/15) =78.4 lbs/day).

Source: SCAQMD 2009

Toxic Air Containments Thresholds

SCAQMD has developed significance thresholds for the emissions of TACs based on health risks associated with elevated exposure to such compounds. For carcinogenic compounds, cancer risk is assessed in terms of incremental excess cancer risk. A project would result in a potentially significant impact if it would generate an incremental excess cancer risk of 10 in one million (1 x 10⁻⁶) or a cancer burden of 0.5 excess cancer cases in areas exceeding one in one million risk. Additionally, non-carcinogenic health risks are assessed in terms of a hazard index. A project would result in a potentially significant impact if it would result in a chronic and acute hazard index greater than 1.0 (SCAQMD 2019).

3.3 Impact Analysis

Threshold 1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Impact AQ-1 THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT THE IMPLEMENTATION OF THE SCAQMD FINAL 2016 AIR QUALITY MANAGEMENT PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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 county general plans and the SCAG’s 2016 RTP/SCS socioeconomic forecast projections of regional population, housing, and employment growth (SCAQMD 2017a, SCAG 2016a)⁴. The proposed project would not add

⁴ On September 3, 2020, SCAG’s Regional Council formally adopted the 2020-2045 RTP/SCS (titled Connect SoCal). However, the SIPs were adopted prior to this date and relies on the demographic and growth forecasts of the 2016-2040 RTP/SCS; therefore, these forecasts are utilized in the analysis of the project’s consistency with the AQMP.

population or housing units to the City of Rialto, and existing employees of the existing gas station would maintain the new developments of the project.

In addition, the AQMP provides strategies and measures to reach attainment with the thresholds for 8-hour and 1-hour ozone and PM_{2.5}. As shown in Table 6 and Table 7, below, the project would not generate criteria pollutant emissions that would exceed SCAQMD thresholds for ozone precursors (VOC and NO_x) and PM_{2.5}. Since the project would not affect the SCAG 2016 forecasts, the project would be consistent with the AQMP. Impacts would be less than significant.

Threshold 2 Would the project 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?

Impact AQ-2 PROJECT CONSTRUCTION AND OPERATION WOULD NOT RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF A CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS IN NON-ATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARD. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction Emissions

Project construction would generate temporary air pollutant emissions associated with fugitive dust (PM₁₀ and PM_{2.5}) and exhaust emissions from heavy construction equipment and construction vehicles in addition to VOC emissions that would be released during the drying of architectural coating and paving phases. Table 6 summarizes the estimated maximum daily emissions of pollutants during project construction. As shown therein, construction-related emissions would not exceed SCAQMD thresholds. Therefore, project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Impacts would be less than significant.

Table 6 Project Construction Emissions

Year	Maximum Daily Emissions (lbs/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
2023	7	10	10	<1	3	2
SCAQMD Regional Thresholds	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

lbs/day = pounds per day; VOC = volatile organic compounds; NO_x = nitrogen oxide; CO = carbon monoxide; PM₁₀ = particulate matter with a diameter no more than 10 microns; PM_{2.5} = particulate matter with a diameter no more than 2.5 microns; SO_x = sulfur oxide

Notes: Some numbers may not add up precisely due to rounding considerations. Maximum on-site emissions are the highest emissions that would occur on the project site from on-site sources, such as heavy construction equipment and architectural coatings, and excludes off-site emissions from sources such as construction worker vehicle trips and haul truck trips

Source: Table 2.1 "Overall Construction-mitigated" emissions. Highest of Summer and Winter emissions results are shown for all emissions. See CalEEMod worksheets in Appendix A.

Operational Emissions

Operation of the project would generate criteria air pollutant emissions associated with area sources (e.g., architectural coatings, consumer products, and landscaping equipment), energy sources (i.e., use of natural gas for space and water heating), and mobile sources (i.e., vehicle trips to and from the project site). Table 7 summarizes the project's maximum daily operational emissions by emission source. As shown therein, operational emissions would not exceed SCAQMD regional thresholds for

Alder Avenue and Casmalia Street Fuel Station Expansion Project

criteria pollutants. Therefore, project operation would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment, and impacts would be less than significant.

Table 7 Project Operational Emissions

Emission Source	Maximum Daily Emissions (lbs/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area	<1	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Mobile	<1	<1	<1	<1	<1	<1
Project Emissions	<1	<1	<1	<1	<1	<1
SCAQMD Regional Thresholds	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

lbs/day = pounds per day; VOC = volatile organic compounds; NO_x = nitrogen oxide; CO = carbon monoxide; PM₁₀ = particulate matter with a diameter no more than 10 microns; PM_{2.5} = particulate matter with a diameter no more than 2.5 microns; SO_x = sulfur oxide

Notes: Some numbers may not add up precisely due to rounding considerations.

Source: Table 2.2 "Overall Operation-Mitigated" emissions. Highest of Summer and Winter emissions results are shown for all emissions. The mitigated emissions account for project sustainability features and/or compliance with specific regulatory standards. No mitigation measures are required for this project. See CalEEMod worksheets in Appendix A.

Threshold 3	Would the project expose sensitive receptors to substantial pollutant concentrations?
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Impact AQ-3 THE PROJECT WOULD NOT EXCEED SCAQMD'S LST THRESHOLDS TO NEARBY SENSITIVE RECEPTORS. IN ADDITION, THE PROJECT WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUFFICIENT TAC EMISSION FROM OFF-ROAD VEHICLES AND OPERATION OF THE PROJECT TO EXCEED APPLICABLE HEALTH RISK CRITERIA. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As discussed under Section 2.4, *Current Air Quality*, the closest sensitive receptor are single-family residences located approximately 2,750 feet from the project site to the northeast. Localized air quality impacts to sensitive receptors typically result from criteria pollutants, and TACs, which are discussed in the following subsections.

Localized Significance Thresholds

The *Final LST Methodology* was developed to be used as a tool to analyze localized impacts associated with project-specific level proposed projects. If the calculated emissions for the proposed construction or operational activities are below the LST emission levels found on the LST mass rate look-up tables (Appendix C of *Final LST Methodology*; SCAQMD 2009b) and no potentially significant impacts are found to be associated with other environmental issues, then the proposed construction or operation activity is not significant for air quality. Table 8 summarizes the project's maximum localized daily construction emissions from the proposed project. As shown therein, localized construction emissions would not exceed SCAQMD LST thresholds. Therefore, project construction would be less than significant impact from localized criteria pollutant emissions.

Table 8 Project LST Construction Emissions

Year	Maximum Daily Emissions (lbs/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Maximum On-site Emissions	7	10	9	<1	3	2
SCAQMD LST	N/A	362	21,708	N/A	196	78
Threshold Exceeded?	N/A	No	No	N/A	No	No

lbs/day = pounds per day; VOC = volatile organic compounds; NO_x = nitrogen oxide; CO = carbon monoxide; PM₁₀ = particulate matter with a diameter no more than 10 microns; PM_{2.5} = particulate matter with a diameter no more than 2.5 microns; SO_x = sulfur oxide

Notes: Some numbers may not add up precisely due to rounding considerations. Maximum on-site emissions are the highest emissions that would occur on the project site from on-site sources, such as heavy construction equipment and architectural coatings, and excludes off-site emissions from sources such as construction worker vehicle trips and haul truck trips

Source: CalEEMod worksheets in Appendix A, see Table 3.2 – 3.6 “Overall Construction-mitigated” emissions. Highest of Summer and Winter emissions results are shown for all emissions. The mitigated emissions account for project sustainability features and/or compliance with specific regulatory standards.

Toxic Air Contaminants

Construction Impacts

Construction-related activities would result in temporary project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, building construction, and other construction activities.

CARB’s Air Quality and Land Use Handbook: A Community Health Perspective (2005) recommends against siting sensitive receptors within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. While these siting distances are not particular to construction activities, the primary source of TAC emissions from both freeways and construction equipment is DPM. Therefore, for projects within 1,000 feet of sensitive receptors, a refined health risk should be conducted. However, as the nearest receptors to the project site are over 2,750 feet northeast of the project site, construction TAC emissions would have a negligible impact on the closest sensitive receptors. This impact would be less than significant.

Operational Impacts

The project would require a permit to construct and operate a gasoline dispensing facility from the SCAQMD, which will review the facility design and location for compliance with SCAQMD standards for air quality and community health. As stated in Section 3.1, Methodology, SCAQMD Rule 461 requires all retail service stations to have Phase I and Phase II EVR systems to control gasoline emissions (SCAQMD 2017b). All storage tank vent pipes are also required to have valves to further control emissions. In addition, as the nearest receptors to the project site are over 2,750 feet northeast of the project site, operational TAC emissions would have a negligible impact on the closest sensitive receptors. Therefore, the proposed project’s operational activity would not expose sensitive receptors to TAC levels that would be harmful. This impact would be less than significant.

Threshold 4 Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Impact AQ-4 THE PROJECT WOULD NOT GENERATE ODORS ADVERSELY AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE DURING CONSTRUCTION OR OPERATION. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

For construction activities, odors would be short-term in nature and are subject to SCAQMD Rule 402 *Nuisance* (SCAQMD 1976). Construction activities would be temporary and transitory and associated odors would cease upon construction completion. Accordingly, the proposed project would not create objectionable odors affecting a substantial number of people during construction, and short-term impacts would be less than significant.

Common sources of operational odor complaints include sewage treatment plants, landfills, recycling facilities, and agricultural uses. The proposed project, a modification of a gas station and convenience store, would not include any of these uses. The gas station would emit odors during operation in the form of diesel exhaust from vehicles and operation of the fueling pumps. The increase in odor emissions, however, would be minimal, as vehicle exhaust is already prevalent due to the high levels of vehicle traffic on State Route 210.

