

APPENDIX A

Air Quality and Greenhouse Gas Technical Report

Mikasa Luxury Villas
Residential Development Project
Air Quality and Greenhouse Gas
Technical Report

July 2025



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1.0 INTRODUCTION

This Air Quality and Greenhouse Gas (GHG) Technical Report evaluates air quality and GHG impacts associated with the proposed multi-family residential project (Project) located in the City of Riverside (City). This report has been prepared by Impact Sciences, Inc., to support the Project's environmental documentation being prepared pursuant to the California Environmental Quality Act (CEQA). This analysis considers both the temporary air quality and GHG impacts from Project construction and long-term impacts associated with operation of the Project.

1.1 PROJECT LOCATION

The applicant proposes to consolidate three parcels and develop 117 multifamily units ("Project"). The Project would be located at 4618 Jones Avenue, 4705 Hedrick Avenue, and 4663 Hedrick Avenue (APN# 143-040-010, 143-040-011, and 143-040-012; "Project Site") in the City of Riverside. The Project Site is approximately 4.54 acres and is in the western portion of the City. The Project Site is located east of Hedrick Avenue, west of Jones Avenue, north of Hole Avenue, and south of Wells Avenue (see **Figure 1, Aerial Photograph of the Project Site**).

1.2 PROJECT DESCRIPTION

The Project Site currently is predominantly undeveloped but contains three single family residences, two mobile homes, and four storage sheds. The Project Site is surrounded by two-story multifamily residences located south of the Project Site and one story single family residences to the west, north, and east. Parcels 143-040-10 and 143-040-11 have a land use designation of Medium Density Residential (MDR) and are zoned for Single-Family Residential (R-1-7000). Parcel 143-040-012 has a land use designation of High Density Residential (HDR) and is zoned for Multiple-Family Residential (R-3-1500). The Project is proposing to amend the current general plan designation for parcels 143-040-010 and 143-040-011 from MDR to HDR; the Project is also proposing to rezone these parcels from R-1-7000 to R-3-1500. See **Figure 1, Aerial Photograph of the Project Site**.

Proposed Project

The Project includes the demolition of all existing structures on site: 4618 Jones Avenue, 4663 Hedrick Avenue, and 4705 Hedrick Avenue. According to documentation from the County Assessor, the square footage of the existing buildings are: 1,462 square feet, 2,157 square feet, and 668 square feet, respectively (a total of 4,287 square feet of buildings to be demolished). The Project includes the construction of approximately 193,421 square feet of new development. In addition, the Project would include

approximately 80,803 square feet of open space (common, private, and public). The Project would include 15 multifamily buildings, containing 117 dwelling units, a community hall, gym, pool, spa, and tot lot/play area. The dwelling units would range from studios to two bedrooms. See **Figure 2, Project Site Plan**, and **Table 1, Project Features**.

Table 1
Project Features

Project Features	Type	Stories	Maximum Height	Number of Units	Building Area Square Footage (sq. ft.)
Building A	1	2	25' 4"	3	4,415
Building B	1R	2	25' 4"	3	4,415
Building C	1	2	25' 4"	3	4,415
Building D	1R	2	25' 4"	3	4,415
Building E	2	2	25' 4"	3	4,415
Building F	2	2	25' 4"	3	4,415
Building G	2	2	25' 4"	3	4,415
Building H	3	2	25' 4"	6	8,492
Building I	4	2	25' 4"	7	9,851
Building J	5	3	41' 8"	14	24,310
Building K	6	3	41' 8"	14	23,517
Building L	6R	3	41' 8"	14	23,517
Building M	5R	3	41' 8"	14	24,310
Building N	5R	3	41' 8"	14	24,310
Building O	7	2	25' 4"	10	17,149
Building P (Manager Units and Leasing Office)	8	2	25' 4"	3	3,664
Building Q (Community Hall and Gym)	9	2	25' 4"	-	3,396
			Total	117 units	193,421 sq. ft.

