AIR QUALITY, ENERGY, AND GREENHOUSE GAS EMISSIONS IMPACT ANALYSIS

VAN BUREN 7-ELEVEN PROJECT

CITY OF RIVERSIDE

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
Air Basin	South Coast Air Basin
AQMP	Air Quality Management Plan
BACT	Best Available Control Technology
BSFC	Brake Specific Fuel Consumption
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFCs	chlorofluorocarbons
Cf_4	tetrafluoromethane
C_2F_6	hexafluoroethane
CH_4	Methane
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
City	City of Riverside
DPM	Diesel particulate matter
EPA	Environmental Protection Agency
ºF	Fahrenheit
FTIP	Federal Transportation Improvement Program
GHG	Greenhouse gas
GWP	Global warming potential
HAP	Hazardous Air Pollutants
HFCs	Hydrofluorocarbons
IPCC	International Panel on Climate Change
kWhr	kilowatt-hour
LCFS	Low Carbon Fuel Standard

LST	Localized Significant Thresholds
MATES	Multiple Air Toxics Exposure Study
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
MWh	Megawatt-hour
NAAQS	National Ambient Air Quality Standards
NO_x	Nitrogen oxides
NO_2	Nitrogen dioxide
OPR	Office of Planning and Research
Pfc	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PPM	Parts per million
PPB	Parts per billion
PPT	Parts per trillion
RTIP	Regional Transportation Improvement Plan
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCAG	Southern California Association of Governments
SF_6	Sulfur Hexafluoride
SIP	State Implementation Plan
SO_x	Sulfur oxides
TAC	Toxic air contaminants
UNFCCC	United Nations' Framework Convention on Climate Change
VOC	Volatile organic compounds

1.0 INTRODUCTION

1.1 Purpose of Analysis and Study Objectives

This Air Quality, Energy, and Greenhouse Gas (GHG) Emissions Impact Analysis has been completed to determine the air quality, energy, and GHG emissions impacts associated with the proposed Van Buren 7-Eleven project (proposed project). The following is provided in this report:

- A description of the proposed project;
- A description of the atmospheric setting;
- A description of the criteria pollutants and GHGs;
- A description of the air quality regulatory framework;
- A description of the energy conservation regulatory framework;
- A description of the GHG emissions regulatory framework;
- A description of the air quality, energy, and GHG emissions thresholds including the California Environmental Quality Act (CEQA) significance thresholds;
- An analysis of the conformity of the proposed project with the South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (AQMP);
- An analysis of the short-term construction related and long-term operational air quality, toxic air contaminants (TAC), energy, and GHG emissions impacts; and
- An analysis of the conformity of the proposed project with all applicable energy and GHG emissions reduction plans and policies.

1.2 Site Locations and Study Area

The project site is located in the western portion of the City of Riverside (City) at 3570 & 3596 Van Buren Boulevard. The approximately 0.86-acre project site is currently developed with two commercial structures and associated parking lots. The project site is bounded by Van Buren Boulevard and commercial uses to the northeast, commercial uses to the southeast, single-family homes to the southwest, and Primrose Drive and commercial uses to the northwest. The project local study area is shown in Figure 1.

Sensitive Receptors in Project Vicinity

The nearest sensitive receptors to the project site are single-family homes located as near as 20 feet southwest of the project site. The nearest school is Liberty Elementary School that is located as near as 0.4 mile northwest of the project site.

1.3 Proposed Project Description

The proposed project would consist of demolition of the two commercial buildings and associated parking lots and construction of a 3,048 square foot 7-Eleven convenience store with a 12 vehicle fuel position gas station. The proposed project would also include ancillary improvements that would include landscaping, a surface parking lot with 24 parking spaces, a trash enclosure, and an air/water dispensing unit. The proposed site plan is shown in Figure 2.

1.4 Executive Summary

Standard Air Quality, Energy, and GHG Regulatory Conditions

The proposed project will be required to comply with the following regulatory conditions from the SCAQMD and State of California (State).

South Coast Air Quality Management District Rules

The following lists the SCAQMD rules that are applicable, but not limited to the proposed project.

- Rule 201 Permit to Construct – Required for all facilities that need an Air Quality Permit to operate (i.e., gas stations);
- Rule 203 Permit to Operate - Required for all facilities that need an Air Quality Permit to operate (i.e., gas stations);
- Rule 402 Nuisance – Controls the emissions of odors and other air contaminants;
- Rule 403 Fugitive Dust – Controls the emissions of fugitive dust;
- Rule 461 Gasoline Dispensing Facilities – Controls gas station emissions;
- Rules 1108 and 1108.1 Cutback and Emulsified Asphalt – Controls the volatile organic compound (VOC) content in asphalt;
- Rule 1113 Architectural Coatings – Controls the VOC content in paints and solvents;
- Rule 1143 Paint Thinners – Controls the VOC content in paint thinners;
- Rule 1401 New Source Review of Toxic Air Contaminants (TACs) - Controls TAC emissions from gas station operations; and
- Rule 1403 Asbestos Removal – Regulates asbestos emissions from demolition activities.

State of California Rules

The following lists the State of California Code of Regulations (CCR) air quality emission rules that are applicable, but not limited to the proposed project.

- CCR Title 13, Article 4.8, Chapter 9, Section 2449 – In use Off-Road Diesel Vehicles;
- CCR Title 13, Section 2025 – On-Road Diesel Truck Fleets;
- CCR Title 24 Part 6 – California Building Energy Standards; and
- CCR Title 24 Part 11 – California Green Building Standards.

Summary of Analysis Results

The following is a summary of the proposed project's impacts with regard to the State CEQA Guidelines air quality, energy, and GHG emissions checklist questions.

Conflict with or obstruct implementation of the applicable air quality plan?

Less than significant impact.

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?

Less than significant impact.

Expose sensitive receptors to substantial pollutant concentrations?

Less than significant impact.

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

Less than significant impact.

Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation;

Less than significant impact.

Conflict with or obstruct a state or local plan for renewable energy;

Less than significant impact.

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

Less than significant impact.

Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs?

Less than significant impact.

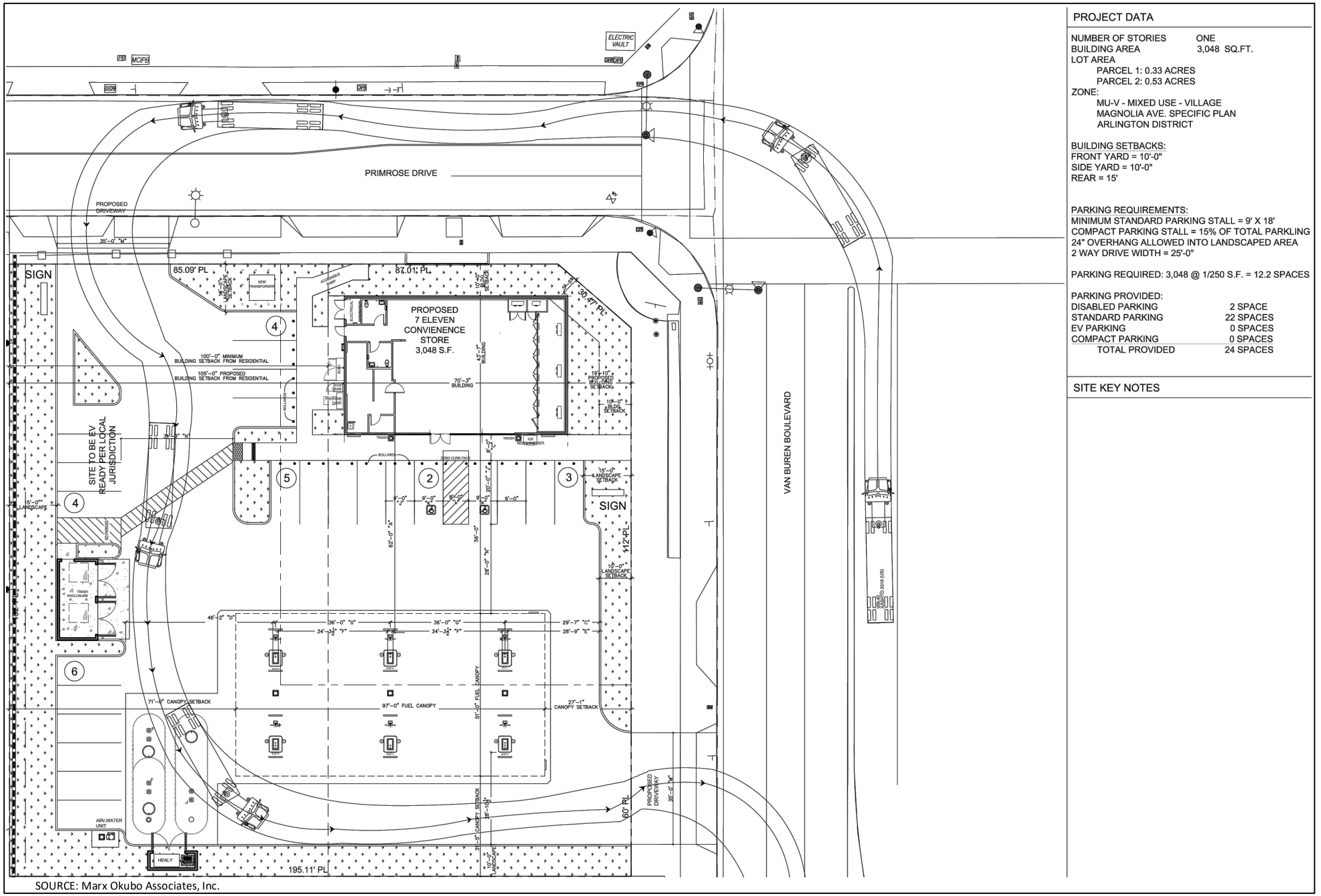
1.5 Mitigation Measures for the Proposed Project

This analysis found that implementation of the State and SCAQMD air quality and GHG emissions reductions regulations were adequate to limit criteria pollutants, TACs, odors, and GHG emissions from the proposed project to less than significant levels. No mitigation measures are required for the proposed project with respect to air quality and GHG emissions.

SOURCE: Google Maps

VISTA ENVIRONMENTAL

Figure 1
Project Local Study Area



SOURCE: Marx Okubo Associates, Inc.

VISTA ENVIRONMENTAL

Figure 2
Site Plan

2.0 AIR POLLUTANTS

Air pollutants are generally classified as either criteria pollutants or non-criteria pollutants. Federal ambient air quality standards have been established for criteria pollutants, whereas no ambient standards have been established for non-criteria pollutants. For some criteria pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). A summary of federal and state ambient air quality standards is provided in the Regulatory Framework section.

2.1 Criteria Pollutants and Ozone Precursors

The criteria pollutants consist of: ozone, nitrogen oxides (NOx), CO, sulfur oxides (SOx), lead, and particulate matter (PM). The ozone precursors consist of NO_x and VOC. These pollutants can harm your health and the environment, and cause property damage. The Environmental Protection Agency (EPA) calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria for setting permissible levels. The following provides descriptions of each of the criteria pollutants and ozone precursors.

Nitrogen Oxides

NOx is the generic term for a group of highly reactive gases which contain nitrogen and oxygen. While most NOx are colorless and odorless, concentrations of nitrogen dioxide (NO_2) can often be seen as a reddish-brown layer over many urban areas. NOx form when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of NO_x are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuel. NOx reacts with other pollutants to form, ground-level ozone, nitrate particles, acid aerosols, as well as NO_2, which cause respiratory problems. NO_x and the pollutants formed from NO_x can be transported over long distances, following the patterns of prevailing winds. Therefore, controlling NOx is often most effective if done from a regional perspective, rather than focusing on the nearest sources.

Ozone

Ozone is not usually emitted directly into the air, instead it is created by a chemical reaction between NOx and VOCs in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents as well as natural sources emit NOx and VOC that help form ozone. Ground-level ozone is the primary constituent of smog. Sunlight and hot weather cause ground-level ozone to form with the greatest concentrations usually occurring downwind from urban areas. Ozone is subsequently considered a regional pollutant. Ground-level ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Because NOx and VOC are ozone precursors, the health effects associated with ozone are also indirect health effects associated with significant levels of NOx and VOC emissions.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes approximately 56 percent of all CO emissions nationwide. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, and natural sources such as forest fires. Woodstoves,

gas stoves, cigarette smoke, and unvented gas and kerosene space heaters are indoor sources of CO. The highest levels of CO in the outside air typically occur during the colder months of the year when inversion conditions are more frequent. The air pollution becomes trapped near the ground beneath a layer of warm air. CO is described as having only a local influence because it dissipates quickly. Since CO concentrations are strongly associated with motor vehicle emissions, high CO concentrations generally occur in the immediate vicinity of roadways with high traffic volumes and traffic congestion, active parking lots, and in automobile tunnels. Areas adjacent to heavily traveled and congested intersections are particularly susceptible to high CO concentrations.

CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. The health threat from lower levels of CO is most serious for those who suffer from heart disease such as angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

Sulfur Oxides

SOx gases are formed when fuel containing sulfur, such as coal and oil is burned, as well as from the refining of gasoline. SOx dissolves easily in water vapor to form acid and interacts with other gases and particles in the air to form sulfates and other products that can be harmful to people and the environment. Exposure to SO_x gases can cause respiratory symptoms (bronchoconstriction, possible wheezing or shortness of breath) during exercise or physical activity in persons with asthma and cause possible allergic sensitization, airway inflammation, and asthma development.

Lead

Lead is a metal found naturally in the environment as well as manufactured products. The major sources of lead emissions have historically been motor vehicles and industrial sources. Due to the phase out of leaded gasoline, metal processing is now the primary source of lead emissions to the air. High levels of lead in the air are typically only found near lead smelters, waste incinerators, utilities, and lead-acid battery manufacturers. Exposure of fetuses, infants and children to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

Particulate Matter

PM is the term for a mixture of solid particles and liquid droplets found in the air. PM is made up of a number of components including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. Particles that are less than 10 micrometers in diameter (PM10) that are also known as *Respirable Particulate Matter* are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Particles that are less than 2.5 micrometers in diameter (PM2.5) that are also known as *Fine Particulate Matter* have been designated as a subset of PM10 due to their increased negative health impacts and its ability to remain suspended in the air longer and travel further.

Volatile Organic Compounds

Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of ozone are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

VOC is not classified as a criteria pollutant, since VOCs by themselves are not a known source of adverse health effects. The primary health effects of VOCs result from the formation of ozone and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for VOCs as a group.

2.2 Other Pollutants of Concern

Toxic Air Contaminants

In addition to the above-listed criteria pollutants, TACs are another group of pollutants of concern. TACs is a term that is defined under the California Clean Air Act and consists of the same substances that are defined as Hazardous Air Pollutants (HAPs) in the Federal Clean Air Act. There are over 700 hundred different types of TACs with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different toxic air contaminants. The most important of these TACs, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to TACs can result from emissions from normal operations as well as from accidental releases. Health effects of TACs include cancer, birth defects, neurological damage, and death.

TACs are less pervasive in the urban atmosphere than criteria air pollutants, however they are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are hundreds of different types of TACs with varying degrees of toxicity. Sources of TACs include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust.

According to *The California Almanac of Emissions and Air Quality 2013 Edition*, the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important of which is diesel particulate matter (DPM). DPM is a subset of PM2.5 because the size of diesel particles are typically 2.5 microns and smaller. The identification of DPM as a TAC in 1998 led the California Air Resources Board (CARB) to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles in October 2000. The plan's goals are a 75-percent reduction in DPM by 2010 and an 85-percent reduction by 2020 from the 2000 baseline. Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are known as particulate matter or PM, which includes carbon particles or "soot." Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances. California's identification of DPM as a TAC was based on its potential to cause cancer, premature deaths, and other health problems. Exposure to DPM is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for the majority of California's potential airborne cancer risk from combustion sources.

Asbestos

Asbestos is listed as a TAC by CARB and as a HAP by the EPA. Asbestos occurs naturally in mineral formations and crushing or breaking these rocks, through construction or other means, can release asbestiform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. The nearest likely locations of naturally occurring asbestos, as identified in the *General Location Guide for Ultramafic Rocks in California*, prepared by the California Division of Mines and Geology, is located in Santa Barbara County. The nearest historic asbestos mine to the project site, as identified in the *Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California,* prepared by U.S. Geological Survey, is located at Asbestos Mountain, which is approximately 60 miles east of the project site in the San Jacinto Mountains. Due to the distance to the nearest natural occurrences of asbestos, the project site is not likely to contain asbestos.

In addition to naturally occurring asbestos, asbestos was used extensively in building construction from the early 1940s through the 1970s as highly-effective and inexpensive fire-retardant material and thermal and acoustic insulator. Asbestos is most commonly found as thermal insulation on pipes, but also may be found in certain types of floor and ceiling tiles. There are two types of asbestos: “friable” and "non-friable.” Friable asbestos generally contains more than 1 percent asbestos by weight or area, and can be crumbled, pulverized, or reduced to powder by the pressure of an ordinary human hand, which releases fibers. Non friable asbestos generally contains more than 1 percent asbestos but cannot be pulverized under hand pressure and generally does not release asbestos fibers. The analysis of asbestos from demolition of the existing structure is provided below in Section 10.4.

3.0 GREENHOUSE GASES

3.1 Greenhouse Gases

Constituent gases of the Earth's atmosphere, called atmospheric GHGs, play a critical role in the Earth's radiation amount by trapping infrared radiation from the Earth's surface, which otherwise would have escaped to space. Prominent GHGs contributing to this process include carbon dioxide (CO_2), methane, ozone, water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these GHGs in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Emissions of CO_2 and N_2O are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of CO_2, where CO_2 is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. The following provides a description of each of the GHGs and their global warming potential.

Water Vapor

Water vapor is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to "hold" more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is unknown as there is also dynamics that put the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

Carbon Dioxide

The natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid 1700s, each of these activities has increased in scale and distribution. CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration with the first conclusive measurements being made in the last half of the 20th century. Prior to the industrial revolution, concentrations were fairly stable at 280 parts per million (ppm). The International Panel on Climate Change (IPCC) indicates that concentrations were 379 ppm in 2005, an increase of more than 30 percent. Left unchecked, the IPCC projects that concentration of CO_2 in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources. This could result in an average global temperature rise of at least two degrees Celsius or 3.6 degrees Fahrenheit.

Methane

Methane is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of CO_2. Its lifetime in the atmosphere is brief (10 to 12 years), compared to some other GHGs (such as CO_2, N_2O, and CFCs). CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide

Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 314 parts per billion (ppb). N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. N_2O is also commonly used as an aerosol spray propellant (i.e., in whipped cream bottles, in potato chip bags to keep chips fresh, and in rocket engines and race cars).

Chlorofluorocarbons

CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source, but were first synthesized in 1928. They were used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and in 1989 the European Community agreed to ban CFCs by 2000 and subsequent treaties banned CFCs worldwide by 2010. This effort was extremely successful, and the levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons

Hydrofluorocarbons (HFCs) are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a in the atmosphere are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt. HFCs are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

Sulfur Hexafluoride

Sulfur Hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 has the highest global warming potential of any gas evaluated; 23,900 times that of CO_2. Concentrations in the 1990s were about 4 ppt. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Aerosols

Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel containing sulfur is burned. Black carbon (or soot) is emitted during biomass burning due to the incomplete combustion of fossil fuels. Particulate matter regulation has been lowering aerosol concentrations in the United States; however, global concentrations are likely increasing.

3.2 Global Warming Potential

GHGs have varying global warming potential (GWP). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere; it is the cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to CO_2. The GHGs listed by the IPCC and the CEQA Guidelines are discussed in this section in order of abundance in the atmosphere. Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic (human-made) sources. To simplify reporting and analysis, GHGs are commonly defined in terms of their GWP. The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of CO_2 equivalent (CO_2e). As such, the GWP of CO_2 is equal to 1. The GWP values used in this analysis are based on the 2007 IPCC Fourth Assessment Report, which are used in CARB's 2014 Scoping Plan Update and the CalEEMod Model Version 2022.1 and are detailed in Table A. The IPCC has updated the GWP of some gases in their Fifth Assessment Report, however the new values have not yet been incorporated into the CalEEMod model that has been utilized in this analysis.

Table A – Global Warming Potentials, Atmospheric Lifetimes and Abundances of GHGs

Gas	Atmospheric Lifetime (years)[1]	Global Warming Potential (100 Year Horizon)[2]	Atmospheric Abundance
Carbon Dioxide (CO_2)	50-200	1	379 ppm
Methane (CH_4)	9-15	25	1,774 ppb
Nitrous Oxide (N_2O)	114	298	319 ppb
HFC-23	270	14,800	18 ppt
HFC-134a	14	1,430	35 ppt
HFC-152a	1.4	124	3.9 ppt
PFC: Tetrafluoromethane (CF_4)	50,000	7,390	74 ppt
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200	2.9 ppt
Sulfur Hexafluoride (SF_6)	3,200	22,800	5.6 ppt

[1] Defined as the half-life of the gas.

[2] Compared to the same quantity of CO_2 emissions and is based on the Intergovernmental Panel On Climate Change (IPCC) 2007 standard, which is utilized in CalEEMod (Version 2022.1),that is used in this report (CalEEMod user guide: Appendix A).

Definitions: ppm = parts per million; ppb = parts per billion; ppt = parts per trillion

Source: IPCC 2007, EPA 2015

3.3 Greenhouse Gas Emissions Inventory

According to the Carbon Dioxide Information Analysis Center[1], 9,855 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) emissions were created globally in the year 2014. According to the EPA, the breakdown of global GHG emissions by sector consists of: 25 percent from electricity and heat production; 21 percent from industry; 24 percent from agriculture, forestry and other land use activities; 14 percent from transportation; 6 percent from building energy use; and 10 percent from all other sources of energy use[2].

According to *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2021,* prepared by EPA, April 2023, total U.S. GHG emissions in the year 2021 were 6,340.2 $MMTCO_2e$. Total U.S. emissions have decreased by 2.3 percent between 1990 and 2021, which is down from a high of 15.8 percent above 1990 levels in 2007. Emissions increased from 2020 to 2021 by 5.2 percent. There was a decline in 2020 emission due to the impacts of the COVID-19 pandemic on travel and other economic activity. Between 2020 and 2021, the increase in GHG emissions were driven largely by an increase in fossil fuel combustion due to economic activity rebounding after the height of the COVID-19 pandemic.

According to *California Greenhouse Gas Emissions for 2000 to 2021 Trends of Emissions and Other Indicators*, prepared by the CARB, December 14, 2023, the State of California created 381.3 $MMTCO_2e$ in 2021. The 2021 emissions were 12.6 $MMTCO_2e$ higher than 2020 but 23.1 $MMTCO_2e$ lower than 2019 levels. Both the 2019 to 2020 decrease and the 2020 to 2021 increase in emissions are likely due in part to the impacts of the COVID-19 pandemic that were felt globally. The transportation sector showed the largest increase in emissions of 10 $MMTCO_2e$ (7.4 percent) compared to 2020, which is most likely from passenger vehicles whose activity and emissions rebounded after COVID-19 shelter in place orders were lifted.

1 Obtained from: https://cdiac.ess-dive.lbl.gov/trends/emis/tre_glob_2014.html
2 Obtained from: https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data

4.0 AIR QUALITY MANAGEMENT

The air quality at the project site is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality are discussed below.

4.1 Federal – United States Environmental Protection Agency

The Clean Air Act, first passed in 1963 with major amendments in 1970, 1977 and 1990, is the overarching legislation covering regulation of air pollution in the United States. The Clean Air Act has established the mandate for requiring regulation of both mobile and stationary sources of air pollution at the state and federal level. The EPA was created in 1970 in order to consolidate research, monitoring, standard-setting and enforcement authority into a single agency.

The EPA is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. NAAQS pollutants were identified using medical evidence and are shown below in Table B.

Table B – State and Federal Criteria Pollutant Standards

Air Pollutant	Concentration / Averaging Time		Most Relevant Effects
	California Standards	Federal Primary Standards	
Ozone (O_3)	0.09 ppm / 1-hour 0.07 ppm / 8-hour	0.070 ppm, / 8-hour	a) Pulmonary function decrements and localized lung injury in humans and animals; (b) asthma exacerbation; (c) chronic obstructive pulmonary disease (COPD) exacerbation; (d) respiratory infection; (e) increased school absences, and hospital admissions and emergency department (ED) visits for combined respiratory diseases; (e) increased mortality; (f) possible metabolic effects. Vegetation damage; property damage
Carbon Monoxide (CO)	20.0 ppm / 1-hour 9.0 ppm / 8-hour	35.0 ppm / 1-hour 9.0 ppm / 8-hour	Visibility reduction (a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) possible impairment of central nervous system functions; (d) possible increased risk to fetuses; (f) possible increased risk of pulmonary disease; (g) possible emergency department visits for respiratory diseases overall and visits for asthma.
Nitrogen Dioxide (NO_2)	0.18 ppm / 1-hour 0.030 ppm / annual	100 ppb / 1-hour 0.053 ppm / annual	Short-term (a) asthma exacerbations (“asthma attacks”) Long-term (a) asthma development; (b) higher risk of all-cause, cardiovascular, and respiratory mortality. Both short and long term NO2 exposure is also associated with chronic obstructive pulmonary disease (COPD) risk. Potential impacts on cardiovascular health, mortality and cancer, aggravate chronic respiratory disease. Contribution to atmospheric discoloration

Air Pollutant	Concentration / Averaging Time		Most Relevant Effects
	California Standards	Federal Primary Standards	
Sulfur Dioxide (SO_2)	0.25 ppm / 1-hour 0.04 ppm / 24-hour	75 ppb / 1-hour	Respiratory symptoms (bronchoconstriction, possible wheezing or shortness of breath) during exercise or physical activity in persons with asthma. Possible allergic sensitization, airway inflammation, asthma development.
Respirable Particulate Matter (PM_{10})	50 µg/m^3 / 24-hour 20 µg/m^3 / annual	150 µg/m^3 / 24-hour	Short -term (a) increase in mortality rates; (b) increase in respiratory infections; (c) increase in number and severity of asthma attacks; (d) COPD exacerbation; (e) increase in combined respiratory-diseases and number of hospital admissions; (f) increased mortality due to cardiovascular or respiratory diseases; (g) increase in hospital admissions for acute respiratory conditions; (h) increase in school absences; (i) increase in lost work days; (j) decrease in respiratory function in children; (k) increase medication use in children and adults with asthma. Long-term (a) reduced lung function growth in children; (b) changes in lung development; (c) development of asthma in children; (d) increased risk of cardiovascular diseases; (e) increased total mortality from lung cancer; (f) increased risk of premature death. Possible link to metabolic, nervous system, and reproductive and developmental effects for short-term and long-term exposure to PM2.5.
Suspended Particulate Matter ($PM_{2.5}$)	12 µg/m^3 / annual	35 µg/m^3 / 24-hour 12 µg/m^3 / annual	
Sulfates	25 µg/m^3 / 24-hour	No Federal Standards	(a) Decrease in lung function; (b) aggravation of asthmatic symptoms; (c) vegetation damage; (d) Degradation of visibility; (e) property damage
Lead	1.5 µg/m^3 / 30-day	0.15 µg/m^3 /3-month rolling	(a) Learning disabilities; (b) impairment of blood formation and nerve function; (c) cardiovascular effects, including coronary heart disease and hypertension Possible male reproductive system effects
Hydrogen Sulfide	0.03 ppm / 1-hour	No Federal Standards	Exposure to lower ambient concentrations above the standard may result in objectionable odor and may be accompanied by symptoms such as headaches, nausea, dizziness, nasal irritation, cough, and shortness of breath

Source: 2022 AQMP, SCAQMD, 2022.

As part of its enforcement responsibilities, the EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The SIP must integrate federal, state, and local components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP. The CARB defines attainment as the category given to an area with no violations in the past three years. As indicated below in Table C, the Air Basin has been designated by EPA for the national standards as a non-attainment area for ozone and PM2.5 and partial non-attainment for lead. Currently, the Air Basin is in attainment with the national ambient air quality standards for CO, PM10, SO_2, and NO_2.

Table C – National Air Quality Standards Attainment Status – South Coast Air Basin

Criteria Pollutant	Averaging Time	Designation[a]	Attainment Date[b]
Ozone	1979 1-Hour (0.12 ppm)	Nonattainment (Extreme)	2/6/2023 (revised deadline)
	2015 8-Hour (0.07 ppm)[d]	Nonattainment (Extreme)	8/3/2038
	2008 8-Hour (0.075 ppm)[d]	Nonattainment (Extreme)	7/20/2032
	1997 8-Hour (0.08 ppm)[d]	Nonattainment (Extreme)	6/15/2024
PM2.5[e]	2006 24-Hour (35 µg/m^3)	Nonattainment (Serious)	12/31/2019
	2012 Annual (12 µg/m^3)	Nonattainment (Serious)	12/31/2021
	1997 Annual (15 µg/m^3)	Attainment (final determination pending)	4/5/2015 (attained 2013)
PM10[f]	1987 24-Hour (150 µg/m^3)	Attainment (Maintenance)	7/26/2013 (attained)
Lead[g]	2008 3-Months Rolling (0.15 µg/m^3)	Nonattainment (Partial) (Attainment determination requested)	12/31/2015
CO	1971 1-Hour (35 ppm)	Attainment (Maintenance)	6/11/2007
	1971 8-Hour (9 ppm)	Attainment (Maintenance)	6/11/2007
NO_2[h]	2010 1-Hour (100 ppb)	Unclassifiable/Attainment	N/A (attained)
	1971 Annual (0.053 ppm)	Attainment (Maintenance)	9/22/1998 (attained)
SO_2[i]	2010 1-Hour (75 ppb)	Unclassifiable/Attainment	1/9/2018
	1971 24-Hour (0.14 ppm)	Unclassifiable/Attainment	3/19/1979

Source: SCAQMD, 2022

Notes:

a) U.S. EPA often only declares Nonattainment areas; everywhere else is listed as Unclassifiable/Attainment or Unclassifiable.

b) A design value below the NAAQS for data through the full year or smog season prior to the attainment date is typically required for attainment demonstration.

c) The 1979 1-hour ozone NAAQS (0.12 ppm) was revoked, effective June 15, 2005; however, the Basin has not attained this standard and therefore has some continuing obligations with respect to the revoked standard; original attainment date was 11/15/2010; the revised attainment date is 2/6/2023.

d) The 2008 8-hour ozone NAAQS (0.075 ppm) was revised to 0.070 ppm, effective 12/28/20115 with classifications and implementation goals to be finalized by 10/1/2017; the 1997 8-hour ozone NAAQS (0.08 ppm) was revoked in the 2008 ozone implementation rule, effective 4/6/2015; there are continuing obligations under the revoked 1997 and revised 2008 ozone NAAQS until they are attained.

e) The attainment deadline for the 2006 24-Hour PM2.5 NAAQS was 12/31/15 for the former "moderate" classification; the EPA approved reclassification to "serious", effective 2/12/16 with an attainment deadline of 12/31/2019; the 2012 (proposal year) annual PM2.5 NAAQS was revised on 1/15/2013, effective 3/18/2013, from 15 to 12 µg/m^3; new annual designations were final 1/15/2015, effective 4/15/2015; on 7/25/2016 the EPA finalized a determination that the Basin attained the 1997 annual (15.0 µg/m^3) and 24-hour PM2.5 (65 µg/m^3) NAAQS, effective 8/24/2016.

f) The annual PM10 standard was revoked, effective 12/18/2006; the 24-hour PM10 NAAQS deadline was 12/31/2006; the Basin's Attainment Re-designation Request and PM10 Maintenance Plan was approved by the EPA on 6/26/2103, effective 7/26/2013.

g) Partial Nonattainment designation – Los Angeles County portion of the Basin only for near-source monitors; expect to remain in attainment based on current monitoring data; attainment re-designation request pending.

h) New 1-hour NO_2 NAAQS became effective 8/2/2010, with attainment designations 1/20/2012; annual NO_2 NAAQS retained.

i) The 1971 annual and 24-hour SO_2 NAAQS were revoked, effective 8/23/2010.