Solid waste generated by the proposed on-site uses would be collected by a contracted waste hauler, ensuring that any odors resulting from onsite waste would be managed and collected in a manner to prevent the proliferation of odors. Operational odor impacts would be less than significant.

4 Greenhouse Gas Emissions

4.1 Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but climate change is preferred because it conveys other changes are happening in addition to rising temperatures. The baseline against which these changes are measured originates in historical records that identify temperature changes that occurred in the past, such as during previous ice ages. The global climate is changing continuously, as evidenced in the geologic record which indicates repeated episodes of substantial warming and cooling. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming over the past 150 years. The United Nations Intergovernmental Panel on Climate Change (IPCC) expressed that the rise and continued growth of atmospheric CO₂ concentrations is unequivocally due to human activities in the IPCC's Sixth Assessment Report (2021). Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of 1850 through 2019, that a total of 2,390 gigatonnes of anthropogenic CO₂ was emitted. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019 (IPCC 2021). Furthermore, since the late 1700s, estimated concentrations of CO₂, methane, and nitrous oxide in the atmosphere have increased by over 43 percent, 156 percent, and 17 percent, respectively, primarily due to human activity (USEPA 2021b). Emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature.

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO₂), methane (CH₄), nitrous oxides (N₂O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere, and natural processes, such as oceanic evaporation, largely determine its atmospheric concentrations.

GHGs are emitted by natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Emissions of CO₂ are usually by-products of fossil fuel combustion, and CH₄ results from off-gassing associated with agricultural practices and landfills. Human-made GHGs, many of which have greater heat-absorption potential than CO₂, include fluorinated gases and SF₆ (USEPA 2021b).

Different types of GHGs have varying global warming potentials (GWP). 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 (CO₂) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO₂e), which is the amount of GHG emitted multiplied by its GWP. Carbon

dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than CO₂ on a molecule per molecule basis (IPCC 2021).⁵

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat-trapping effect of GHGs, the earth's surface would be about 33 degrees Celsius (°C) cooler (World Meteorological Organization 2020). However, since 1750, estimated concentrations of CO₂, CH₄, and N₂O in the atmosphere have increased by 47 percent, 156 percent, and 23 percent, respectively, primarily due to human activity (IPCC 2021). GHG emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, are believed to have elevated the concentration of these gases in the atmosphere beyond the level of concentrations that occur naturally.

4.2 Greenhouse Gas Emissions Inventory

Global Emissions Inventory

In 2015, worldwide anthropogenic total 47,000 billion MT of CO₂e, which is a 43 percent increase from 1990 GHG levels (USEPA 2021c). Specifically, 34,522 million metric tons (MMT) of CO₂e of CO₂, 8,241 MMT of CO₂e of CH₄, 2,997 MMT of CO₂e of N₂O, and 1,001 MMT of CO₂e of fluorinated gases were emitted in 2015. The largest source of GHG emissions were energy production and use (includes fuels used by vehicles and buildings), which accounted for 75 percent of the global GHG emissions. Agriculture uses and industrial processes contributed 12 percent and six percent, respectively. Waste sources contributed for three percent and two percent was due to international transportation sources. These sources account for approximately 98 percent because there was a net sink of two percent from land-use change and forestry. (USEPA 2021c).

United States Emissions Inventory

U.S. GHG emissions were 5,981.4 MMT of CO₂e in 2020. Emissions decreased by nine percent from 2019 to 2020; since 1990, total U.S. emissions have decreased by 7.3 percent from 1990 to 2020, down from a high of 15.7 percent above 1990 levels in 2007. The sharp decline in emissions from 2019 to 2020 is largely due to the impacts of the coronavirus (COVID-19) pandemic on travel and economic activity; however, the decline also reflects the combined impacts of long-term trends in many factors, including population, economic growth, energy markets, technological changes including energy efficiency, and the carbon intensity of energy fuel choices. In 2020, transportation activities accounted for the largest portion (27.2 percent) of total U.S. greenhouse gas emissions. Emissions from electric power accounted for the second largest portion (24.8 percent), while emissions from industry accounted for the third largest portion (23.8 percent) of total U.S. greenhouse gas emissions in 2020 (USEPA 2022b).

California Emissions Inventory

Based on the CARB California Greenhouse Gas Inventory for 2000-2019, California produced 418.2 MMT of CO₂e in 2019, which is 7.2 MMT of CO₂e lower than 2018 levels. The major source of GHG emissions in California is the transportation sector, which comprises 40 percent of the state's total GHG emissions. The industrial sector is the second largest source, comprising 21 percent of the

⁵ The Intergovernmental Panel on Climate Change's (2021) *Sixth Assessment Report* determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change's (2007) *Fourth Assessment Report*. Therefore, this analysis utilizes a GWP of 25.

state's GHG emissions while electric power accounts for approximately 14 percent (CARB 2021d). The magnitude of California's total GHG emissions is due in part to its large 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 2016, the State of California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels as emissions fell below 431 MMT of CO₂e (CARB 2021d). The annual 2030 statewide target emissions level is 260 MMT of CO₂e (CARB 2017).

4.3 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Each of the past three decades has been warmer than all the previous decades in the instrumental record, and the years 2013–2021 all rank among the ten warmest years on record. The global annual temperature has increased at an average rate of 0.08°C (0.14°F) per decade since 1880 and over twice that rate (0.18°C / 0.32°F) since 1981 (National Oceanic and Atmospheric Administration 2022). Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations jointly indicate that LSAT and sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014, 2018).

Potential impacts of climate change in California may include reduced water supply from snowpack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years (California Natural Resource Agency 2019). *California's Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the state and regionally specific climate change case studies. However, while there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy (California Natural Resource Agency 2019). A summary follows of some of the potential effects that climate change could generate in California.

Air Quality and Wildfires

Scientists project that the annual average maximum daily temperatures in California could rise by 2.4 to 3.2°C in the next 50 years and by 3.1 to 4.9°C in the next century (California Natural Resource Agency 2019). Higher temperatures are conducive to air pollution formation, and rising temperatures could therefore result in worsened air quality in California. As a result, climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. In addition, as temperatures have increased in recent years, the area burned by wildfires throughout the state has increased, and wildfires have occurred at higher elevations in the Sierra Nevada Mountains (California Natural Resource Agency 2019). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality could worsen. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state. With increasing temperatures, shifting weather patterns, longer dry seasons, and more

dry fuel loads, the frequency of large wildfires and area burned is expected to increase (California Natural Resources Agency 2021).

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. Year-to-year variability in statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common (California Department of Water Resources 2018). This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meter along the central and southern California coasts (California Natural Resource Agency 2019). The Sierra snowpack provides the majority of California's water supply as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the fraction of precipitation that falls as snow and the amount of snowfall at lower elevations, thereby reducing the total snowpack (California Natural Resource Agency 2019). Projections indicate that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050 (California Natural Resource Agency 2019).

Hydrology and Sea Level Rise

Climate change could affect the intensity and frequency of storms and flooding (California Natural Resource Agency 2019). Furthermore, climate change could induce substantial sea level rise in the coming century. Rising sea level increases the likelihood of and risk from flooding. The rate of increase of global mean sea levels between 1993 to 2020, observed by satellites, is approximately 3.3 millimeters per year, double the twentieth century trend of 1.6 millimeters per year (World Meteorological Organization 2013; National Aeronautics and Space Administration 2020). Global mean sea levels in 2013 were about 0.23 meter higher than those of 1880 (National Aeronautics and Space Administration 2020). Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea level rise ranging between 0.25 to 0 1.01 meters by 2100 with the sea level ranges dependent on a low, intermediate, or high GHG emissions scenario (IPCC 2021). A rise in sea levels could erode 31 to 67 percent of southern California beaches and cause flooding of approximately 370 miles of coastal highways during 100-year storm events. This would also jeopardize California's water supply due to saltwater intrusion and induce groundwater flooding and/or exposure of buried infrastructure (California Natural Resource Agency 2019). Furthermore, increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture

California has an over \$50 billion annual agricultural industry that produces over a third of the country's vegetables and two-thirds of the country's fruits and nuts (California Department of Food

and Agriculture 2020). Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent, which would increase water demand as hotter conditions lead to the loss of soil moisture. In addition, crop yield could be threatened by water-induced stress and extreme heat waves, and plants may be susceptible to new and changing pest and disease outbreaks (California Natural Resource Agency 2019). Temperature increases could also change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (California Climate Change Center 2006).

Ecosystems

Climate change and the potential resultant changes in weather patterns could have ecological effects on the global and local scales. Soil moisture is likely to decline in many regions due to higher temperatures, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage (Parmesan 2006; California Natural Resource Agency 2019).

4.4 Regulatory and Legal Setting

Federal Regulations

Federal Clean Air Act

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

In *Utility Air Regulatory Group v. Environmental Protection Agency* (134 Supreme Court 2427 [2014]), the U.S. Supreme Court held the USEPA may not treat GHGs as an air pollutant for purposes of determining whether a source can be considered a major source required to obtain a Prevention of Significant Deterioration or Title V permit. The Court also held that Prevention of Significant Deterioration permits otherwise required based on emissions of other pollutants may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

Safer Affordable Fuel-Efficient Vehicles Rule

On September 27, 2019, the USEPA and the National Highway Traffic Safety Administration published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. The SAFE Rule Part One revokes California's authority to set its own GHG emissions standards and to adopt its own zero-emission vehicle mandates. On April 30, 2020, the USEPA and the National Highway Traffic Safety Administration published Part Two of the SAFE Vehicles Rule, which revised corporate average fuel economy and CO₂ emissions standards for passenger cars and trucks of

model years 2021-2026 such that the standards increase by approximately 1.5 percent each year through model year 2026 as compared to the approximately five percent annual increase required under the 2012 standards (National Highway Traffic Safety Administration 2020). To account for the effects of the SAFE Vehicles Rule, CARB released off-model adjustment factors on June 26, 2020, to adjust GHG emissions outputs from the EMFAC model (CARB 2020b).