Source: G&G Engineering, Inc., Sheet C-1.1, September 15, 2021.



SOURCE: Esri, 2023



SOURCE: G&G Engineering, 2025

FIGURE 2

2.0 ENVIRONMENTAL SETTING

2.1 AIR QUALITY SETTING

South Coast Air Basin

The Project Site is located within the Riverside County portion of the South Coast Air Basin (Basin). The Basin includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside counties. The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality within the Basin is primarily influenced by meteorological conditions and a wide range of emissions sources – such as dense population centers, heavy vehicular traffic, and industry. The South Coast Air Quality Management District (SCAQMD) divides the Basin into source receptor areas (SRAs) in which monitoring stations operate to monitor the various concentrations of air pollutants in the region. As shown in **Figure 3, Source Receptor Area Location Map**, the Project Site is located within SRA 23, which covers the Metropolitan Riverside County area.

Air Pollutants of Concern

Climate and Meteorology

The general region lies within the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes and light, average wind speeds. It is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. This usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds. The annual average temperature varies little throughout the SCAB region, ranging from the low 60s to the high 80s, measuring in degrees Fahrenheit (F°). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas.

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all annual rains fall between November and April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains.

Humidity

Although the SCAB has a semiarid climate, the air near the earth's surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog, especially along the coast, are frequent, and low clouds, often referred to as high fog, are a characteristic feature of the climate. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SCAB.

Wind

Wind patterns across the south coastal region are characterized by westerly or southwesterly onshore winds during the day and by easterly or northeasterly breezes at night. Wind speed is higher during the dry summer months than during the rainy winter.

Between periods of wind, air stagnation may occur in both the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall, surface high-pressure systems over the SCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the diffusion of pollutants by inhibiting the eastward transport of pollutants. Air quality in the SCAB generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentration of air pollutants during prolonged periods of stable atmospheric conditions.

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two similarly distinct types of temperature inversions control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The height of the base of the inversion at any given time is known as the "mixing height." The combination of winds and inversions is a critical determinant leading to highly degraded air quality in the summer and generally good air quality in the winter in Los Angeles.

Air Pollutants of Concern

The federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (U.S. EPA) to set National Ambient Air Quality Standards (NAAQS) for maximum allowable concentrations of six "criteria" pollutants in outdoor air. The six pollutants are carbon monoxide (CO), lead (Pb), ground-level

ozone (O₃), nitrogen dioxide (NO₂), particulate matter (respirable particulate matter [PM₁₀] and fine particulate matter [PM_{2.5}]), and sulfur dioxide (SO₂). The standards are set at a level that protects public health with an adequate margin of safety for six common air pollutants (also known as "criteria air pollutants"). In addition, toxic air contaminants (TACs) are a concern in the SCAB. The characteristics of each of these pollutants are briefly described below.

Ozone (O₃). Ozone is a highly reactive and unstable gas that is formed when reactive organic gases (ROG), sometimes referred to as volatile organic compounds (VOCs), and nitrogen oxides (NO_x), byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight.¹ O₃ concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant. Short-term exposure (lasting for a few hours) to O₃ at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue and some immunological changes.

Carbon Monoxide (CO). Carbon monoxide is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood.² In urban areas, such as the within the Project area, automobile exhaust accounts for the majority of CO emissions. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike O₃, motor vehicles operating at slow speeds are the primary source of CO in the SCAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

Nitrogen Dioxide (NO₂). Nitrogen dioxide is a nitrogen oxide compound that is produced by the combustion of fossil fuels, such as in internal combustion engines (both gasoline and diesel powered), as well as point sources, especially power plants.³ Of the seven types of NO_x compounds, NO₂ is the most abundant in the atmosphere. As ambient concentrations of NO₂ are related to traffic density, commuters in heavy traffic areas, such as urban areas, may be exposed to higher concentrations of NO₂ than those indicated by regional monitors.