Despite substantial improvements in air quality over the past few decades, some air monitoring stations in the Air Basin still exceed the NAAQS and frequently record the highest ozone levels in the United States. In 2020, monitoring stations in the Air Basin exceeded the most current federal standards on a total of 181 days (49 percent of the year), including: 8-hour ozone (157 days over the 2015 ozone NAAQS), 24-hour PM2.5 (39 days), PM10 (3 days), and NO_2 (1 day). Nine of the top 10 stations in the nation most frequently exceeding the 2015 8-hour ozone NAAQS in 2020 were located within the Air Basin, including stations in San Bernardino, Riverside, and Los Angeles Counties (SCAQMD, 2022).

PM2.5 levels in the Air Basin have improved significantly in recent years. Since 2015, none of the monitoring stations in the Air Basin have recorded violations of the former 1997 annual PM2.5 NAAQS (15.0 µg/m^3). On July 25, 2016 the U.S. EPA finalized a determination that the Air Basin attained the 1997 annual (15.0 µg/m^3) and 24-hour PM2.5 (65 µg/m^3) NAAQS, effective August 24, 2016. However, the Air Basin does not meet the 2012 annual PM2.5 NAAQS (12.0 µg/m^3), with six monitoring stations having design values above the standard for the 2018-2020 period (SCAQMD, 2022).

4.2 State – California Air Resources Board

The CARB, which is a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. The CAAQS for criteria pollutants in the Air Basin are shown in Table D. In addition, the CARB establishes emission standards for motor vehicles sold in California, consumer products (e.g. hairspray, aerosol paints, and barbeque lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

Table D – California Ambient Air Quality Standards Attainment Status – South Coast Air Basin

Criteria Pollutant	Averaging Time	Level[a]	Designation[b]
Ozone	1-Hour	0.09 ppm	Nonattainment
	8-Hour	0.070 ppm	Nonattainment
PM2.5	Annual	12 µg/m^3	Nonattainment
PM10	24-Hour	50 µg/m^3	Nonattainment
	Annual	20 µg/m^3	Nonattainment
Lead	30-Day Average	1.5 µg/m^3	Attainment
CO	1-Hour	20 ppm	Attainment
	8-Hour	9.0 ppm	Attainment
NO_2	1-Hour	0.18 ppm	Attainment
	Annual	0.030	Attainment[c]
SO_2	1-Hour	0.25 ppm	Attainment
	24-Hour	0.04 ppm	Attainment
Sulfates	24-Hour	25 µg/m^3	Attainment
Hydrogen Sulfide[c]	1-Hour	0.03 ppm	Unclassified

Source: SCAQMD, 2022

Notes:

a) CA State standards, or CAAQS, for ozone, SO_2, NO_2, PM10 and PM2.5 are values not to be exceeded; lead, sulfates and H_2S standards are values not to be equaled or exceeded; CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b) CA State designations shown were updated by CARB in 2019, based on the 2016-2018 3-year period; stated designations are based on a 3-year data period after consideration of outliers and exceptional events.

c) The CA-60 near road portion of San Bernardino, Riverside and Los Angeles Counties has recently been redesignated as an attainment area based on data collected between 2018 and 2020.

As shown in Table D, the Air Basin has been designated by the CARB as a non-attainment area for ozone, PM10 and PM2.5. Currently, the Air Basin is in attainment with the ambient air quality standards for lead, CO, NO_2, SO_2 and sulfates, and is unclassified for Hydrogen Sulfide.

The following lists the State of California Code of Regulations (CCR) air quality emission rules that are applicable, but not limited to all residential projects in the State.

Assembly Bill 2588

The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588, 1987, Connelly) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release in California. The data is ranked by high, intermediate, and low categories, which are determined by: the potency, toxicity, quantity, volume, and proximity of the facility to nearby receptors.

CARB Regulation for In-Use Off-Road Diesel Vehicles

On July 26, 2007, the CARB adopted CCR Title 13, Article 4.8, Chapter 9, Section 2449 to reduce DPM and NOx emissions from in-use off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. Performance requirements of the rule are based on a fleet's average NOx emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirement making the first compliance deadline January 1, 2014 for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501-5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less). Currently, no commercial operation in California may add any equipment to their fleet that has a Tier 0, Tier 1, or Tier 2 engine. It should be noted that commercial fleets may continue to use their existing Tier 0, 1 and 2 equipment, if they can demonstrate that the average emissions from their entire fleet emissions meet the NOx emissions targets.

CARB Resolution 08-43 for On-Road Diesel Truck Fleets

On December 12, 2008 the CARB adopted Resolution 08-43, which limits NOx, PM10 and PM2.5 emissions from on-road diesel truck fleets that operate in California. On October 12, 2009 Executive Order R-09-010 was adopted that codified Resolution 08-43 into CCR Title 13, Section 2025. This regulation requires that by the year 2023 all commercial diesel trucks that operate in California shall meet model year 2010 (Tier 4 Final) or latter emission standards. This regulation also provides a few exemptions including a onetime per year 3-day pass for trucks registered outside of California. All on-road diesel trucks utilized during construction of the proposed project will be required to comply with Resolution 08-43.

4.3 Regional – Southern California

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin. To that end, as a regional agency, the SCAQMD works directly with the Southern California Association of Governments (SCAG), county transportation commissions, and local governments and cooperates actively with all federal and state agencies.

South Coast Air Quality Management District

SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. It has responded to this requirement by preparing a sequence of AQMPs. The *Final 2022 Air Quality Management Plan* (2022 AQMP) was adopted by CARB on January 26, 2023 and has been submitted to the U.S. EPA for final approval, which is anticipated to occur sometime this year. After the 2022 AQMP has been adopted by the U.S. EPA, the 2022 AQMP will be incorporated into the SIP. The

2022 AQMP establishes actions and strategies to reduce ozone levels to the U.S. EPA 2015 ozone standard of 70 ppb by 2037. The 2022 AQMP promotes extensive use of zero-emission technologies across all stationary and mobile sources coupled with rules and regulations, investment strategies, and incentives.

Although SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate air quality issues associated with plans and new development projects throughout the Air Basin. Instead, this is controlled through local jurisdictions in accordance with CEQA. In order to assist local jurisdictions with air quality compliance issues the *CEQA Air Quality Handbook* (SCAQMD CEQA Handbook), prepared by SCAQMD, 1993, with the most current updates found at http://www.aqmd.gov/ceqa/hdbk.html, was developed in accordance with the projections and programs detailed in the AQMPs. The purpose of the SCAQMD CEQA Handbook is to assist Lead Agencies, as well as consultants, project proponents, and other interested parties in evaluating a proposed project's potential air quality impacts. Specifically, the SCAQMD CEQA Handbook explains the procedures that SCAQMD recommends be followed for the environmental review process required by CEQA. The SCAQMD CEQA Handbook provides direction on how to evaluate potential air quality impacts, how to determine whether these impacts are significant, and how to mitigate these impacts. The SCAQMD intends that by providing this guidance, the air quality impacts of plans and development proposals will be analyzed accurately and consistently throughout the Air Basin, and adverse impacts will be minimized.

The following lists the SCAQMD rules that are applicable but not limited to gas station development projects in the Air Basin.

Rule 201 – Permit to Construct

Rule 201 requires that a permit to construct be obtained prior to start of construction activities for all facilities that need to obtain an Air Quality Permit from the SCAQMD to operate, which includes gas stations.

Rule 203 – Permit to Operate

Rule 201 requires that a permit to operate be obtained prior to start of operational activities for all facilities that need to obtain an Air Quality Permit from the SCAQMD to operate, which includes gas stations.

Rule 402 - Nuisance

Rule 402 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Compliance with Rule 402 will reduce local air quality and odor impacts to nearby sensitive receptors.

Rule 403- Fugitive Dust

Rule 403 governs emissions of fugitive dust during construction activities and requires that no person shall cause or allow the emissions of fugitive dust such that dust remains visible in the atmosphere beyond the property line or the dust emission exceeds 20 percent opacity, if the dust is from the operation of a motorized vehicle. Compliance with this rule is achieved through application of standard Best Available

Control Measures, which include but are not limited to the measures below. Compliance with these rules would reduce local air quality impacts to nearby sensitive receptors.

- Utilize either a pad of washed gravel 50 feet long, 100 feet of paved surface, a wheel shaker, or a wheel washing device to remove material from vehicle tires and undercarriages before leaving project site.
- Do not allow any track out of material to extend more than 25 feet onto a public roadway and remove all track out at the end of each workday.
- Water all exposed areas on active sites at least three times per day and pre-water all areas prior to clearing and soil moving activities.
- Apply nontoxic chemical stabilizers according to manufacturer specifications to all construction areas that will remain inactive for 10 days or longer.
- Pre-water all material to be exported prior to loading, and either cover all loads or maintain at least 2 feet of freeboard in accordance with the requirements of California Vehicle Code Section 23114.
- Replant all disturbed area as soon as practical.
- Suspend all grading activities when wind speeds (including wind gusts) exceed 25 miles per hour.
- Restrict traffic speeds on all unpaved roads to 15 miles per hour or less.

Rule 461 – Gasoline Dispensing Facilities

Rule 461 governs the operation of gasoline stations and requires that all underground storage tanks are equipped with a "CARB certified" enhanced vapor recovery system, all fill tubes are equipped with vapor tight caps, all dry breaks are equipped with vapor tight seals, a spill box shall be installed to capture any gasoline spillage, and all equipment is required to be properly maintained per CARB regulations. All gasoline dispensing units are required to be equipped with a "CARB certified" vapor recovery system, the dispensing system components all maintain vapor and liquid tight connections at all times and the breakaway coupling shall be equipped with a poppet valve that shall close when coupling is separated. Rule 461 also provides several additional requirements including detailed maintenance, testing, reporting, and recordkeeping requirements for all gas stations.

Rules 1108 and 1108.1 – Cutback and Emulsified Asphalt

Rules 1108 and 1108.1 govern the sale, use, and manufacturing of asphalt and limits the VOC content in asphalt. This rule regulates the VOC contents of asphalt used during construction as well as any on-going maintenance during operations. Therefore, all asphalt used during construction and operation of the proposed project must comply with SCAQMD Rules 1108 and 1108.1.

Rule 1113 – Architectural Coatings

Rule 1113 governs the sale, use, and manufacturing of architectural coatings and limits the VOC content in sealers, coatings, paints and solvents. This rule regulates the VOC contents of paints available during construction. Therefore, all paints and solvents used during construction and operation of the proposed project must comply with SCAQMD Rule 1113.

Rule 1143 – Paint Thinners

Rule 1143 governs the sale, use, and manufacturing of paint thinners and multi-purpose solvents that are used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations. This rule regulates the VOC content of solvents used during construction. Solvents used during construction and operation of the proposed project must comply with SCAQMD Rule 1143.

Rule 1401 – New Source Review of Toxic Air Contaminants

Rule 1401 specifies cancer risk limits and noncancer acute and chronic limits that may be created from new permitted sources of toxic air contaminant emissions, which includes gasoline dispensing facilities. This rule requires the quantification of the cancer risk created by the proposed gasoline dispensing facility, which is provided in Section 7.5 of this Report

Rule 1403 – Asbestos Removal

Rule 1403 governs asbestos emissions from demolition and renovation activities. The existing structures on the project site shall be surveyed for asbestos prior to demolition activities. If asbestos is found within the existing structures, the asbestos shall be removed through utilization of the removal procedures detailed in Rule 1403.

Southern California Association of Governments

The 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. SCAG is the federally designated Metropolitan Planning Organization (MPO) for the majority of the southern California region and is the largest MPO in the nation. With respect to air quality planning, SCAG has prepared the *2024-2050 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal 2024), adopted by SCAG on April 4, 2024 which is based on the regional development and growth forecasts provided in the *2023 Federal Transportation Improvement* Program (2023 FTIP), adopted October 2022. However, per SB 375, SCAG and CARB are required to work together until CARB staff conclude that the calculations and quantifications provided would yield accurate estimates of GHG emission reductions. Since CARB staff continue to have significant outstanding concerns about the technical methodology utilized in the Connect SoCal 2024, the current approved RTP/SCS is the *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal 2020), adopted September 3, 2020, which is based on the 2019 *Federal Transportation Improvement* Program (2019 FTIP), adopted September 2018.

Although the Connect SoCal 2020 and 2019 FTIP are primarily planning documents for future transportation projects, a key component of these plans are to integrate land use planning with transportation planning that promotes higher density infill development in close proximity to existing transit service. These plans form the basis for the land use and transportation components of the 2022 AQMP, which are utilized in the preparation of air quality forecasts and in the consistency analysis included in the 2022 AQMP. The Connect SoCal 2020, 2019 FTIP, and 2022 AQMP are based on projections originating within the City and County General Plans.

4.4 Local – City of Riverside

Local jurisdictions, such as the City of Riverside, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City is also

responsible for the implementation of transportation control measures as outlined in the AQMPs. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

In accordance with the CEQA requirements, the City does not, however, have the expertise to develop plans, programs, procedures, and methodologies to ensure that air quality within the City and region will meet federal and state standards. Instead, the City relies on the expertise of the SCAQMD and utilizes the SCAQMD CEQA Handbook as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

5.0 ENERGY CONSERVATION MANAGEMENT

The regulatory setting related to energy conservation is primarily addressed through State and City regulations, which are discussed below.

5.1 State

Energy conservation management in the State was initiated by the 1974 Warren-Alquist State Energy Resources Conservation and Development Act that created the California Energy Resource Conservation and Development Commission (currently named California Energy Commission [CEC]), which was originally tasked with certifying new electric generating plants based on the need for the plant and the suitability of the site of the plant. In 1976 the Warren-Alquist Act was expanded to include new restrictions on nuclear generating plants, that effectively resulted in a moratorium of any new nuclear generating plants in the State. The following details specific regulations adopted by the State in order to reduce the consumption of energy.

California Code of Regulations Title 20

On November 3, 1976 the CEC adopted the *Regulations for Appliance Efficiency Standards Relating to Refrigerators, Refrigerator-Freezers and Freezers and Air Conditioners,* which were the first energy-efficiency standards for appliances. The appliance efficiency regulations have been updated several times by the CEC and the most current version is the *2016 Appliance Efficiency Regulations*, adopted January 2017 which includes almost all types of appliances and lamps that use electricity, natural gas as well as plumbing fixtures. The authority for the CEC to control the energy-efficiency of appliances is detailed in CCR Title 20, Division 2, Chapter 4, Article 4, Sections 1601-1609.

California Code of Regulations Title 24, Part 6

The CEC is also responsible for implementing the CCR Title 24, Part 6: *California's Energy Efficiency Standards for Residential and Nonresidential Buildings* (Title 24 Part 6) that were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. In 2008 the State set an energy-use reduction goal of zero-net-energy use of all new homes by 2020 and the CEC was mandated to meet this goal through revisions to the Title 24, Part 6 regulations.

The Title 24 standards are updated on a three-year schedule and since 2008 the standards have been incrementally moving to the 2020 goal of the zero-net-energy use. The 2022 Title 24 standards are the current standards that went into effect on January 1, 2023.

According to the Title 24 Part 6 Fact Sheet, the CEC estimates that over 30 years the 2022 Title 24 standards will reduce 10 $MMTCO_2e$ of GHG emissions, which is equivalent to taking nearly 2.2 million cars off the road for a year. For single-family homes, the CEC estimates that the 2022 Title 24 changes from using natural gas furnaces to electric heat pumps to heat new homes and would reduce net CO_2 emissions by 16,230 $MTCO_2e$ per year, when compared to the 2019 Title 24 standards, which is equivalent of taking 3,641 gas cars off the road each year. The 2022 Title 24 standards will: (1) Increase onsite renewable energy generation; (2) Increases electric load flexibility to support grid reliability; (3) Reduces emissions from newly constructed buildings; (4) Reduces air pollution for improved public health; and (5) Encourages adoption of environmentally beneficial efficient electric technologies.

California Code of Regulations (CCR) Title 24, Part 11

CCR Title 24, Part 11: *California Green Building Standards* (CalGreen Code) was developed in response to continued efforts to reduce GHG emissions associated with energy consumption. The CalGreen Code is also updated every three years and the current version is the 2022 CalGreen Code that went into effect on January 1, 2023.

The CalGreen Code contains requirements for construction site selection; storm water control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency.

The CalGreen Code provides standards for bicycle parking, carpool/vanpool/electric vehicle spaces, light and glare reduction, grading and paving, energy efficient appliances, renewable energy, graywater systems, water efficient plumbing fixtures, recycling and recycled materials, pollutant controls (including moisture control and indoor air quality), acoustical controls, storm water management, building design, insulation, flooring, and framing, among others. Implementation of the CalGreen Code measures reduces energy consumption and vehicle trips and encourages the use of alternative-fuel vehicles, which reduces pollutant emissions.

Some of the notable changes in the 2022 CalGreen Code over the prior 2019 CalGreen Code for nonresidential development mandatory requirements include the repeal of designated parking spaces for clean air vehicles and an increase in the number of electric vehicle (EV) ready parking spaces. The 2022 CalGreen Code also added new requirements for installed Level 2 or direct-current fast charger EV charging stations for autos, EV charging readiness for loading docks, enhanced thermal insulation, and acoustical ceilings.

Senate Bill 1020

Senate Bill 1020 (SB 1020) was adopted September 16, 2022 and would speed up the timeline retail electricity is supplied by renewable energy sources over the prior adoption timelines provided in SB 100, SB 350, SB 1078, SB 107, and SB X1-2. SB 1020 requires that retail sales of electricity are from renewable energy resources and zero-carbon resources supply 90 percent by December 31, 2035, 95 percent by December 31, 2040, and 100 percent by December 31, 2045.

Executive Order N-79-20

The California Governor issued Executive Order N-79-20 on September 23, 2020 that requires all new passenger cars and trucks and commercial drayage trucks sold in California to be zero-emissions by the year 2035 and all medium- heavy-duty vehicles (commercial trucks) sold in the state to be zero-emission by 2045 for all operations where feasible. Executive Order N-79-20 also requires all off-road vehicles and equipment to transition to 100 percent zero-emission equipment, where feasible by 2035.

Executive Order B-48-18 and Assembly Bill 2127

The California Governor issued Executive Order B-48-18 on January 26, 2018 that orders all state entities to work with the private sector to put at least five million zero-emission vehicles on California roads by 2030 and to install 200 hydrogen fueling stations and 250,000 electric vehicle chargers by 2025. Currently there are approximately 350,000 electric vehicles operating in California, which represents approximately

1.5 percent of the 24 million vehicles total currently operating in California. Implementation of Executive Order B-48-18 would result in approximately 20 percent of all vehicles in California to be zero emission electric vehicles. Assembly Bill 2127 (AB 2127) was codified into statute on September 13, 2018 and requires that the CEC working with CARB prepare biannual assessments of the statewide electric vehicle charging infrastructure needed to support the levels of zero emission vehicle adoption required for the State to meet its goals of putting at least 5 million zero-emission vehicles on California roads by 2030.

Assembly Bill 1109

California Assembly Bill 1109 (AB 1109) was adopted October 2007, also known as the Lighting Efficiency and Toxics Reduction Act, prohibits the manufacturing of lights after January 1, 2010 that contain levels of hazardous substances prohibited by the European Union pursuant to the Restriction of Hazardous Substances Directive. AB 1109 also requires reductions in energy usage for lighting and is structured to reduce lighting electrical consumption by: (1) At least 50 percent reduction from 2007 levels for indoor residential lighting; and (2) At least 25 percent reduction from 2007 levels for indoor commercial and all outdoor lighting by 2018. AB 1109 would reduce GHG emissions through reducing the amount of electricity required to be generated by fossil fuels in California.

Assembly Bill 1493

California Assembly Bill 1493 (also known as the Pavley Bill, in reference to its author Fran Pavley) was enacted on July 22, 2002 and required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2004, CARB approved the "Pavley I" regulations limiting the amount of GHGs that may be released from new passenger automobiles that are being phased in between model years 2009 through 2016. These regulations will reduce GHG emissions by 30 percent from 2002 levels by 2016. In June 2009, the EPA granted California the authority to implement GHG emission reduction standards for light duty vehicles, in September 2009, amendments to the Pavley I regulations were adopted by CARB and implementation of the "Pavley I" regulations started in 2009.

The second set of regulations "Pavley II" was developed in 2010, and is being phased in between model years 2017 through 2025 with the goal of reducing GHG emissions by 45 percent by the year 2020 as compared to the 2002 fleet. The Pavley II standards were developed by linking the GHG emissions and formerly separate toxic tailpipe emissions standards previously known as the "LEV III" (third stage of the Low Emission Vehicle standards) into a single regulatory framework. The new rules reduce emissions from gasoline-powered cars as well as promote zero-emissions auto technologies such as electricity and hydrogen, and through increasing the infrastructure for fueling hydrogen vehicles. In 2009, the U.S. EPA granted California the authority to implement the GHG standards for passenger cars, pickup trucks and sport utility vehicles and these GHG emissions standards are currently being implemented nationwide.

The EPA has performed a midterm evaluation of the longer-term standards for model years 2022-2025, and based on the findings of this midterm evaluation, the EPA proposed The Safer Affordable Fuel Efficient (SAFE) Vehicles Proposed Rule for Model Years 2021-2026 that amends the corporate average fuel economy (CAFE) and GHG emissions standards for light vehicles for model years 2021 through 2026. The SAFE Vehicles Rule was published on April 30, 2020 and made effective on June 29, 2020.

5.2 Local – City of Riverside

The City of Riverside General Plan 2025, adopted November 2007, provides the following energy related objectives and policies from the Air Quality Element and the Open Space and Conservation Element.

Objective AQ-5 Increase energy efficiency and conservation in an effort to reduce air pollution.

Policies

AQ-5.1 Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed in landfills.

AQ-5.2 Develop incentives and/or regulations regarding energy conservation requirements for private and public developments.

AQ-5.3 Continue and expand use of renewable energy resources such as wind, solar, water, landfill gas, geothermal sources.

AQ-5.4 Continue and expand the creation of locally-based solar photovoltaic power stations in Riverside.

AQ-5.5 Continue and expand Riverside Public Utilities programs to promote energy efficiency.

AQ-5.6 Support the use of automated equipment for conditioned facilities to control heating and air conditioning.

AQ-5.7 Require residential building construction to meet or exceed energy use guidelines in Title 24 of the California Administrative Code.

Objective AQ-8 Make sustainability and global warming education a priority for the City's effort to protect public health and achieve state and federal clean air standards.

Policies

AQ-8.5 Adopt and implement a policy to increase the use of renewable energy to meet 33% of the City's electric load by 2020.

AQ-8.6: Promote Riverside as a Solar City through the implementation of programs for residential and commercial customers that will increase solar generation in the City to 1 MW by 2015 (enough for 1,000 homes) and 3 MW by 2020.

AQ-8.7 Generate at least 10 MW (enough for 10,000 homes) of electric load from regional zero emissions sources by 2025.

AQ-8.8 Reduce the City's per capita base load energy consumption by 10% through energy efficiency and conservation programs by 2016.

AQ-8.9 Implement programs to encourage load shifting to off peak hours and explore demand response solutions by end of 2008.

Objective OS-8 Encourage the efficient use of energy resources by residential and commercial users.

Policies

OS-8.1 Support the development and use of non-polluting, renewable energy sources.

OS-8.2: Require incorporation of energy conservation features in the design of all new construction and substantial rehabilitation projects pursuant to Title 24, and encourage the installation of conservation devices in existing developments.

OS-8.3 Encourage private energy conservation programs that minimize high energy demand and that use alternative energy sources.

OS-8.4 Incorporate solar considerations into development regulation that allow existing and proposed buildings to use solar facilities.

OS-8.5 Develop landscaping guidelines that support the use of vegetation for shading and wind reduction and otherwise help reduce energy consumption in new development for compatibility with renewable energy sources (i.e., solar pools).

OS-8.6 Require all new developments to incorporate energy-efficient lighting, heating and cooling systems pursuant to the Uniform Building Code and Title 24.

OS-8.7 Encourage mixed use development as a means of reducing the need for auto travel.

OS-8.8 Encourage the use of clean burning fuels and solar energy for space and water heating purposes and explore ways to participate in California New Solar Homes Partnerships.

OS-8.9 Encourage construction and subdivision design that allows the use of solar energy systems.

OS-8.10 Support the use of public transportation, bicycling and other alternative transportation modes in order to reduce the consumption of non-renewable energy supplies.

OS-8.11 Support public education programs for City residents and businesses to provide information on energy conservation and on alternative transportation modes in order to reduce the consumption of non-renewable energy supplies.

OS-8.12 Require bicycle parking in new non-residential development.

6.0 GLOBAL CLIMATE CHANGE MANAGEMENT

The regulatory setting related to global climate change is addressed through the efforts of various international, federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to reduce GHG emissions through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for global climate change regulations are discussed below.

6.1 International

In 1988, the United Nations established the IPCC to evaluate the impacts of global climate change and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling GHG emissions. The parties of the UNFCCC adopted the Kyoto Protocol, which set binding GHG reduction targets for 37 industrialized countries, the objective of reducing their collective GHG emissions by five percent below 1990 levels by 2012. The Kyoto Protocol has been ratified by 182 countries, but has not been ratified by the United States. It should be noted that Japan and Canada opted out of the Kyoto Protocol and the remaining developed countries that ratified the Kyoto Protocol have not met their Kyoto targets. The Kyoto Protocol expired in 2012 and the amendment for the second commitment period from 2013 to 2020 has not yet entered into legal force. The Parties to the Kyoto Protocol negotiated the Paris Agreement in December 2015, agreeing to set a goal of limiting global warming to less than 2 degrees Celsius compared with pre-industrial levels. The Paris Agreement has been adopted by 195 nations with 147 ratifying it, including the United States by President Obama, who ratified it by Executive Order on September 3, 2016. On June 1, 2017, President Trump announced that the United States is withdrawing from the Paris Agreement and on January 21, 2021 President Biden signed an executive order rejoining the Paris Agreement.

Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere—CFCs, halons, carbon tetrachloride, and methyl chloroform—were to be phased out, with the first three by the year 2000 and methyl chloroform by 2005.

6.2 Federal – United States Environmental Protection Agency

The EPA is responsible for implementing federal policy to address global climate change. The Federal government administers a wide array of public-private partnerships to reduce U.S. GHG intensity. These programs focus on energy efficiency, renewable energy, methane, and other non-CO_2 gases, agricultural practices and implementation of technologies to achieve GHG reductions. EPA implements several voluntary programs that substantially contribute to the reduction of GHG emissions.

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that not only did the EPA have authority to regulate GHGs, but the EPA's reasons for not regulating this area did not fit the statutory requirements. As such, the U.S. Supreme Court ruled that the EPA should be required to regulate CO2 and other GHGs as pollutants under the federal Clean Air Act (CAA).

In response to the Consolidations Appropriations Act, 2008 (H.R. 2764; Public Law 110-161), EPA proposed a rule on March 10, 2009 that requires mandatory reporting of GHG emissions from large sources in the

United States. On September 22, 2009, the Final Mandatory Reporting of GHG Rule was signed and published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. This rule requires suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to the EPA.

On December 7, 2009, the EPA Administrator signed two distinct findings under section 202(a) of the Clean Air Act. One is an endangerment finding that finds concentrations of the six GHGs in the atmosphere threaten the public health and welfare of current and future generations. The other is a cause or contribute finding, that finds emissions from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare. These actions did not impose any requirements on industry or other entities, however, since 2009 the EPA has been providing GHG emission standards for vehicles and other stationary sources of GHG emissions that are regulated by the EPA. On September 13, 2013 the EPA Administrator signed 40 CFR Part 60, that limits emissions from new sources to 1,100 pounds of CO_2 per mega-watt hour (MWh) for fossil fuel-fired utility boilers and 1,000 pounds of CO_2 per MWh for large natural gas-fired combustion units.

On August 3, 2015, the EPA announced the Clean Power Plan, emissions guidelines for U.S. states to follow in developing plans to reduce GHG emissions from existing fossil fuel-fired power plants (Federal Register Vol. 80, No. 205, October 23 2015). On October 11, 2017, the EPA issued a formal proposal to repeal the Clean Power Plan and on June 19, 2019 the EPA replaced the Clean Power Plan with the Affordable Clean Energy rule that is anticipated to lower power sector GHG emissions by 11 million tons by the year 2030.

On April 30, 2020, the EPA and the National Highway Safety Administration published the Final Rule for the *Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule). Part One of the Rule revokes California's authority to set its own GHG emissions standards and zero-emission vehicle mandates in California, which results in one emission standard to be used nationally for all passenger cars and light trucks that is set by the EPA.

6.3 State

The CARB has the primary responsible for implementing state policy to address global climate change, however there are State regulations related to global climate change that affect a variety of State agencies. CARB, which is a part of the CalEPA, is responsible for the coordination and administration of both the federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets CAAQS, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. In addition, the CARB establishes emission standards for motor vehicles sold in California, consumer products (e.g. hairspray, aerosol paints, and barbeque lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In 2008, CARB approved a Climate Change Scoping Plan that proposes a "comprehensive set of actions designed to reduce overall carbon GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health" (CARB 2008). The Climate Change Scoping Plan has a range of GHG reduction actions which include direct regulations; alternative compliance mechanisms; monetary and non-monetary incentives; voluntary actions; market-based mechanisms such as a cap-and-trade system. In 2014, CARB approved the First Update to the Climate Change Scoping Plan (CARB, 2014) that identifies additional strategies moving

beyond the 2020 targets to the year 2050. On December 14, 2017 CARB adopted the California's 2017 Climate Change Scoping Plan, November 2017 (CARB, 2017) that provides specific statewide policies and measures to achieve the 2030 GHG reduction target of 40 percent below 1990 levels by 2030 and the aspirational 2050 GHG reduction target of 80 percent below 1990 levels by 2050. In addition, the State has passed the following laws directing CARB to develop actions to reduce GHG emissions, which are listed below in chronological order, with the most current first.

Executive Order B-55-18 and Assembly Bill 1279

The California Governor issued Executive Order B-55-18 in September 2018 that establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045. This executive order directs the CARB to work with relevant State agencies to develop a framework for implementation and accounting that tracks progress toward this goal as well as ensuring future scoping plans identify and recommend measures to achieve this carbon neutrality goal. Assembly Bill 1279 was passed by the legislature in September 2022 that codifies the carbon neutrality targets provided in Executive Order B-55-18. The *2022 Scoping Plan for Achieving Carbon Neutrality,* adopted by CARB on December 16, 2022, was prepared in order to meet the carbon neutrality goal targets developed in Executive Order B-55-18 and codified in Assembly Bill 1279.

Executive Order N-79-20

Executive Order N-79-20 establish targets for when all new vehicles and equipment are zero-emission and is described in more detail above in Section 5.1 under Energy Conservation Management.

California Code of Regulations Title 24, Part 6

The Title 24 Part 6 standards have been developed by the CEC primarily for energy conservation and is described in more detail above in Section 5.1 under Energy Conservation Management. It should be noted that implementation of the Title 24 Part 6 building standards would also reduce GHG emissions, since energy use for residential and commercial buildings creates 9.7 percent of the GHG emissions in the State.