State Regulations

CARB is responsible for the coordination and oversight of state and local air pollution control programs in California. There are numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below. For more information on the Senate and Assembly Bills, executive orders, building codes, and reports discussed below, and to view reports and research referenced below, please refer to the following websites:

<https://www.energy.ca.gov/data-reports/reports/californias-fourth-climate-change-assessment>, www.arb.ca.gov/cc/cc.htm, and <https://www.dgs.ca.gov/BSC/Codes>.

California Advanced Clean Cars Program

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

California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Senate Bill 32)

The "California Global Warming Solutions Act of 2006," (AB 32), outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 MMT CO₂e, which was achieved in 2016. CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008). Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Scoping Plan's approval.

The CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB's climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the state's longer

term GHG reduction strategies with other state policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the state to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 and SB 100 (discussed later). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six MT CO_{2e} by 2030 and two MT CO_{2e} by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state (CARB 2017).

The Draft 2022 Scoping Plan Update has been prepared to assess the progress towards the 2030 target as well as to outline a plan to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities (CARB 2022b)

Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (SB 375), signed in August 2008, enhances the state's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy (categorized as "transit priority projects") can receive incentives to streamline CEQA processing.

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Southern California Association of Governments (SCAG) was assigned targets of an 8 percent reduction in per capita GHG emissions from passenger vehicles by 2020⁶ and a 19 percent reduction in per capita GHG emissions from passenger vehicles by 2035. In the SCAG region, SB 375 also provides the option for the coordinated development of subregional plans by the subregional councils of governments and the county transportation commissions to meet SB 375 requirements.

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard (RPS) Program, which

⁶ SCAG met 2020 GHG reduction but confirmation from CARB is still pending.

was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Executive Order B-55-18

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

California Building Standards Code

The California Code of Regulations (CCR) Title 24 is referred to as the California Building Standards Code. It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, and handicap accessibility for persons with physical and sensory disabilities. The current iteration is the 2019 Title 24 standards. The California Building Standards Code's energy-efficiency and green building standards are outlined below.

PART 6 – BUILDING ENERGY EFFICIENCY STANDARDS/ENERGY CODE

CCR Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC). The 2019 Title 24 standards are the applicable building energy efficiency standards for the project because they became effective on January 1, 2020.

PART 11 – CALIFORNIA GREEN BUILDING STANDARDS

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Standards Code). The 2022 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;⁷
- Waste Reduction:
 - Non-residential and multi-family dwellings with five or more units: Provide readily accessible areas identified for the depositing, storage and collection of nonhazardous materials for

⁷ Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water-reduction requirements must be demonstrated through completion of water use reporting forms. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

- recycling, including (at a minimum) paper, corrugated cardboard, glass, plastic, organic waste, and metals; and/or
- Non-residential: Reuse and/or recycling of 100 percent of trees, stumps, rocks, and associated vegetation soils resulting from primary land clearing;
 - Inspections of energy systems to ensure optimal working efficiency;
 - Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
 - Electric Vehicle (EV) Charging for New Construction:⁸
 - One- and two-family dwellings and town houses with attached private garages: Dedicated circuitry to facilitate installation of electric vehicle (EV) charging;
 - Multi-family dwellings and hotels/motels with less than 20 units/rooms: Designation of at least 10 percent of the total number of parking spaces shall be EV capable and at least 25 percent of the total number of parking spaces shall be EV-ready;
 - Multi-family dwellings and hotels/motels with greater than 20 units/rooms: Designation of at least 10 percent of the total number of parking spaces shall be EV capable, at least 25 percent of the total number of parking spaces shall be EV-ready, and at least 5 percent of the total number of parking spaces shall be equipped with a Level 2 charging station;
 - Non-residential land uses shall comply with the following EV charging requirements based on the number of passenger vehicle parking spaces:
 - 0-9: no EV capable spaces or charging stations required;
 - 10-25: 4 EV capable spaces but no charging stations required;
 - 26-50: 8 EV capable spaces of which 2 must be equipped with charging stations;
 - 51-75: 13 EV capable spaces of which 3 must be equipped with charging stations;
 - 76-100: 17 EV capable spaces of which 4 must be equipped with charging stations;
 - 101-150: 25 EV capable spaces of which 6 must be equipped with charging stations;
 - 151-200: 35 EV capable spaces of which 9 must be equipped with charging stations; and
 - More than 200: 20 percent of the total available parking spaces of which 25 percent must be equipped with charging stations;
 - Non-residential land uses shall comply with the following EV charging requirements for medium- and heavy-duty vehicles: warehouses, grocery stores, and retail stores with planned off-street loading spaces shall install EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s), or subpanel(s) at the time of construction based on the number of off-street loading spaces as indicated in Table 5.106.5.4.1 of the California Green Building Standards;
 - Bicycle Parking:

⁸ EV Capable = a vehicle space with electrical panel space and load capacity to support a branch circuit and necessary raceways to support EV charging; EV-ready = a vehicle space which is provided with a branch circuit and any necessary raceways to accommodate EV charging stations, including a receptacle for future installation of a charger (see 2022 California Green Building Standard Code, Title 24 Part 11 for full explanation of mandatory measures, including exceptions).

Alder Avenue and Casmalia Street Fuel Station Expansion Project

- Non-residential short-term bicycle parking for projects anticipated to generate visitor traffic: permanently anchored bicycle racks within 200 feet of visitor entrance for 5 percent of new visitor motorized vehicle parking spaces with a minimum of one 2-bike capacity rack; and/or
- Non-residential buildings with tenant spaces of 10 or more employees/tenant-occupants: secure bicycle parking for 5 percent of the employee/tenant-occupant vehicle parking spaces with a minimum of one bicycle parking facility.
- Shade Trees (Non-Residential):
 - Surface parking: minimum No. 10 container size or equal shall be installed to provide shade over 50 percent of the parking within 15 years (unless parking area covered by appropriate shade structures and/or solar);
 - Landscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20 percent of the landscape area within 15 years; and/or
- Hardscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20 percent of the landscape area within 15 years (unless covered by applicable shade structures and/or solar or the marked area is for organized sports activities).

The voluntary standards require:

- Deconstruct existing buildings and reuse applicable salvaged materials;
- Residential – Cool Roofs: have a thermal mass over the roof membrane, including green roofs weighing a minimum of 25 pounds per square foot or roof areas covered by solar photovoltaic panels and building integrated solar thermal panels;
- Residential – Reduce nonroof heat island for 50 percent of sidewalks, patios, driveways or other paved areas;
- One- and two-family dwelling units and townhouses with attached garages: install a dedicated 208/250-volt branch circuit for EV charging;
- Residential Bicycle Parking:
 - Surface parking: minimum No. 10 container size or equal shall be installed to provide shade over 50 percent of the parking within 15 years (unless parking area covered by appropriate shade structures and/or solar);
 - Multi-family/hotel/motel short-term parking: provide permanently anchored bicycle racks within 100 feet of visitor's entrance for 5 percent of visitor motorized vehicle parking capacity (minimum one 2-bike capacity rack);
 - Multi-family buildings long-term parking: provide acceptable on-site bicycle parking for at least one bicycle per every two dwelling units; and/or
 - Hotel/motel long-term parking: provide one acceptable on-site bicycle parking space for every 25,000 square feet but not less than two spaces;
- Tier I:
 - Stricter energy efficiency requirements;
 - Stricter water conservation requirements for specific fixtures;
 - minimum 65 percent reduction in construction waste with third-party verification, Minimum 10 percent recycled content for building materials;
 - Minimum 20 percent permeable paving;

- Minimum 20 percent cement reduction;
- Multi-family developments/hotels/motels: minimum 35 percent of total parking spaces shall be EV ready and for projects with 20 or more dwelling units/rooms a minimum of 10 percent of the total number of parking spaces shall be equipped with EV charging stations.
- Tier II:
 - Stricter energy efficiency requirements,
 - Stricter water conservation requirements for specific fixtures;
 - Minimum 75 percent reduction in construction waste with third-party verification,
 - Minimum 15 percent recycled content for building materials;
 - Minimum 30 percent permeable paving;
 - Minimum 25 percent cement reduction; and/or
 - Multi-family developments/hotels/motels: minimum 40 percent of total parking spaces shall be EV ready and for projects with 20 or more dwelling units/rooms, a minimum of 15 percent of the total number of parking spaces shall be equipped with EV charging stations.

California Integrated Waste Management Act (Assembly Bill 341)

The California Integrated Waste Management Act of 1989, as modified by AB 341 in 2011, requires each jurisdiction's source reduction and recycling element to include an implementation schedule that shows: (1) diversion of 25 percent of all solid waste by January 1, 1995 through source reduction, recycling, and composting activities and (2) diversion of 50 percent of all solid waste on and after January 1, 2000.

Executive Order N-79-20

On September 23, 2020, Governor Newsom issued EO N-79-20, which established the following new statewide goals:

- All new passenger cars and trucks sold in-state to be zero-emission by 2035;
- All medium- and heavy-duty vehicles in the state to be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks; and
- All off-road vehicles and equipment to be zero-emission by 2035 where feasible.

EO N-79-20 directs CARB, the Governor's Office of Business and Economic Development, the CEC, the California Department of Transportation, and other state agencies to take steps toward drafting regulations and strategies and leveraging agency resources toward achieving these goals.