¹ United States Environmental Protection Agency, *Ground-level Ozone Basics*. Available online at: <https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics#wwh>, accessed May 23, 2025.

² United States Environmental Protection Agency, *Basic Information on Carbon Monoxide (CO) Outdoor Air Pollution*. Available online at: <https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution#What%20is%20CO>, accessed May 23, 2025.

³ United States Environmental Protection Agency, *Basic Information about NO₂*. Available online at: <https://www.epa.gov/no2-pollution/basic-information-about-no2#What%20is%20NO2>, accessed May 23, 2025.

Fine and Respirable Particulate Matter (PM₁₀ and PM_{2.5}). Respirable and fine particulate matter, PM₁₀ and PM_{2.5}, consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively.⁴ Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas the most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.

Sulfur Dioxide (SO₂). Sulfur dioxide is a colorless, pungent gas formed primarily by the combustion of high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries.⁵ When SO₂ oxidizes in the atmosphere, it forms sulfates (SO₄). Collectively, these pollutants are referred to as sulfur oxides (SO_x). Generally, the highest levels of SO₂ are found near large industrial complexes. In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels.

Lead (Pb). Lead occurs in the atmosphere as particulate matter.⁶ The combustion of leaded gasoline is the primary source of airborne Pb in the SCAB. The use of leaded gasoline is no longer permitted for on road motor vehicles, so the majority of such combustion emissions are associated with off-road vehicles. However, because leaded gasoline was emitted in large amounts from vehicles when leaded gasoline was used for on road motor vehicles, Pb is present in many urban soils and can be re-suspended in the air. Other sources of Pb include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and the use of secondary lead smelters.

Pb is also found in lead-based paint, which is considered to be a health hazard for people, especially children. From the turn of the century through the 1940s, paint manufacturers used lead as a primary ingredient in many oil-based paints. Use of lead in paint decreased but was still used until 1978, when it was banned from residential use. Remodeling, renovations, or demolition activities in older buildings could disturb lead-based paint surfaces.

Toxic Air Contaminants (TACs). TACs refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs are different from criteria pollutants in that ambient

⁴ United States Environmental Protection Agency, *Particulate Matter (PM) Basics*. Available online at: <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#PM>, accessed May 23, 2025.

⁵ United States Environmental Protection Agency, *Sulfur Dioxide Basics*. Available online at: <https://www.epa.gov/so2-pollution/sulfur-dioxide-basics#what%20is%20so2>, accessed May 23, 2025.

⁶ United States Environmental Protection Agency, Basic Information about Lead Air Pollution. Available online at: <https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution#how>, accessed May 23, 2025.

air quality standards have not been established for them, largely because there are hundreds of TACs and their effects on health tend to be felt on a local scale rather than on a regional basis.⁷

Sources and health effects commonly associated with criteria pollutants are summarized in **Table 2, Criteria Pollutants Summary of Common Sources and Effects.**

⁷ California Air Resources Board, Health and Air Pollution. Available online at: <https://ww2.arb.ca.gov/resources/health-air-pollution>, accessed May 23, 2025.



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

21865 Copley Drive, Diamond Bar, CA 91765-4182
Information: 1-800-CUT-SMOG (1-800-288-7664)
Internet: <http://www.aqmd.gov>

Air Quality Reporting

Since 1977, the South Coast Air Quality Management District has served as the local government agency responsible for measuring, reporting and taking steps to improve air quality.

To inform the AQMD's 15 million residents about air quality conditions, the AQMD issues an air quality forecast each day and reports current air quality conditions for each

numbered Monitoring Area and General Forecast Area depicted here.

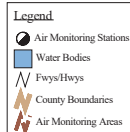
This air quality information is transmitted to the public through newspapers, television, radio and pager services, through faxes to schools, through recorded messages on the AQMD's toll-free Smog Update telephone line, 1-800-CUT-SMOG, and on the AQMD's Internet Website <http://www.aqmd.gov>.