California Code of Regulations Title 24, Part 11

The CalGreen Building standards have been developed by the CEC primarily for energy conservation and is described in more detail above in Section 5.1 under Energy Conservation Management. It should be noted that implementation of the CalGreen Building standards would also reduce GHG emissions, since as detailed above under Title 23, Part 6, energy usage from buildings creates 9.7 percent of GHG emissions in the State.

Senate Bill 1020

SB 1020 requires that by December 1, 2045 that 100 percent of retail sales of electricity to be generated from renewable or zero-carbon emission sources of electricity and is described in more detail above in Section 5.1 under Energy Conservation Management.

Executive Order B-55-18 and Assembly Bill 1279

The California Governor issued Executive Order B-55-18 in September 2018 that establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045. This executive order directs CARB to work with relevant State agencies to develop a framework for implementation and accounting that tracks progress toward this goal as well as ensuring future scoping plans identify and recommend measures to achieve this carbon neutrality goal. Assembly Bill 1279 was passed by the

legislature in September 2022 that codifies the carbon neutrality targets provided in Executive Order B-55-18. The *2022 Scoping Plan for Achieving Carbon Neutrality,* adopted by CARB on December 16, 2022, was prepared in order to meet the carbon neutrality goal targets developed in Executive Order B-55-18 and codified in Assembly Bill 1279.

Executive Order N-79-20

EO N-79-20 establish targets for when all new vehicles and equipment are zero-emission and is described in more detail above in Section 5.1 under Energy Conservation Management.

Executive Order B-48-18 and Assembly Bill 2127

Executive Order B-48-18 and AB 2127 provides measures to put at least five million zero-emission vehicles on California roads by 2030 and to install 200 hydrogen fueling stations and 250,000 electric vehicle chargers by 2025 and is described in more detail above in Section 5.1 under Energy Conservation Management.

Executive Order B-30-15, Senate Bill 32 and Assembly Bill 197

The California Governor issued Executive Order B-30-15 on April 29, 2015 that aims to reduce California's GHG emissions 40 percent below 1990 levels by 2030. This executive order aligns California's GHG reduction targets with those of other international governments, such as the European Union that set the same target for 2030 in October, 2014. This target will make it possible to reach the ultimate goal of reducing GHG emissions 80 percent under 1990 levels by 2050 that is based on scientifically established levels needed in the U.S.A to limit global warming below 2 degrees Celsius – the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels. Assembly Bill 197 (AB 197) (September 8, 2016) and Senate Bill 32 (SB 32) (September 8, 2016) codified into statute the GHG emissions reduction targets of at least 40 percent below 1990 levels by 2030 as detailed in Executive Order B-30-15. AB 197 also requires additional GHG emissions reporting that is broken down to sub-county levels and requires CARB to consider the social costs of emissions impacting disadvantaged communities.

Executive Order B-29-15

The California Governor issued Executive Order B-29-15 on April 1, 2015 and directed the State Water Resources Control Board to impose restrictions to achieve a statewide 25 percent reduction in urban water usage and directed the Department of Water Resources to replace 50 million square feet of lawn with drought tolerant landscaping through an update to the State's Model Water Efficient Landscape Ordinance. The Ordinance also requires installation of more efficient irrigation systems, promotion of greywater usage and onsite stormwater capture, and limits the turf planted in new residential landscapes to 25 percent of the total area and restricts turf from being planted in median strips or in parkways unless the parkway is next to a parking strip and a flat surface is required to enter and exit vehicles. Executive Order B-29-15 would reduce GHG emissions associated with the energy used to transport and filter water.

Assembly Bill 341 and Senate Bills 939 and 1374

Senate Bill 939 (SB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004 suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills. Assembly Bill 341 (AB 341) was adopted in

2011 and builds upon the waste reduction measures of SB 939 and 1374, and sets a new target of a 75 percent reduction in solid waste generated by the year 2020.

Senate Bill 375

Senate Bill 375 (SB 375) was adopted September 2008 in order to support the State's climate action goals to reduce GHG emissions through coordinated regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires CARB to set regional targets for GHG emissions reductions from passenger vehicle use. In 2010, CARB established targets for 2020 and 2035 for each MPO within the State. It was up to each MPO to adopt a sustainable communities strategy (SCS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP) to meet CARB's 2020 and 2035 GHG emission reduction targets. These reduction targets are required to be updated every eight years and the most current targets are detailed at: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets, which provides GHG emissions reduction targets for SCAG of 8 percent by 2020 and 19 percent by 2035.

The Connect SoCal 2020 (SCAG, 2020) provides a 2035 GHG emission reduction target of 19 percent reduction over the 2005 per capita emissions levels. The Connect SoCal 2020 include new initiatives of land use, transportation and technology to meet the 2035 new 19 percent GHG emission reduction target for 2035. CARB is also charged with reviewing SCAG's RTP/SCS for consistency with its assigned targets.

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

Assembly Bill 1109

AB 1109 requires reductions in energy usage for lighting and is described in more detail above in Section 5.1 under Energy Conservation Management.

Executive Order S-1-07

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Executive Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

In 2009 CARB approved the proposed regulation to implement the LCFS. The standard was challenged in the courts, but has been in effect since 2011 and was re-approved by the CARB in 2015. The LCFS is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. The LCFS is designed to provide a framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet annually. Reformulated gasoline mixed with corn-derived ethanol and low-sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel. Compressed natural gas and liquefied natural gas also may be low-carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles, are also considered as low-carbon fuels.

Senate Bill 97

Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009 the Natural Resources Agency adopted amendments to the State CEQA guidelines that addresses GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporated GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance were provided and no specific mitigation measures were identified. The GHG emission reduction amendments went into effect on March 18, 2010 and are summarized below:

- Climate Action Plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the GHG emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of GHG emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports must specifically consider a project's energy use and energy efficiency potential.

Assembly Bill 32

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which will be phased in starting in 2012. Emission reductions shall include carbon sequestration projects that would remove

carbon from the atmosphere and utilize best management practices that are technologically feasible and cost effective.

In 2007 CARB released the calculated Year 1990 GHG emissions of 431 $MMTCO_2e$. The 2020 target of 431 $MMTCO_2e$ requires the reduction of 78 $MMTCO_2e$, or approximately 16 percent from the State's projected 2020 business as usual emissions of 509 $MMTCO_2e$ (CARB, 2014). Under AB 32, CARB was required to adopt regulations by January 1, 2011 to achieve reductions in GHGs to meet the 1990 cap by 2020. Early measures CARB took to lower GHG emissions included requiring operators of the largest industrial facilities that emit 25,000 metric tons of CO_2 in a calendar year to submit verification of GHG emissions by December 1, 2010. The CARB Board also approved nine discrete early action measures that include regulations affecting landfills, motor vehicle fuels, refrigerants in cars, port operations and other sources, all of which became enforceable on or before January 1, 2010.

CARB's Scoping Plan that was adopted in 2009, proposes a variety of measures including: strengthening energy efficiency and building standards; targeted fees on water and energy use; a market-based cap-and-trade system; achieving a 33 percent renewable energy mix; and a fee regulation to fund the program. The 2014 update to the Scoping Plan identifies strategies moving beyond the 2020 targets to the year 2050.

The Cap and Trade Program established under the Scoping Plan sets a statewide limit on sources responsible for 85 percent of California's GHG emissions, and has established a market for long-term investment in energy efficiency and cleaner fuels since 2012.

Assembly Bill 1493

AB 1493 or the Pavley Bill sets tailpipe GHG emissions limits for passenger vehicles in California as well as fuel economy standards and is described in more detail above in Section 5.1 under Energy Conservation Management.

6.4 Regional – Southern California

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the Air Basin. To that end, as a regional agency, the SCAQMD works directly with SCAG, county transportation commissions, and local governments and cooperates actively with all federal and state agencies.

South Coast Air Quality Management District

SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. The SCAQMD is also responsible for GHG emissions for projects where it is the lead agency. However, for other projects in the Air Basin where it is not the lead agency, it is limited to providing resources to other lead agencies in order to assist them in determining GHG emission thresholds and GHG reduction measures. In order to assist local agencies with direction on GHG emissions, the SCAQMD organized a working group, which is described below.

<u>SCAQMD Working Group</u>

Since neither CARB nor the OPR has developed GHG emissions threshold, the SCAQMD formed a Working Group to develop significance thresholds related to GHG emissions. At the September 28, 2010 Working

Group meeting, the SCAQMD released its most current version of the draft GHG emissions thresholds, which recommends a tiered approach that either provides a quantitative annual thresholds of 3,500 $MTCO_2e$ for residential uses, 1,400 $MTCO_2e$ for commercial uses, and 3,000 $MTCO_2e$ for mixed uses. An alternative annual threshold of 3,000 $MTCO_2e$ for all land use types is also proposed.

Southern California Association of Governments

As detailed above in Section 4.3, the current applicable RTP/SCS for the project area region is the Connect SoCal 2020 and 2019 FTIP, which have been prepared to meet the GHG emissions reduction targets set by SB 375 for the SCAG region of 19 percent reduction over the 2005 per capita emissions levels. The Connect SoCal 2020 includes new land use, transportation, and technology strategies to meet the new 19 percent GHG emission reduction target for 2035.

Although the Connect SoCal 2020 and 2019 FTIP are primarily planning documents for future transportation projects, a key component of these plans are to integrate land use planning with transportation planning that promotes higher density infill development in close proximity to existing transit service. These plans form the basis for the land use and transportation components of the 2022 AQMP, which are utilized in the preparation of air quality forecasts and in the consistency analysis included in the 2022 AQMP. The Connect SoCal 2020, 2019 FTIP, and 2022 AQMP are based on projections originating within the City and County General Plans.

6.5 Local – City of Riverside

Local jurisdictions, such as the City of Riverside, have the authority and responsibility to reduce GHG emissions through their police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of GHG emissions resulting from its land use decisions. In accordance with CEQA requirements and the CEQA review process, the City assesses the global climate change potential of new development projects, requires mitigation of potentially significant global climate change impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

The City of Riverside has adopted the Riverside Restorative Growthprint Climate Action Plan (Climate Action Plan), October 2014. The Climate Action Plan sets out actions to increase energy efficiency and reduce GHG emissions. Since the Climate Action Plan does not provide any quantitative GHG emissions thresholds for new development projects within the City, the SCAQMD GHG emissions reduction thresholds have been utilized in this analysis.

7.0 ATMOSPHERIC SETTING

7.1 South Coast Air Basin

The project site is located in the western portion of Riverside County, which is part of the South Coast Air Basin (Air Basin) that includes the non-desert portions of Riverside, San Bernardino, and Los Angeles Counties and all of Orange County. The Air Basin is located on a coastal plain with connecting broad valleys and low hills to the east. Regionally, the Air Basin is bounded by the Pacific Ocean to the southwest and high mountains to the east forming the inland perimeter.

7.2 Local Climate

The climate of western Riverside County, technically called an interior valley subclimate of the Southern California's Mediterranean-type climate, is characterized by hot dry summers, mild moist winters with infrequent rainfall, moderate afternoon breezes, and generally fair weather. Occasional periods of strong Santa Ana winds and winter storms interrupt the otherwise mild weather pattern. The clouds and fog that form along the area's coastline rarely extend as far inland as western Riverside County. When morning clouds and fog form, they typically burn off quickly after sunrise. The most important weather pattern from an air quality perspective is associated with the warm season airflow across the densely populated areas located west of the project site. This airflow brings polluted air into western Riverside County late in the afternoon. This transport pattern creates unhealthful air quality that may extend to the project site particularly during the summer months.

Winds are an important parameter in characterizing the air quality environment of a project site because they both determine the regional pattern of air pollution transport and control the rate of dispersion near a source. Daytime winds in western Riverside County are usually light breezes from off the coast as air moves regionally onshore from the cool Pacific Ocean to the warm Mojave Desert interior of Southern California. These winds allow for good local mixing, but as discussed above, these coastal winds carry significant amounts of industrial and automobile air pollutants from the densely urbanized western portion of the Air Basin into the interior valleys which become trapped by the mountains that border the eastern and northern edges of the Air Basin.

In the summer, strong temperature inversions may occur that limit the vertical depth through which air pollution can be dispersed. Air pollutants concentrate because they cannot rise through the inversion layer and disperse. These inversions are more common and persistent during the summer months. Over time, sunlight produces photochemical reactions within this inversion layer that creates ozone, a particularly harmful air pollutant. Occasionally, strong thermal convections occur which allows the air pollutants to rise high enough to pass over the mountains and ultimately dilute the smog cloud.

In the winter, light nocturnal winds result mainly from the drainage of cool air off of the mountains toward the valley floor while the air aloft over the valley remains warm. This forms a type of inversion known as a radiation inversion. Such winds are characterized by stagnation and poor local mixing and trap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution "hot spots" in heavily developed coastal areas of the Air Basin, there is not enough traffic in inland valleys to cause any winter air pollution problems. Despite light wind conditions, especially at night and in the early morning, winter is generally a period of good air quality in the project vicinity.

The temperature and precipitation levels for Riverside Citrus EXP Monitoring Station, which is the nearest weather station to the project site with historical data are shown below in Table E. Table E shows that August is typically the warmest month and January is typically the coolest month. Rainfall in the project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

Table E – Monthly Climate Data

Month	Average Maximum Temperature (°F)	Average Minimum Temperature (°F)	Average Total Precipitation (inches)
January	66.6	41.7	2.12
February	67.9	43.3	2.16
March	70.3	45.0	1.64
April	75.1	47.9	0.78
May	79.6	52.7	0.23
June	86.5	56.3	0.06
July	94.0	60.8	0.04
August	94.4	61.3	0.11
September	90.7	58.5	0.24
October	82.5	52.5	0.32
November	73.5	45.5	0.92
December	67.5	41.3	1.22
Annual	**79.0**	**50.5**	**9.86**

Source: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7473

7.3 Monitored Local Air Quality

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the Air Basin. Improvements in cleaner technology and strict regulations have reduced ozone levels since its peak in the mid-twentieth century. However, ozone levels have remained unacceptably high over the past decade despite significant reductions. This trend is due to the changes in climate and other weather conditions such as the increase in hot, stagnant days that can lead to the formation of ozone that we have experienced in recent years. (SCAQMD, 2022).

SCAQMD has divided the Air Basin into 38 air-monitoring areas. The project site is located in Air Monitoring Area 23, Metropolitan Riverside County. The nearest air monitoring station to the project site is the Mira Loma Van Buren Monitoring Station (Mira Loma Station), which is located approximately six miles north of the project site at 5130 Poinsettia Place, Jurupa Valley. However, it should be noted that due to the air monitoring station's distance from the project site, recorded air pollution levels at the Mira Loma Station reflect with varying degrees of accuracy, local air quality conditions at the project site. Table F shows that ozone and particulate matter (PM10 and PM2.5) are the air pollutants of primary concern in the project area, which are detailed below:

Table F – Local Area Air Quality Monitoring Summary

Pollutant (Standard)	Year[1] 2020	2021	2022
Ozone:			
Maximum 1-Hour Concentration (ppm)	0.140	0.116	0.120
Days > CAAQS (0.09 ppm)	**51**	**20**	**19**
Maximum 8-Hour Concentration (ppm)	0.117	0.094	0.094
Days > NAAQS (0.070 ppm)	**89**	**53**	**57**
Days > CAAQs (0.070 ppm)	**96**	**59**	**58**
Nitrogen Dioxide:			
Maximum 1-Hour Concentration (ppb)	58.1	53.3	47.4
Days > NAAQS (100 ppb)	0	0	0
Days > CAAQS (180 ppb)	0	0	0
Inhalable Particulates (PM10) :			
Maximum 24-Hour National Measurement (ug/m^3)	162.5	98.7	81.6
Days > NAAQS (150 ug/m^3)	**1**	0	0
Days > CAAQS (50 ug/m^3)	**16**	**15**	**11**
Annual Arithmetic Mean (AAM) (ug/m^3)	52.2	40.8	37.3
Annual > NAAQS (50 ug/m^3)	**Yes**	No	No
Annual > CAAQS (20 ug/m^3)	**Yes**	**Yes**	**Yes**
Ultra-Fine Particulates (PM2.5) :			
Maximum 24-Hour National Measurement (ug/m^3)	60.9	85.1	32.1
Days > NAAQS (35 ug/m^3)	**13**	**14**	0
Annual Arithmetic Mean (AAM) (ug/m^3)	15.7	15.8	12.4
Annual > NAAQS and CAAQS (12 ug/m^3)	**Yes**	**Yes**	**Yes**

Notes: Exceedances are listed in **bold.** CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million; ppb = parts per billion; ND = no data available.
[1] Data obtained from the Mira Loma Station.
Source: http://www.arb.ca.gov/adam/

Ozone

The State 1-hour concentration standard for ozone has been exceeded between 19 and 51 days each year over the past three years at the Mira Loma Station. The State 8-hour ozone standard has been exceeded between 58 and 96 days each year over the past three years at the Mira Loma Station. The Federal 8-hour ozone standard has been exceeded between 53 and 89 days each year over the past three years at the Mira Loma Station.

Ozone is a secondary pollutant as it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of Southern California contribute to the

ozone levels experienced at this monitoring station, with the more significant areas being those directly upwind.

Nitrogen Dioxide

The Mira Loma Station did not record an exceedance of either the Federal or State 1-hour NO_2 standards for the last three years.

Particulate Matter

The State 24-hour concentration standard for PM10 has been exceeded between 11 and 16 days each year over the past three years at the Mira Loma Station. Over the past three years the Federal 24-hour standard for PM10 has only been exceeded for one day in 2020 at the Mira Loma Station. The annual PM10 concentration at the Mira Loma Station has exceeded the State standard for the past three years and has exceeded the Federal standard for one of the past three years.

The Federal 24-hour concentration standard for PM2.5 has been exceeded between 0 and 13 days each year over the past three years at the Mira Loma Station. The annual PM2.5 concentration exceeded both the State and Federal standard for two of the past three years at the Loma Linda Station. Particulate levels in the area are due to natural sources, grading operations, and motor vehicles.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

7.4 Toxic Air Contaminant Levels

In order to determine the Air Basin-wide risks associated with major airborne carcinogens, the SCAQMD conducted the Multiple Air Toxics Exposure Study (MATES) studies. According to the MATES V study (SCAQMD, 2021), the project site has an estimated cancer risk of 407 per million persons chance of cancer. In comparison, the average cancer risk for the Air Basin is 455 per million persons. The MATES V study monitored air toxins between May 1, 2018 to April 30, 2019, found that cancer risk from air toxics has declined significantly in the Air Basin with a 40 percent decrease in cancer risk since the monitoring for the MATES IV study that occurred between July 1, 2012 and June 30, 2013 and an 84 percent decrease in cancer risk since the monitoring for the MATES II study that occurred between April 1, 1998 and March 31, 1999.

The MATES V study also analyzed impacts specific to the communities experiencing environmental injustices (EJ communities) that were evaluated using the Senate Bill 535 definition of disadvantaged communities, which found that between MATES IV and MATES V, the cancer risk from air toxics decreased by 57 percent in EJ communities overall, compared to a 53 percent reduction in non-EJ communities.

In order to provide a perspective of risk, it is often estimated that the incidence in cancer over a lifetime for the U.S. population ranges between 1 in 3 to 4 and 1 in 3, or a risk of about 300,000 per million persons. The MATES-III study referenced a Harvard Report on Cancer Prevention, which estimated that of cancers associated with known risk factors, about 30 percent were related to tobacco, about 30 percent were

related to diet and obesity, and about 2 percent were associated with environmental pollution related exposures that includes hazardous air pollutants.

8.0 MODELING PARAMETERS AND ASSUMPTIONS

8.1 CalEEMod Model Input Parameters

The criteria air pollution and GHG emissions impacts created by the proposed project have been analyzed through use of the California Emissions Estimator Model (CalEEMod) Version 2022.1.1.26 CalEEMod is a computer model published by the California Air Pollution Control Officers Association (CAPCOA) for estimating air pollutant and GHG emissions. The CalEEMod program uses the EMFAC2021 computer program to calculate the emission rates specific for the South Coast Air Basin portion of Riverside County for employee, vendor and haul truck vehicle trips and the OFFROAD2011 computer program to calculate emission rates for heavy equipment operations. EMFAC2021 and OFFROAD2011 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour.

The project characteristics in the CalEEMod model were set to a project location of the South Coast Air Basin portion of Riverside County, utility companies of Riverside Public Utilities and Southern California Gas (with 2026 forecast factors) and a project opening year of 2026.

Land Use Parameters

The proposed project would consist of development of a 3,048 square foot 7-Eleven convenience store with a 12 vehicle fuel position gas station a 0.86 acre project site. The proposed project's land use parameters that were entered into the CalEEMod model are shown in Table G.

Table G – CalEEMod Land Use Parameters

Proposed Land Use	Land Use Subtype in CalEEMod	Land Use Size[1]	Lot Acreage[2]	Building[3] (sq ft)	Landscaped Area[4] (sq ft)
7-Eleven	Convenience Market with Gas Pumps	6 Pump (12 VFP)	0.26	3,048	1,124
Parking Lots and Driveways	Parking Lot	24 PS	0.60	--	2,622

Notes:
[1] VFP = Vehicle Fuel Position; PS = Parking Space.
[2] Lot acreage calculated based on the total project site of 0.86 acres.
[3] Building square feet represent area where architectural coatings will be applied
[4] Landscaped area based on 10 percent of lot acreage for each land use.

Construction Parameters

Construction of the proposed project is anticipated to start in Summer 2025 and taking six months to complete, which is based on the CalEEMod model default timing. The construction-related GHG emissions were based on a 30-year amortization rate as recommended in the SCAQMD GHG Working Group meeting on November 19, 2009. The phases of construction activities that have been analyzed are detailed below and include: 1) Demolition, 2) Site Preparation, 3) Grading, 4) Building construction, 5) Paving, and 6) Application of architectural coatings.

CalEEMod provides the selection of reduction measures to account for project conditions that would result in less emissions than a project without these conditions. This includes the required to adherence to SCAQMD Rule 403, which requires that the Best Available Control Measures be utilized to reduce fugitive dust emissions and was modeled in CalEEMod by selection of water all exposed areas three times

per day, water unpaved roads twice daily, reduce vehicle speeds on dirt roads and sweep paved roads once per month.

Demolition

The demolition phase would consist of demolition of the existing two commercial buildings that have been estimated to contain 3,000 square feet of building space and associated parking lots on the project site that have been estimated to cover 27,000 square feet. The pavement was assumed to be an average of 4-inches thick and weigh 145 pounds per square foot, which results in 653 tons of pavement that would be removed from the project site. For the existing two structures to be demolished, CalEEMod utilizes a factor of 0.046 tons of debris of building material per building square foot. This results in 138 tons of debris that would be generated from demolition of the existing two structures. Therefore, the combined demolition of the two structures and pavement area would require the removal of 791 tons of debris that would be exported from the site and would generate an average 19.8 haul truck trips per day over duration of demolition phase.

The demolition phase has been modeled as starting in July 2025 and would occur over two weeks. The demolition activities would require an average of 10 worker trips per day. In order to account for water truck emissions, three onsite truck trips per day with a quarter-mile length was added to the demolition phase. The onsite equipment would consist of one concrete/industrial saw, one rubber-tired dozer, and two of either tractors, loaders, or backhoes, which is based on the CalEEMod default equipment mix.

Site Preparation

The site preparation phase would consist of removing any vegetation, tree stumps, and stones onsite prior to grading. The site preparation phase is anticipated to start after completion of the demolition phase and was modeled as occurring over one day. The site preparation activities would generate 5 worker trips per day. In order to account for water truck emissions, three onsite truck trips per day with a quarter-mile length was added to the site preparation phase. The onsite equipment would consist of one grader and one of either a tractor, loader, or backhoe, which is based on the CalEEMod default equipment.

Grading

The grading phase was modeled as starting after completion of the site preparation phase and was modeled as occurring over two workdays. The grading activities are anticipated to be balanced, which would not require any dirt to be imported or exported from the project site. The onsite equipment would consist of one grader, one rubber-tired dozer, and two of either tractors, loaders, or backhoes, which is based on the CalEEMod default equipment. The grading activities would generate an average of 7.5 automobile trips per day for the workers. In order to account for water truck emissions, three onsite truck trips per day with a quarter-mile length was added to the grading phase.

Building Construction

The building construction would occur after the completion of the grading phase and was modeled as occurring over 100 workdays. The building construction phase would generate an average of 0.98 worker trips and 0.5 vendor trips per day. The onsite equipment would consist of the simultaneous operation of one crane, two forklifts, and two of either tractors, loaders, or backhoes, which is based on the CalEEMod default equipment mix.

Paving

The paving phase would consist of paving the onsite roads and driveways. The paving phase was modeled as occurring after completion of the building construction phase and occurring over five workdays. The paving phase would generate an average of 17.5 worker trips per day. The onsite equipment would consist of the simultaneous operation of four cement and mortar mixers, one paver, one roller, one of either a tractor, loader, or backhoe, which is based on the CalEEMod default equipment.

Architectural Coating

The application of architectural coatings was modeled as occurring after completion of the paving phase and occurring over five workdays. The architectural coating phase was modeled based on covering 4,572 square feet of non-residential interior area, 1,524 square feet of non-residential exterior area, and 1,568 square feet of parking area. The architectural coating phase would generate an average of 0.2 worker trips per day. The onsite equipment would consist of one air compressor, which is based on the CalEEMod default equipment mix.

Operational Emissions Modeling

The operations-related criteria air pollutant emissions and GHG emissions created by the proposed project have been analyzed through use of the CalEEMod model. The proposed project was analyzed in the CalEEMod model based on the land use parameters provided above and the parameters entered for each operational source is described below.

Mobile Sources

Mobile sources include emissions the additional vehicle miles generated from the proposed project. The weekday daily trips was adjusted in CalEEMod to match the daily rate provided in the *Van Buren 7-Eleven Traffic Analysis* (Traffic Analysis), prepared by Urban Crossroads, July 16, 2024, of 265.12 daily trips per vehicle fueling position (530.33 daily trips per pump). In addition, the Traffic Analysis found that the 76 percent of the AM trips and 75 percent of the PM trips would be pass-by trips, since CalEEMod only allows for the entering of daily pass-by trips, the two pass-by trip rates were averaged to 75.5 percent that was entered into the CalEEMod model. No other changes were made to the default mobile source parameters in the CalEEMod model.

Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. The area source emissions were based on the on-going use of the proposed project in the CalEEMod model. No changes were made to the default area source parameters in the CalEEMod model.

Energy Usage

Energy usage includes emissions from electricity and natural gas used onsite. The energy usage was based on the ongoing use of the proposed project in the CalEEMod Model. No changes were made to the default energy usage parameters in the CalEEMod model.

Solid Waste

Waste includes the GHG emissions associated with the processing of waste from the proposed project as well as the GHG emissions from the waste once it is interred into a landfill. The analysis was based on the default CalEEMod waste generation rate of 2.54 tons of solid waste per year from the proposed project.

No changes were made to the default solid waste parameters or mitigation measures in the CalEEMod model.

Water and Wastewater

Water includes the water used for the interior of the buildings as well as for landscaping and is based on the GHG emissions associated with the energy used to transport and filter the water. The analysis was based on the default CalEEMod water usage rate of 62,743 gallons per year of indoor water use and 59,396 gallons per year of outdoor water use. No changes were made to the default water and wastewater parameters in the CalEEMod model.

8.2 Gasoline Transfer and Dispensing VOC Modeling

The proposed project would include a gas station that is anticipated to have a maximum throughput of 3.0 million gallons of gasoline per year. Since the CalEEMod model does not analyze the VOC emissions created from the transfer and dispensing of gasoline at the proposed gas station, the VOC emissions have been calculated through use of the methodology provided in *Gasoline Service Station Industrywide Risk Assessment Guidelines* (CAPCOA Gas Station Guidelines), prepared by CAPCOA, November 1997 and from SCAQMD Rule 461 – Gasoline Transfer and Dispensing.

SCAQMD Rule 461 requires that the proposed underground storage tanks are equipped with a "CARB certified" enhanced vapor recovery system with "CARB- certified" pressure-vacuum valves that have a minimum volumetric efficiency of 98 percent that equates to a maximum emission factor of 0.15 pounds of VOC per 1,000 gallons of gasoline from the loading of gasoline into the storage tanks (Phase I system). In addition, Rule 461 requires that the dispensing unit for the transfer of gasoline into vehicle fuel tanks (Phase II system) is equipped with a "CARB certified" vapor recovery system that is capable of recovering 95 percent of gasoline vapors that equates to a maximum emission factor of 0.38 pounds per 1,000 gallons. The combined VOC emissions allowed from both the Phase I and Phase II systems under SCAQMD Rule 461 is 0.53 pounds of VOC per 1,000 gallons of gasoline (0.15 + 0.38 = 0.53 pounds of VOC). Based on the maximum VOC emission rate of 0.53 pounds of VOC per 1,000 gallons for a gas station with 3.0 million gallons of gasoline per year, this would create 1,590 pounds of VOC per year or 4.36 pounds of VOC per day.

However, the CAPCOA Gas Station Guidelines, details that a system that would meet SCAQMD Rule 461 requirements with both Phase I and Phase II systems with vent valves would create 1.27 pounds of VOC per 1,000 gallons of gasoline (see Scenario 6B). The emission rate calculated for Scenario 6B represents a worst-case analysis that accounts for equipment failures or defects in the vapor recovery systems. Based on the maximum VOC emission rate of 1.27 pounds of VOC per 1,000 gallons for a gas station with 3.0 million gallons of gasoline per year, this would create 3,810 pounds of VOC per year or 10.44 pounds of VOC per day. This analysis has utilized the worst-case VOC emissions calculations from the CAPCOA Gas Station Guidelines.

8.3 Energy Use Calculations

The proposed project is anticipated to consume energy during both construction and operation of the proposed project and the parameters utilized to calculate energy use from construction and operation of the proposed project are detailed separately below.

Construction-Related Energy Use

Construction of the proposed project is anticipated to use energy in the forms of petroleum fuel for both off-road equipment as well as from the transport of workers and materials to and from the project site and the calculations for each source are described below.

Off-Road Construction Equipment

The off-road construction equipment fuel usage was calculated through use of the CalEEMod model's default off-road equipment assumptions detailed above in Section 8.1. For each piece of off-road equipment, the fuel usage was calculated through use of the *2017 Off-road Diesel Emission Factors* spreadsheet, prepared by CARB (https://ww3.arb.ca.gov/msei/ordiesel.htm). The Spreadsheet provides the following formula to calculate fuel usage from off-road equipment:

Fuel Used = Load Factor x Horsepower x Total Operational Hours x BSFC / Unit Conversion

Where:

Load Factor - Obtained from CalEEMod default values

Horsepower – Obtained from CalEEMod default values

Total Operational Hours – Calculated by multiplying CalEEMod default daily hours by CalEEMod default number of working days for each phase of construction

BSFC – Brake Specific Fuel Consumption (pounds per horsepower-hour) – If less than 100 Horsepower = 0.408, if greater than 100 Horsepower = 0.367

Unit Conversion – Converts pounds to gallons = 7.109

Table H shows the off-road construction equipment fuel calculations based on the above formula. Table H shows that the off-road equipment utilized during construction of the proposed project would consume 7,027 gallons of diesel fuel.