The California Climate Crisis Act (Assembly Bill 1279)

AB 1279 was passed on September 16, 2022 and declares the State would achieve net zero greenhouse gas emissions as soon as possible, but no later than 2045. In addition, achieve and maintain net negative greenhouse gas emissions and ensure that by 2045, statewide anthropogenic greenhouse gas emissions are reduced to at least 85% below the 1990 levels. The bill would require updates to the scoping plan (once every five years) to implement various policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies.

Clean Energy, Jobs, and Affordability Act of 2022 (Senate Bill 1020)

Adopted on September 16, 2022, SB 1020 creates clean electricity targets for eligible renewable energy resources and zero-carbon resources to supply 90 percent of retail sale electricity by 2035, 95 percent by 2040, 100 percent by 2045, and 100 percent of electricity procured to serve all state agencies by 2035. This bill shall not increase carbon emissions elsewhere in the western grid and shall not allow resource shuffling.

Regional Regulations

2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. On September 3, 2020, SCAG’s Regional Council formally adopted the 2020-2045 RTP/SCS (titled Connect SoCal). The 2020-2045 RTP/SCS builds upon the progress made through implementation of the 2016-2040 RTP/SCS and includes ten goals focused on promoting economic prosperity, improving mobility, protecting the environment, and supporting healthy/complete communities. The SCS implementation strategies include focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, and supporting implementation of sustainability policies. The SCS establishes a land use vision of center focused placemaking, concentrating growth in and near Priority Growth Areas, transferring of development rights, urban greening, creating greenbelts and community separators, and implementing regional advance mitigation (SCAG 2020).

City of Rialto General Plan

The City of Rialto’s General Plan, adopted in 2010, does not have a specific GHG element. The general plan lists several policies as part of its Conservation Element that support GHG emission reductions. See Section 2.3, *Air Quality Regulation*, for additional general plan policies that would support GHG emission reductions. The following would be applicable to the proposed project (City of Rialto 2010):

Goal 2-29: Conserve water resources.

- | | |
|---------------|---|
| Policy 2-29.1 | Require new development to use features, equipment, technology, landscaping, and other methods to reduce water consumption. |
|---------------|---|

City of Rialto Climate Adaptation Plan

The City of Rialto Climate Adaptation Plan, approved on September 28, 2021, lays the groundwork to help prepare the City of Rialto and its residents for the expected impacts of climate change, as required by State law. The Climate Adaptation Plan is geared toward City action, such as community prepared for disasters and emergency response. Therefore, the Climate Adaptation Plan is limited in its application to the proposed project.

5 Greenhouse Gas Impact Analysis

5.1 Methodology

Calculations of CO₂, CH₄, and N₂O emissions are provided to identify the magnitude of potential project effects. The analysis focuses on CO₂, CH₄, and N₂O because these comprise 98 percent of all GHG emissions by volume and are the largest GHG emissions the project would emit in the largest quantities (IPCC 2014). Emissions of all GHGs are converted into their equivalent GWP in terms of CO₂ (i.e., CO₂e). Minimal amounts of other GHGs (such as chlorofluorocarbons [CFCs]) would be emitted; however, these other GHG emissions would not substantially add to the total GHG emissions. GHG emissions associated with project construction and operational activity were calculated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0 (see Appendix A for calculations). The analysis uses CalEEMod default assumptions for energy, solid waste, area, and mobile sources for the gas station. The South Coast Air Quality Management District has recommended amortizing construction-related emissions over a 30-year period in conjunction with the proposed project's operational emissions (SCAQMD 2008b). This guidance is used in this analysis. See Section 3.1 *Methodology*, for the area, natural gas, and mobile source assumptions that inform the air quality and GHG emissions estimates.

Energy Sources

Energy from the proposed project is calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt-hour (CAPCOA 2021). The default electricity consumption values in CalEEMod include the CEC-sponsored California Commercial End-Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies.

The project would be served by Southern California Edison (SCE). Specific energy intensity factors (i.e., the amount of CO₂e per megawatt-hour) from SCE are used in the calculations of GHG emissions.

Waste Sources

GHG emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CAPCOA 2021). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

Water and Wastewater Sources

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

5.2 Significance Thresholds

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

Alder Avenue and Casmalia Street Fuel Station Expansion Project

- 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 directly influence climate change. However, physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. As a result, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]).

To determine a project-specific threshold, guidance on GHG significance thresholds in the region from SCAQMD, the air district in which the project site is located, was used. The SCAQMD's GHG CEQA Significance Threshold Working Group considered a tiered approach to determine the significance of residential and commercial projects. The draft tiered approach is outlined in meeting minutes dated September 29, 2010 (SCAQMD 2010):

- **Tier 1.** If the project is exempt from further environmental analysis under existing statutory or categorical exemptions, there is a presumption of less than significant impacts with respect to climate change. If not, then the Tier 2 threshold should be considered.
- **Tier 2.** Consists of determining whether the project is consistent with a GHG reduction plan that may be part of a local general plan, for example. The concept embodied in this tier is equivalent to the existing concept of consistency in CEQA Guidelines Section 15064(h)(3), 15125(d) or 15152(a). Under this Tier, if the proposed project is consistent with the qualifying local GHG reduction plan, it is not significant for GHG emissions. If there is not an adopted plan, then a Tier 3 approach would be appropriate.
- **Tier 3.** Establishes a screening significance threshold level to determine significance. The Working Group has provided a recommendation of 3,000 MT CO₂e per year for nonindustrial projects.
- **Tier 4.** Establishes a service population threshold to determine significance. The Working Group has provided a recommendation of 4.8 MT CO₂e per year for land use projects.

Tier 1 would not apply to the project as it is not exempt from environmental analysis. For Tier 2, the City of Rialto does not have a qualified GHG reduction plan in its general plan or climate adaptation plan. Therefore, for a project-specific threshold, the City of Rialto has selected SCAQMD's 3,000 MT CO₂e per year threshold for nonindustrial projects as the applicable project-specific threshold, in accordance with Tier 3. The SCAQMD's 3,000 MT CO₂e per year threshold is frequently used by jurisdictions across Southern California to determine GHG emissions impacts from nonindustrial projects.

5.3 Project-level Impact Analysis

Threshold 1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact GHG-1 THE PROPOSED PROJECT WOULD GENERATE TEMPORARY AND LONG-TERM INCREASES IN GHG EMISSIONS BUT WOULD NOT EXCEED THE SCAQMD'S 3,000 MT CO₂E PER YEAR FOR NONINDUSTRIAL PROJECTS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Construction of the proposed project would generate temporary GHG emissions primarily from the operation of construction equipment on-site as well as from vehicles transporting construction workers to and from the project site and heavy trucks to transport building materials. It was assumed that construction activity would begin as early as January 2023. As shown in Table 9, construction of the proposed project would generate an estimated total of 74 MT CO₂e. Amortized over a 30-year period per SCAQMD guidance, construction of the proposed project would generate an estimated 3 MT CO₂e per year.

Table 9 Estimated Construction Emissions of Greenhouse Gases

Construction	Project Emissions MT CO ₂ e
2023	74
Amortized over 30 Years	3

MT CO₂e = metric tons of carbon dioxide equivalent
Source: Appendix A CalEEMod worksheets

Operation of the proposed project would generate GHG emissions associated with area sources, energy and water usage, and wastewater and solid waste generation. Table 10 combines the estimated construction and operational GHG emissions associated with development of the project. As shown therein, annual emissions from the proposed project would be approximately 9 MT of CO₂e per year, which would not exceed SCAQMD's screening-level threshold of 3,000 MT of CO₂e per year for nonindustrial projects.

Table 10 Combined Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions (MT CO ₂ e)
Construction¹	3
Operational	6
Area	<1
Energy	5
Solid Waste	<1
Water, Wastewater	1
Total	9
SCAQMD Numeric Threshold	3,000
Exceed Threshold?	No

Emission Source

Annual Emissions (MT CO₂e)

MT CO₂e = metric tons of carbon dioxide equivalent

¹ Amortized construction related GHG emissions over 30 years

Source: Appendix A CalEEMod worksheets.

Threshold 2: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Impact GHG-2 THE PROPOSED PROJECT WOULD BE CONSISTENT WITH THE 2017 SCOPING PLAN, AND THE SCAG 2020-2045 RTP/SCS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

There are numerous State plans, policies, and regulations adopted to reduce GHG emissions. The principal state plan and policy is AB 32, the California Global Warming Solutions Act of 2006, and the follow up, SB 32. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020 and the goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. Pursuant to the SB 32 goal, the 2017 Scoping Plan was created to outline goals and measures for the State to achieve the reductions. The 2017 Scoping Plan’s goals include reducing fossil fuel use and energy demand and maximizing recycling and diversion from landfills. The project would comply with the latest Title 24 Green Building Code and Building Efficiency Energy Standards. In addition, the project would receive electricity from SCE, which is required to reduce GHG emissions by increasing procurement from eligible renewable energy by set target years. Therefore, the project is consistent with the applicable GHG reduction strategies in the 2017 Scoping Plan.

According to the 2020-2045 RTP/SCS, the updated targets for the SCAG region are eight percent below 2005 per capita emission levels by 2020 (this value is unchanged from the previous 2020 CARB target) and 19 percent below 2005 per capita emissions levels by 2035. The revised 2035 target is higher than the previous CARB target of 13 percent for the SCAG region. The 2020-2045 RTP/SCS includes implementation strategies for focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, supporting implementation of sustainability policies, and promoting a green region. Further specific actions to reduce greenhouse gas emissions under the 2020-2045 RTP/SCS include designing transportation options that reduce the reliance on solo car trips, promoting low emission technologies such as electric vehicles and ride sharing, supporting statewide greenhouse gas emissions legislation, and pursuing funding opportunities to support local sustainable development projects that reduce GHG emissions. In general, a gas station use is planned to satisfy existing vehicle transportation demand and is inherently not oriented for sustainable transportation uses such as transit or rail. Therefore, sustainable transportation initiatives would not apply to the project.