Newspapers, television and radio stations typically will report air

quality information using the General Forecast Areas, shown in color below, which are larger groupings of the more specific Air Monitoring Areas.

The 1-800-CUT-SMOG (1-800-288-7664) line also provides smog forecast and current smog level information by ZIP code.

The AQMD's Internet Website provides both forecasts as well as smog levels for that day and the previous day. Forecasts for the next day normally are posted by noon.



Project Site

General Forecast Areas & Air Monitoring Areas

Coastal		
Northwest Los Angeles County Coastal	2	
Southwest Los Angeles County Coastal	3	
South Los Angeles County Coastal	4	
North Orange County Coastal	18	
Central Orange County Coastal	20	
Metropolitan		
Central Los Angeles County	1	
Southeast Los Angeles County	5	
South Central Los Angeles County	12	
North Orange County	16	
San Fernando Valley		
West San Fernando Valley	6	
East San Fernando Valley	7	
Santa Clarita Valley	13	
San Gabriel Valley		
West San Gabriel Valley	8	
East San Gabriel Valley	9	
Pomona/Walnut Valley	10	
South San Gabriel Valley	11	
Inland Orange County		
Central Orange County	17	
Saddleback Valley	19	
Capistrano Valley	21	
Riverside Valley		
Corona/Norco Area	22	
Metropolitan Riverside	23	
San Bernardino Valley		
Northwest San Bernardino Valley	32	
Southwest San Bernardino Valley	33	
Central San Bernardino Valley	34	
East San Bernardino Valley	35	
Hemet/Elsinore Area		
Perris Valley	24	
Lake Elsinore	25	
Hemet/San Jacinto Valley	28	
Temecula/Anza Area		
Temecula Valley	26	
Anza Area	27	
San Gabriel Mountains		
	15	
San Bernardino Mountains		
West San Bernardino Mountains	36	
Central San Bernardino Mountains	37	
Big Bear Lake		
	38	
Banning Pass Area		
	29	
Coachella/Low Desert		
Coachella Valley	30	
East Riverside County	31	
ANTELOPE VALLEY APCD*		
	14	
MOJAVE DESERT AQMD*		
Victor Valley	39	
Northern Mojave Desert	40	
Central Mojave Desert	41	

*These agencies contract with the South Coast AQMD for forecasting services. Also, the Antelope Valley APCD contracts with the Mojave Desert AQMD for other services. For more air quality information in these areas, please call the Mojave Desert AQMD at (760) 245-1661, extension 5067.

SOURCE: SCAQMD, 2023

Table 2
Criteria Pollutants Summary of Common Sources and Effects

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuels is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO ₂)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include moto vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O ₃)	Formed by a chemical reaction between volatile organic compounds (VOC) and nitrous oxides (NO _x) in the presence of sunlight. VOCs are also commonly referred to as reactive organic gases (ROGs). Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles, and dyes.
Particulate Matter (PM ₁₀ & PM _{2.5})	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and others.	Increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO ₂)	A colorless, nonflammable gas formed when fuel containing sulfur is burned; when gasoline is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant; aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron, and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.

Source: California Air Resources Board, Common Air Pollutants, available online at: <https://ww2.arb.ca.gov/resources/common-air-pollutants>, accessed May 22, 2025

2.2 AMBIENT AIR QUALITY

Criteria Air Pollutant Monitoring Data

Ambient air quality in Riverside can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. Existing levels of ambient air quality and historical trends and projections are documented by measurements made by the SCAQMD, the air pollution regulatory agency in the Basin. The SCAQMD maintains air quality monitoring stations which process ambient air quality measurements throughout the Basin.