Table H – Off-Road Equipment and Fuel Consumption from Construction of the Proposed Project

Equipment Type	Equipment Quantity	Horse-power	Load Factor	Operating Hours per Day	Total Operational Hours[1]	Fuel Used (gallons)
Demolition						
Concrete/Industrial Saw	1	33	0.73	8	80	111
Rubber Tired Dozers	1	367	0.4	1	10	76
Tractors/Loaders/Backhoes	2	84	0.37	6	120	214
Site Preparation						
Grader	1	148	0.41	8	8	25
Tractors/Loaders/Backhoes	1	84	0.37	8	8	14
Grading						
Grader	1	148	0.41	6	12	38
Rubber Tired Dozer	1	367	0.4	6	12	91
Tractors/Loaders/Backhoes	2	84	0.37	7	28	50
Building Construction						
Crane	1	367	0.29	4	400	2,198
Forklifts	2	82	0.2	6	1,200	1,129
Tractors/Loaders/Backhoes	2	84	0.37	8	1,600	2,854
Paving						

Equipment Type	Equipment Quantity	Horse-power	Load Factor	Operating Hours per Day	Total Operational Hours[1]	Fuel Used (gallons)
Cement and Mortar Mixers	4	10	0.56	6	120	39
Paver	1	81	0.42	7	35	68
Roller	1	36	0.38	7	35	27
Tractors/Loaders/Backhoes	1	84	0.37	7	35	62
Architectural Coating						
Air Compressor	1	37	0.48	6	30	31
Total Off-Road Equipment Diesel Fuel Used during Construction (gallons)						**7,027**

Notes:
[1] Based on: 10 days for Demolition, 1 day for Site Preparation, 2 days for Grading; 100 days for Building Construction; 5 days for Paving; and 5 days for Architectural Coating.
Source: CalEEMod Version 2022.1 (see Appendix A); CARB, 2017.

On-Road Construction-Related Vehicle Trips

The on-road construction-related vehicle trips fuel usage was calculated through use of the construction vehicle trip assumptions from the CalEEMod model run as detailed above in Section 8.1. The calculated total construction miles was then divided by the fleet average for the South Coast Air Basin portion of Riverside County miles per gallon rates for the year 2025 calculated through use of the EMFAC2021 model and the EMFAC2021 model printouts are shown in Appendix B. The worker trips were based on the combined fleet average miles per gallon rates for gasoline powered automobiles, SUVs and pickup trucks and the vendor and haul truck trips were based on the combined T6 and T7 diesel trucks fleet average miles per gallon rate. Table I shows the on-road construction vehicle trips modeled in CalEEMod and the fuel usage calculations.

Table I – On-Road Vehicle Trips and Fuel Consumption from Construction of Proposed Project

Vehicle Trip Types / Fuel Type	Daily Trips	Trip Length (miles)	Total Miles per Day	Total Miles per Phase[1]	Fleet Average Miles per Gallon[2]	Fuel Used (gallons)
Demolition						
Worker (Gasoline)	10	18.5	185	1,850	26.4	70
Haul (Diesel)	19.8	20	396	3,960	7.7	511
Water Trucks (Diesel)	3	0.25	0.75	8	7.7	1.0
Site Preparation						
Worker (Gasoline)	5	18.5	93	93	26.4	4
Water Trucks (Diesel)	3	0.25	0.75	1	7.7	0.1
Grading						
Worker (Gasoline)	7.5	18.5	139	278	26.4	11
Water Trucks (Diesel)	3	0.25	0.75	2	7.7	0.2
Building Construction						
Worker (Gasoline)	0.98	18.5	18	1,813	26.4	69
Vendor (Diesel)	0.5	10.2	5	510	7.7	66
Paving						
Worker (Gasoline)	17.5	18.5	324	1,619	26.4	61
Architectural Coating						
Worker (Gasoline)	0.2	18.5	4	19	26.4	1
Total Gasoline Fuel Used from On-Road Construction Vehicles (gallons)						**215**

Vehicle Trip Types / Fuel Type	Daily Trips	Trip Length (miles)	Total Miles per Day	Total Miles per Phase[1]	Fleet Average Miles per Gallon[2]	Fuel Used (gallons)
Total Diesel Fuel Used from On-Road Construction Vehicles (gallons)						**579**

Notes:
[1] Based on: 10 days for Demolition; 1 days for Site Preparation, 2 days for Grading; 100 days for Building Construction; 5 days for Paving; and 5 days for Architectural Coating.
[2] From EMFAC 2021 model (see Appendix B).
Source: CalEEMod Version 2022.1; CARB, 2018.

Table I shows that the on-road construction-related vehicle trips would consume 215 gallons of gasoline and 579 gallons of diesel fuel. As detailed above, Table H shows that the off-road construction equipment would consume 7,027 gallons of diesel fuel. This would result in the total consumption of 215 gallons of gasoline and 7,605 gallons of diesel fuel from construction of the proposed project.

Operations-Related Energy Use

The operation of the proposed project is anticipated to use energy in the forms of petroleum fuel, electricity, and natural gas, and the calculations for each source are described below.

Operational Petroleum Fuel

The on-road operations-related vehicle trips fuel usage was calculated through use of the total annual vehicle miles traveled assumptions from the CalEEMod model run as detailed above in Section 8.1, which found that operation of the proposed project would generate 3,496,525 vehicle miles traveled per year. The calculated total operational miles were then divided by 26.4 miles per gallon, which was calculated through use of the EMFAC2021 model and based on the South Coast Air Basin portion of Riverside County miles per gallon rates for the year 2025. The EMFAC2021 model printouts are shown in Appendix B. Based on the above calculation methodology, operational vehicle trips generated from the proposed project would consume 132,640 gallons of gasoline per year.

Operational Electricity Use

The operations-related electricity usage was calculated in the CalEEMod model run that is detailed above in Section 8.1 that found operation of the proposed project would use 97,779 kilowatt hours (kWh) per year. The proposed project is required to be designed to meet the Title 24 part 6 requirements that require the implementation of building energy efficiency standards that include the use of LED lighting and energy star appliances.

Operational Natural Gas Use

The operations-related natural gas usage was calculated in the CalEEMod model run that is detailed above in Section 8.1 that found the operation of the proposed project would consume 51,160 kilo British Thermal Units (kBTU) per year, which is equivalent to 512 Therms per year of natural gas.

9.0 THRESHOLDS OF SIGNIFICANCE

9.1 Regional Air Quality

Many air quality impacts that derive from dispersed mobile sources, which are the dominant pollution generators in the Air Basin, often occurs hours later and miles away after photochemical processes have converted primary exhaust pollutants into secondary contaminants such as ozone. The incremental regional air quality impact of an individual project is generally very small and difficult to measure. Therefore, SCAQMD has developed significance thresholds based on the volume of pollution emitted rather than on actual ambient air quality because the direct air quality impact of a project is not quantifiable on a regional scale. The SCAQMD CEQA Handbook states that any project in the Air Basin with daily emissions that exceed any of the identified significance thresholds should be considered as having an individually and cumulatively significant air quality impact. For the purposes to this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SCAQMD significance thresholds identified in Table J.

Table J – SCAQMD Regional Criteria Pollutant Emission Thresholds of Significance

	Pollutant Emissions (pounds/day)						
	VOC	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**	**Lead**
Construction	75	100	550	150	150	55	3
Operation	55	55	550	150	150	55	3

Source: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2

9.2 Local Air Quality

Project-related construction air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin. In order to assess local air quality impacts the SCAQMD has developed Localized Significant Thresholds (LSTs) to assess the project-related air emissions in the project vicinity. SCAQMD has also provided *Final Localized Significance Threshold Methodology* (LST Methodology), July 2008, which details the methodology to analyze local air emission impacts. The LST Methodology found that the primary emissions of concern are NO_2, CO, PM10, and PM2.5.

The LST Methodology provides Look-Up Tables with different thresholds based on the location and size of the project site and distance to the nearest sensitive receptors. As detailed above in Section 6.3, the project site is located in Air Monitoring Area 23, which covers Metropolitan Riverside County. The Look-Up Tables provided in the LST Methodology include project site acreage sizes of 1-acre, 2-acres and 5-acres. The 1-acre project site values in the Look-Up Tables have been utilized in this analysis, since that is the nearest size available for the 0.86-acre project site.

The nearest sensitive receptors to the project site are single-family homes located as near as 20 feet (6 meters) southwest of the project site. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25-meter thresholds. Table K below shows the LSTs for NOx, CO, PM10 and PM2.5 for both construction and operational activities.

Table K – SCAQMD Local Air Quality Thresholds of Significance

Activity	Allowable Emissions (pounds/day)[1]			
	NOx	CO	PM10	PM2.5
Construction	118	602	4	3
Operation	118	602	1	1

Notes:
[1] The nearest sensitive receptor to the project site are single-family homes located as near as 20 feet (6 meters) southwest of the project site. According to SCAQMD methodology, all receptors closer than 25 meters are based on the 25-meter threshold.
Source: Calculated from SCAQMD's Mass Rate Look-up Tables for 1 acre in in Air Monitoring Area 23, Metropolitan Riverside County.

9.3 Toxic Air Contaminants

According to the SCAQMD CEQA Handbook, any project that has the potential to expose the public to toxic air contaminants in excess of the following thresholds would be considered to have a significant air quality impact:

- If the Maximum Incremental Cancer Risk is 10 in one million or greater; or
- Toxic air contaminants from the proposed project would result in a Hazard Index increase of 1 or greater.

In order to determine if the proposed project may have a significant impact related to TACs, the *Health Risk Assessment Guidance for analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*, (Diesel Analysis) prepared by SCAQMD, August 2003, recommends that if the proposed project is anticipated to create TACs through stationary sources or regular operations of diesel trucks on the project site, then the proximity of the nearest receptors to the source of the TAC and the toxicity of the HAP should be analyzed through a comprehensive facility-wide health risk assessment (HRA).

9.4 Odor Impacts

The SCAQMD CEQA Handbook states that an odor impact would occur if the proposed project creates an odor nuisance pursuant to SCAQMD Rule 402, which states:

> "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
>
> The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals."

If the proposed project results in a violation of Rule 402 with regards to odor impacts, then the proposed project would create a significant odor impact.

9.5 Energy Conservation

The *2022 CEQA California Environmental Quality Act Statutes & Guidelines* (2022 CEQA Guidelines) include an Energy Section that analyzes the proposed project's energy consumption in order to avoid or reduce

inefficient, wasteful or unnecessary consumption of energy. Appendix F of the 2022 CEQA Statute and Guidelines, states the following:

> The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:
>
> (1) Decreasing overall per capita energy consumption,
>
> (2) Decreasing reliance on fossil fuels such as coal, natural gas and oil, and
>
> (3) Increasing reliance on renewable energy sources.

Since the Energy Section was recently added, no state or local agencies have adopted specific criteria or thresholds to be utilized in an energy impact analysis. However, Appendix F, Subsection II.C of the 2022 CEQA Guidelines provides the following criteria for determining significance.

1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project life cycle including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
2. The effects of the project on local and regional energy supplies and on requirement for additional capacity.
3. The effects of the project on peak and base period demands for electricity and other forms of energy.
4. The degree to which the project complies with existing energy standards.
5. The effects of the project on energy resources.
6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

If the proposed project creates inefficient, wasteful or unnecessary consumption of energy during construction or operation activities or conflicts with a state or local plan for renewable energy or energy efficiency, then the proposed project would create a significant energy impact.

9.6 Greenhouse Gas Emissions

The City of Riverside has adopted the Riverside Restorative Growthprint Climate Action Plan (Climate Action Plan), October 2014. The Climate Action Plan sets out actions to increase energy efficiency and reduce GHG emissions. Since the Climate Action Plan does not provide any quantitative GHG emissions thresholds for new development projects within the City, the SCAQMD GHG emissions reduction thresholds have been utilized in this analysis.

In order to identify significance criteria under CEQA for development projects, SCAQMD initiated a Working Group, which provided detailed methodology for evaluating significance under CEQA. At the September 28, 2010 Working Group meeting, the SCAQMD released its most current version of the draft GHG emissions thresholds, which recommends a tiered approach that provides a quantitative annual threshold of 3,000 $MTCO_2e$ for all land use projects. Although the SCAQMD provided substantial evidence supporting the use of the above threshold, as of November 2017, the SCAQMD Board has not yet considered or approved the Working Group's thresholds.

It should be noted that SCAQMD's Working Group's thresholds were prepared prior to the issuance of Executive Order B-30-15 on April 29, 2015 that provided a reduction goal of 40 percent below 1990 levels by 2030. This target was codified into statute through passage of AB 197 and SB 32 in September 2016.

However, to date no air district or local agency within California has provided guidance on how to address AB 197 and SB 32 with relation to land use projects. In addition, the California Supreme Court's ruling on *Cleveland National Forest Foundation v. San Diego Association of Governments* (Cleveland v. SANDAG), Filed July 13, 2017 stated:

> SANDAG did not abuse its discretion in declining to adopt the 2050 goal as a measure of significance in light of the fact that the Executive Order does not specify any plan or implementation measures to achieve its goal. In its response to comments, the EIR said: "It is uncertain what role regional land use and transportation strategies can or should play in achieving the EO's 2050 emissions reduction target. A recent California Energy Commission report concludes, however, that the primary strategies to achieve this target should be major 'decarbonization' of electricity supplies and fuels, and major improvements in energy efficiency [citation].

Although, the above court case was referencing California's GHG emission targets for the year 2050, at this time it is also unclear what role land use strategies can or should play in achieving the AB 197 and SB 32 reduction goal of 40 percent below 1990 levels by 2030. As such this analysis has relied on the SCAQMD Working Group's recommended thresholds. Therefore, the proposed project would be considered to create a significant cumulative GHG impact if the proposed project would exceed the annual threshold of 3,000 $MTCO_2e$

10.0 IMPACT ANALYSIS

10.1 CEQA Thresholds of Significance

Consistent with CEQA and the State CEQA Guidelines, a significant impact related to air quality, energy, and GHG emissions would occur if the proposed project is determined to:

- 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;
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people;
- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation;
- Conflict with or obstruct a state or local plan for renewable energy;
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

10.2 Air Quality Compliance

The proposed project would not conflict with or obstruct implementation of the SCAQMD Air Quality Management Plan (AQMP). The following section discusses the proposed project's consistency with the SCAQMD AQMP.

SCAQMD Air Quality Management Plan

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable General Plans and regional plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed project includes the SCAQMD AQMP. Therefore, this section discusses any potential inconsistencies of the proposed project with the AQMP.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the proposed project would interfere with the region's ability to comply with Federal and State air quality standards. If the decision-makers determine that the proposed project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD CEQA Handbook states that "New or amended GP Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A proposed project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

(1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

(2) Whether the project will exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

Criterion 1 - Increase in the Frequency or Severity of Violations?

Based on the air quality modeling analysis contained in this report, short-term regional construction air emissions would not result in significant impacts based on SCAQMD regional thresholds of significance discussed above in Section 9.1 or local thresholds of significance discussed above in Section 9.2. The ongoing operation of the proposed project would generate air pollutant emissions that are inconsequential on a regional basis and would not result in significant impacts based on SCAQMD thresholds of significance discussed above in Section 9.1. The analysis for long-term local air quality impacts showed that local pollutant concentrations would not be projected to exceed the air quality standards. Therefore, a less than significant long-term impact would occur and no mitigation would be required.

Therefore, based on the information provided above, the proposed project would be consistent with the first criterion.

Criterion 2 - Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed project with the assumptions in the AQMP. The emphasis of this criterion is to insure that the analyses conducted for the proposed project are based on the same forecasts as the AQMP. The AQMP is developed through use of the planning forecasts provided in the RTP/SCS (Connect SoCal) and FTIP (2019 FTIP). The RTP/SCS is a major planning document for the regional transportation and land use network within Southern California. The RTP/SCS is a long-range plan that is required by federal and state requirements placed on SCAG and is updated every four years. The FTIP provides long-range planning for future transportation improvement projects that are constructed with state and/or federal funds within Southern California. Local governments are required to use these plans as the basis of their plans for the purpose of consistency with applicable regional plans under CEQA. For this project, the City of Riverside General Plan's Land Use Plan Land Use Plan defines the assumptions that are represented in AQMP.

The project site is currently designated as Mixed Use-Village (MU-V) in the General Plan. The proposed project is an allowed use within the current land use designation. As such, the proposed project is not anticipated to exceed the AQMP assumptions for the project site and is found to be consistent with the AQMP for the second criterion.

Based on the above, the proposed project will not result in an inconsistency with the SCAQMD AQMP. Therefore, a less than significant impact will occur in relation to implementation of the AQMP.

Level of Significance

Less than significant impact.

10.3 Cumulative Net Increase in Non-Attainment Pollution

The proposed project 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. The SCAQMD has published a report on how to address cumulative impacts from air pollution: White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution (http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper.pdf). In this report the AQMD clearly states (Page D-3):

> *"…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or Environmental Impact Report (EIR). The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for TAC emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility- wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts. Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."*

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable. The following section calculates the potential air emissions associated with the construction and operations of the proposed project and compares the emissions to the SCAQMD standards.

Construction Emissions

The construction activities for the proposed project are anticipated to include demolition of the two commercial buildings and associated parking lots, site preparation and grading of the project site, building construction of a 3,048 square foot 7-Eleven convenience store with a 12 vehicle fuel position gas station, paving of the onsite parking areas and driveways, and application of architectural coatings. The CalEEMod model has been utilized to calculate the construction-related emissions from the proposed project and the input parameters utilized in this analysis have been detailed in Section 8.1. The maximum daily construction-related criteria pollutant emissions from the proposed project are shown below in Table M.

Table L – Construction-Related Criteria Pollutant Emissions

Season and Year of Construction	Maximum Daily Pollutant Emissions (pounds/day)					
	VOC	NOx	CO	SO_2	PM10	PM2.5
Daily Summer Maximum						
2025	1.12	10.1	10.7	0.02	2.22	1.15
Daily Winter Maximum						
2025	0.90	5.16	7.00	0.01	0.42	0.23
2026	7.23	0.86	1.14	<0.01	0.03	0.02
Maximum Daily Construction Emissions	**7.23**	**10.1**	**10.7**	**0.02**	**2.22**	**1.15**
SCQAMD Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
SCAQMD Local Thresholds[1]	**--**	**118**	**602**	**--**	**4**	**3**
Exceeds Thresholds?	No	No	No	No	No	No

Notes:
[1] The nearest offsite sensitive receptors to the project site are single-family homes located as near as 20 feet (6 meters) southwest of the project site. According to SCAQMD methodology, all receptors closer than 25 meters are based on the 25-meter threshold. Calculated from SCAQMD's Mass Rate Look-up Tables for 1 acre in in Air Monitoring Area 23, Metropolitan Riverside County.
Source: CalEEMod Version 2022.1.

Table M shows that none of the analyzed criteria pollutants would exceed either the regional or local emissions thresholds during construction of the proposed project. Therefore, a less than significant regional or local air quality impact would occur from construction of the proposed project.

Operational Emissions

The on-going operation of the proposed project would result in a long-term increase in air quality emissions. This increase would be due to emissions from the project-generated vehicle trips, emissions from energy usage, onsite area source emissions, and from gasoline storage and dispensing activities created from the on-going use of the proposed project. The following section provides an analysis of potential long-term air quality impacts due to regional air quality and local air quality impacts with the on-going operations of the proposed project.

Operations-Related Regional Criteria Pollutant Analysis

The operations-related regional criteria air quality impacts created by the proposed project have been analyzed through use of the CalEEMod model and the input parameters utilized in this analysis have been detailed in Section 8.1. The worst-case summer or winter VOC, NOx, CO, SO_2, PM10, and PM2.5 daily emissions created from the proposed project's long-term operations have been calculated and are summarized below in Table M and the CalEEMod daily emissions printouts are shown in Appendix A.

Table M – Operational Regional Criteria Pollutant Emissions

Activity	Pollutant Emissions (pounds/day)					
	VOC	NOx	CO	SO_2	PM10	PM2.5
Mobile Sources[1]	11.0	5.62	43.7	0.08	6.85	1.79
Area Sources[2]	0.10	<0.01	0.13	<0.01	<0.01	<0.01
Energy Usage[3]	<0.01	0.01	0.01	<0.01	<0.01	<0.01
Gasoline Storage and Dispensing[4]	10.44	0.00	0.00	0.00	0.00	0.00
Total Emissions	**21.54**	**5.63**	**43.8**	**0.08**	**6.85**	**1.79**
SCQAMD Regional Operational Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	No	No	No	No	No	No

Notes:

[1] Mobile sources consist of emissions from vehicles and road dust.
[2] Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.
[3] Energy usage consists of emissions from onsite natural gas usage.
[4] Gasoline storage and dispensing VOC emissions rate based on 1.27 pounds of VOC per 1,000 gallons of gasoline throughput, based on a maximum throughput of 3.0 million gallons of gasoline per year
Source: Calculated from CalEEMod Version 2022.1.

The data provided in Table M shows that none of the analyzed criteria pollutants would exceed the regional emissions thresholds. Therefore, a less than significant regional air quality impact would occur from operation of the proposed project.

In *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 (also referred to as "*Friant Ranch*"), the California Supreme Court held that when an EIR concluded that when a project would have significant impacts to air quality impacts, an EIR should "make a reasonable effort to substantively connect a project's air quality impacts to likely health consequences." In order to determine compliance with this Case, the Court developed a multi-part test that includes the following:

1) The air quality discussion shall describe the specific health risks created from each criteria pollutant, including diesel particulate matter.

This Analysis details the specific health risks created from each criteria pollutant above in Section 4.1 and specifically in Table B. In addition, the specific health risks created from diesel particulate matter is detailed above in Section 2.2 of this analysis. As such, this analysis meets the part 1 requirements of the Friant Ranch Case.

2) The analysis shall identify the magnitude of the health risks created from the Project. The Ruling details how to identify the magnitude of the health risks. Specifically, on page 24 of the ruling it states "The Court of Appeal identified several ways in which the EIR could have framed the analysis so as to adequately inform the public and decision makers of possible adverse health effects. The County could have, for example, identified the Project's impact on the days of nonattainment per year."

The Friant Ranch Case found that an EIR's air quality analysis must meaningfully connect the identified air quality impacts to the human health consequences of those impacts, or meaningfully explain why that analysis cannot be provided. As noted in the Brief of Amicus Curiae by the SCAQMD in the Friant Ranch case (https://www.courts.ca.gov/documents/9-s219783-ac-south-coast-air-quality-mgt-dist-041315.pdf) (Brief), SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, and thus it is uniquely situated to express an opinion on how lead agencies should correlate air quality impacts with specific health outcomes. The SCAQMD discusses that it may be infeasible to quantify health risks caused by projects similar to the proposed Project, due to many factors. It is necessary to have data regarding the sources and types of air toxic contaminants, location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors (worker and residence). The Brief states that it may not be feasible to perform a health risk assessment for airborne toxics that will be emitted by a generic industrial building that was built on "speculation" (i.e., without knowing the future tenant(s)). Even where a health risk assessment can be prepared, however, the resulting maximum health risk value is only a calculation of risk, it does not necessarily mean anyone will contract cancer as a result of the Project. The Brief also cites the author of the CARB methodology, which reported that a PM2.5 methodology is not suited for small projects and may yield unreliable results. Similarly, SCAQMD staff does not currently know of a way to

accurately quantify ozone-related health impacts caused by NOX or VOC emissions from relatively small projects, due to photochemistry and regional model limitations. The Brief concludes, with respect to the Friant Ranch EIR, that although it may have been technically possible to plug the data into a methodology, the results would not have been reliable or meaningful.

On the other hand, for extremely large regional projects (unlike the proposed project), the SCAQMD states that it has been able to correlate potential health outcomes for very large emissions sources – as part of their rulemaking activity, specifically 6,620 pounds per day of NOx and 89,180 pounds per day of VOC were expected to result in approximately 20 premature deaths per year and 89,947 school absences due to ozone. As shown above in Table L, project-related construction activities would generate a maximum of 7.23 pounds per day of VOC and 10.1 pounds per day of NOx and as shown above in Table M, operation of the proposed project would generate 21.54 pounds per day of VOC and 5.63 pounds per day NOx. The proposed project would not generate anywhere near these levels of 6,620 pounds per day of NOx or 89,190 pounds per day of VOC emissions. Therefore, the proposed project's emissions are not sufficiently high enough to use a regional modeling program to correlate health effects on a basin-wide level.

Notwithstanding, this analysis does evaluate the proposed project's localized impact to air quality for emissions of CO, NOx, PM10, and PM2.5 by comparing the proposed project's onsite emissions to the SCAQMD's applicable LST thresholds. As evaluated in this analysis, the proposed project would not result in emissions that exceeded the SCAQMD's LSTs. Therefore, the proposed project would not be expected to exceed the most stringent applicable federal or state ambient air quality standards for emissions of CO, NOx, PM10, and PM2.5.

Operations-Related Local Air Quality Impacts

Project-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin. The proposed project has been analyzed for the potential local CO emission impacts from the project-generated vehicular trips and from the potential local air quality impacts from on-site operations. The following analyzes the vehicular CO emissions and local impacts from on-site operations.

Local CO Hotspot Impacts from Project-Generated Vehicular Trips

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with project CO levels to the State and Federal CO standards of 20 ppm over one hour or 9 ppm over eight hours.

At the time of the 1993 Handbook, the Air Basin was designated nonattainment under the CAAQS and NAAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the Air Basin and in the state have steadily declined. In 2007, the Air Basin was designated in attainment for CO under both the CAAQS and NAAQS.

SCAQMD conducted a CO hot spot analysis[3] for attainment at the busiest intersections in Los Angeles during the peak morning and afternoon periods and did not predict a violation of CO standards. Since the nearby intersections to the proposed project are much smaller with less traffic than what was analyzed by the SCAQMD, no local CO Hotspot are anticipated to be created from the proposed project and no CO Hotspot modeling was performed. Therefore, a less than significant long-term air quality impact is anticipated to local air quality with the on-going use of the proposed project.

Local Criteria Pollutant Impacts from Onsite Operations

Project-related air emissions from onsite sources such as architectural coatings, landscaping equipment, and onsite usage of natural gas appliances may have the potential to create emissions areas that exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin.

The local air quality emissions from onsite operations were analyzed using the SCAQMD's Mass Rate LST Look-up Tables and the methodology described in LST Methodology. The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM10, and PM2.5 from the proposed project could result in a significant impact to the local air quality. Table N shows the onsite emissions from the CalEEMod model that includes area sources, energy usage, and vehicles operating in the immediate vicinity of the project site and the calculated emissions thresholds. It should be noted that gasoline storage and dispensing activities only create VOC emissions, which is not an analyzed criteria pollutant in the Look-Up Tables. As such, the gasoline storage and dispensing emissions are not included in Table N.

Table N – Operations-Related Local Criteria Pollutant Emissions

Onsite Emission Source	Pollutant Emissions (pounds/day)			
	NOx	**CO**	**PM10**	**PM2.5**
Mobile Sources	0.70	5.46	0.86	0.22
Area Sources	<0.01	0.13	<0.01	<0.01
Energy Usage	0.01	0.01	<0.01	<0.01
Total Emissions	**0.71**	**5.60**	**0.86**	**0.22**
SCAQMD Local Operational Thresholds[1]	**118**	**602**	**1**	**1**
Exceeds Threshold?	No	No	No	No

Notes:
[1] Mobile sources consist of emissions from vehicles and road dust and were calculated based on 1/8 of the mobile source emissions, which is the estimated portion of vehicle emissions occurring within a quarter mile of the project site.
[2] Area sources consist of emissions from consumer products, architectural coatings, hearths and landscaping equipment.
[3] Energy usage consist of emissions from onsite natural gas usage.
[4] The nearest offsite sensitive receptors to the project site are single-family homes located as near as 20 feet (6 meters) southwest of the project site. According to SCAQMD methodology, all receptors closer than 25 meters are based on the 25-meter threshold.
Source: Calculated from SCAQMD's Mass Rate Look-up Tables for 1 acre in in Air Monitoring Area 23, Metropolitan Riverside County.

The data provided in Table N shows that the on-going operations of the proposed project would not exceed the local NOx, CO, PM10 and PM2.5 thresholds of significance discussed above in Section 9.2.

[3] The four intersections analyzed by the SCAQMD were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning and LOS F in the evening peak hour.

Therefore, the on-going operations of the proposed project would create a less than significant operations-related impact to local air quality due to onsite emissions and no mitigation would be required.

Therefore, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant.

Level of Significance

Less than significant impact.

10.4 Sensitive Receptors

The proposed project would not expose sensitive receptors to substantial pollutant concentrations. The local concentrations of criteria pollutant emissions produced in the nearby vicinity of the proposed project, which may expose sensitive receptors to substantial concentrations have been calculated above in Section 10.3 for both construction and operations, which are discussed separately below. The discussion below also includes an analysis of the potential impacts from toxic air contaminant emissions. The nearest sensitive receptors to the project site are single-family homes located as near as 20 feet southwest of the project site.

Construction-Related Sensitive Receptor Impacts

Construction activities may expose sensitive receptors to substantial pollutant concentrations of localized criteria pollutant concentrations and from toxic air contaminant emissions created from onsite construction equipment, which are described below.

Local Criteria Pollutant Impacts from Construction

The local air quality impacts from construction of the proposed project have been analyzed above in Section 10.3 and found that the construction of the proposed project would not exceed the local NOx, CO, PM10 and PM2.5 thresholds of significance discussed above in Section 9.2. Therefore, construction of the proposed project would create a less than significant construction-related impact to local air quality and no mitigation would be required.

Toxic Air Contaminants Impacts from Construction

Construction activities are anticipated to generate TAC emissions from diesel particulate matter (DPM) associated with the operation of trucks and off-road equipment and from possible asbestos in the structures to be demolished.

Diesel Particulate Matter Emissions

The greatest potential for toxic air contaminant emissions would be related to diesel particulate matter (DPM) emissions associated with heavy equipment operations during construction of the proposed project. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk". "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. It should be noted that the most current cancer risk assessment methodology recommends analyzing a 30 year exposure period for the nearby sensitive receptors (OEHHA, 2015).

Given the relatively limited number of heavy-duty construction equipment, the varying distances that construction equipment would operate to the nearby sensitive receptors, and the short-term construction schedule, the proposed project would not result in a long-term (i.e., 30 or 70 years) substantial source of toxic air contaminant emissions and corresponding individual cancer risk. In addition, California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449 regulates emissions from off-road diesel equipment in California. This regulation limits idling of equipment to no more than five minutes, requires equipment operators to label each piece of equipment and provide annual reports to CARB of their fleet's usage and emissions. This regulation also requires systematic upgrading of the emission Tier level of each fleet, and currently no commercial operator is allowed to purchase Tier 0, Tier 1 or Tier 2 equipment. In addition to the purchase restrictions, equipment operators need to meet fleet average emissions targets that become more stringent each year between years 2014 and 2023. By January, 2026, 75 percent or more of all contractors' equipment fleets must be Tier 2 or higher and by January, 2029 100 percent of all equipment fleets must be Tier 2 or higher. Therefore, no significant short-term DPM impacts would occur during construction of the proposed project.

Asbestos Emissions

It is possible that the two existing onsite structures to be demolished contains asbestos. According to SCAQMD Rule 1403 requirements, prior to the start of demolition activities, the existing structures located onsite shall be thoroughly surveyed for the presence of asbestos by a person that is certified by Cal/OSHA for asbestos surveys. Rule 1403 requires that the SCAQMD be notified a minimum of 10 days before any demolition activities begin with specific details of all asbestos to be removed, start and completion dates of demolition, work practices and engineering controls to be used to contain the asbestos emissions, estimates on the amount of asbestos to be removed, the name of the waste disposal site where the asbestos will be taken, and names and addresses of all contractors and transporters that will be involved in the asbestos removal process. Therefore, through adherence to the asbestos removal requirements, detailed in SCAQMD Rule 1403, a less than significant asbestos impact would occur during construction of the proposed project

Therefore, construction of the proposed project would result in a less than significant exposure of sensitive receptors to substantial pollutant concentrations.