Given the above considerations regarding SCAG’s 2020-2045 RTP/SCS, the 2017 Scoping Plan, and additional state requirements, the project is consistent with State and local policies for reducing GHG emissions, and impacts would be less than significant.

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Appendix A

CaEEMod Outputs

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Rialto Gas Station Improvements Project - AQGHG
South Coast AQMD Air District, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	23.37	1000sqft	0.54	23,371.00	0
Parking Lot	34.00	Space	0.31	13,600.00	0
Convenience Market with Gas Pumps	8.00	Pump	0.03	1,844.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10	Operational Year	2023		
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Data provided by the applicant

Construction Phase - Adjusted architectural coating activity to realistically overlap during building construction.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Trips and VMT - Default trips and VMT were used.

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Demolition - Based on aerial square footage of existing canopy (817 square feet) and carwash (810 square feet).

Architectural Coating - Based on SCAQMD Rule 1113 Architectural Coating.

Vehicle Trips - Per the Traffic Impact Analysis Scoping Agreement for the project, the project would result in a net reduction in vehicle trips due to removal of the car wash; therefore, trips were set to zero.

Area Coating - Based on SCAQMD Rule 1113 Architectural Coating

Energy Use -

Water And Wastewater -

Construction Off-road Equipment Mitigation - Based on SCAQMD Rule 403

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LandUseSquareFeet	23,370.00	23,371.00
tblLandUse	LandUseSquareFeet	1,129.40	1,844.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	ST_TR	322.50	0.00
tblVehicleTrips	SU_TR	322.50	0.00
tblVehicleTrips	WD_TR	322.50	0.00

2.0 Emissions Summary

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-2-2023	4-1-2023	0.2357	0.2357
2	4-2-2023	7-1-2023	0.2095	0.2095
		Highest	0.2357	0.2357

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	0.0105	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6200e-003	1.6200e-003	0.0000	0.0000	1.7300e-003
Energy	2.0000e-005	2.0000e-004	1.7000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	5.0307	5.0307	4.1000e-004	5.0000e-005	5.0569
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0265	0.2942	0.3208	2.7500e-003	7.0000e-005	0.4096
Total	0.0105	2.1000e-004	1.0000e-003	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	2.0000e-005	2.0000e-005	0.0265	5.3266	5.3531	3.1600e-003	1.2000e-004	5.4682

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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	0.0105	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6200e-003	1.6200e-003	0.0000	0.0000	1.7300e-003
Energy	2.0000e-005	2.0000e-004	1.7000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	5.0307	5.0307	4.1000e-004	5.0000e-005	5.0569
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0265	0.2942	0.3208	2.7500e-003	7.0000e-005	0.4096
Total	0.0105	2.1000e-004	1.0000e-003	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	2.0000e-005	2.0000e-005	0.0265	5.3266	5.3531	3.1600e-003	1.2000e-004	5.4682

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	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	1/2/2023	1/13/2023	5	10	
2	Site Preparation	Site Preparation	1/14/2023	1/16/2023	5	1	
3	Grading	Grading	1/17/2023	1/18/2023	5	2	

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4	Building Construction	Building Construction	1/19/2023	6/7/2023	5	100
5	Architectural Coating	Architectural Coating	6/7/2023	6/13/2023	5	5
6	Paving	Paving	6/8/2023	6/14/2023	5	5

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.85

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,766; Non-Residential Outdoor: 922; Striped Parking Area: 2,218 (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	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

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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	4	10.00	0.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	16.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.0000e-004	0.0000	8.0000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2300e-003	0.0289	0.0370	6.0000e-005		1.4100e-003	1.4100e-003		1.3500e-003	1.3500e-003	0.0000	5.2091	5.2091	9.5000e-004	0.0000	5.2328
Total	3.2300e-003	0.0289	0.0370	6.0000e-005	8.0000e-004	1.4100e-003	2.2100e-003	1.2000e-004	1.3500e-003	1.4700e-003	0.0000	5.2091	5.2091	9.5000e-004	0.0000	5.2328

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3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	4.4000e-004	1.2000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1996	0.1996	1.0000e-005	3.0000e-005	0.2094
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.2000e-004	1.6400e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4347	0.4347	1.0000e-005	1.0000e-005	0.4382
Total	1.7000e-004	5.6000e-004	1.7600e-003	0.0000	6.1000e-004	0.0000	6.1000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.6343	0.6343	2.0000e-005	4.0000e-005	0.6476

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.6000e-004	0.0000	3.6000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2300e-003	0.0289	0.0370	6.0000e-005		1.4100e-003	1.4100e-003		1.3500e-003	1.3500e-003	0.0000	5.2091	5.2091	9.5000e-004	0.0000	5.2328
Total	3.2300e-003	0.0289	0.0370	6.0000e-005	3.6000e-004	1.4100e-003	1.7700e-003	5.0000e-005	1.3500e-003	1.4000e-003	0.0000	5.2091	5.2091	9.5000e-004	0.0000	5.2328

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3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	4.4000e-004	1.2000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1996	0.1996	1.0000e-005	3.0000e-005	0.2094
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.2000e-004	1.6400e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4347	0.4347	1.0000e-005	1.0000e-005	0.4382
Total	1.7000e-004	5.6000e-004	1.7600e-003	0.0000	6.1000e-004	0.0000	6.1000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.6343	0.6343	2.0000e-005	4.0000e-005	0.6476

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	3.0900e-003	1.9600e-003	0.0000		1.1000e-004	1.1000e-004		1.0000e-004	1.0000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4309
Total	2.7000e-004	3.0900e-003	1.9600e-003	0.0000	2.7000e-004	1.1000e-004	3.8000e-004	3.0000e-005	1.0000e-004	1.3000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4309

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3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0217	0.0217	0.0000	0.0000	0.0219
Total	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0217	0.0217	0.0000	0.0000	0.0219

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					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	3.0900e-003	1.9600e-003	0.0000		1.1000e-004	1.1000e-004		1.0000e-004	1.0000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4309
Total	2.7000e-004	3.0900e-003	1.9600e-003	0.0000	1.2000e-004	1.1000e-004	2.3000e-004	1.0000e-005	1.0000e-004	1.1000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4309

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3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0217	0.0217	0.0000	0.0000	0.0219
Total	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0217	0.0217	0.0000	0.0000	0.0219

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3100e-003	0.0000	5.3100e-003	2.5700e-003	0.0000	2.5700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3000e-004	0.0102	5.5500e-003	1.0000e-005		4.2000e-004	4.2000e-004		3.9000e-004	3.9000e-004	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481
Total	9.3000e-004	0.0102	5.5500e-003	1.0000e-005	5.3100e-003	4.2000e-004	5.7300e-003	2.5700e-003	3.9000e-004	2.9600e-003	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481

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3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	2.6000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0696	0.0696	0.0000	0.0000	0.0701
Total	2.0000e-005	2.0000e-005	2.6000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0696	0.0696	0.0000	0.0000	0.0701

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	1.1600e-003	0.0000	1.1600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3000e-004	0.0102	5.5500e-003	1.0000e-005		4.2000e-004	4.2000e-004		3.9000e-004	3.9000e-004	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481
Total	9.3000e-004	0.0102	5.5500e-003	1.0000e-005	2.3900e-003	4.2000e-004	2.8100e-003	1.1600e-003	3.9000e-004	1.5500e-003	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481

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3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	2.6000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0696	0.0696	0.0000	0.0000	0.0701
Total	2.0000e-005	2.0000e-005	2.6000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0696	0.0696	0.0000	0.0000	0.0701

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0316	0.3209	0.3549	5.7000e-004		0.0160	0.0160		0.0147	0.0147	0.0000	50.1042	50.1042	0.0162	0.0000	50.5093
Total	0.0316	0.3209	0.3549	5.7000e-004		0.0160	0.0160		0.0147	0.0147	0.0000	50.1042	50.1042	0.0162	0.0000	50.5093

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3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	3.2000e-004	0.0114	4.3500e-003	5.0000e-005	1.8900e-003	6.0000e-005	1.9600e-003	5.5000e-004	6.0000e-005	6.1000e-004	0.0000	5.3392	5.3392	1.8000e-004	7.7000e-004	5.5742
Worker	2.4900e-003	1.9200e-003	0.0262	7.0000e-005	8.7800e-003	5.0000e-005	8.8300e-003	2.3300e-003	5.0000e-005	2.3800e-003	0.0000	6.9548	6.9548	1.8000e-004	1.8000e-004	7.0119
Total	2.8100e-003	0.0134	0.0305	1.2000e-004	0.0107	1.1000e-004	0.0108	2.8800e-003	1.1000e-004	2.9900e-003	0.0000	12.2939	12.2939	3.6000e-004	9.5000e-004	12.5860

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	0.0316	0.3209	0.3549	5.7000e-004		0.0160	0.0160		0.0147	0.0147	0.0000	50.1042	50.1042	0.0162	0.0000	50.5093
Total	0.0316	0.3209	0.3549	5.7000e-004		0.0160	0.0160		0.0147	0.0147	0.0000	50.1042	50.1042	0.0162	0.0000	50.5093

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3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	3.2000e-004	0.0114	4.3500e-003	5.0000e-005	1.8900e-003	6.0000e-005	1.9600e-003	5.5000e-004	6.0000e-005	6.1000e-004	0.0000	5.3392	5.3392	1.8000e-004	7.7000e-004	5.5742
Worker	2.4900e-003	1.9200e-003	0.0262	7.0000e-005	8.7800e-003	5.0000e-005	8.8300e-003	2.3300e-003	5.0000e-005	2.3800e-003	0.0000	6.9548	6.9548	1.8000e-004	1.8000e-004	7.0119
Total	2.8100e-003	0.0134	0.0305	1.2000e-004	0.0107	1.1000e-004	0.0108	2.8800e-003	1.1000e-004	2.9900e-003	0.0000	12.2939	12.2939	3.6000e-004	9.5000e-004	12.5860

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	0.0142	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393

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3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0652	0.0652	0.0000	0.0000	0.0657
Total	2.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0652	0.0652	0.0000	0.0000	0.0657

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	0.0137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	0.0142	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393

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3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0652	0.0652	0.0000	0.0000	0.0657
Total	2.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0652	0.0652	0.0000	0.0000	0.0657

3.7 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5300e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669
Paving	4.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.9400e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669

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3.7 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.1000e-004	1.4700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3912	0.3912	1.0000e-005	1.0000e-005	0.3944
Total	1.4000e-004	1.1000e-004	1.4700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3912	0.3912	1.0000e-005	1.0000e-005	0.3944

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5300e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669
Paving	4.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.9400e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669

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3.7 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.1000e-004	1.4700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3912	0.3912	1.0000e-005	1.0000e-005	0.3944
Total	1.4000e-004	1.1000e-004	1.4700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3912	0.3912	1.0000e-005	1.0000e-005	0.3944

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market with Gas Pumps	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Convenience Market with Gas	0.00	0.00	0.00	0.80	80.20	19.00	14	21	65
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Parking Lot	0.00	0.00	0.00	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
Convenience Market with Gas Pumps	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791
Other Non-Asphalt Surfaces	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791

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Parking Lot	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791
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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.8143	4.8143	4.1000e-004	5.0000e-005	4.8391
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.8143	4.8143	4.1000e-004	5.0000e-005	4.8391
NaturalGas Mitigated	2.0000e-005	2.0000e-004	1.7000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2165	0.2165	0.0000	0.0000	0.2178
NaturalGas Unmitigated	2.0000e-005	2.0000e-004	1.7000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2165	0.2165	0.0000	0.0000	0.2178

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5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas 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					
Convenience Market with Gas Pumps	4056.8	2.0000e-005	2.0000e-004	1.7000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2165	0.2165	0.0000	0.0000	0.2178
Other Non-Asphalt Surfaces	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
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		2.0000e-005	2.0000e-004	1.7000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2165	0.2165	0.0000	0.0000	0.2178

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5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas 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					
Convenience Market with Gas Pumps	4056.8	2.0000e-005	2.0000e-004	1.7000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2165	0.2165	0.0000	0.0000	0.2178
Other Non-Asphalt Surfaces	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
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		2.0000e-005	2.0000e-004	1.7000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2165	0.2165	0.0000	0.0000	0.2178

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market with Gas Pumps	22386.2	3.9701	3.4000e-004	4.0000e-005	3.9906
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	4760	0.8442	7.0000e-005	1.0000e-005	0.8485
Total		4.8143	4.1000e-004	5.0000e-005	4.8391

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market with Gas Pumps	22386.2	3.9701	3.4000e-004	4.0000e-005	3.9906
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	4760	0.8442	7.0000e-005	1.0000e-005	0.8485
Total		4.8143	4.1000e-004	5.0000e-005	4.8391

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive 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	0.0105	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6200e-003	1.6200e-003	0.0000	0.0000	1.7300e-003
Unmitigated	0.0105	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6200e-003	1.6200e-003	0.0000	0.0000	1.7300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.3700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	9.0500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6200e-003	1.6200e-003	0.0000	0.0000	1.7300e-003
Total	0.0105	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6200e-003	1.6200e-003	0.0000	0.0000	1.7300e-003

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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	1.3700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	9.0500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6200e-003	1.6200e-003	0.0000	0.0000	1.7300e-003
Total	0.0105	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6200e-003	1.6200e-003	0.0000	0.0000	1.7300e-003

7.0 Water Detail

7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.3208	2.7500e-003	7.0000e-005	0.4096
Unmitigated	0.3208	2.7500e-003	7.0000e-005	0.4096

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market with Gas Pumps	0.0836574 / 0.0512739	0.3208	2.7500e-003	7.0000e-005	0.4096
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.3208	2.7500e-003	7.0000e-005	0.4096

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market with Gas Pumps	0.0836574 / 0.0512739	0.3208	2.7500e-003	7.0000e-005	0.4096
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.3208	2.7500e-003	7.0000e-005	0.4096

8.0 Waste Detail

8.1 Mitigation Measures Waste

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Rialto Gas Station Improvements Project - AQGHG

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	23.37	1000sqft	0.54	23,371.00	0
Parking Lot	34.00	Space	0.31	13,600.00	0
Convenience Market with Gas Pumps	8.00	Pump	0.03	1,844.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10	Operational Year	2023		
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Data provided by the applicant

Construction Phase - Adjusted architectural coating activity to realistically overlap during building construction.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Trips and VMT - Default trips and VMT were used.

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Demolition - Based on aerial square footage of existing canopy (817 square feet) and carwash (810 square feet).

Architectural Coating - Based on SCAQMD Rule 1113 Architectural Coating.

Vehicle Trips - Per the Traffic Impact Analysis Scoping Agreement for the project, the project would result in a net reduction in vehicle trips due to removal of the car wash; therefore, trips were set to zero.

Area Coating - Based on SCAQMD Rule 1113 Architectural Coating

Energy Use -

Water And Wastewater -

Construction Off-road Equipment Mitigation - Based on SCAQMD Rule 403

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LandUseSquareFeet	23,370.00	23,371.00
tblLandUse	LandUseSquareFeet	1,129.40	1,844.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	ST_TR	322.50	0.00
tblVehicleTrips	SU_TR	322.50	0.00
tblVehicleTrips	WD_TR	322.50	0.00

2.0 Emissions Summary

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0577	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152
Energy	1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154
Mobile	0.0000	0.0000	0.0000	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	0.0578	1.1500e-003	7.5900e-003	1.0000e-005	0.0000	1.0000e-004	1.0000e-004	0.0000	1.0000e-004	1.0000e-004		1.3219	1.3219	7.0000e-005	2.0000e-005	1.3306

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	0.0577	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152
Energy	1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154
Mobile	0.0000	0.0000	0.0000	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	0.0578	1.1500e-003	7.5900e-003	1.0000e-005	0.0000	1.0000e-004	1.0000e-004	0.0000	1.0000e-004	1.0000e-004		1.3219	1.3219	7.0000e-005	2.0000e-005	1.3306

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	1/2/2023	1/13/2023	5	10	
2	Site Preparation	Site Preparation	1/14/2023	1/16/2023	5	1	
3	Grading	Grading	1/17/2023	1/18/2023	5	2	
4	Building Construction	Building Construction	1/19/2023	6/7/2023	5	100	
5	Architectural Coating	Architectural Coating	6/7/2023	6/13/2023	5	5	
6	Paving	Paving	6/8/2023	6/14/2023	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.85

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,766; Non-Residential Outdoor: 922; Striped Parking Area: 2,218 (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	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

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	4	10.00	0.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	16.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1602	0.0000	0.1602	0.0243	0.0000	0.0243			0.0000			0.0000
Off-Road	0.6463	5.7787	7.3926	0.0120		0.2821	0.2821		0.2698	0.2698		1,148.4055	1,148.4055	0.2089		1,153.6290
Total	0.6463	5.7787	7.3926	0.0120	0.1602	0.2821	0.4423	0.0243	0.2698	0.2941		1,148.4055	1,148.4055	0.2089		1,153.6290

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	1.5100e-003	0.0843	0.0237	4.0000e-004	0.0122	6.4000e-004	0.0129	3.3600e-003	6.1000e-004	3.9700e-003		43.9922	43.9922	2.4500e-003	6.9900e-003	46.1361
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0319	0.0214	0.3517	9.8000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		100.1999	100.1999	2.4000e-003	2.2600e-003	100.9334
Total	0.0335	0.1058	0.3754	1.3800e-003	0.1240	1.2700e-003	0.1253	0.0330	1.1900e-003	0.0342		144.1922	144.1922	4.8500e-003	9.2500e-003	147.0696

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0721	0.0000	0.0721	0.0109	0.0000	0.0109			0.0000			0.0000
Off-Road	0.6463	5.7787	7.3926	0.0120		0.2821	0.2821		0.2698	0.2698	0.0000	1,148.4055	1,148.4055	0.2089		1,153.6290
Total	0.6463	5.7787	7.3926	0.0120	0.0721	0.2821	0.3542	0.0109	0.2698	0.2807	0.0000	1,148.4055	1,148.4055	0.2089		1,153.6290

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	1.5100e-003	0.0843	0.0237	4.0000e-004	0.0122	6.4000e-004	0.0129	3.3600e-003	6.1000e-004	3.9700e-003		43.9922	43.9922	2.4500e-003	6.9900e-003	46.1361
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0319	0.0214	0.3517	9.8000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		100.1999	100.1999	2.4000e-003	2.2600e-003	100.9334
Total	0.0335	0.1058	0.3754	1.3800e-003	0.1240	1.2700e-003	0.1253	0.0330	1.1900e-003	0.0342		144.1922	144.1922	4.8500e-003	9.2500e-003	147.0696