Operations-Related Sensitive Receptor Impacts

The on-going operations of the proposed project may expose sensitive receptors to substantial pollutant concentrations of local CO emission impacts from the project-generated vehicular trips, from the potential local air quality impacts from onsite operations and from TAC emissions created from the gas station. The following analyzes the vehicular CO emissions, local criteria pollutant impacts from onsite operations, and TAC impacts from gas station activities.

Local CO Hotspot Impacts from Project-Generated Vehicle Trips

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential impacts to sensitive receptors. The analysis provided above in Section 10.3 shows that no local CO Hotspots are anticipated to be created at any nearby intersections from the vehicle traffic generated by the proposed project. Therefore, operation of the proposed project would result in a less than significant exposure of offsite sensitive receptors to substantial pollutant concentrations.

Local Criteria Pollutant Impacts from Onsite Operations

The local air quality impacts from the operation of the proposed project would occur from onsite sources such as architectural coatings and landscaping equipment. The analysis provided above in Section 10.3 found that the operation of the proposed project would not exceed the local NOx, CO, PM10 and PM2.5 thresholds of significance discussed above in Section 9.2. Therefore, the on-going operations of the proposed project would create a less than significant operations-related impact to local air quality due to on-site emissions and no mitigation would be required.

Operations-Related Toxic Air Contaminant Impacts

Operation of the proposed project would create TAC emissions from diesel-powered delivery trucks and from gasoline dispensing activities, which have been analyzed separately below.

Diesel Truck Emissions

The ongoing operation of the 7-Eleven with gas station would generate DPM emissions from diesel truck deliveries to the project site. Diesel particulate matter (DPM) from operation of diesel-powered trucks is the predominant TAC in most areas and according to *The California Almanac of Emissions and Air Quality 2013 Edition*, prepared by CARB, about 80 percent of the outdoor TAC cancer risk is from DPM. Some chemicals in diesel exhaust, such as benzene and formaldehyde have been listed as carcinogens by State Proposition 65 and the Federal Hazardous Air Pollutants program.

According to the *2022 CEQA California Environmental Quality Act Statute & Guidelines* (State CEQA Guidelines), Appendix M provides the performance standards for infill projects eligible for streamlined review and states the following:

> *"Significant sources of air pollution" include airports, marine ports, rail yards and distribution centers that receive more than 100 heavy-duty truck visits per day, as well as stationary sources that are designated major by the Clean Air Act.*

In addition, the *Health Risk Assessments for Proposed Land Use Project*, prepared by CAPCOA, July 2009, details that a potentially significant impact may occur if sensitive receptors are placed within 1,000 feet of distribution centers that generate more than 100 trucks deliveries per day.

According to the project applicant, operation of the proposed project would generate an average of two truck deliveries per day, which is well below both the State CEQA Guidelines and CAPCOA guidelines provided above for when a potentially significant health risk impact would occur from diesel truck emissions. Based on the above, it can be reasonably concluded that the DPM emissions created from the on-going operation of the proposed project would result in a less than significant TAC impact to the nearby sensitive receptors and no mitigation would be required.

Gasoline Storage and Dispensing Emissions

The proposed project would include a 12 fueling position gas station that is anticipated to have a maximum throughput of 3.0 million gallons of gasoline per year. The nearest sensitive receptors to the project site are single-family homes located as near as 20 feet southwest of the project site and the nearest residential property line is as near as 120 feet (36 meters) from the center of the gas canopy, which is the measurement that is utilized by SCAQMD. There are also offsite workers located at the office building that is adjacent to the southeast side of the project site, that is as near as 57 feet (17 meters) from the center of the gas canopy.

The SCAQMD provides the RiskTool (V1.103) that calculates the cancer risk from gasoline stations that can be found at http://www.aqmd.gov/home/permits/risk-assessment. The RiskTool has been utilized to calculate the cancer risk at the nearest resident and the RiskTool printout is provided in Appendix C.

The RiskTool found that the proposed project would create a cancer risk of **9.172 per million persons** at the nearest homes to the southwest and would create a cancer risk of **1.023 per million persons** at the office building to the southeast of the project site. The project-related cancer risks as high as 9.172 per million persons would be within the SCAQMD's threshold of 10 per million detailed above in Section 9.3. As such, the TAC emissions and associated cancer risks from the proposed gas station would result in a less than significant impact to the nearby sensitive receptors.

Level of Significance

Less than significant impact.

10.5 Odor Emissions

The proposed project would not create objectionable odors affecting a substantial number of people. Individual responses to odors are highly variable and can result in a variety of effects. Generally, the impact of an odor results from a variety of factors such as frequency, duration, offensiveness, location, and sensory perception. The frequency is a measure of how often an individual is exposed to an odor in the ambient environment. The intensity refers to an individual's or group's perception of the odor strength or concentration. The duration of an odor refers to the elapsed time over which an odor is experienced. The offensiveness of the odor is the subjective rating of the pleasantness or unpleasantness of an odor. The location accounts for the type of area in which a potentially affected person lives, works, or visits; the type of activity in which he or she is engaged; and the sensitivity of the impacted receptor.

Sensory perception has four major components: detectability, intensity, character, and hedonic tone. The detection (or threshold) of an odor is based on a panel of responses to the odor. There are two types of thresholds: the odor detection threshold and the recognition threshold. The detection threshold is the lowest concentration of an odor that will elicit a response in a percentage of the people that live and work in the immediate vicinity of the project site and is typically presented as the mean (or 50 percent of the population). The recognition threshold is the minimum concentration that is recognized as having a characteristic odor quality, this is typically represented by recognition by 50 percent of the population. The intensity refers to the perceived strength of the odor. The odor character is what the substance smells like. The hedonic tone is a judgment of the pleasantness or unpleasantness of the odor. The hedonic tone varies in subjective experience, frequency, odor character, odor intensity, and duration. Potential odor impacts have been analyzed separately for construction and operations below.

Construction-Related Odor Impacts

Potential sources that may emit odors during construction activities include the application of coatings such as asphalt pavement, paints and solvents and from emissions from diesel equipment. Standard construction requirements that limit the time of day when construction may occur as well as SCAQMD Rule 1108 that limits VOC content in asphalt and Rule 1113 that limits the VOC content in paints and solvents would minimize odor impacts from construction. As such, the objectionable odors that may be produced during the construction process would be temporary and would not likely be noticeable for extended periods of time beyond the project site's boundaries. Through compliance with the applicable regulations that reduce odors and due to the transitory nature of construction odors, a less than significant odor impact would occur and no mitigation would be required.

Operations-Related Odor Impacts

The proposed project would consist of the development of a gas station with a convenience market and two restaurants. Potential sources that may emit odors during the on-going operations of the proposed project would primarily occur from odor emissions from gas dispensing activities and from the trash storage areas. Pursuant to SCAQMD Rule 461 the proposed gas station will be required to utilize gas dispensing equipment that minimizes vapor and liquid leaks and requires that the equipment be maintained at proper working order, which will minimize odor impacts occurring from the gasoline and diesel dispensing facilities. Pursuant to City regulations, permanent trash enclosures that protect trash bins from rain as well as limit air circulation would be required for the trash storage areas. Through compliance with SCAQMD's Rule 461 and City trash storage regulations, no significant impact related to odors would occur during the on-going operations of the proposed project. Therefore, a less than significant odor impact would occur and no mitigation would be required.

Level of Significance

Less than significant impact.

10.6 Energy Consumption

The proposed project would impact energy resources during construction and operation. Energy resources that would be potentially impacted include electricity and natural gas, and petroleum based fuel supplies and distribution systems. This analysis includes a discussion of the potential energy impacts of the proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. A general definition of each of these energy resources are provided below.

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands. In 2022, Riverside County consumed 17,781 Gigawatt-hours per year of electricity[4].

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network and, therefore, resource availability is typically not an issue. Natural gas satisfies almost one-third of the State's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel. Natural gas is measured in terms of cubic feet. In 2022, Riverside County consumed 431 million Therms of natural gas[5].

Petroleum-based fuels currently account for a majority of the California's transportation energy sources and primarily consist of diesel and gasoline types of fuels. However, the state has been working on

4 Obtained from: http://www.ecdms.energy.ca.gov/elecbycounty.aspx
5 Obtained from: http://www.ecdms.energy.ca.gov/gasbycounty.aspx

developing strategies to reduce petroleum use. Over the last decade California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHG emissions from the transportation sector, and reduce vehicle miles traveled (VMT). Accordingly, petroleum-based fuel consumption in California has declined. In 2022, 981 million gallons of gasoline and 173 million gallons of diesel was sold in Riverside County[6].

The following section calculates the potential energy consumption associated with the construction and operations of the proposed project and provides a determination if any energy utilized by the proposed project is wasteful, inefficient, or unnecessary consumption of energy resources.

Construction Energy

The proposed project would consume energy resources during construction in three (3) general forms:

1. Petroleum-based fuels used to power off-road construction vehicles and equipment on the Project Site, construction worker travel to and from the Project Site, as well as delivery and haul truck trips (e.g. hauling of demolition material to off-site reuse and disposal facilities);
2. Electricity associated with the conveyance of water that would be used during Project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power; and,
3. Energy used in the production of construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Construction-Related Electricity

During construction the proposed project would consume electricity to construct the proposed 7-Eleven. Electricity would be supplied to the project site by Riverside Public Utilities and would be obtained from the existing electrical lines in the vicinity of the project site. The use of electricity from existing power lines rather than temporary diesel or gasoline powered generators would minimize impacts on fuel consumption. Electricity consumed during project construction would vary throughout the construction period based on the construction activities being performed. Various construction activities include electricity associated with the conveyance of water that would be used during project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power. Such electricity demand would be temporary, nominal, and would cease upon the completion of construction. Overall, construction activities associated with the proposed project would require limited electricity consumption that would not be expected to have an adverse impact on available electricity supplies and infrastructure. Therefore, the use of electricity during project construction would not be wasteful, inefficient, or unnecessary.

Since there are currently power lines in the vicinity of the project site, it is anticipated that only nominal improvements would be required to Riverside Public Utilities distribution lines and equipment with development of the proposed project. Compliance with City's guidelines and requirements would ensure that the proposed project fulfills its responsibilities relative to infrastructure installation, coordinates any electrical infrastructure removals or relocations, and limits any impacts associated with construction of

6 Obtained from: https://www.energy.ca.gov/media/3874

the project. Construction of the project's electrical infrastructure is not anticipated to adversely affect the electrical infrastructure serving the surrounding uses or utility system capacity.

Construction-Related Petroleum Fuel Use

Petroleum-based fuel usage represents the highest amount of transportation energy potentially consumed during construction, which would be utilized by both off-road equipment operating on the project site and on-road automobiles transporting workers to and from the project site and on-road trucks transporting equipment and supplies to the project site.

The off-road construction equipment fuel usage was calculated through use of the off-road equipment assumptions and fuel use assumptions shown above in Section 8.3, which found that construction of the proposed project would consume 215 gallons of gasoline and 7,605 gallons of diesel fuel. This equates to 0.00002 percent of the gasoline and 0.004 percent of the diesel used annually in Riverside County. As such, the construction-related petroleum use would be nominal, when compared to current county-wide petroleum usage rates.

Construction activities associated with the proposed project would be required to adhere to all State and SCAQMD regulations for off-road equipment and on-road trucks, which provide minimum fuel efficiency standards. As such, construction activities for the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy resources. Impacts regarding transportation energy would be less than significant. Development of the project would not result in the need to manufacture construction materials or create new building material facilities specifically to supply the proposed project. It is difficult to measure the energy used in the production of construction materials such as asphalt, steel, and concrete, it is reasonable to assume that the production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest of minimizing the cost of doing business.

Operational Energy

The on-going operation of the proposed project would require the use of energy resources for multiple purposes including, but not limited to, heating/ventilating/air conditioning (HVAC), refrigeration, lighting, appliances, and electronics. Energy would also be consumed during operations related to water usage, solid waste disposal, landscape equipment and vehicle trips.

Operations-Related Electricity

Operation of the proposed project would result in consumption of electricity at the project site. As detailed above in Section 8.3 the proposed project would consume 120,674 kilowatt-hours per year of electricity. This equates to 0.0007 percent of the electricity consumed annually in the County of Riverside. As such, the operations-related electricity use would be nominal, when compared to current electricity usage rates in the County.

It should be noted that, the proposed project would comply with all Federal, State, and City requirements related to the consumption of electricity, that includes CCR Title 24, Part 6 *Building Energy Efficiency Standards* and CCR Title 24, Part 11: *California Green Building Standards.* The CCR Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the proposed structure, including enhanced insulation, use of energy efficient lighting and appliances, water and space heating systems, as well as requiring a variety of other energy-efficiency measures to be incorporated into the proposed project. Therefore, it is anticipated the proposed project will be designed and built to

minimize electricity use and that existing and planned electricity capacity and electricity supplies would be sufficient to support the proposed project's electricity demand. Thus, the project would not result in the wasteful or inefficient use of electricity and no mitigation measures would be required.

Operations-Related Natural Gas

Operation of the proposed project would result in increased consumption of natural gas at the project site. As detailed above in Section 8.3 the proposed project would consume 512 Therms per year of natural gas. This equates to 0.0001 percent of the natural gas consumed annually in Riverside County. As such, the operations-related natural gas use would be nominal, when compared to current natural gas usage rates in the County.

It should be noted that, the proposed project would comply with all Federal, State, and City requirements related to the consumption of natural gas, that includes CCR Title 24, Part 6 *Building Energy Efficiency Standards* and CCR Title 24, Part 11: *California Green Building Standards.* The CCR Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the proposed project, including enhanced insulation as well as use of efficient natural gas appliances and HVAC units. Therefore, it is anticipated the proposed project will be designed and built to minimize natural gas use and that existing and planned natural gas capacity and natural gas supplies would be sufficient to support the proposed project's natural gas demand. Thus, impacts with regard to natural gas supply and infrastructure capacity would be less than significant and no mitigation measures would be required.

Operations-Related Vehicular Petroleum Fuel Usage

Operation of the proposed project would result in increased consumption of petroleum-based fuels related to vehicular travel to and from the project site. As detailed above in Section 8.2 the proposed project would consume 132,640 gallons of gasoline per year from vehicle travel. This equates to 0.01 percent of the gasoline consumed annually in Riverside County. As such, the operations-related petroleum use would be nominal, when compared to current petroleum usage rates

It should be noted that, the proposed project would comply with all Federal, State, and City requirements related to the consumption of transportation energy that includes California Code of Regulations Title 24, Part 10 California Green Building Standards that require conduit to be installed to the proposed parking areas for future EV charging stations. Therefore, it is anticipated the proposed project will be designed and built to minimize transportation energy through the promotion of the use of electric-powered vehicles and it is anticipated that existing and planned capacity and supplies of transportation fuels would be sufficient to support the proposed project's demand. Thus, impacts with regard transportation energy supply and infrastructure capacity would be less than significant and no mitigation measures would be required.

In conclusion, the proposed project would comply with regulatory compliance measures outlined by the State and City related to air quality (see section 4.0 above), energy (see section 5.0 above), and GHGs (see section 6.0 above). Additionally, the proposed project would be constructed in accordance with all applicable City Building and Fire Codes. Therefore, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Impacts would be less than significant.

Level of Significance

Less than significant impact.

10.7 Energy Plan Consistency

The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The applicable energy plan for the proposed project is the City of Riverside General Plan 2025, adopted November 2007. The proposed project's consistency with the energy policies from the General Plan are shown in Table O.

Table O – Proposed Project Compliance with the General Plan Energy Policies

General Plan Policy	Proposed Project Implementation Actions
Objective AQ-5 Increase energy efficiency and conservation in an effort to reduce air pollution.	
Policy AQ-5.1 Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed in landfills.	**Consistent.** The proposed project will utilize designated trash bins for recycling.
Policy AQ-5.2 Develop incentives and/or regulations regarding energy conservation requirements for private and public developments	**Not Applicable.** The policy is only applicable to the City to implement.
Policy AQ-5.3 Continue and expand use of renewable energy resources such as wind, solar, water, landfill gas, geothermal sources.	**Not Applicable.** The policy is only applicable for energy providers and regulators to implement.
Policy AQ-5.4 Continue and expand the creation of locally-based solar photovoltaic power stations in Riverside.	**Not Applicable.** The policy is only applicable for energy providers and regulators to implement.
Policy AQ-5.5 Continue and expand Riverside Public Utilities programs to promote energy efficiency.	**Not Applicable.** The policy is only applicable to Riverside Public Utilities to implement.
Policy AQ-5.6 Support the use of automated equipment for conditioned facilities to control heating and air conditioning.	**Consistent.** The proposed project will be designed to meet the Title 24 building standards that require the installation of smart thermostats.
Policy AQ-5.7 Require residential building construction to meet or exceed energy use guidelines in Title 24 of the California Administrative Code.	**Not Applicable.** This policy for residential development, however the proposed project will be required to meet the Title 24 nonresidential requirements.
Objective AQ-8 Make sustainability and global warming education a priority for the City's effort to protect public health and achieve state and federal clean air standards.	
Policy AQ-8.5 Adopt and implement a policy to increase the use of renewable energy to meet 33% of the City's electric load by 2020.	**Not Applicable.** The policy is only applicable to the City to implement.
Policy AQ-8.6 Promote Riverside as a Solar City through the implementation of programs for residential and commercial customers that will increase solar generation in the City to 1 MW by 2015 (enough for 1,000 homes) and 3 MW by 2020.	**Not Applicable.** The policy is only applicable to the City to implement.
Policy AQ-8.7 Generate at least 10 MW (enough for 10,000 homes) of electric load from regional zero emissions sources by 2025.	**Not Applicable.** The policy is only applicable to the City to implement.
Policy AQ-8.8 Reduce the City's per capita base load energy consumption by 10% through energy efficiency and conservation programs by 2016	**Not Applicable.** The policy is only applicable to Riverside Public Utilities to implement.
Policy AQ-8.9 Implement programs to encourage load shifting to off peak hours and explore demand response solutions by end of 2008.	**Not Applicable.** The policy is only applicable to the City to implement.
Objective OS-8 Encourage the efficient use of energy resources by residential and commercial users.	

General Plan Policy	Proposed Project Implementation Actions
Policy OS-8.1 Support the development and use of non-polluting, renewable energy sources**.**	**Not Applicable.** The policy is only applicable to the City to implement.
Policy OS-8.2 Require incorporation of energy conservation features in the design of all new construction and substantial rehabilitation projects pursuant to Title 24, and encourage the installation of conservation devices in existing developments.	**Consistent.** The proposed project will be designed to meet the Title 24 building standards that require the incorporation of energy conservation features into the proposed structure.
Policy OS-8.3 Encourage private energy conservation programs that minimize high energy demand and that use alternative energy sources.	**Not Applicable.** The policy is only applicable to the City to implement.
Policy OS-8.4 Incorporate solar considerations into development regulation that allow existing and proposed buildings to use solar facilities.	**Not Applicable.** The policy is only applicable to the City to implement.
Policy OS-8.5 Develop landscaping guidelines that support the use of vegetation for shading and wind reduction and otherwise help reduce energy consumption in new development for compatibility with renewable energy sources (i.e., solar pools).	**Not Applicable.** The policy is only applicable to the City to implement. However, the landscaping for the proposed project has been designed to meet the City's landscaping guidelines.
Policy OS-8.6 Require all new developments to incorporate energy-efficient lighting, heating and cooling systems pursuant to the Uniform Building Code and Title 24.	**Consistent.** The proposed project will be designed to meet the Title 24 building standards that require the incorporation of energy-efficient lighting, heating and cooling systems into the proposed structure.
Policy OS-8.7 Encourage mixed use development as a means of reducing the need for auto travel.	**Not Applicable.** The proposed project does not consist of a mixed-use development, however the proposed retail use will be built in close proximity to existing residential and office uses that will reduce need for auto travel.
Policy OS-8.8 Encourage the use of clean burning fuels and solar energy for space and water heating purposes and explore ways to participate in California New Solar Homes Partnerships	**Not Applicable.** The policy is only applicable to the City to implement.
Policy OS-8.9 Encourage construction and subdivision design that allows the use of solar energy systems.	**Not Applicable.** The policy is only applicable to the City to implement.
Policy OS-8.10 Support the use of public transportation, bicycling and other alternative transportation modes in order to reduce the consumption of non-renewable energy supplies.	**Not Applicable.** The policy is only applicable to the City to implement.
Policy OS-8.11 Support public education programs for City residents and businesses to provide information on energy conservation and on alternative transportation modes in order to reduce the consumption of non-renewable energy supplies	**Not Applicable.** The policy is only applicable to the City to implement.
Policy OS-8.12 Require bicycle parking in new non-residential development.	**Consistent.** The proposed project will provide bicycle parking for patrons of the proposed 7-Eleven.

Source: City of Riverside, 2007.

As shown in Table O, the proposed project would be consistent with all applicable energy conservation policies from the General Plan. Therefore, the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be less than significant.

Level of Significance

Less than significant impact.

10.8 Generation of Greenhouse Gas Emissions

The proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. The proposed project would consist of development and operation of a 7-Eleven with gas station. The proposed project is anticipated to generate GHG emissions from area sources, energy usage, mobile sources, waste disposal, water usage, and construction equipment. The project's GHG emissions have been calculated with the CalEEMod model based on the construction and operational parameters detailed above in Section 8.1. A summary of the results is shown below in Table P and the CalEEMod model run is provided in Appendix A.

Table P – Project Related Greenhouse Gas Annual Emissions

	Greenhouse Gas Emissions (Metric Tons per Year)			
Category	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Mobile Sources[1]	1,323	0.11	0.09	1,354
Area Sources[2]	0.06	<0.01	<0.01	0.06
Energy Usage[3]	27.3	<0.01	<0.01	27.4
Water and Wastewater[4]	0.17	<0.01	<0.01	0.24
Solid Waste[5]	0.23	0.02	0.00	0.79
Refrigeration[6]	--	--	--	105
Construction[7]	2.53	<0.01	<0.01	2.55
Total GHG Emissions	**1,353**	**0.13**	**0.10**	**1,490**
SCAQMD Draft Threshold of Significance				**3,000**
Exceed Thresholds?				**No**

Notes:
[1] Mobile sources consist of GHG emissions from vehicles.
[2] Area sources consist of GHG emissions from consumer products, architectural coatings, and landscaping equipment.
[3] Energy usage consists of GHG emissions from electricity and natural gas usage.
[4] Water includes GHG emissions from electricity used for transport of water and processing of wastewater.
[5] Waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.
[6] Refrigeration includes GHG emissions from refrigerants in air conditioning units.
[7] Construction emissions amortized over 30 years as recommended in the SCAQMD GHG Working Group on November 19, 2009.
Source: CalEEMod Version 2022.1 (see Appendix A)

The data provided in Table P shows that the proposed project would create 1,490 $MTCO_2e$ per year. According to the SCAQMD's threshold of significance, a cumulative global climate change impact would occur if the GHG emissions created from the on-going operations would exceed 3,000 $MTCO_2e$ per year. Therefore, a less than significant generation of greenhouse gas emissions would occur from development of the proposed project. Impacts would be less than significant.

Level of Significance

Less than significant impact.

10.9 Greenhouse Gas Plan Consistency

The proposed project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing GHG emissions. The City of Riverside has adopted the Riverside Restorative Growthprint Climate Action Plan (Climate Action Plan), October 2014. The Climate Action Plan

sets out actions to increase energy efficiency and reduce GHG emissions. Table Q provides a list of the local City of Riverside measures for new projects in the City of Riverside from the Climate Action Plan. Table Q also provide a project consistency analysis of each measure.

Table Q – Climate Action Plan Local GHG Reduction Measures and Project Consistency

Local Measure	Measure Description	Project Consistency
E-1: Traffic and Street Lights	Replace traffic and street lights with high-efficiency bulbs.	**Not Applicable.** The proposed project does not include replacement of traffic and street lights.
E-2: Shade Trees	Strategically plant trees at new residential developments to reduce the urban heat island effect.	**Not Applicable.** This measure is only applicable to new residential projects.
E-3: Local Utility Programs – Electricity	Financing and incentives for business and home owners to make energy efficient, renewable energy, and water conservation improvements.	**Consistent.** The proposed project will be required to be designed to meet Title 24 Part 6 Building Energy Efficiency standards, all water fixtures will be required to be low-flow per Title 24 Part 11 requirements, and all landscaping will be designed to be water efficient per the City's Landscaping Ordinance.
E-4: Renewable Energy Production on Public Property	Large scale renewable energy installation on publicly owned property and in public rights of way.	**Not Applicable.** This measure is only applicable to the City Public Works Department and Riverside Public Utilities (RPU).
E-5: UC Riverside Carbon Neutral Program	Collaborate with UCR to achieve a carbon neutral campus.	**Not Applicable.** This measure is only applicable to the UC Riverside and RPU.
T-1: Bicycle Infrastructure Improvements	Expand on-street and off-street bicycle infrastructure, including bicycle lanes and bicycle trails.	**Not applicable.** This measure is applicable to the City Community & Economic Development Department and Public Works Department.
T-2: Bicycle Parking	Provide additional options for bicycle parking.	**Consistent.** The proposed project will provide the required bicycle parking spaces per CCR Title 24 Part 11 requirements.
T-3: End of Trip Facilities	Encourage use of non-motorized transportation modes by providing appropriate facilities and amenities for commuters.	**Consistent.** The proposed project will provide the required bicycle parking spaces per CCR Title 24 Part 11 requirements.
T-4: Promotional Transportation Demand Management	Encourage Transportation Demand Management strategies.	**Not Applicable.** This measure is applicable to the City Community & Economic Development and Public Works Department.
T-5: Traffic Signal Coordination	Incorporate technology to synchronize and coordinate traffic signals along local arterials.	**Not Applicable.** This measure is applicable to the City Public Works Department.
T-6: Density	Improve jobs-housing balance and reduce vehicle miles traveled by increasing household and employment densities.	**Consistent**. The proposed project would provide employment opportunities to nearby residents in an area of Southern California that has more housing than jobs.
T-7: Mixed-Use Development	Provide for a variety of development types and uses.	**Consistent.** The proposed retail use will be built in close proximity to existing residential and office uses.

Local Measure	Measure Description	Project Consistency
T-8: Pedestrian Only Areas	Encourage walking by providing pedestrian-only community areas.	**Consistent.** The proposed project is located in close proximity to both residential and offices uses, which will encourage walking to the proposed project.
T-9: Limited Parking Requirements for New Development	Reduce requirements for vehicle parking in new development projects.	**Not Applicable.** The project applicant did not request limited parking requirements for the proposed project.
T-10: High Frequency Transit Services	Implement bus rapid transit service in the subregion to provide alternative transportation options.	**Not Applicable.** This measure is applicable to the Riverside Transportation Agency, however the RTA already has a bus stop adjacent to the project site on Van Buren Boulevard.
T-11: Voluntary Transportation Demand Management	Encourage employers to create TDM programs for their employees.	**Not Applicable.** The proposed project would not generate enough worker trips to justify the implementation of a TDM program.
T-12: Accelerated Bike Plan Implementation	Accelerate the implementation of all or specified components of a jurisdiction's adopted bike plan.	**Not Applicable.** This measure is applicable to the City Community & Economic Development and Public Works Departments.
T-13: Fixed Guideway Transit	By 2020, complete feasibility study and by 2025 introduce a fixed route transit service in the jurisdiction.	**Not Applicable.** This measure is applicable to the City Community & Economic Development and RTA.
T-14: Neighborhood Electric Vehicle Programs	Implement development requirements to accommodate Neighborhood Electric Vehicles and supporting infrastructure.	**Not Applicable.** This measure is applicable to the City Community & Economic Development and Public Works Department. (NEV vehicles are classified as low speed electric vehicles [i.e., golf carts, which are not allowed on major roads such as Van Buren Boulevard])
T-15: Subsidized Transit	Increase access to transit by providing free or reduced passes.	**Not Applicable.** The proposed project would not employ enough worker trips to justify the implementation of a subsidized transit pass program.
T-16: Bike Share Program	Create nodes offering bike sharing at key locations throughout the City.	**Not Applicable.** This measure is applicable to the City Community & Economic Development Department Planning Division.
T-17: Car Share Program	Offer Riverside residents the opportunity to use car sharing to satisfy short-term mobility needs.	**Not Applicable.** This measure applies to City residents.
T-18: SB 743 as Alternative to LOS	Use SB 743 to incentivize development in the downtown and other areas served by transit.	**Consistent.** There is an existing bus stop adjacent to the project site on Van Buren Boulevard.
W-1: Water Conservation and Efficiency	Reduce per capita water use by 20% by 2020.	**Consistent.** The proposed project would utilize low-flow fixtures and high-efficiency irrigation systems and would utilize drought tolerant plants per the City's Landscape Ordinance.
SW-1: Yard Waste Collection	Provide green waste collection bins community-wide.	**Not Applicable.** This measure is not applicable to the City Public Works Department and city refuse contracts.

Local Measure	Measure Description	Project Consistency
SW-2: Food Scrap and Paper Diversion	Divert food and paper waste from landfills by implementing commercial and residential collection program.	**Consistent.** The applicant for the proposed project will contract with a refuse company that will process recycled materials.

Source: Riverside Restorative Growthprint Climate Action Plan, 2014

As shown above in Table Q, the proposed project is consistent with the applicable local measures provided in the Climate Action Plan. Therefore, the proposed project would comply with the Climate Action Plan reduction targets and would not conflict with the applicable plan for reducing GHG emissions. Impacts would be less than significant.

Level of Significance

Less than significant impact.