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.5348	6.1887	3.9239	9.7300e-003		0.2266	0.2266		0.2084	0.2084		942.4317	942.4317	0.3048		950.0517
Total	0.5348	6.1887	3.9239	9.7300e-003	0.5303	0.2266	0.7568	0.0573	0.2084	0.2657		942.4317	942.4317	0.3048		950.0517

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0160	0.0107	0.1759	4.9000e-004	0.0559	3.1000e-004	0.0562	0.0148	2.9000e-004	0.0151		50.1000	50.1000	1.2000e-003	1.1300e-003	50.4667
Total	0.0160	0.0107	0.1759	4.9000e-004	0.0559	3.1000e-004	0.0562	0.0148	2.9000e-004	0.0151		50.1000	50.1000	1.2000e-003	1.1300e-003	50.4667

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.5348	6.1887	3.9239	9.7300e-003		0.2266	0.2266		0.2084	0.2084	0.0000	942.4317	942.4317	0.3048		950.0517
Total	0.5348	6.1887	3.9239	9.7300e-003	0.2386	0.2266	0.4652	0.0258	0.2084	0.2342	0.0000	942.4317	942.4317	0.3048		950.0517

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0160	0.0107	0.1759	4.9000e-004	0.0559	3.1000e-004	0.0562	0.0148	2.9000e-004	0.0151		50.1000	50.1000	1.2000e-003	1.1300e-003	50.4667
Total	0.0160	0.0107	0.1759	4.9000e-004	0.0559	3.1000e-004	0.0562	0.0148	2.9000e-004	0.0151		50.1000	50.1000	1.2000e-003	1.1300e-003	50.4667

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3119	0.0000	5.3119	2.5686	0.0000	2.5686			0.0000			0.0000
Off-Road	0.9335	10.1789	5.5516	0.0141		0.4201	0.4201		0.3865	0.3865		1,364.771 3	1,364.771 3	0.4414		1,375.806 2
Total	0.9335	10.1789	5.5516	0.0141	5.3119	0.4201	5.7320	2.5686	0.3865	2.9550		1,364.771 3	1,364.771 3	0.4414		1,375.806 2

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0256	0.0172	0.2814	7.8000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		80.1599	80.1599	1.9200e-003	1.8100e-003	80.7468
Total	0.0256	0.0172	0.2814	7.8000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		80.1599	80.1599	1.9200e-003	1.8100e-003	80.7468

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3904	0.0000	2.3904	1.1559	0.0000	1.1559			0.0000			0.0000
Off-Road	0.9335	10.1789	5.5516	0.0141		0.4201	0.4201		0.3865	0.3865	0.0000	1,364.771 3	1,364.771 3	0.4414		1,375.806 2
Total	0.9335	10.1789	5.5516	0.0141	2.3904	0.4201	2.8105	1.1559	0.3865	1.5423	0.0000	1,364.771 3	1,364.771 3	0.4414		1,375.806 2

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0256	0.0172	0.2814	7.8000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		80.1599	80.1599	1.9200e-003	1.8100e-003	80.7468
Total	0.0256	0.0172	0.2814	7.8000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		80.1599	80.1599	1.9200e-003	1.8100e-003	80.7468

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946		1,104.6089	1,104.6089	0.3573		1,113.5402
Total	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946		1,104.6089	1,104.6089	0.3573		1,113.5402

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.6300e-003	0.2178	0.0858	1.0900e-003	0.0384	1.2700e-003	0.0397	0.0111	1.2100e-003	0.0123		117.6186	117.6186	3.9500e-003	0.0170	122.7916
Worker	0.0511	0.0343	0.5628	1.5700e-003	0.1788	1.0100e-003	0.1799	0.0474	9.3000e-004	0.0484		160.3199	160.3199	3.8400e-003	3.6200e-003	161.4935
Total	0.0577	0.2521	0.6485	2.6600e-003	0.2173	2.2800e-003	0.2195	0.0585	2.1400e-003	0.0606		277.9384	277.9384	7.7900e-003	0.0207	284.2851

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946	0.0000	1,104.6089	1,104.6089	0.3573		1,113.5402
Total	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946	0.0000	1,104.6089	1,104.6089	0.3573		1,113.5402

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.6300e-003	0.2178	0.0858	1.0900e-003	0.0384	1.2700e-003	0.0397	0.0111	1.2100e-003	0.0123		117.6186	117.6186	3.9500e-003	0.0170	122.7916
Worker	0.0511	0.0343	0.5628	1.5700e-003	0.1788	1.0100e-003	0.1799	0.0474	9.3000e-004	0.0484		160.3199	160.3199	3.8400e-003	3.6200e-003	161.4935
Total	0.0577	0.2521	0.6485	2.6600e-003	0.2173	2.2800e-003	0.2195	0.0585	2.1400e-003	0.0606		277.9384	277.9384	7.7900e-003	0.0207	284.2851

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.4749					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	5.6665	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	9.5800e-003	6.4300e-003	0.1055	2.9000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		30.0600	30.0600	7.2000e-004	6.8000e-004	30.2800
Total	9.5800e-003	6.4300e-003	0.1055	2.9000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		30.0600	30.0600	7.2000e-004	6.8000e-004	30.2800

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.4749					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	5.6665	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	9.5800e-003	6.4300e-003	0.1055	2.9000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		30.0600	30.0600	7.2000e-004	6.8000e-004	30.2800
Total	9.5800e-003	6.4300e-003	0.1055	2.9000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		30.0600	30.0600	7.2000e-004	6.8000e-004	30.2800

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6112	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466		1,036.0878	1,036.0878	0.3018		1,043.6331
Paving	0.1624					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7736	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466		1,036.0878	1,036.0878	0.3018		1,043.6331

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0575	0.0386	0.6331	1.7600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		180.3599	180.3599	4.3200e-003	4.0700e-003	181.6802
Total	0.0575	0.0386	0.6331	1.7600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		180.3599	180.3599	4.3200e-003	4.0700e-003	181.6802

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6112	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466	0.0000	1,036.0878	1,036.0878	0.3018		1,043.6331
Paving	0.1624					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7736	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466	0.0000	1,036.0878	1,036.0878	0.3018		1,043.6331

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0575	0.0386	0.6331	1.7600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		180.3599	180.3599	4.3200e-003	4.0700e-003	181.6802
Total	0.0575	0.0386	0.6331	1.7600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		180.3599	180.3599	4.3200e-003	4.0700e-003	181.6802

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market with Gas Pumps	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Convenience Market with Gas	0.00	0.00	0.00	0.80	80.20	19.00	14	21	65
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market with Gas Pumps	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791
Other Non-Asphalt Surfaces	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791
Parking Lot	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791

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	1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154
NaturalGas Unmitigated	1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas 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					
Convenience Market with Gas Pumps	11.1145	1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154
Other Non-Asphalt Surfaces	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
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		1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market with Gas Pumps	0.0111145	1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154
Other Non-Asphalt Surfaces	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
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		1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154

6.0 Area Detail

6.1 Mitigation Measures Area

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0577	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152
Unmitigated	0.0577	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152

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	7.5000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2000e-004	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152
Total	0.0577	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.5000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2000e-004	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152
Total	0.0577	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152

7.0 Water Detail

7.1 Mitigation Measures Water

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Rialto Gas Station Improvements Project - AQGHG

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	23.37	1000sqft	0.54	23,371.00	0
Parking Lot	34.00	Space	0.31	13,600.00	0
Convenience Market with Gas Pumps	8.00	Pump	0.03	1,844.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10	Operational Year	2023		
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Data provided by the applicant

Construction Phase - Adjusted architectural coating activity to realistically overlap during building construction.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Off-road Equipment - Default CalEEMod construction equipment were used.

Trips and VMT - Default trips and VMT were used.

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Demolition - Based on aerial square footage of existing canopy (817 square feet) and carwash (810 square feet).

Architectural Coating - Based on SCAQMD Rule 1113 Architectural Coating.

Vehicle Trips - Per the Traffic Impact Analysis Scoping Agreement for the project, the project would result in a net reduction in vehicle trips due to removal of the car wash; therefore, trips were set to zero.

Area Coating - Based on SCAQMD Rule 1113 Architectural Coating

Energy Use -

Water And Wastewater -

Construction Off-road Equipment Mitigation - Based on SCAQMD Rule 403

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LandUseSquareFeet	23,370.00	23,371.00
tblLandUse	LandUseSquareFeet	1,129.40	1,844.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	ST_TR	322.50	0.00
tblVehicleTrips	SU_TR	322.50	0.00
tblVehicleTrips	WD_TR	322.50	0.00

2.0 Emissions Summary

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0577	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152
Energy	1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154
Mobile	0.0000	0.0000	0.0000	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	0.0578	1.1500e-003	7.5900e-003	1.0000e-005	0.0000	1.0000e-004	1.0000e-004	0.0000	1.0000e-004	1.0000e-004		1.3219	1.3219	7.0000e-005	2.0000e-005	1.3306

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	0.0577	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152
Energy	1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154
Mobile	0.0000	0.0000	0.0000	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	0.0578	1.1500e-003	7.5900e-003	1.0000e-005	0.0000	1.0000e-004	1.0000e-004	0.0000	1.0000e-004	1.0000e-004		1.3219	1.3219	7.0000e-005	2.0000e-005	1.3306

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	1/2/2023	1/13/2023	5	10	
2	Site Preparation	Site Preparation	1/14/2023	1/16/2023	5	1	
3	Grading	Grading	1/17/2023	1/18/2023	5	2	
4	Building Construction	Building Construction	1/19/2023	6/7/2023	5	100	
5	Architectural Coating	Architectural Coating	6/7/2023	6/13/2023	5	5	
6	Paving	Paving	6/8/2023	6/14/2023	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.85

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,766; Non-Residential Outdoor: 922; Striped Parking Area: 2,218 (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	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

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	4	10.00	0.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	16.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1602	0.0000	0.1602	0.0243	0.0000	0.0243			0.0000			0.0000
Off-Road	0.6463	5.7787	7.3926	0.0120		0.2821	0.2821		0.2698	0.2698		1,148.4055	1,148.4055	0.2089		1,153.6290
Total	0.6463	5.7787	7.3926	0.0120	0.1602	0.2821	0.4423	0.0243	0.2698	0.2941		1,148.4055	1,148.4055	0.2089		1,153.6290

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	1.4100e-003	0.0883	0.0241	4.0000e-004	0.0122	6.4000e-004	0.0129	3.3600e-003	6.1000e-004	3.9700e-003		44.0418	44.0418	2.4400e-003	7.0000e-003	46.1879
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0337	0.0235	0.3183	9.2000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		94.3849	94.3849	2.4300e-003	2.4000e-003	95.1601
Total	0.0351	0.1118	0.3424	1.3200e-003	0.1240	1.2700e-003	0.1253	0.0330	1.1900e-003	0.0342		138.4267	138.4267	4.8700e-003	9.4000e-003	141.3481

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0721	0.0000	0.0721	0.0109	0.0000	0.0109			0.0000			0.0000
Off-Road	0.6463	5.7787	7.3926	0.0120		0.2821	0.2821		0.2698	0.2698	0.0000	1,148.4055	1,148.4055	0.2089		1,153.6290
Total	0.6463	5.7787	7.3926	0.0120	0.0721	0.2821	0.3542	0.0109	0.2698	0.2807	0.0000	1,148.4055	1,148.4055	0.2089		1,153.6290

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	1.4100e-003	0.0883	0.0241	4.0000e-004	0.0122	6.4000e-004	0.0129	3.3600e-003	6.1000e-004	3.9700e-003		44.0418	44.0418	2.4400e-003	7.0000e-003	46.1879
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0337	0.0235	0.3183	9.2000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		94.3849	94.3849	2.4300e-003	2.4000e-003	95.1601
Total	0.0351	0.1118	0.3424	1.3200e-003	0.1240	1.2700e-003	0.1253	0.0330	1.1900e-003	0.0342		138.4267	138.4267	4.8700e-003	9.4000e-003	141.3481

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.5348	6.1887	3.9239	9.7300e-003		0.2266	0.2266		0.2084	0.2084		942.4317	942.4317	0.3048		950.0517
Total	0.5348	6.1887	3.9239	9.7300e-003	0.5303	0.2266	0.7568	0.0573	0.2084	0.2657		942.4317	942.4317	0.3048		950.0517

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0169	0.0117	0.1592	4.6000e-004	0.0559	3.1000e-004	0.0562	0.0148	2.9000e-004	0.0151		47.1925	47.1925	1.2200e-003	1.2000e-003	47.5801
Total	0.0169	0.0117	0.1592	4.6000e-004	0.0559	3.1000e-004	0.0562	0.0148	2.9000e-004	0.0151		47.1925	47.1925	1.2200e-003	1.2000e-003	47.5801

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.5348	6.1887	3.9239	9.7300e-003		0.2266	0.2266		0.2084	0.2084	0.0000	942.4317	942.4317	0.3048		950.0517
Total	0.5348	6.1887	3.9239	9.7300e-003	0.2386	0.2266	0.4652	0.0258	0.2084	0.2342	0.0000	942.4317	942.4317	0.3048		950.0517

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0169	0.0117	0.1592	4.6000e-004	0.0559	3.1000e-004	0.0562	0.0148	2.9000e-004	0.0151		47.1925	47.1925	1.2200e-003	1.2000e-003	47.5801
Total	0.0169	0.0117	0.1592	4.6000e-004	0.0559	3.1000e-004	0.0562	0.0148	2.9000e-004	0.0151		47.1925	47.1925	1.2200e-003	1.2000e-003	47.5801

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3119	0.0000	5.3119	2.5686	0.0000	2.5686			0.0000			0.0000
Off-Road	0.9335	10.1789	5.5516	0.0141		0.4201	0.4201		0.3865	0.3865		1,364.771 3	1,364.771 3	0.4414		1,375.806 2
Total	0.9335	10.1789	5.5516	0.0141	5.3119	0.4201	5.7320	2.5686	0.3865	2.9550		1,364.771 3	1,364.771 3	0.4414		1,375.806 2

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0270	0.0188	0.2547	7.4000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		75.5079	75.5079	1.9500e-003	1.9200e-003	76.1281
Total	0.0270	0.0188	0.2547	7.4000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		75.5079	75.5079	1.9500e-003	1.9200e-003	76.1281

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3904	0.0000	2.3904	1.1559	0.0000	1.1559			0.0000			0.0000
Off-Road	0.9335	10.1789	5.5516	0.0141		0.4201	0.4201		0.3865	0.3865	0.0000	1,364.771 3	1,364.771 3	0.4414		1,375.806 2
Total	0.9335	10.1789	5.5516	0.0141	2.3904	0.4201	2.8105	1.1559	0.3865	1.5423	0.0000	1,364.771 3	1,364.771 3	0.4414		1,375.806 2

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0270	0.0188	0.2547	7.4000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		75.5079	75.5079	1.9500e-003	1.9200e-003	76.1281
Total	0.0270	0.0188	0.2547	7.4000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		75.5079	75.5079	1.9500e-003	1.9200e-003	76.1281

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946		1,104.6089	1,104.6089	0.3573		1,113.5402
Total	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946		1,104.6089	1,104.6089	0.3573		1,113.5402

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.3500e-003	0.2286	0.0885	1.0900e-003	0.0384	1.2700e-003	0.0397	0.0111	1.2200e-003	0.0123		117.8312	117.8312	3.9300e-003	0.0171	123.0174
Worker	0.0540	0.0375	0.5093	1.4800e-003	0.1788	1.0100e-003	0.1799	0.0474	9.3000e-004	0.0484		151.0158	151.0158	3.8900e-003	3.8400e-003	152.2562
Total	0.0603	0.2661	0.5978	2.5700e-003	0.2173	2.2800e-003	0.2195	0.0585	2.1500e-003	0.0606		268.8471	268.8471	7.8200e-003	0.0209	275.2736

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946	0.0000	1,104.6089	1,104.6089	0.3573		1,113.5402
Total	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946	0.0000	1,104.6089	1,104.6089	0.3573		1,113.5402

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.3500e-003	0.2286	0.0885	1.0900e-003	0.0384	1.2700e-003	0.0397	0.0111	1.2200e-003	0.0123		117.8312	117.8312	3.9300e-003	0.0171	123.0174
Worker	0.0540	0.0375	0.5093	1.4800e-003	0.1788	1.0100e-003	0.1799	0.0474	9.3000e-004	0.0484		151.0158	151.0158	3.8900e-003	3.8400e-003	152.2562
Total	0.0603	0.2661	0.5978	2.5700e-003	0.2173	2.2800e-003	0.2195	0.0585	2.1500e-003	0.0606		268.8471	268.8471	7.8200e-003	0.0209	275.2736

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.4749					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	5.6665	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0101	7.0300e-003	0.0955	2.8000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		28.3155	28.3155	7.3000e-004	7.2000e-004	28.5480
Total	0.0101	7.0300e-003	0.0955	2.8000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		28.3155	28.3155	7.3000e-004	7.2000e-004	28.5480

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.4749					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	5.6665	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0101	7.0300e-003	0.0955	2.8000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		28.3155	28.3155	7.3000e-004	7.2000e-004	28.5480
Total	0.0101	7.0300e-003	0.0955	2.8000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		28.3155	28.3155	7.3000e-004	7.2000e-004	28.5480

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6112	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466		1,036.0878	1,036.0878	0.3018		1,043.6331
Paving	0.1624					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7736	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466		1,036.0878	1,036.0878	0.3018		1,043.6331

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0607	0.0422	0.5730	1.6600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		169.8928	169.8928	4.3800e-003	4.3200e-003	171.2882
Total	0.0607	0.0422	0.5730	1.6600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		169.8928	169.8928	4.3800e-003	4.3200e-003	171.2882

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6112	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466	0.0000	1,036.0878	1,036.0878	0.3018		1,043.6331
Paving	0.1624					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7736	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466	0.0000	1,036.0878	1,036.0878	0.3018		1,043.6331

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	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	0.0607	0.0422	0.5730	1.6600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		169.8928	169.8928	4.3800e-003	4.3200e-003	171.2882
Total	0.0607	0.0422	0.5730	1.6600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		169.8928	169.8928	4.3800e-003	4.3200e-003	171.2882

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market with Gas Pumps	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Convenience Market with Gas	0.00	0.00	0.00	0.80	80.20	19.00	14	21	65
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market with Gas Pumps	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791
Other Non-Asphalt Surfaces	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791
Parking Lot	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791

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	1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154
NaturalGas Unmitigated	1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas 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					
Convenience Market with Gas Pumps	11.1145	1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154
Other Non-Asphalt Surfaces	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
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		1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas 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					
Convenience Market with Gas Pumps	0.0111145	1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154
Other Non-Asphalt Surfaces	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
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		1.2000e-004	1.0900e-003	9.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		1.3076	1.3076	3.0000e-005	2.0000e-005	1.3154

6.0 Area Detail

6.1 Mitigation Measures Area

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0577	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152
Unmitigated	0.0577	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152

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	7.5000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2000e-004	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152
Total	0.0577	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.5000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2000e-004	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152
Total	0.0577	6.0000e-005	6.6700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0143	0.0143	4.0000e-005		0.0152

7.0 Water Detail

7.1 Mitigation Measures Water

Rialto Gas Station Improvements Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation