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APPENDIX A

CalEEMod Model Printouts

Van Buren 7-Eleven Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Van Buren 7-Eleven
Construction Start Date	7/16/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	18.0
Location	33.91682864968753, -117.44412823496691
County	Riverside-South Coast
City	Riverside
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5421
EDFZ	11
Electric Utility	City of Riverside
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Convenience Market with Gas Pumps	6.00	Pump	0.26	3,048	1,124	—	—	—
Parking Lot	24.0	Space	0.60	0.00	2,622	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.12	10.1	10.7	0.02	2.22	1.15	2,365	0.08	0.23	3.43	2,438
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.23	5.16	7.00	0.01	0.42	0.23	1,333	0.05	0.02	0.02	1,338
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.18	1.71	2.26	< 0.005	0.14	0.08	457	0.02	0.01	0.06	460
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.31	0.41	< 0.005	0.03	0.01	75.6	< 0.005	< 0.005	0.01	76.2
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	150	55.0	—	—	—	—	—
Unmit.	No	No	No	No	No	No	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	150	55.0	—	—	—	—	—

Unmit.	No	No	No	No	No	No	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2025	1.12	10.1	10.7	0.02	2.22	1.15	2,365	0.08	0.23	3.43	2,438
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2025	0.90	5.16	7.00	0.01	0.42	0.23	1,333	0.05	0.02	0.02	1,338
2026	7.23	0.86	1.14	< 0.005	0.03	0.02	136	0.01	< 0.005	< 0.005	136
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2025	0.18	1.71	2.26	< 0.005	0.14	0.08	457	0.02	0.01	0.06	460
2026	0.10	0.01	0.02	< 0.005	< 0.005	< 0.005	1.86	< 0.005	< 0.005	< 0.005	1.87
Annual	—	—	—	—	—	—	—	—	—	—	—
2025	0.03	0.31	0.41	< 0.005	0.03	0.01	75.6	< 0.005	< 0.005	0.01	76.2
2026	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.31	< 0.005	< 0.005	< 0.005	0.31

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.1	5.29	43.9	0.08	6.86	1.79	8,565	0.78	0.51	660	9,397
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.3	5.63	40.9	0.08	6.86	1.79	8,087	0.84	0.53	633	8,898

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.2	5.69	42.0	0.08	6.78	1.77	8,156	0.84	0.53	644	8,980
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.86	1.04	7.67	0.01	1.24	0.32	1,350	0.14	0.09	107	1,487
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	150	55.0	—	—	—	—	—
Unmit.	No	No	No	No	No	No	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	150	55.0	—	—	—	—	—
Unmit.	No	No	No	No	No	No	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	3,000
Unmit.	—	—	—	—	—	—	—	—	—	—	No

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.0	5.27	43.7	0.08	6.85	1.79	8,397	0.62	0.51	27.7	8,592
Area	0.10	< 0.005	0.13	< 0.005	< 0.005	< 0.005	0.55	< 0.005	< 0.005	—	0.55
Energy	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	165	0.01	< 0.005	—	166
Water	—	—	—	—	—	—	1.03	0.01	< 0.005	—	1.43
Waste	—	—	—	—	—	—	1.37	0.14	0.00	—	4.79
Refrig.	—	—	—	—	—	—	—	—	—	632	632

Total	11.1	5.29	43.9	0.08	6.86	1.79	8,565	0.78	0.51	660	9,397
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.2	5.62	40.9	0.08	6.85	1.79	7,919	0.67	0.53	0.72	8,094
Area	0.08	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	165	0.01	< 0.005	—	166
Water	—	—	—	—	—	—	1.03	0.01	< 0.005	—	1.43
Waste	—	—	—	—	—	—	1.37	0.14	0.00	—	4.79
Refrig.	—	—	—	—	—	—	—	—	—	632	632
Total	10.3	5.63	40.9	0.08	6.86	1.79	8,087	0.84	0.53	633	8,898
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.1	5.68	41.9	0.08	6.78	1.77	7,988	0.68	0.53	12.0	8,175
Area	0.09	< 0.005	0.09	< 0.005	< 0.005	< 0.005	0.37	< 0.005	< 0.005	—	0.37
Energy	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	165	0.01	< 0.005	—	166
Water	—	—	—	—	—	—	1.03	0.01	< 0.005	—	1.43
Waste	—	—	—	—	—	—	1.37	0.14	0.00	—	4.79
Refrig.	—	—	—	—	—	—	—	—	—	632	632
Total	10.2	5.69	42.0	0.08	6.78	1.77	8,156	0.84	0.53	644	8,980
Annual	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.84	1.04	7.65	0.01	1.24	0.32	1,323	0.11	0.09	1.98	1,354
Area	0.02	< 0.005	0.02	< 0.005	< 0.005	< 0.005	0.06	< 0.005	< 0.005	—	0.06
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	27.3	< 0.005	< 0.005	—	27.4
Water	—	—	—	—	—	—	0.17	< 0.005	< 0.005	—	0.24
Waste	—	—	—	—	—	—	0.23	0.02	0.00	—	0.79
Refrig.	—	—	—	—	—	—	—	—	—	105	105
Total	1.86	1.04	7.67	0.01	1.24	0.32	1,350	0.14	0.09	107	1,487

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	4.33	5.65	0.01	0.16	0.14	852	0.03	0.01	—	855
Demolition	—	—	—	—	1.08	0.16	—	—	—	—	—
Onsite truck	< 0.005	0.04	0.03	< 0.005	0.28	0.03	7.27	< 0.005	< 0.005	0.01	7.66
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.15	< 0.005	< 0.005	< 0.005	23.3	< 0.005	< 0.005	—	23.4
Demolition	—	—	—	—	0.03	< 0.005	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	0.01	< 0.005	0.20	< 0.005	< 0.005	< 0.005	0.21
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	< 0.005	3.87	< 0.005	< 0.005	—	3.88
Demolition	—	—	—	—	0.01	< 0.005	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	0.03
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.77	0.00	0.13	0.03	141	0.01	< 0.005	0.52	143
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.51	0.37	0.01	0.38	0.13	1,364	0.03	0.21	2.91	1,432
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	< 0.005	< 0.005	3.59	< 0.005	< 0.005	0.01	3.65
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	0.01	< 0.005	0.01	< 0.005	37.4	< 0.005	0.01	0.03	39.2
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.60	< 0.005	< 0.005	< 0.005	0.60
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	6.19	< 0.005	< 0.005	0.01	6.49

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	4.16	5.57	0.01	0.21	0.20	859	0.03	0.01	—	862
Dust From Material Movement	—	—	—	—	0.14	0.01	—	—	—	—	—
Onsite truck	< 0.005	0.04	0.03	< 0.005	0.28	0.03	7.27	< 0.005	< 0.005	0.01	7.66
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	2.35	< 0.005	< 0.005	—	2.36
Dust From Material Movement	—	—	—	—	< 0.005	< 0.005	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	0.02
Annual	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.39	< 0.005	< 0.005	—	0.39
Dust From Material Movement	—	—	—	—	< 0.005	< 0.005	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.39	0.00	0.07	0.02	70.5	< 0.005	< 0.005	0.26	71.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.18	< 0.005	< 0.005	< 0.005	0.18
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	0.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.09	10.1	10.0	0.02	0.46	0.43	1,714	0.07	0.01	—	1,720

Dust From Material Movement	—	—	—	—	1.38	0.67	—	—	—	—	—
Onsite truck	< 0.005	0.04	0.03	< 0.005	0.28	0.03	7.27	< 0.005	< 0.005	0.01	7.66
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.06	< 0.005	< 0.005	< 0.005	9.39	< 0.005	< 0.005	—	9.42
Dust From Material Movement	—	—	—	—	0.01	< 0.005	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	< 0.005	< 0.005	< 0.005	0.04
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	1.55	< 0.005	< 0.005	—	1.56
Dust From Material Movement	—	—	—	—	< 0.005	< 0.005	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.01
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.58	0.00	0.10	0.02	106	< 0.005	< 0.005	0.39	107
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.54	< 0.005	< 0.005	< 0.005	0.55
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.09	< 0.005	< 0.005	< 0.005	0.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	5.14	6.94	0.01	0.22	0.20	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	5.14	6.94	0.01	0.22	0.20	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.41	1.90	< 0.005	0.06	0.05	357	0.01	< 0.005	—	359
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.26	0.35	< 0.005	0.01	0.01	59.2	< 0.005	< 0.005	—	59.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.08	0.00	0.01	< 0.005	13.7	< 0.005	< 0.005	0.05	14.0

Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	15.3	< 0.005	< 0.005	0.04	16.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.06	0.00	0.01	< 0.005	12.6	< 0.005	< 0.005	< 0.005	12.8
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	15.3	< 0.005	< 0.005	< 0.005	16.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	< 0.005	< 0.005	3.51	< 0.005	< 0.005	0.01	3.56
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	4.19	< 0.005	< 0.005	0.01	4.39
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.58	< 0.005	< 0.005	< 0.005	0.59
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.69	< 0.005	< 0.005	< 0.005	0.73
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	4.37	5.31	0.01	0.19	0.18	823	0.03	0.01	—	826
Paving	0.31	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.06	0.07	< 0.005	< 0.005	< 0.005	11.3	< 0.005	< 0.005	—	11.3
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	1.87	< 0.005	< 0.005	—	1.87
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.02	0.00	0.23	0.05	227	0.01	0.01	0.02	230
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	3.15	< 0.005	< 0.005	0.01	3.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.52	< 0.005	< 0.005	< 0.005	0.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	0.02	134	0.01	< 0.005	—	134
Architectural Coatings	7.11	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	1.83	< 0.005	< 0.005	—	1.84
Architectural Coatings	0.10	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.30	< 0.005	< 0.005	—	0.30
Architectural Coatings	0.02	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	2.47	< 0.005	< 0.005	< 0.005	2.50
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	0.03

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	11.0	5.27	43.7	0.08	6.85	1.79	8,397	0.62	0.51	27.7	8,592
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	11.0	5.27	43.7	0.08	6.85	1.79	8,397	0.62	0.51	27.7	8,592
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	10.2	5.62	40.9	0.08	6.85	1.79	7,919	0.67	0.53	0.72	8,094
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	10.2	5.62	40.9	0.08	6.85	1.79	7,919	0.67	0.53	0.72	8,094
Annual	—	—	—	—	—	—	—	—	—	—	—

Convenience Market with Gas Pumps	1.84	1.04	7.65	0.01	1.24	0.32	1,323	0.11	0.09	1.98	1,354
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.84	1.04	7.65	0.01	1.24	0.32	1,323	0.11	0.09	1.98	1,354

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	120	0.01	< 0.005	—	121
Parking Lot	—	—	—	—	—	—	28.2	< 0.005	< 0.005	—	28.3
Total	—	—	—	—	—	—	149	0.01	< 0.005	—	149
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	120	0.01	< 0.005	—	121
Parking Lot	—	—	—	—	—	—	28.2	< 0.005	< 0.005	—	28.3
Total	—	—	—	—	—	—	149	0.01	< 0.005	—	149
Annual	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	19.9	< 0.005	< 0.005	—	20.0
Parking Lot	—	—	—	—	—	—	4.67	< 0.005	< 0.005	—	4.69
Total	—	—	—	—	—	—	24.6	< 0.005	< 0.005	—	24.7

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	16.4	< 0.005	< 0.005	—	16.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	16.4	< 0.005	< 0.005	—	16.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	16.4	< 0.005	< 0.005	—	16.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	16.4	< 0.005	< 0.005	—	16.4
Annual	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.71	< 0.005	< 0.005	—	2.72
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.71	< 0.005	< 0.005	—	2.72

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	0.07	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	< 0.005	0.13	< 0.005	< 0.005	< 0.005	0.55	< 0.005	< 0.005	—	0.55
Total	0.10	< 0.005	0.13	< 0.005	< 0.005	< 0.005	0.55	< 0.005	< 0.005	—	0.55
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.07	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—
Total	0.08	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	0.06	< 0.005	< 0.005	—	0.06
Total	0.02	< 0.005	0.02	< 0.005	< 0.005	< 0.005	0.06	< 0.005	< 0.005	—	0.06

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	0.76	0.01	< 0.005	—	1.16

Parking Lot	—	—	—	—	—	—	0.27	< 0.005	< 0.005	—	0.27
Total	—	—	—	—	—	—	1.03	0.01	< 0.005	—	1.43
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	0.76	0.01	< 0.005	—	1.16
Parking Lot	—	—	—	—	—	—	0.27	< 0.005	< 0.005	—	0.27
Total	—	—	—	—	—	—	1.03	0.01	< 0.005	—	1.43
Annual	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	0.13	< 0.005	< 0.005	—	0.19
Parking Lot	—	—	—	—	—	—	0.04	< 0.005	< 0.005	—	0.05
Total	—	—	—	—	—	—	0.17	< 0.005	< 0.005	—	0.24

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	1.37	0.14	0.00	—	4.79
Parking Lot	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	1.37	0.14	0.00	—	4.79
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Convenience Market with Gas Pumps	—	—	—	—	—	—	1.37	0.14	0.00	—	4.79
Parking Lot	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	1.37	0.14	0.00	—	4.79
Annual	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	0.23	0.02	0.00	—	0.79
Parking Lot	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	0.23	0.02	0.00	—	0.79

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	632	632
Total	—	—	—	—	—	—	—	—	—	632	632
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	632	632
Total	—	—	—	—	—	—	—	—	—	632	632
Annual	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	105	105

Total	—	—	—	—	—	—	—	—	—	105	105

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	7/16/2025	7/30/2025	5.00	10.0	—
Site Preparation	Site Preparation	7/31/2025	8/1/2025	5.00	1.00	—
Grading	Grading	8/2/2025	8/4/2025	5.00	2.00	—
Building Construction	Building Construction	8/5/2025	12/23/2025	5.00	100	—
Paving	Paving	12/24/2025	12/31/2025	5.00	5.00	—
Architectural Coating	Architectural Coating	1/1/2026	1/8/2026	5.00	5.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73

Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	19.8	20.0	HHDT

Demolition	Onsite truck	3.00	0.25	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	3.00	0.25	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	3.00	0.25	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.98	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.50	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.20	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	4,572	1,524	1,568

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	791	—
Site Preparation	—	—	0.50	0.00	—
Grading	—	—	1.50	0.00	—
Paving	0.00	0.00	0.00	0.00	0.60

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Convenience Market with Gas Pumps	0.00	0%
Parking Lot	0.60	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	873	0.03	< 0.005
2026	0.00	873	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Convenience Market with Gas Pumps	3,182	3,182	3,182	1,161,423	9,580	9,580	9,580	3,496,525
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	4,572	1,524	1,568

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Convenience Market with Gas Pumps	97,779	449	0.0330	0.0040	51,160
Parking Lot	22,895	449	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Convenience Market with Gas Pumps	62,743	17,822
Parking Lot	0.00	41,574

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Convenience Market with Gas Pumps	2.54	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Convenience Market with Gas Pumps	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market with Gas Pumps	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.1	annual days of extreme heat
Extreme Precipitation	2.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	3.16	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	93.6
AQ-PM	92.6
AQ-DPM	96.2
Drinking Water	77.4
Lead Risk Housing	86.5
Pesticides	27.1
Toxic Releases	72.0
Traffic	93.7
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	26.2
Haz Waste Facilities/Generators	61.8
Impaired Water Bodies	0.00
Solid Waste	0.00

Sensitive Population	—
Asthma	67.0
Cardio-vascular	82.7
Low Birth Weights	81.0
Socioeconomic Factor Indicators	—
Education	75.2
Housing	57.9
Linguistic	68.9
Poverty	83.2
Unemployment	70.9

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	32.34954446
Employed	44.86077249
Median HI	30.96368536
Education	—
Bachelor's or higher	17.50288721
High school enrollment	2.489413576
Preschool enrollment	34.72346978
Transportation	—
Auto Access	65.16104196
Active commuting	66.2517644
Social	—
2-parent households	61.26010522
Voting	8.161170281

Neighborhood	—
Alcohol availability	23.7520852
Park access	27.15257282
Retail density	94.21275504
Supermarket access	59.69459772
Tree canopy	22.43038624
Housing	—
Homeownership	40.75452329
Housing habitability	34.9544463
Low-inc homeowner severe housing cost burden	26.43397921
Low-inc renter severe housing cost burden	65.8026434
Uncrowded housing	23.3029642
Health Outcomes	—
Insured adults	33.3504427
Arthritis	39.1
Asthma ER Admissions	31.6
High Blood Pressure	43.5
Cancer (excluding skin)	60.5
Asthma	21.6
Coronary Heart Disease	40.3
Chronic Obstructive Pulmonary Disease	25.1
Diagnosed Diabetes	36.9
Life Expectancy at Birth	22.9
Cognitively Disabled	58.3
Physically Disabled	80.2
Heart Attack ER Admissions	9.2
Mental Health Not Good	22.6
Chronic Kidney Disease	27.1

Obesity	17.5
Pedestrian Injuries	51.3
Physical Health Not Good	25.2
Stroke	34.3
Health Risk Behaviors	—
Binge Drinking	43.3
Current Smoker	19.7
No Leisure Time for Physical Activity	22.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	32.5
Elderly	79.3
English Speaking	70.1
Foreign-born	53.2
Outdoor Workers	45.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	67.4
Traffic Density	87.9
Traffic Access	51.6
Other Indices	—
Hardship	83.8
Other Decision Support	—
2016 Voting	20.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	93.0

Healthy Places Index Score for Project Location (b)	20.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Total project site 0.86 acres. 10% landscaped
Operations: Vehicle Data	Daily trip rate from Traffic Study. 75.5% passby trips

APPENDIX B

EMFAC2021 Model Printouts

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SC)
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Y	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Trips	Fuel Consumption
Riverside (SC	2025	LDA	Aggregate	Aggregate	Gasoline	469318.5	20373765.8	2183259.5	673.3
Riverside (SC	2025	LDT1	Aggregate	Aggregate	Gasoline	39844.4	1499609.6	172787.8	59.9
Riverside (SC	2025	LDT2	Aggregate	Aggregate	Gasoline	201900.8	8973974.0	947238.8	360.0
Riverside (SC	2025	MCY	Aggregate	Aggregate	Gasoline	24005.5	138549.8	48010.9	3.3
Riverside (SC	2025	MDV	Aggregate	Aggregate	Gasoline	157992.6	6448292.7	723018.6	323.5
Riverside (SC	2025	MDV	Aggregate	Aggregate	Diesel	2427.3	99526.1	11179.1	4.1
Riverside (SC	2025	T6 Instate Delivery Class 6	Aggregate	Aggregate	Diesel	1272.8	43120.4	18162.6	4.8
Riverside (SC	2025	T6 Instate Delivery Class 7	Aggregate	Aggregate	Diesel	182.4	9851.6	2603.5	1.1
Riverside (SC	2025	T6 Instate Other Class 5	Aggregate	Aggregate	Diesel	3832.9	166777.6	44308.4	18.9
Riverside (SC	2025	T6 Instate Other Class 6	Aggregate	Aggregate	Diesel	2725.5	116482.3	31506.4	13.0
Riverside (SC	2025	T6 Instate Other Class 7	Aggregate	Aggregate	Diesel	1319.9	60644.3	15258.2	6.6
Riverside (SC	2025	T6 Instate Tractor Class 6	Aggregate	Aggregate	Diesel	17.6	872.4	203.9	0.1
Riverside (SC	2025	T6 Instate Tractor Class 7	Aggregate	Aggregate	Diesel	453.3	26565.3	5239.7	2.7
Riverside (SC	2025	T7 Single Concrete/Transit M	Aggregate	Aggregate	Diesel	1266.6	87445.4	11931.8	14.3
Riverside (SC	2025	T7 Single Dump Class 8	Aggregate	Aggregate	Diesel	1179.0	68603.4	11106.4	11.5
Riverside (SC	2025	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	47.9	3106.8	220.2	1.2
Riverside (SC	2025	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	4101.0	312988.5	59587.4	50.3

Worker (Autos) vehicle miles per day	37,434,192	1,420	1,000 gall per day
Workers (Autos) Avg Miles per gallon	26.4	1,420,055	gallons per day
Diesel Truck vehicle miles per day	995,984	129	1,000 gall per day
Diesel Truck Fleet Avg Miles per gallon	7.7	128,639	gallons per day

APPENDIX C

Gas Station Cancer RiskTool (V1.103) Printouts

GASOLINE DISPENSING SERVICE STATION

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

AN:

Facility Name: Van Buren 7-Eleven

Deem Complete Date:

Storage Tank Type	Underground		MET Station	Riverside Airport	
Annual Throughput	3	million gallons /year	Distance to Resident	36	meter
T-BACT	YES		Distance to Commercial	17	meter

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

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

MICR Result

	Resident	Commercial
MICR	9.172	1.023
MICR ≤ 10	**PASS**	**PASS**

Interpolation for MICR from Nearest Distances

	Residential			**Commercial**		
	near	**actual**	far	near	**actual**	far
Distance (meter)	25	**36**	50	17	**17**	25
MICR (per 1 million gasoline gallon throughput per year)	4.141	**3.0573**	1.678	0.341	**0.341**	0.341

Look up from Table 12 - MICR for Underground Storage Tank

		Downwind Distance (m)							
Station	**Receptor**	**25**	**50**	**75**	**100**	**200**	**300**	**500**	**1000**
Riverside Airport	Resident	4.141	1.678	0.922	0.588	0.177	0.088	0.038	0.013
	Commercial	0.341	0.138	0.076	0.049	0.015	0.007	0.003	0.001

GENERAL BIOLOGICAL ASSESSMENT
AND
WESTERN RIVERSIDE COUNTY MSHCP
CONSISTENCY ANALYSIS
FOR
ASSESSOR'S PARCEL NUMBERS
234-150-039 & -040

CITY OF RIVERSIDE, COUNTY OF RIVERSIDE, CALIFORNIA

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JUNE 2024

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APPENDICES

1.0 Introduction

HES was contracted to prepare a General Biological Assessment (GBA) and Western Riverside County MSHCP Consistency Analysis for Assessor's Parcel Numbers (APNs) 234-150-039 and 234-150-040. The project site consists of approximately 0.86 acres located in the city of Riverside, County of Riverside, California.

1.1 Project Site Location

The project site consists of Riverside County Assessor's Parcel Numbers (APNs) 234-150-039 and 234-150-040. The 0.86-acre property is located southwest of the Van Buren Boulevard and Primrose Drive intersection. The site is in the city of Riverside, County of Riverside, California. Specifically, the project site is located in *Riverside West* United States Geological Survey (USGS) 7.5' topographic quadrangle. The center point latitude and longitude for the project site are latitude and longitude for the project site are 33° 54' 59.7254" North, 117° 26' 38.7431" West (Figures 1 and 2, *Location Map* and *Vicinity Map*).

1.2 Project Description

The proposed project includes the construction of 3,048 square feet (S.F.) proposed 7 Eleven convenience store, associated landscaping, a fuel canopy with 6 gas pump stations, a total of 24 parking spaces, and an air/water unit (Figure 3, *Project Plans*). The proposed project will result in impacts of approximately 0.86-acre of the project site. The proposed project also include approximately 0.03 acre of offsite impacts for proposed driveways.

2.0 Methodology

2.1 Literature Review

HES conducted a literature review and reviewed aerial photographs and topographic maps of the project site and surrounding areas. The *Riverside West* USGS 7.5' topographic quadrangle and eight surrounding quadrangles were used to identify sensitive species with the California Natural Diversity Data Base (CNDDB), the U.S. Fish and Wildlife Service (USFWS) Endangered Species Lists, and the California Native Plant Society (CNPS) rare plant lists to obtain species information for the project area. The CNDDB and USFWS critical habitat databases were utilized, together with Geographic Information System (GIS) software, to locate the previously recorded locations of sensitive plant and wildlife occurrences and designated critical habitat and determine the distance from the project site. Additionally, the Western Riverside County MSHCP was reviewed for information on known occurrences of sensitive species within Riverside County.

2.1.1 Western Riverside County MSHCP

The Western Riverside County MSHCP (Dudek and Associates 2003) is a comprehensive, multijurisdictional habitat conservation planning program for western Riverside County, California. The purpose of the Western Riverside County MSHCP is to preserve native habitats, and to this end, the plan focuses upon the habitat needs of multiple species rather than one species at a time. The Western Riverside County MSHCP provides coverage/take authorization for some species listed under the federal or state Endangered Species Act (ESA) as well as non-listed special-status plant and wildlife species. It also provides mitigation for impacts to special-status species and their associated habitats.

Through agreements with the USFWS and California Department of Fish and Wildlife (CDFWG), 112 listed and special-status plant and animal species receive some level of coverage under the Western Riverside County MSHCP. Of the 112 covered species, the majority have no additional survey needs or conservation requirements. Furthermore, the Western Riverside County MSHCP provides mitigation for project-specific impacts to these species, thereby reducing the degree of impact to below a level of significance, pursuant to the California Environmental Quality Act (CEQA).

Several of the species covered under the Western Riverside County MSHCP have additional survey requirements. These include the riparian communities and associated species addressed in Section 6.1.2 of the Western Riverside County MSHCP document ("Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools"), plants identified in Section 6.1.3 ("Narrow Endemic Plant Species"); and plants and animal species addressed in Section 6.3.2 ("Additional Survey Needs and Procedures").

2.1.2 Project Relationship to the Western Riverside County MSHCP

The project area is located within the Western Riverside County MSHCP boundaries. The City of Riverside, acting as the lead agency for the proposed project, is a permittee under the Western Riverside County MSHCP and, therefore, is afforded coverage under the state or federal ESAs for impacts to listed species covered by the plan. The City is required to document consistency with the Western Riverside County MSHCP in conjunction with any discretionary approvals for the project. As such, this report was prepared to provide all necessary information required to determine project consistency with the Western Riverside County MSHCP.

The project area is located within the Cities of Riverside and Norco Area Plan of the Western Riverside County MSHCP. The project site is not located within a MSHCP Criteria Cell or a Cell Group. The site is not located within plan-defined areas requiring surveys for criteria area species, narrow endemic plant species, amphibian species, mammalian species, invertebrate species, or burrowing owl (*Athene cunicularia*). Further, the project area does not contain any habitat that

would be considered riparian/riverine areas as defined in Section 6.1.2 of the Western Riverside MSHCP, and no vernal pools were observed within the project boundaries.

2.2 Field Survey

On May 20, 2024, HES conducted a field survey of the site. The Ambient temperature at 9:39 a.m. was 60 degrees Fahrenheit, overcast, with winds ranging from 0 to 6 miles per hour from the northwest. The purpose of the field survey was to document the existing habitat conditions, obtain plant and animal species information, view the surrounding land uses, assess the potential for state and federal waters, assess the potential for wildlife movement corridors, and assess the presence of constituent elements for critical habitat if present.

Linear transects were walked across the project site for 100 percent coverage. All species observed were recorded. A comprehensive list of all plant and wildlife species that were detected during the field survey within the project site is included in Appendix A, *Species List*. Sensitive plant and wildlife species with the potential to occur within the project area are listed in Appendix B, *Species Probability List*. Representative site photographs were taken and are included within Appendix C, *Site Photographs*.

3.0 Existing Conditions and Results

3.1 Environmental Setting

The 0.86-acre project site is located southwest of the intersection Van Buren Boulevard and Primrose Drive, in the City of Riverside, County of Riverside, California. The site consists of a commercial building with a small associated parking lot, and an abandoned building with an associated parking lot as well that is fenced. A majority of the site is on asphalt and developed. The plant species found on site are only emerging in the crevices of the asphalt. North of the site is a busy intersection of two roads, Van Buren Boulevard and Primrose Drive. Southeast of the site is another commercial building separated by a fence, and southwest of the site is residential development also separated by a brick wall. The property is relatively flat with elevations ranging from 807 feet to 810 feet above mean sea level (AMSL).

3.2 Soils

Three soil classes are identified to occur on the project site by the USDA Web Soil Survey (Appendix D, *Soils Map*). Soils at the project site are classified as follows:

- Hanford coarse sandy loam (HcC), 2 to 8 percent slopes.

The soils listed above are not classified as hydric soils.

3.3 Plant and Habitat Communities

The 0.86-acre project site consists of developed habitat (Figure 4, *Habitat Map*). The following is a description of this habitat type:

Developed

The 0.86-acre project site is entirely comprised of developed habitat. The site contains ornamental vegetation including Chinese elm (*Ulmus parviflora*) and tree of heaven (*Ailanthus altissima*) There are two structures on site structures, asphalt, and associated parking lots on site.

3.4 Wildlife

General wildlife species documented on the project site or within the vicinity of the site include house finch (*Haemorhous mexicanus*), northern mockingbird (*Mimus polyglottos*), and house sparrow (*Passer domesticus*).

3.5 Regional Connectivity/Wildlife Movement

Wildlife movement corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbances. The project area was evaluated for its function as a wildlife corridor that species use to move between wildlife habitat zones. Usually, mountain canyons or riparian corridors are used by wildlife as corridors.

The project area was evaluated for its function as a wildlife corridor that species use to move between wildlife habitat zones. The project site consists of flat developed land surrounded by busy roads, a commercial building, and residential sites. No wildlife movement corridors were found to be present on the project site.

3.6 Sensitive Biological Resources

According to the CNDDB, a total of 45 sensitive species of plants and 58 sensitive species of animals has the potential to occur on or within the vicinity of the project area. These include those species listed or candidates for listing by the U. S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW) and California Native Plant Society (CNPS). All habitats with the potential to be used by sensitive species were evaluated during the site visit and a determination has been made for the presence or potential for presence within this report. This section will address those species listed as Candidate, Rare, Threatened, or Endangered under the state and federal Endangered Species laws or directed to be evaluated under the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP). Sensitive Species which have a potential to occur will also be discussed in this section. Other special status species are addressed within Appendix B, *Species Potential to be Present List*.

3.6.1 Sensitive Plant Resources

A total of fifteen plant species are listed as state and/or federal Threatened, Endangered, or Candidate species; are 1B.1 listed plants on the CNPS Rare Plan Inventory; or have been found to have a potential to exist on the project site. Below are descriptions of these species:

Chaparral sand-verbena
Chaparral sand-verbena (*Abronia villosa var. aurita*) is ranked 1B.1 in the CNPS Rare Plant Inventory. It is found in sandy areas of chaparral, coastal scrub, and desert dunes habitats. No habitat for this species is present on the project site. **This species is not present.**

Munz's onion
Munz's onion (*Allium munzii*) is a federally Endangered, state Threatened, and CNPS 1B.1 listed plant species. It is found in chaparral, coastal scrub, valley and foothill grasslands, cismontane woodland, and pinyon and juniper woodland. The project site does not have suitable habitat for this species. **This species is not present.**

San Diego ambrosia
San Diego ambrosia (*Ambrosia pumila*) is a federally Endangered Species and is ranked 1B.1 in the CNPS Rare Plant Inventory. It can be found in sandy loam or clay soil on margins or near vernal pools. Its habitats include chaparral, coastal scrub, valley, and foothill grassland. There is no habitat for this species present on the project site. **This species is not present.**

Marsh sandwort
Marsh sandwort (*Arenaria paludicola*) is federally, and state listed as an Endangered Species. It is also ranked as 1B.1 in the CNPS Rare Plant Inventory. This species grows up through dense mats of *Typha*, *Juncus*, and *Scirpus* in freshwater marsh. This species is found in marsh and swamp habitats. There is no habitat for this species present on the project site. **This species is not present.**

Horn's milk-vetch
Horn's milk-vetch (*Astragalus hornii var. hornii*) is ranked 1B.1 in the CNPS Rare Plant Inventory. It is often found in lake margins and habitats such as meadows, seeps, and playas. There is no habitat for this species present on the project site. **This species is not present.**

Nevin's barberry
Nevin's barberry (*Berberis nevinii*) is federally, and state listed as an Endangered Species. It is also ranked as 1B.1 in the CNPS Rare Plant Inventory. It is commonly found on steep, north facing slopes or in low grade sandy washes. The habitat for this species includes chaparral, cismontane woodland, coastal scrub, and riparian scrub. There is no suitable habitat on site for this species. **This species is not present.**

Smooth tarplant

Smooth tarplant (*Centromadia pungens ssp. laevis*) is ranked 1B.1 in the CNPS Rare Plant Inventory. The species occurs in habitats that include alkali playa, chenopod scrub, meadows and seeps, riparian woodlands, wetlands, and valley and foothill grasslands. No habitat for this species is present on the project site. **This species is not present.**

Salt marsh bird's-beak

Salt marsh bird's-beak (*Chloropyron maritimum ssp. Maritimum*) is a federally, and state listed Endangered Species. It can often be found in higher zones of salt marsh. This species' habitats include marshes, swamps, and coastal dunes. There is no suitable habitat on site for this species. **This species is not present.**

Parry's spineflower

Parry's spineflower (*Chorizanthe parryi var. parryi*) is ranked 1B.1 in the CNPS Rare Plant Inventory. The species occurs in dry, sandy soils on dry slopes and flats, sometimes at the interface of two vegetations types, such as chaparral and oak woodland. Its habitat includes coastal scrub, chaparral, cismontane woodland, valley, and foothill grassland. No habitat for this species is present on the project site. **This species is not present.**

Slender-horned spineflower

Slender-horned spineflower (*Dodecahema leptoceras*) is a federally and state listed Endangered Species and is ranked 1B.1 in the CNPS Rare Plant Inventory. Its habitat includes chaparral, cismontane woodland, and coastal scrub (alluvial fan sage scrub). No habitat for this species exists on the project site. **This species is not present.**

Santa Ana River woollystar

Santa Ana River woollystar (*Eriastrum densifolium ssp. Sanctorum*) is federally, and state listed as an Endangered Species and is ranked as 1B.1 in the CNPS Rare Plant Inventory. It can be found in sandy soils on river floodplains or terraced fluvial deposits. Its habitat includes coastal scrub and chaparral. there is no suitable habitat on site for this species. **This species is not present.**

Mesa horkelia

Mesa horkelia (*Horkelia cuneata var. puberula*) is ranked 1B.1 in the CNPS Rare Plant Inventory. This plant species can be found in sandy or gravelly habitat sites such as: chaparral, cismontane woodland and coastal scrub. There is no suitable habitat on site for this species. **This species is not present.**

Coulter's goldfields

Coulter's goldfields (*Lasthenia glabrata ssp.coulteri*) is ranked 1B.1 in the CNPS Rare Plant Inventory. This species is usually found on alkaline soils in playas, sinks, and grasslands and

flowers during April through May. Its habitat includes alkali playas, marsh, swamp, salt marsh, vernal pool, and wetland. No habitat for this species is present on the project site. **This species is not present.**

Gambel's water cress

Gambel's water cress (*Nasturtium gambelii*) is federally listed as an Endangered Species and state listed as a Threatened Species. It's also ranked as 1B.1 in the CNPS Rare Plant Inventory. This species is commonly found in freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. Its habitat includes marshes and swamps. There is no suitable habitat on site for this species. **This species is not present.**

Brand's star phacelia

Brand's star phacelia (*Phacelia stellaris*) is ranked as 1B.1 in the CNPS Rare Plant Inventory. This species can be found in open areas. The habit for this species includes coastal scrub and coastal dunes. There is no suitable habitat on site for this species. **This species is not present.**

3.6.2 Sensitive Animal Resources

A total of nineteen animal species listed as state and/or federal Threatened, Endangered, Candidate will be reviewed in this section. Sensitive species which have a potential to occur will also be discussed in this section. All sensitive species within a 5-mile radius of project area were reviewed and a complete list of those species are discussed within Appendix B, *Potential Species List*. Below are descriptions of these species:

Tricolored blackbird

Tricolored blackbird (*Agelaius tricolor)* is a state listed Threatened Species and listed by the CDFW as a Species of Special Concern. The species occupies freshwater marshes with canopies of willows and other riparian trees. This species requires open accessible water and suitable foraging space. There is no habitat for this species on the project site. **This species is not present.**

Arroyo toad

Arroyo toad (*Anaxyrus californicus*) is federally listed as an Endangered Species and listed by the CDFW as a Species of Special Concern. This species is commonly found in rivers with sandy banks, willows, cottonwoods, and sycamores. The habitat of this species consists of: riparian scrub, riparian woodland, south coast flowing waters, and south coast standing waters. There is no suitable habitat for this species on site. **This species is not present.**

Burrowing owl

Burrowing owl (*Athene cunicularia*) is listed by the CDFW as a Species of Special Concern. This species is commonly found in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Burrowing owls are dependent upon burrowing

mammals, most notably, the California ground squirrel (*Otospermophilus beecheyi*). The site is developed with the vegetation on site being sparse and ornamental. The site has frequent human activity. The soil on site is compact from the frequent use of motor vehicles and covered in gravel. No burrowing wildlife such as the California ground squirrel were noted on site. No suitable burrows or burrow surrogates were found on site. There is no suitable habitat for this species on site. **This species is not present.**

Crotch's bumble bee

Crotch's bumble bee (*Bombus crotchii*) is a state Candidate Endangered Species. It is located in coastal California east to the Sierra-Cascade crest and south into Mexico. Its food plan genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*. There is no habitat for this species on the project site. **This species is not present.**

Swainson's hawk

Swainson's hawk (*Buteo swainsoni*) is a state listed Threatened Species. This species requires adjacent suitable foraging areas such as grasslands, alfalfa, or grain fields supporting rodent populations. The habitat for this species includes Great Basin grassland, riparian forest, riparian woodland, valley, and foothill grassland. There is no habitat for this species on the project site. **This species is not present.**

Santa Ana sucker

Santa Ana sucker (*Catostomus santaanae*) is state listed as a Threatened Species. This species prefers sand-rubble-boulder bottoms, cool, clear water, and algae. The habitat for this species includes aquatic and south coast flowing waters. There is no habitat for this species on the project site. **This species is not present.**

Western yellow-billed cuckoo

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a federally listed Threatened and state listed Endangered Species. This species typically nests in riparian jungles of willows, often mixed with cottonwoods, with a lower story of blackberry, nettles, or wild grape. It is found in riparian forest habitat. The project site does not contain suitable habitat for this species. **This species is not present.**

San Bernardino kangaroo rat

San Bernardino kangaroo rat (*Dipodomys merriami parvus*) is a federally and state listed Endangered Species, state listed Candidate Endangered Species, and a CDFW Species of Special Concern. It is found in coastal scrub habitat. This species is found in alluvial scrub vegetation on sandy loam substrates, characteristic of alluvial fans and flood plains. It needs early to intermediate seral stages. The project site does not contain suitable habitat for this species. **This species is not present.**

Stephen's kangaroo rat

Stephens' kangaroo rat (*Dipodomys stephensi*) is a federally, and state listed Threatened Species. This species is found in coastal sage scrub with sparse vegetation cover, and in valley and foothill grasslands. This species prefers buckwheat (*Eriogonum* sp.), chamise (*Adenostoma fasciculatum*), brome grass (*Bromus* sp.), and filaree (*Erodium* sp.) and will burrow into firm soil. The project site does not have suitable habitat for this species. **This species is not present.**

Southwestern willow flycatcher

Southwestern willow flycatcher (*Empidonax traillii extimus*) is a federally, and state listed Endangered Species. This species is found in riparian woodland habitats in Southern California. The project site does not contain suitable habitat for this species. **This species is not present.**

Western pond turtle

Western pond turtle (*Emys marmorata*) is federally listed as Proposed Threatened and a CDFW Species of Special Concern. This species needs basking sites and suitable (sandy banks or grassy fields) upland habitat up to 0.5 km from water for egg-laying. The habitat for this species includes marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation. There is no suitable habitat for this species on site. **This species is not present.**

Quino checkerspot butterfly

Quino checkerspot butterfly (*Euphydryas editha quino*) is a federally listed Endangered Species. It is found in chaparral and coastal sage scrub. This species requires high densities of food plants, including *Plantago erecta*, *P. insularis*, and *Orthocarpus purpurescens*. The project site does not have suitable habitat for this species. **This species is not present.**

Bald eagle

The bald eagle (*Haliaeetus leucocephalus*) is state listed as an Endangered Species. The bald eagle nests in large, old growth, or dominant live tree with open branches, especially ponderosa pine. The habitat for this species includes lower montane coniferous forest and old growth. There is no suitable habitat for this species on site. **This species is not present.**

California black rail

California black rail (*Laterallus jamaicensis coturniculus*) is state listed as a Threatened Species. This species needs water depths about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat. The habitat for this species includes brackish marsh, freshwater marsh, salt marsh, swamp, and wetland. There is no suitable habitat for this species on site. **This species is not present.**

Steelhead-southern California DPS

Steelhead-southern California DPS (*Oncorhynchus mykiss irideus pop. 10*) is federally listed as an Endangered Species and state listed as a Candidate Endangered Species. The Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions. The habitat for this species includes aquatic and south coast flowing waters. There is no suitable habitat for this species on site. **This species is not present.**

Coastal California gnatcatcher

Coastal California gnatcatcher (*Polioptila californica californica*) is a federally listed Threatened Species and CDFW Species of Special Concern. This species is found in coastal bluff scrub and coastal scrub habitat. This species is typically found in low, coastal sage scrub in arid washes, on mesas and slopes. The project site does not have suitable habitat for this species. **This species is not present.**

Delhi Sands flower-loving fly

Delhi Dands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) is federally listed as an Endangered Species. This species requires fine, sandy, soils, often with wholly or partly consolidated dunes and sparse vegetation. The habitat for this species is interior dunes. There is no suitable habitat for this species on site. **This species is not present.**

Western spadefoot

Western spadefoot (*Spea hammondii*) is federally listed as a Proposed Threatened Species. This species occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. The habitat or this species includes cismontane woodland, coastal scrub, grassland, vernal pool, wetland, valley and foothill. There is no suitable habitat for this species on site. **This species is not present.**

Riverside fairy shrimp

Riverside fairy shrimp (*Streptocephalus woottoni*) is a federally listed Endangered Species. This species is found in coastal scrub, valley and foothill grassland, vernal pool, and wetland habitat. This species typically inhabits seasonally astatic pools filled by winter/spring rains. The project site does not contain suitable habitat for this species. **This species is not present.**

Least Bell's vireo

Least Bell's vireo (*Vireo bellii pusillus)* is a federal and state listed Endangered Species. This species is found in riparian forest, riparian scrub, and riparian woodland. Nesting habitat of this species is restricted to willow and/or mulefat dominated riparian scrub along permanent or nearly permanent streams. The project site does not contain suitable habitat for this species. **This species is not present.**

3.6.3 Nesting Birds

Migratory non-game native bird species are protected under the federal Migratory Bird Treaty Act. Additionally, Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit the taking of all birds and their active nests. Very few trees occur on site. The project site does not contain grasses that can support ground nesting songbirds during the nesting bird season of February 1 through September 15.

3.7 Jurisdictional Waters

No streams, drainages, or riparian habitat occur on site. No CDFW, United States Army Corps of Engineers (USACE), or Regional Water Quality Control Board (RWQCB) jurisdictional waters occur on site. Further, no wetlands or vernal pools were found on site.

4.0 Project Impacts

4.1 Impacts to Habitats

The proposed project is expected to impact approximately 0.86-acre of the project site and 0.03 acre of offsite areas consisting of developed habitat (Figure 5, *Impacts Map*). The proposed project will result in a total of 0.89 acre of impacts to developed habitat.

4.2 Impacts to Sensitive Species

The project site has no sensitive plant or animal species that have the potential to occur on site. Therefore, no sensitive species are expected to be impacted by project implementation.

4.3 Impacts to Nesting Birds

The project site contains potential nesting opportunities for ground nesting birds during the nesting bird season of February 1 through September 15. Implementation of the measures identified in the Recommendations section of this report (Section 6) will mitigate potential impacts to nesting birds.

4.4 Impacts to Critical Habitat

The project is not located within designated federal critical habitat. No impacts to critical habitat are expected to occur.

4.5 Impacts to Wildlife Movement Corridors

Wildlife movement corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbances. The project site was evaluated for its function as a wildlife corridor that species would use to move between wildlife habitat zones. Typically, mountain canyons or riparian corridors are used by wildlife as corridors; the project site does not contain these features. The project site consists of relatively flat developed land surrounded by busy roads, commercial buildings and residential development. No wildlife

movement corridors were found to be present on the project site. No impacts to wildlife movement corridors are expected.

4.6 Conflict with Local Policies or Ordinances Protecting Biological Resources

The development of the project site would not conflict with local policies or ordinances protecting biological resources.

4.7 Conflict with the Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or Other Approved Local, Regional, or State Habitat Conservation Plan

The project is within the Western Riverside MSHCP. If Western Riverside MSHCP guidelines and requirements are followed, no conflicts are expected.

4.8 State and Federal Drainages

No jurisdictional waters or associated habitat occur on site. Therefore, no impacts to state or federal jurisdictional drainages will result from project implementation.

5.0 Western Riverside County MSHCP Consistency Analysis

5.1 MSHCP Requirements

The project area is located within the Cities of Riverside and Norco Area Plan of the Western Riverside County MSHCP. The project site is not located within a MSHCP Criteria Cell or Cell Group. The developed habitat of the project site would not result from project implementation.

Section 6.1.2 Species Associated with Riparian/Riverine Habitat and Vernal Pools

The project site does not contain streams or habitat that may be considered riparian/riverine areas as defined in Section 6.1.2 of the Western Riverside County MSHCP. Due to the lack of suitable riparian habitat on the project site, focused surveys for riparian/riverine bird species listed in Section 6.1.2 of the MSHCP are not warranted.

Vernal pools are seasonal depressional wetlands that occur under Mediterranean climate conditions of the west coast and in glaciated conditions of northeastern and midwestern states. They are covered by shallow water for variable periods from winter to spring but may be completely dry most of the summer and fall. Vernal pools are usually associated with hard clay layers or bedrock, which helps keep water in the pools. Vernal pools and seasonal depressions usually are dominated by hydrophytic plans, hydric soils, and evidence of hydrology.

The entire site was evaluated for the presence of habitat capable of supporting branchiopods. The site was evaluated as described in the USFWS Survey Guidelines for the Listed Large Branchiopods (May 31, 2016). The project area is primarily comprised of Hanford coarse sandy

loam. The onsite soil does not allow for water pooling on the site for any significant length of time after rain events. No vernal pools, swales, or vernal pool mimics such as ditches, borrow pits, cattle troughs, or cement culverts with signs of pooling water were found on the site. In addition, the site does not contain areas that showed signs of ponding water, hydrophytic vegetation, or soils typical of vernal pools that would be suitable for large branchiopods.

Section 6.1.3 Sensitive Plant Species

The project site is not located within the Western Riverside County MSHCP Narrow Endemic Plant Species Survey Area (NEPSSA) pursuant to Section 6.1.3 of the MSHCP. Therefore, the NEPSSA requirements are not applicable to the project.

Section 6.1.4 Urban/Wildlands Interface Guidelines

The project site is not located within or adjacent to a Western Riverside County MSHCP Conservation Area; therefore, the project site is not required to address Section 6.1.4 of the Western Riverside County MSHCP.

Section 6.3.2 Additional Surveys and Procedures

The project site is not located within the Western Riverside County MSHCP Additional Survey areas for amphibians, mammals, burrowing owl, invertebrate species or any special linkage areas. In addition, the project site is not located within the Western Riverside County MSHCP Criteria Area Plant Species Survey Area (CAPSSA) pursuant to Section 6.3.2 of the Western Riverside County MSHCP.

6.0 Recommendations

Implementation of the following measures will mitigate any potential impacts resulting from project activities.

<u>Nesting Birds</u>

- It is recommended that vegetation removal and initial ground disturbance on undeveloped land be conducted during the non-nesting season for migratory birds to avoid direct impacts. The non-nesting season is between February 1 and September 15.

- If vegetation removal will occur during the migratory bird nesting season, between February 1 and September 15, it is recommended that pre-construction nesting bird surveys be performed within three days prior to vegetation removal.

- If active nests are found during nesting bird surveys, they shall be flagged, and a 200-foot buffer shall be fenced around the nests.

- A biological monitor shall visit the site once a week during ground disturbing activities to ensure all fencing is in place and no sensitive species are being impacted.

7.0 Certification

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date 6-14-24 Signed _____

PROJECT MANAGER

Fieldwork Performed By:

Carissa Gomez

_____

ASSOCIATE BIOLOGIST

Sarah Vasquez

_____

ASSOCIATE BIOLOGIST

8.0 References

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Western Riverside County Multiple Species Habitat Conservation Plan. Section *6.0 MSHCP Implementing Structure.*

FIGURES

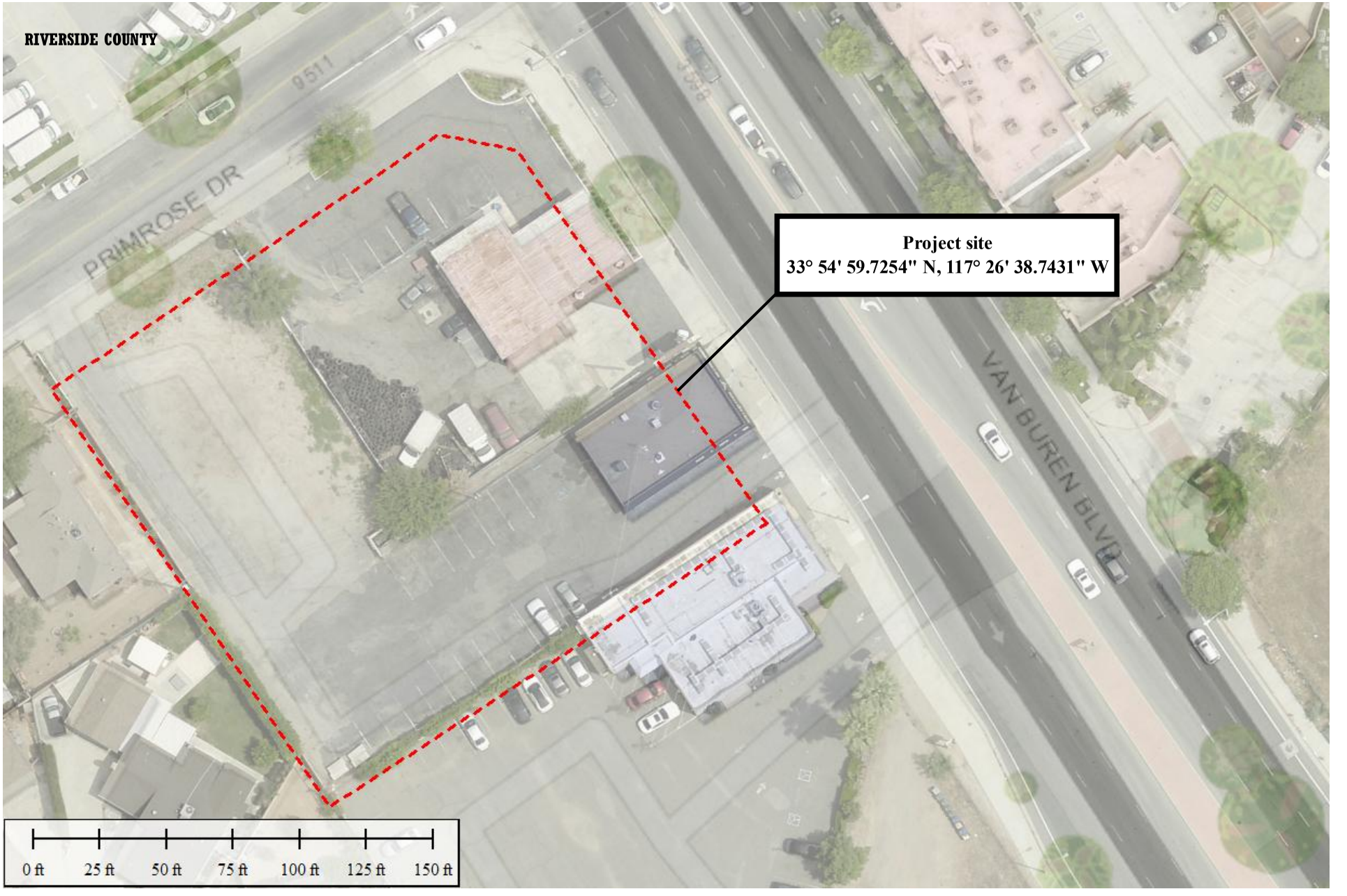


Figure 1
Location Map
3596 Van Buren Boulevard
234-150-039 & -040
Riverside, Riverside County, California

Legend
Project site (0.86 acres)

N

Hernandez Environmental Services

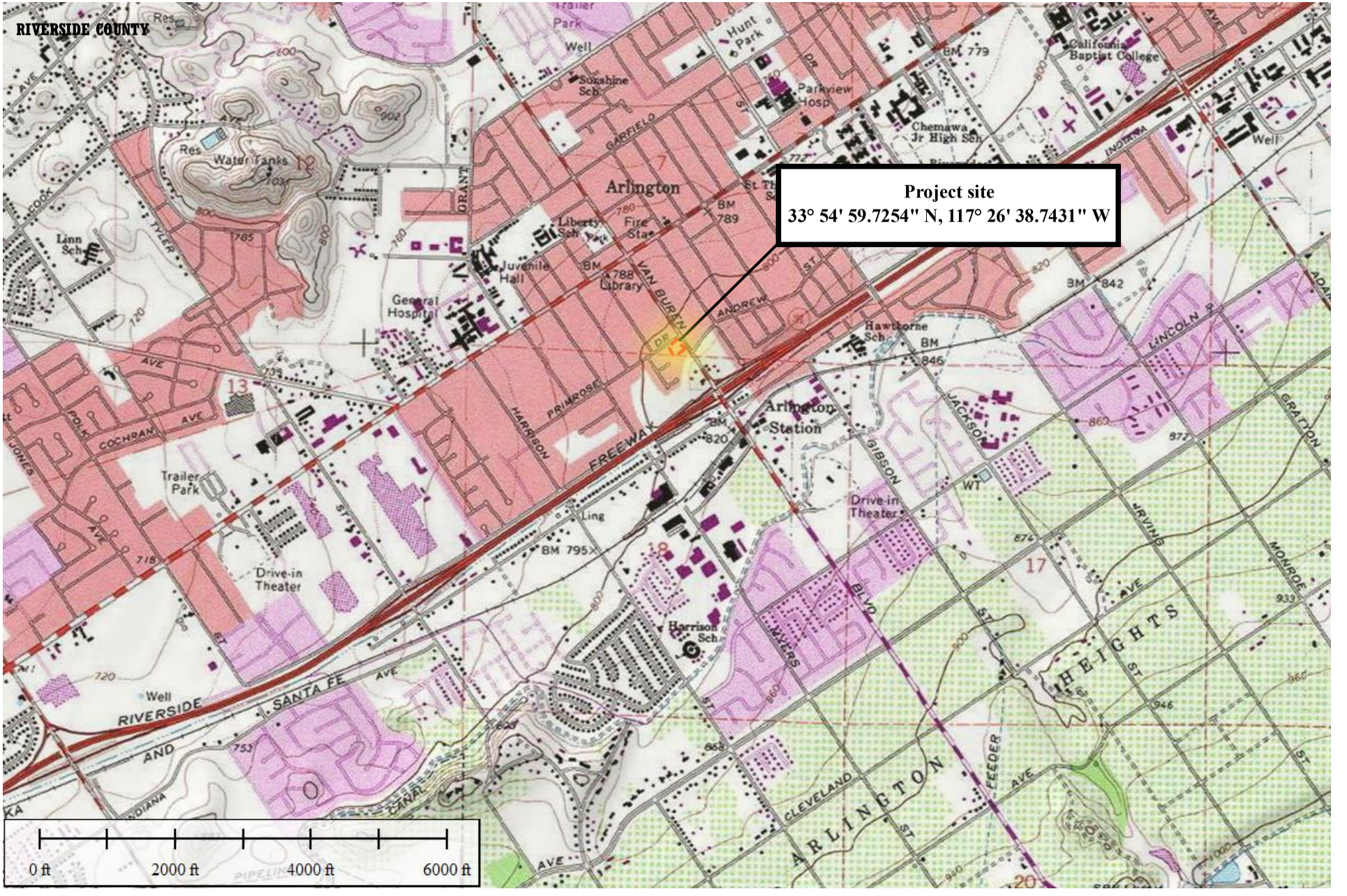
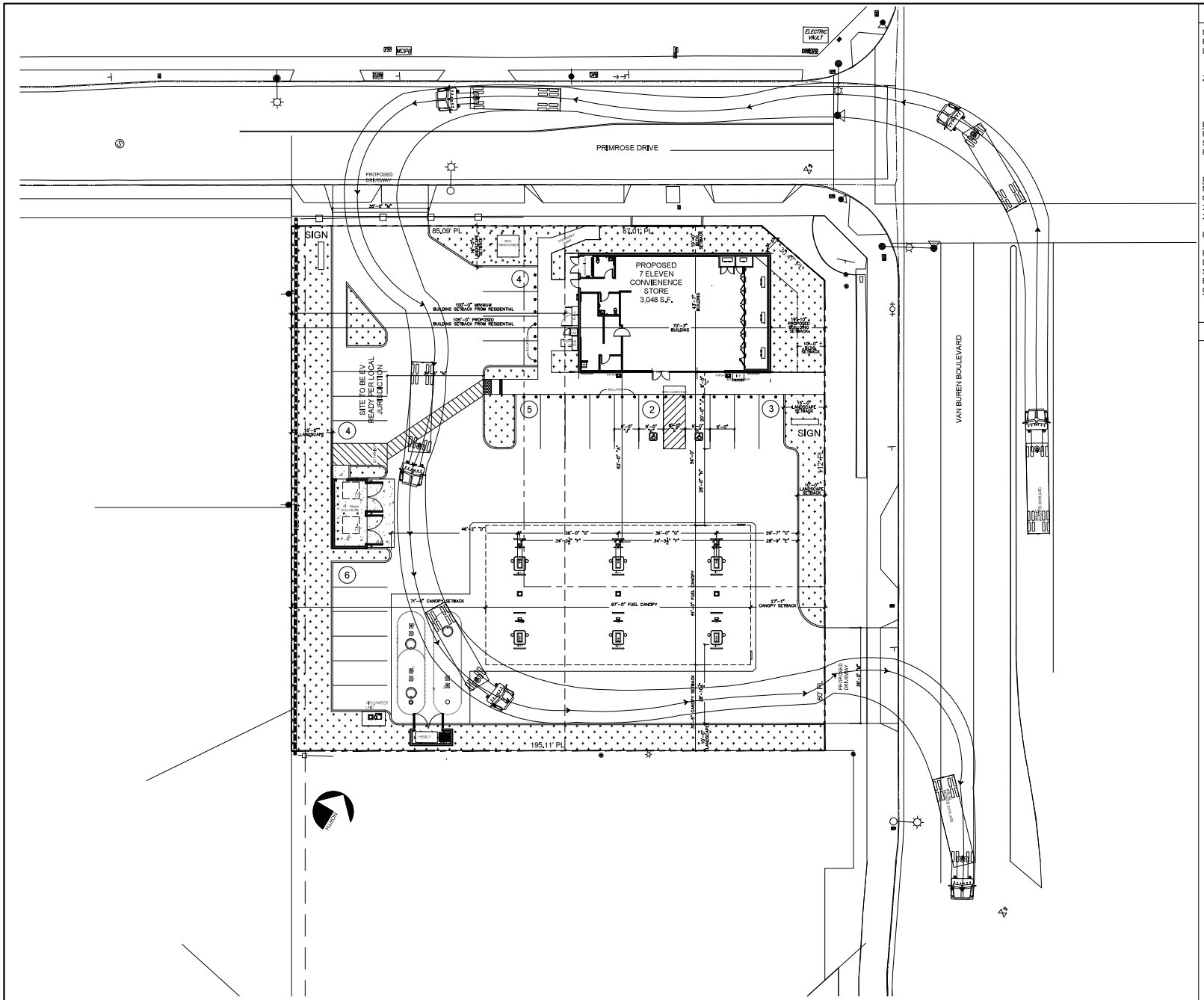


Figure 2
Vicinity Map
3596 Van Buren Boulevard
234-150-039 & -040
Riverside, Riverside County, California

Legend
Project site (0.86 acres)

N

Hernandez Environmental Services



PROJECT DATA

NUMBER OF STORIES	ONE
BUILDING AREA	3,048 SQ.FT.
LOT AREA	
PARCEL 1: 0.33 ACRES	
PARCEL 2: 0.53 ACRES	
ZONE:	
MU-V - MIXED USE - VILLAGE	
MAGNOLIA AVE. SPECIFIC PLAN	
ARLINGTON DISTRICT	

BUILDING SETBACKS:
FRONT YARD = 10'-0"
SIDE YARD = 10'-0"
REAR = 15'

PARKING REQUIREMENTS:
MINIMUM STANDARD PARKING STALL = 9' X 18'
COMPACT PARKING STALL = 15% OF TOTAL PARKLING
24" OVERHANG ALLOWED INTO LANDSCAPED AREA
2 WAY DRIVE WIDTH = 25-0"

PARKING REQUIRED: 3,048 @ 1/250 S.F. = 12.2 SPACES

PARKING PROVIDED:

DISABLED PARKING	2 SPACE
STANDARD PARKING	22 SPACES
EV PARKING	0 SPACES
COMPACT PARKING	0 SPACES
TOTAL PROVIDED	24 SPACES

SITE KEY NOTES

Rev. #	Date	Description
1	04/24/24	DRC PLANNING COMMENTS
2	05/06/24	PLANNING/TRAFFIC/PUBLIC WORKS
3	05/27/24	UST REVISION

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING, TEXAS 75063

7-ELEVEN #1055568/42410
3595 VAN BUREN BOULEVARD
RIVERSIDE, CA 92503

MARX | OKUBO
Marx | Okubo Associates, Inc.
790 Colorado Boulevard | Suite 250 | Pasadena, CA 91101
P: 626.793.6642 MarxOkubo.com

Job#:	19-5009
Scale:	AS NOTED
Date:	4/24/24
Drawn By:	
Checked By:	

PRELIMINARY NOT FOR CONSTRUCTION

SCHEMATIC SITE PLAN

SHEET:
SP-6

Figure 4
Habitat Map
APN 234-150-039 & -040
3596 Van Buren Boulevard
Riverside, Riverside County, California

Legend
Project site (0.86 acres)
Developed habitat (0.86 acres)

N

Hernandez Environmental Services

Figure 5

Impact Map

APN 234-150-039 & -040

3596 Van Buren Boulevard

Riverside, Riverside County, California

Legend

- Project site (0.86 acres)
- Developed habitat (0.86 acres)
- Offsite Developed habitat (0.03 acres)

N

Hernandez Environmental Services

APPENDIX A

Observed Species

Plant List

Scientific Name	Common Name
Ailanthus altissima	Tree of heaven
Amaranthus blitoides	Mat amaranth
Cynodon dactylon	Bermuda grass
Digitaria ischaemum	Smooth crabgrass
Erigeron bonariensis	Flax-leaved horseweed
Lactuca serriola	Prickly lettuce
Malva parviflora	Cheeseweed mallow
Morus alba	White mulberry
Paxistima myrsinites	Oregon boxwood
Polycarpon tetraphyllum	Fourleaf manyseed
Portulaca oleracea	Common purslane
Sisymbrium irio	London rocket
Sonchus oleraceus	Common sowthistle
Ulmus parviflora	Chinese elm

Wildlife List

Scientific Name	Common Name
Haemorhous mexicanus	House finch
Mimus polyglottos	Northern mockingbird
Passer domesticus	House sparrow

APPENDIX B

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Abronia villosa var. aurita	chaparral sand-verbena	Dicots	None	None	1B.1	BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Coastal scrub | Desert dunes	Chaparral, coastal scrub, desert dunes.	Sandy areas. - 60-1570 m.	There is no suitable habitat on site. This species is not present.
Allium marvinii	Yucaipa onion	Monocots	None	None	1B.2	BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral	Chaparral.	In openings on clay soils. 850-1070 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Allium munzii	Munz's onion	Monocots	Endangered	Threatened	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral | Cismontane woodland | Coastal scrub | Pinon & juniper woodlands | Valley & foothill grassland	Chaparral, coastal scrub, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland.	Heavy clay soils; grows in grasslands and openings within shrublands or woodlands. 375-1040 m.	There is no suitable habitat on site. This species is not present.
Ambrosia pumila	San Diego ambrosia	Dicots	Endangered	None	1B.1	SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Chaparral | Coastal scrub | Valley & foothill grassland	Chaparral, coastal scrub, valley and foothill grassland.	Sandy loam or clay soil; sometimes alkaline. In valleys; persists where disturbance has been superficial. Sometimes on margins or near vernal pools. 3-580 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Arenaria paludicola	marsh sandwort	Dicots	Endangered	Endangered	1B.1	SB_SBBG-Santa Barbara Botanic Garden	Freshwater marsh | Marsh & swamp | Wetland	Marshes and swamps.	Growing up through dense mats of Typha, Juncus, Scirpus, etc. in freshwater marsh. Sandy soil. 3-170 m.	There is no suitable habitat on site. This species is not present.
Astragalus hornii var. hornii	Horn's milk-vetch	Dicots	None	None	1B.1	BLM_S-Sensitive	Alkali playa | Meadow & seep | Wetland	Meadows and seeps, playas.	Lake margins, alkaline sites. 75-350 m.	There is no suitable habitat on site. This species is not present.
Berberis nevinii	Nevin's barberry	Dicots	Endangered	Endangered	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden	Chaparral | Cismontane woodland | Coastal scrub | Riparian scrub	Chaparral, cismontane woodland, coastal scrub, riparian scrub.	On steep, N-facing slopes or in low grade sandy washes. 90-1590 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Calochortus plummerae	Plummer's mariposa-lily	Monocots	None	None	4.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral | Cismontane woodland | Coastal scrub | Lower montane coniferous forest | Valley & foothill grassland	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest.	Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m.	There is no suitable habitat on site. This species is not present.
Calochortus weedii var. intermedius	intermediate mariposa-lily	Monocots	None	None	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Coastal scrub | Valley & foothill grassland	Coastal scrub, chaparral, valley and foothill grassland.	Dry, rocky calcareous slopes and rock outcrops. 60-1575 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Carex comosa	bristly sedge	Monocots	None	None	2B.1	IUCN_LC-Least Concern	Coastal prairie | Freshwater marsh | Marsh & swamp | Valley & foothill grassland | Wetland	Marshes and swamps, coastal prairie, valley and foothill grassland.	Lake margins, wet places; site below sea level is on a Delta island. -5-1010 m.	There is no suitable habitat on site. This species is not present.
Centromadia pungens ssp. laevis	smooth tarplant	Dicots	None	None	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Alkali playa | Chenopod scrub | Meadow & seep | Riparian woodland | Valley & foothill grassland | Wetland	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland.	Alkali meadow, alkali scrub; also in disturbed places. 5-1170 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Dicots	Endangered	Endangered	1B.2	BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_CRES-San Diego Zoo CRES Native Gene Seed Bank | SB_SBBG-Santa Barbara Botanic Garden	Coastal dunes | Marsh & swamp | Salt marsh | Wetland	Marshes and swamps, coastal dunes.	Limited to the higher zones of salt marsh habitat. 0-10 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Chorizanthe parryi var. parryi	Parry's spineflower	Dicots	None	None	1B.1	BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Cismontane woodland | Coastal scrub | Valley & foothill grassland	Coastal scrub, chaparral, cismontane woodland, valley and foothill grassland.	Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Dry, sandy soils. 90-1220 m.	There is no suitable habitat on site. This species is not present.
Chorizanthe polygonoides var. longispina	long-spined spineflower	Dicots	None	None	1B.2	BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Chaparral | Coastal scrub | Meadow & seep | Ultramafic | Valley & foothill grassland | Vernal pool	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools.	Gabbroic clay. 30-1630 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Cladium californicum	California saw-grass	Monocots	None	None	2B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Alkali marsh | Freshwater marsh | Meadow & seep | Wetland	Meadows and seeps, marshes and swamps (alkaline or freshwater).	Freshwater or alkaline moist habitats. -40-2150 m.	There is no suitable habitat on site. This species is not present.
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Dicots	None	None	2B.2		Marsh & swamp | Wetland	Marshes and swamps (freshwater).	Freshwater marsh. 15-280 m.	There is no suitable habitat on site. This species is not present.
Dodecahema leptoceras	slender-horned spineflower	Dicots	Endangered	Endangered	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral | Cismontane woodland | Coastal scrub	Chaparral, cismontane woodland, coastal scrub (alluvial fan sage scrub).	Flood deposited terraces and washes; associates include Encelia, Dalea, Lepidospartum, etc. Sandy soils. 200-765 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Dudleya multicaulis	many-stemmed dudleya	Dicots	None	None	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Coastal scrub | Valley & foothill grassland	Chaparral, coastal scrub, valley and foothill grassland.	In heavy, often clayey soils or grassy slopes. 1-910 m.	There is no suitable habitat on site. This species is not present.
Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	Dicots	Endangered	Endangered	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral | Coastal scrub	Coastal scrub, chaparral.	In sandy soils on river floodplains or terraced fluvial deposits. 180-705 m.	There is no suitable habitat on site. This species is not present.
Galium californicum ssp. primum	Alvin Meadow bedstraw	Dicots	None	None	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Lower montane coniferous forest	Chaparral, lower montane coniferous forest.	Grows in shade of trees and shrubs at the lower edge of the pine belt, in pine forest-chaparral ecotone. Granitic, sandy soils. 1460-1830 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Harpagonella palmeri	Palmer's grapplinghook	Dicots	None	None	4.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Chaparral | Coastal scrub | Valley & foothill grassland	Chaparral, coastal scrub, valley and foothill grassland.	Clay soils; open grassy areas within shrubland. 20-955 m.	There is no suitable habitat on site. This species is not present.
Helianthus nuttallii ssp. parishii	Los Angeles sunflower	Dicots	None	None	1A		Freshwater marsh | Marsh & swamp | Salt marsh | Wetland	Marshes and swamps (coastal salt and freshwater).	35-1525 m.	There is no suitable habitat on site. This species is not present.
Horkelia cuneata var. puberula	mesa horkelia	Dicots	None	None	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Cismontane woodland | Coastal scrub	Chaparral, cismontane woodland, coastal scrub.	Sandy or gravelly sites. 15-1645 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Dicots	None	None	1B.1	BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden	Alkali playa | Marsh & swamp | Salt marsh | Vernal pool | Wetland	Coastal salt marshes, playas, vernal pools.	Usually found on alkaline soils in playas, sinks, and grasslands. 1-1375 m.	There is no suitable habitat on site. This species is not present.
Lepechinia cardiophylla	heart-leaved pitcher sage	Dicots	None	None	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_CRES-San Diego Zoo CRES Native Gene Seed Bank | USFS_S-Sensitive	Chaparral | Cismontane woodland | Closed-cone coniferous forest	Closed-cone coniferous forest, chaparral, cismontane woodland.	115-1345 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	Dicots	None	None	4.3		Chaparral | Coastal scrub	Chaparral, coastal scrub.	Dry soils, shrubland. 4-1435 m.	There is no suitable habitat on site. This species is not present.
Lycium parishii	Parish's desert-thorn	Dicots	None	None	2B.3	SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Coastal scrub | Sonoran desert scrub	Coastal scrub, Sonoran desert scrub.	-3-570 m.	There is no suitable habitat on site. This species is not present.
Malacothamnus parishii	Parish's bushmallow	Dicots	None	None	1A		Chaparral | Coastal scrub	Chaparral, coastal sage scrub.	In a wash. 305-455 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Monardella hypoleuca ssp. intermedia	intermediate monardella	Dicots	None	None	1B.3		Chaparral | Cismontane woodland | Lower montane coniferous forest	Chaparral, cismontane woodland, lower montane coniferous forest (sometimes).	Often in steep, brushy areas. 195-1675 m.	There is no suitable habitat on site. This species is not present.
Monardella pringlei	Pringle's monardella	Dicots	None	None	1A		Coastal scrub	Coastal scrub.	Sandy hills. 300-400 m.	There is no suitable habitat on site. This species is not present.
Muhlenbergia californica	California muhly	Monocots	None	None	4.3	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral | Coastal scrub | Lower montane coniferous forest | Meadow & seep	Coastal scrub, chaparral, lower montane coniferous forest, meadows and seeps.	Usually found near streams or seeps. 100-2000 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Muhlenbergia utilis	aparejo grass	Monocots	None	None	2B.2		Chaparral | Cismontane woodland | Coastal scrub | Marsh & swamp | Meadow & seep | Ultramafic	Meadows and seeps, marshes and swamps, chaparral, coastal scrub, cismontane woodland.	Sometimes alkaline, sometimes serpentinite. 25-2325 m.	There is no suitable habitat on site. This species is not present.
Myosurus minimus ssp. apus	little mousetail	Dicots	None	None	3.1	SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Valley & foothill grassland | Vernal pool | Wetland	Vernal pools, valley and foothill grassland.	Alkaline soils. 20-640 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Nasturtium gambelii	Gambel's water cress	Dicots	Endangered	Threatened	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden	Brackish marsh | Freshwater marsh | Marsh & swamp | Wetland	Marshes and swamps.	Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. 5-305 m.	There is no suitable habitat on site. This species is not present.
Navarretia prostrata	prostrate vernal pool navarretia	Dicots	None	None	1B.2		Coastal scrub | Meadow & seep | Valley & foothill grassland | Vernal pool | Wetland	Coastal scrub, valley and foothill grassland, vernal pools, meadows and seeps.	Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites. 3-1235 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Nolina cismontana	chaparral nolina	Monocots	None	None	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden | USFS_S-Sensitive	Chaparral | Coastal scrub | Ultramafic	Chaparral, coastal scrub.	Primarily on sandstone and shale substrates; also known from gabbro. 140-1100 m.	There is no suitable habitat on site. This species is not present.
Phacelia keckii	Santiago Peak phacelia	Dicots	None	None	1B.3	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Closed-cone coniferous forest	Closed-cone coniferous forest, chaparral.	Open areas, sometimes along creeks. 545-1525 m.	There is no suitable habitat on site. This species is not present.
Phacelia stellaris	Brand's star phacelia	Dicots	None	None	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal dunes | Coastal scrub	Coastal scrub, coastal dunes.	Open areas. 3-370 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Pseudognaphalium leucocephalum	white rabbit-tobacco	Dicots	None	None	2B.2		Chaparral | Cismontane woodland | Coastal scrub | Riparian woodland	Riparian woodland, cismontane woodland, coastal scrub, chaparral.	Sandy, gravelly sites. 35-515 m.	There is no suitable habitat on site. This species is not present.
Ribes divaricatum var. parishii	Parish's gooseberry	Dicots	None	None	1A		Riparian woodland	Riparian woodland.	Salix swales in riparian habitats. 65-300 m.	There is no suitable habitat on site. This species is not present.
Riversidian Alluvial Fan Sage Scrub	Riversidian Alluvial Fan Sage Scrub	Scrub	None	None			Coastal scrub			Not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Senecio aphanactis	chaparral ragwort	Dicots	None	None	2B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Chaparral | Cismontane woodland | Coastal scrub	Chaparral, cismontane woodland, coastal scrub.	Drying alkaline flats. 20-1020 m.	There is no suitable habitat on site. This species is not present.
Sidalcea neomexicana	salt spring checkerbloom	Dicots	None	None	2B.2	USFS_S-Sensitive	Alkali playa | Chaparral | Coastal scrub | Lower montane coniferous forest | Mojavean desert scrub | Wetland	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub.	Alkali springs and marshes. 3-2380 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Southern California Arroyo Chub/Santa Ana Sucker Stream	Southern California Arroyo Chub/Santa Ana Sucker Stream	Inland Waters	None	None						Not present.
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	Riparian	None	None			Riparian forest			Not present.
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	Riparian	None	None			Riparian forest			Not present.
Southern Interior Cypress Forest	Southern Interior Cypress Forest	Forest	None	None			Closed-cone coniferous forest			Not present.
Southern Riparian Forest	Southern Riparian Forest	Riparian	None	None			Riparian forest			Not present.
Southern Riparian Scrub	Southern Riparian Scrub	Riparian	None	None			Riparian scrub			Not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	Riparian	None	None			Riparian woodland			Not present.
Southern Willow Scrub	Southern Willow Scrub	Riparian	None	None			Riparian scrub			Not present.
Sphenopholis obtusata	prairie wedge grass	Monocots	None	None	2B.2		Cismontane woodland | Meadow & seep | Wetland	Cismontane woodland, meadows and seeps.	Open moist sites, along rivers and springs, alkaline desert seeps. 15-2625 m.	There is no suitable habitat on site. This species is not present.

Scientific Name	CommonName	Taxon Group	Federal List	State List	Rare Plant Rank	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Symphyotrichum defoliatum	San Bernardino aster	Dicots	None	None	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_CRES-San Diego Zoo CRES Native Gene Seed Bank | USFS_S-Sensitive	Cismontane woodland | Coastal scrub | Lower montane coniferous forest | Marsh & swamp | Meadow & seep | Valley & foothill grassland	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland.	Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 3-2045 m.	There is no suitable habitat on site. This species is not present.
Texosporium sancti-jacobi	woven-spored lichen	Lichens	None	None	3		Chaparral	Chaparral.	Open sites; in California with Adenostoma fasciculatum, Eriogonum, Selaginella. Found on soil, small mammal pellets, dead twigs, and on Selaginella. 60-870 m.	Not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Accipiter cooperii	Cooper's hawk	Birds	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Cismontane woodland | Riparian forest | Riparian woodland | Upper montane coniferous forest	Woodland, chiefly of open, interrupted or marginal type.	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	There is no suitable habitat on site. This species is not present.
Agelaius tricolor	tricolored blackbird	Birds	None	Threatened	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | USFWS_BCC-Birds of Conservation Concern	Freshwater marsh | Marsh & swamp | Swamp | Wetland	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California.	Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	Birds	None	None	CDFW_WL-Watch List	Chaparral | Coastal scrub	Resident in Southern California coastal sage scrub and sparse mixed chaparral.	Frequents relatively steep, often rocky hillsides with grass and forb patches.	There is no suitable habitat on site. This species is not present.
Anaxyrus californicus	arroyo toad	Amphibians	Endangered	None	CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered	Desert wash | Riparian scrub | Riparian woodland | South coast flowing waters | South coast standing waters	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc.	Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Anniella stebbinsi	Southern California legless lizard	Reptiles	None	None	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Broadleaved upland forest | Chaparral | Coastal dunes | Coastal scrub	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County.	Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Arizona elegans occidentalis	California glossy snake	Reptiles	None	None	CDFW_SSC-Species of Special Concern		Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California.	Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	There is no suitable habitat on site. This species is not present.
Artemisiospiza belli belli	Bell's sparrow	Birds	None	None	CDFW_WL-Watch List	Chaparral | Coastal scrub	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range.	Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Asio otus	long-eared owl	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Cismontane woodland | Great Basin scrub | Riparian forest | Riparian woodland | Upper montane coniferous forest	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses.	Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	There is no suitable habitat on site. This species is not present.
Aspidoscelis hyperythra	orange-throated whiptail	Reptiles	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern | USFS_S-Sensitive	Chaparral | Cismontane woodland | Coastal scrub	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats.	Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Aspidoscelis tigris stejnegeri	coastal whiptail	Reptiles	None	None	CDFW_SSC-Species of Special Concern		Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas.	Ground may be firm soil, sandy, or rocky.	There is no suitable habitat on site. This species is not present.
Athene cunicularia	burrowing owl	Birds	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Coastal prairie | Coastal scrub | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Sonoran desert scrub | Valley & foothill grassland	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation.	Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Bombus crotchii	Crotch's bumble bee	Insects	None	Candidate Endangered	IUCN_EN-Endangered		Coastal California east to the Sierra-Cascade crest and south into Mexico.	Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Bombus pensylvanicus	American bumble bee	Insects	None	None	IUCN_VU-Vulnerable	Coastal prairie | Great Basin grassland | Valley & foothill grassland		Long-tongued; forages on a wide variety of flowers including vetches (Vicia), clovers (Trifolium), thistles (Cirsium), sunflowers (Helianthus), etc. Nests above ground under long grass or underground. Queens overwinter in rotten wood or underground.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Buteo swainsoni	Swainson's hawk	Birds	None	Threatened	BLM_S-Sensitive | IUCN_LC-Least Concern	Great Basin grassland | Riparian forest | Riparian woodland | Valley & foothill grassland	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees.	Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	There is no suitable habitat on site. This species is not present.
Catostomus santaanae	Santa Ana sucker	Fish	Threatened	None	AFS_TH-Threatened | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered	Aquatic | South coast flowing waters	Endemic to Los Angeles Basin south coastal streams.	Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	There is no suitable habitat on site. This species is not present.
Ceratochrysis longimala	Desert cuckoo wasp	Insects	None	None					There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	Mammals	None	None		Chaparral | Coastal scrub	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego, Riverside, San Bernardino, and Los Angeles Counties, inclusive of Orange County.	Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	There is no suitable habitat on site. This species is not present.
Cicindela tranquebarica viridissima	greenest tiger beetle	Insects	None	None		Riparian woodland	Inhabits the woodlands adjacent to the Santa Ana River basin.	Usually found in open spots between trees.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Birds	Threatened	Endangered	BLM_S-Sensitive | USFS_S-Sensitive	Riparian forest	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	There is no suitable habitat on site. This species is not present.
Coleonyx variegatus abbotti	San Diego banded gecko	Reptiles	None	None	CDFW_SSC-Species of Special Concern	Chaparral | Coastal scrub	Coastal and cismontane Southern California.	Found in granite or rocky outcrops in coastal scrub and chaparral habitats.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Coturnicops noveboracensis	yellow rail	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Freshwater marsh | Meadow & seep	Summer resident in eastern Sierra Nevada in Mono County.	Freshwater marshlands.	There is no suitable habitat on site. This species is not present.
Crotalus ruber	red-diamond rattlesnake	Reptiles	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Chaparral | Mojavean desert scrub | Sonoran desert scrub	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains.	Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Diadophis punctatus modestus	San Bernardino ringneck snake	Reptiles	None	None	USFS_S-Sensitive		Most common in open, relatively rocky areas. Often in somewhat moist microhabitats near intermittent streams.	Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous veg.	There is no suitable habitat on site. This species is not present.
Dipodomys merriami parvus	San Bernardino kangaroo rat	Mammals	Endangered	Endangered	CDFW_SSC-Species of Special Concern	Coastal scrub	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains.	Needs early to intermediate seral stages.	There is no suitable habitat on site. This species is not present.
Dipodomys stephensi	Stephens' kangaroo rat	Mammals	Threatened	Threatened	IUCN_VU-Vulnerable	Coastal scrub | Valley & foothill grassland	Primarily annual and perennial grasslands, but also occurs in coastal scrub and sagebrush with sparse canopy cover.	Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Elanus leucurus	white-tailed kite	Birds	None	None	BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern	Cismontane woodland | Marsh & swamp | Riparian woodland | Valley & foothill grassland | Wetland	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland.	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	There is no suitable habitat on site. This species is not present.
Empidonax traillii extimus	southwestern willow flycatcher	Birds	Endangered	Endangered		Riparian woodland	Riparian woodlands in Southern California.		There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Emys marmorata	western pond turtle	Reptiles	Proposed Threatened	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	Aquatic | Artificial flowing waters | Klamath/North coast flowing waters | Klamath/North coast standing waters | Marsh & swamp | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast stan	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	There is no suitable habitat on site. This species is not present.
Eremophila alpestris actia	California horned lark	Birds	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Marine intertidal & splash zone communities | Meadow & seep	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills.	Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Eugnosta busckana	Busck's gallmoth	Insects	None	None		Coastal dunes | Coastal scrub	Coastal southern California.	Tiny micro-moth (1 cm) with larva forming galls on host plant Encelia californica (California brittlebush). Adult flight period is during winter, generally from November to February, and have been reported at UV lights and porch lights.	There is no suitable habitat on site. This species is not present.
Eumops perotis californicus	western mastiff bat	Mammals	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern	Chaparral | Cismontane woodland | Coastal scrub | Valley & foothill grassland	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.	Roosts in crevices in cliff faces, high buildings, trees and tunnels.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Euphydryas editha quino	quino checkerspot butterfly	Insects	Endangered	None		Chaparral | Coastal scrub	Sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego counties.	Hills and mesas near the coast. Need high densities of food plants Plantago erecta, P. insularis, and Orthocarpus purpurescens.	There is no suitable habitat on site. This species is not present.
Falco columbarius	merlin	Birds	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Estuary | Great Basin grassland | Valley & foothill grassland	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms and ranches.	Clumps of trees or windbreaks are required for roosting in open country.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Gila orcuttii	arroyo chub	Fish	None	None	AFS_VU-Vulnerable | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	Aquatic | South coast flowing waters	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego river basins.	Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	There is no suitable habitat on site. This species is not present.
Haliaeetus leucocephalus	bald eagle	Birds	Delisted	Endangered	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern | USFS_S-Sensitive	Lower montane coniferous forest | Oldgrowth	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water.	Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Icteria virens	yellow-breasted chat	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Riparian forest | Riparian scrub | Riparian woodland	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses.	Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	There is no suitable habitat on site. This species is not present.
Lanius ludovicianus	loggerhead shrike	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	Broadleaved upland forest | Desert wash | Joshua tree woodland | Mojavean desert scrub | Pinon & juniper woodlands | Riparian woodland | Sonoran desert scrub	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes.	Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	There is no suitable habitat on site. This species is not present.
Lasiurus xanthinus	western yellow bat	Mammals	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Desert wash	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats.	Roosts in trees, particularly palms. Forages over water and among trees.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Laterallus jamaicensis coturniculus	California black rail	Birds	None	Threatened	BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_EN-Endangered	Brackish marsh | Freshwater marsh | Marsh & swamp | Salt marsh | Wetland	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays.	Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	There is no suitable habitat on site. This species is not present.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	Mammals	None	None		Coastal scrub	Intermediate canopy stages of shrub habitats and open shrub / herbaceous and tree / herbaceous edges.	Coastal sage scrub habitats in Southern California.	There is no suitable habitat on site. This species is not present.
Myotis yumanensis	Yuma myotis	Mammals	None	None	BLM_S-Sensitive | IUCN_LC-Least Concern	Lower montane coniferous forest | Riparian forest | Riparian woodland | Upper montane coniferous forest	Optimal habitats are open forests and woodlands with sources of water over which to feed.	Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Neolarra alba	white cuckoo bee	Insects	None	None			Known only from localities in Southern California.	Cleptoparasitic in the nests of perdita bees.	There is no suitable habitat on site. This species is not present.
Neotoma lepida intermedia	San Diego desert woodrat	Mammals	None	None	CDFW_SSC-Species of Special Concern	Coastal scrub	Coastal scrub of Southern California from San Diego County to San Luis Obispo County.	Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes.	There is no suitable habitat on site. This species is not present.
Nyctinomops femorosaccus	pocketed free-tailed bat	Mammals	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Joshua tree woodland | Pinon & juniper woodlands | Riparian scrub | Sonoran desert scrub	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc.	Rocky areas with high cliffs.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	Fish	Endangered	Candidate Endangered	AFS_EN-Endangered	Aquatic | South coast flowing waters	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County).	Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	There is no suitable habitat on site. This species is not present.
Onychomys torridus ramona	southern grasshopper mouse	Mammals	None	None	CDFW_SSC-Species of Special Concern	Chenopod scrub	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	There is no suitable habitat on site. This species is not present.
Pandion haliaetus	osprey	Birds	None	None	CDF_S-Sensitive | CDFW_WL-Watch List | IUCN_LC-Least Concern	Riparian forest	Ocean shore, bays, freshwater lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Perognathus longimembris brevinasus	Los Angeles pocket mouse	Mammals	None	None	CDFW_SSC-Species of Special Concern	Coastal scrub	Lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin.	Open ground with fine, sandy soils. May not dig extensive burrows, hiding under weeds and dead leaves instead.	There is no suitable habitat on site. This species is not present.
Phrynosoma blainvillii	coast horned lizard	Reptiles	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Chaparral | Cismontane woodland | Coastal bluff scrub | Coastal scrub | Desert wash | Pinon & juniper woodlands | Riparian scrub | Riparian woodland | Valley & foothill grassland	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Polioptila californica californica	coastal California gnatcatcher	Birds	Threatened	None	CDFW_SSC-Species of Special Concern	Coastal bluff scrub | Coastal scrub	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California.	Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	There is no suitable habitat on site. This species is not present.
Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	Insects	Endangered	None		Interior dunes	Found only in areas of the Delhi Sands formation in southwestern San Bernardino and northwestern Riverside counties.	Requires fine, sandy soils, often with wholly or partly consolidated dunes and sparse vegetation. Oviposition req. shade.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Rhinichthys osculus ssp. 8	Santa Ana speckled dace	Fish	None	None	AFS_TH-Threatened | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Aquatic | South coast flowing waters	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system.	Requires permanent flowing streams with summer water temps of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	There is no suitable habitat on site. This species is not present.
Setophaga petechia	yellow warbler	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Riparian forest | Riparian scrub | Riparian woodland	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada.	Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Spea hammondii	western spadefoot	Amphibians	Proposed Threatened	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	Cismontane woodland | Coastal scrub | Valley & foothill grassland | Vernal pool | Wetland	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands.	Vernal pools are essential for breeding and egg-laying.	There is no suitable habitat on site. This species is not present.
Spinus lawrencei	Lawrence's goldfinch	Birds	None	None	IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Broadleaved upland forest | Chaparral | Pinon & juniper woodlands | Riparian woodland	Nests in open oak or other arid woodland and chaparral, near water. Nearby herbaceous habitats used for feeding.	Closely associated with oaks.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Streptocephalus woottoni	Riverside fairy shrimp	Crustaceans	Endangered	None	IUCN_EN-Endangered	Coastal scrub | Valley & foothill grassland | Vernal pool | Wetland	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub.	Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	There is no suitable habitat on site. This species is not present.

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Microhabitat	Presence/ Absence
Taxidea taxus	American badger	Mammals	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Alkali marsh | Alkali playa | Alpine | Alpine dwarf scrub | Bog & fen | Brackish marsh | Broadleaved upland forest | Chaparral | Chenopod scrub | Cismontane woodland | Closed-cone coniferous forest | Coastal bluff scrub | Coastal dunes | Coastal prairie |	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	There is no suitable habitat on site. This species is not present.
Vireo bellii pusillus	least Bell's vireo	Birds	Endangered	Endangered		Riparian forest | Riparian scrub | Riparian woodland	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.	Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	There is no suitable habitat on site. This species is not present.

APPENDIX C

View of developed area of an asphalt parking lot behind commercial building and sparse vegetation. View looking northeast.

View of parking lot with little to no vegetation. View looking south.

View of a fenced lot with sprouting vegetation through crevices. View looking northwest.

Hernandez Environmental Services

View of commercial building that is still in business on Van Buren Boulevard. View looking southeast.

View of second building on site that is abandoned. View of Primrose Drive located on the left. View looking northeast.

View of gated parking lot behind the abandoned building. View looking southwest.

Hernandez Environmental Services

APPENDIX D

Soil Map—Western Riverside Area, California
(web soil)

Map Scale: 1:652 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 30 60 120 180

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 16, Aug 30, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 14, 2022—Mar 17, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HcC	Hanford coarse sandy loam, 2 to 8 percent slopes	0.8	100.0%
Totals for Area of Interest		**0.8**	**100.0%**

NOISE IMPACT ANALYSIS

VAN BUREN 7-ELEVEN PROJECT

CITY OF RIVERSIDE

Lead Agency:

City of Riverside
3900 Main Street – 3rd Floor
Riverside, CA 92501

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Greg Tonkovich, INCE

Project No. 24040

August 12, 2024

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ACRONYMS AND ABBREVIATIONS

ANSI	American National Standards Institute
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of Riverside
cmu	Concrete masonry unit
CNEL	Community Noise Equivalent Level
dB	Decibel
dBA	A-weighted decibels
DOT	Department of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
EPA	Environmental Protection Agency
Hz	Hertz
Ldn	Day-night average noise level
Leq	Equivalent sound level
Lmax	Maximum noise level
ONAC	Federal Office of Noise Abatement and Control
OSB	Oriented Strand Board
OSHA	Occupational Safety and Health Administration
PPV	Peak particle velocity
RMS	Root mean square
SEL	Single Event Level or Sound Exposure Level
STC	Sound Transmission Class
UMTA	Federal Urban Mass Transit Administration
VdB	Vibration velocity level in decibels

1.0 INTRODUCTION

1.1 Purpose of Analysis and Study Objectives

This Noise Impact Analysis has been prepared to determine the noise impacts associated with the proposed Van Buren 7-Eleven project (proposed project). The following is provided in this report:

- A description of the study area and the proposed project;
- Information regarding the fundamentals of noise;
- Information regarding the fundamentals of vibration;
- A description of the local noise guidelines and standards;
- An evaluation of the current noise environment;
- An analysis of the potential short-term construction-related noise impacts from the proposed project; and,
- An analysis of long-term operations-related noise impacts from the proposed project.

1.2 Site Location and Study Area

The project site is located in the western portion of the City of Riverside (City) at 3570 & 3596 Van Buren Boulevard. The approximately 0.86-acre project site is currently developed with two commercial structures and associated parking lots. The project site is bounded by Van Buren Boulevard and commercial uses to the northeast, commercial uses to the southeast, single-family homes to the southwest, and Primrose Drive and commercial uses to the northwest. The project study area is shown in Figure 1.

Sensitive Receptors in Project Vicinity

The nearest sensitive receptors to the project site are single-family homes located as near as 20 feet southwest of the project site. The nearest school is Liberty Elementary School that is located as near as 0.4 mile northwest of the project site.

1.3 Proposed Project Description

The proposed project would consist of demolition of the two commercial buildings and associated parking lots and construction of a 3,048 square foot 7-Eleven convenience store with a 12 vehicle fuel position gas station. The proposed project would also include ancillary improvements that would include landscaping, a surface parking lot with 24 parking spaces, a trash enclosure, and an air/water dispensing unit. . The proposed site plan is shown in Figure 2.

1.4 Executive Summary

Standard Noise Regulatory Conditions

The proposed project will be required to comply with the following noise and vibration regulations from the City and State of California (State) and this analysis has utilized the following Federal noise and vibration thresholds.

City of Riverside Noise Regulations

The following lists the noise regulations from the Municipal Code that are applicable, but not limited to the proposed project.

- Section 7.25.010 Exterior Sound Level Limits
- Section 7.35.010(B)(5) General Noise Regulations
- Section 7.35.020(G) Exemptions

State of California Noise Regulations

The following lists the State of California noise regulations that are applicable, but not limited to the proposed project.

- California Vehicle Code Section 2700-27207 – On-Road Vehicle Noise Limits
- California Vehicle Code Section 38365-38350 – Off-Road Vehicle Noise Limits

Federal Noise and Vibration Thresholds

The *Transit Noise and Vibration Assessment Manual* (FTA Manual), prepared by Federal Transit Administration, September 2018, has been utilized for the following thresholds.

- Construction Vibration Thresholds
- Roadway Noise Increase Thresholds

Summary of Analysis Results

The following is a summary of the proposed project's impacts with regard to the State CEQA Guidelines noise checklist questions.

Expose persons to noise levels in excess of standards?

Less than significant impact.

Expose persons to excessive groundborne vibration?

Less than significant impact.

Result in a substantial permanent increase in ambient noise levels above existing levels without the proposed project?

Less than significant impact.

Result in a substantial temporary increase in ambient noise levels above existing levels without the proposed project?

Less than significant impact.

Expose persons to excessive noise levels from aircraft?

Less than significant impact.

1.5 Mitigation Measures for the Proposed Project

This analysis found that through adherence to the noise and vibration regulations detailed in Section 1.4 above, were adequate to limit all noise and vibration impacts to less than significant levels. No mitigation measures are required for the proposed project with respect to noise and vibration impacts.