The purpose of the monitoring station is to measure ambient concentrations of pollutants and determine whether ambient air quality meets the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). Ozone and particulate matter (PM10 and PM2.5) are pollutants of particular concern in the Basin. The monitoring station located closest to the Project Site and most representative of air quality is CARB Station No. 144, Rubidoux – Mission Boulevard, in Riverside. Ambient emission concentrations vary due to localized variations in emissions sources and climate and should be considered “generally” representative of ambient concentrations near the Project Site. See **Table 3, Air Monitoring Station Ambient Pollutant Concentrations**.

Table 3
Air Monitoring Station Ambient Pollutant Concentrations

Pollutant	Standards ¹	Year		
		2021	2022	2023
Carbon Monoxide (CO)				
Maximum 1-hour concentration monitored (ppm)		2.1	3.3	1.4
Maximum 8-hour concentration monitored (ppm)		1.8	1.2	1.2
Number of days exceeding state 1-hour standard	20 ppm	0	0	0
Number of days exceeding federal 1-hour standard	35 ppm	0	0	0
Ozone (O ₃)				
Maximum 1-hour concentration monitored (ppm)		0.117	0.122	0.139
Number of days exceeding state 1-hour standard	0.09 ppm	20	30	48
Number of days exceeding federal/state 8-hour standard	0.070 ppm	57	72	70
Nitrogen Dioxide (NO ₂)				
Maximum 1-hour concentration monitored (ppm)		0.052	0.056	0.055
Annual average concentration monitored (ppm)		0.014	0.013	0.012
Number of days exceeding state 1-hour standard	0.18 ppm	0	0	0
Respirable Particulate Matter (PM10)				
Maximum 24-hour concentration monitored (µg/m ³)		76.0	153.0	166.0
Annual average concentration monitored (µg/m ³)		34.2	37.0	32.7
Number of samples exceeding state standard	50 µg/m ³	16	55	43
Number of samples exceeding federal standard	150 µg/m ³	0	0	1
Fine Particulate Matter (PM2.5)				
Maximum 24-hour concentration monitored (µg/m ³)		82.10	38.50	48.70
Annual average concentration monitored (µg/m ³)		12.58	10.80	10.47
Number of samples exceeding federal standard	35 µg/m ³	10	1	1

Source: South Coast Air Quality Management District. Historical Data by Year. Available at: <https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year>, accessed May 2025.

NA = not available

¹ Parts by volume per million of air (ppm), micrograms per cubic meter of air (µg/m³), or annual arithmetic mean (aam).

² The 8-hour federal O₃ standard was revised from 0.075 ppm to 0.070 ppm in 2015. The statistics shown are based on the 2015 standard of 0.070 ppm.

The attainment status for the Basin region is included in **Table 4, Attainment Status of Criteria Pollutants in the South Coast Air Basin**. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The Basin region is designated as a nonattainment area for federal ozone, PM_{2.5}, and lead standards and is designated as nonattainment for state ozone, PM₁₀, and PM_{2.5} standards.

Table 4
Attainment Status of the South Coast Air Basin

Air Pollutant	CAAQS	NAAQS
Ozone (1-Hour)	Nonattainment	Nonattainment (Extreme)
Ozone (8-Hour)	Nonattainment	Nonattainment (Extreme)
Carbon Monoxide (1-Hour and 8-Hour)	Attainment	Attainment (Maintenance)
Nitrogen Dioxide (1-Hour)	Attainment	Unclassified/Attainment
Nitrogen Dioxide (Annual)	Attainment	Attainment (Maintenance)
Sulfur Dioxide (1-Hour)	n/a	Unclassified/Attainment
Sulfur Dioxide (24-Hour)	n/a	Unclassified/Attainment
PM _{2.5} (24-Hour)	n/a	Nonattainment (Serious)
PM _{2.5} (Annual)	Nonattainment	Pending
PM ₁₀ (24-Hour)	Nonattainment	Attainment (Maintenance)
PM ₁₀ (Annual)	Nonattainment	n/a
Lead (Pb)	n/a	Nonattainment (Partial)

Source: Southern California Air Quality Management District (SCAQMD), National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin, available at: <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf>, accessed May 22, 2025.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many 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. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches.

To date, CARB has designated 244 compounds as TACs. Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to a relatively few compounds.⁸

CARB identified diesel particulate matter (DPM) as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particulates and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine. Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiovascular diseases.⁹

Residential areas are considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any

⁸ California Air Resources Board, "CARB Identified Toxic Air Contaminants," Available online at: <https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants>, accessed August 2023

⁹ California Air Resources Board, "Sensitive Receptor Assessment," Available online at: <https://ww2.arb.ca.gov/capp-resource-center/community-assessment/sensitive-receptor-assessment>, accessed August 2023.

pollutants present. Children are considered more susceptible to health effects of air pollution due to their immature immune systems and developing organs.¹⁰ As such, schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. The closest air quality sensitive receptors are single-family residences adjacent to the Project Site.

¹⁰ Office of Environmental Health Hazard Assessment and The American Lung Association of California, *Air Pollution and Children's Health – A Fact Sheet by OEHHA and the American Lung Association*, 2003. Available online at: <https://oehha.ca.gov/air/air-pollution-and-childrens-health-fact-sheet-oehha-and-american-lung-association> accessed August 2023.

3.0 REGULATORY FRAMEWORK

3.1 FEDERAL

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the U.S. Environmental Protection Agency (U.S. EPA) to establish NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide is an air pollutant covered by the CAA; however, no NAAQS has been established for carbon dioxide.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those “sensitive receptors” most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The U.S. EPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for nonattainment or attainment designations. **Table 3** lists the federal attainment status of the Basin for the criteria pollutants.

National Emissions Standards for Hazardous Air Pollutants Program

Under federal law, 187 substances are currently listed as hazardous air pollutants (HAPs). Major sources of specific HAPs are subject to the requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) program. The EPA is establishing regulatory schemes for specific source categories and requires implementation of the Maximum Achievable Control Technologies (MACT) for major sources of HAPs in each source category. State law has established the framework for California’s TAC identification and control program, which is generally more stringent than the federal program and is aimed at HAPs that are a problem in California. The state has formally identified 244 substances as TACs and is adopting appropriate control measures for each. Once adopted at the state level, each air district will be required to adopt a measure that is equally or more stringent.

National Ambient Air Quality Standards

The federal CAA required the U.S. EPA to establish NAAQS. The NAAQS set primary standards and secondary standards for specific air pollutants. Primary standards define limits for the intention of protecting public health, which include sensitive populations such as asthmatics, children, and the elderly. Secondary Standards define limits to protect public welfare to include protection against decreased visibility, damage to animals, crops, vegetation, and buildings. A summary of the federal ambient air quality standards is shown in **Table 5, National Ambient Air Quality Standards**.

Table 5
National Ambient Air Quality Standards

Pollutant		Primary/Secondary	Averaging Time	Level
Carbon monoxide		Primary	8 hours	9 ppm
			1 hour	35 ppm
Lead		Primary and secondary	Rolling 3-month average	0.15 µg/m ³
Nitrogen dioxide		Primary	1 hour	100 ppb
		Primary and secondary	Annual	53 ppb
Ozone		Primary and secondary	8 hours	0.070 ppm
Particulate Matter	PM2.5	Primary	Annual	9 µg/m ³
		Secondary	Annual	15 µg/m ³
		Primary and secondary	24 hours	35 µg/m ³
	PM10	Primary and secondary	24 hours	150 µg/m ³
Sulfur dioxide		Primary	1 hour	75 ppb
		Secondary	Annual	10 ppb

Source: US EPA. Last updated December 16, 2024. NAAQS Table. Available online at: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>, accessed May 29, 2025.

3.2 STATE

California Clean Air Act of 1988

The California CAA of 1988 (CCAA) allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency (Cal EPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. The CCAA, amended in 1992, requires all air quality management districts (AQMDs) in the state to achieve and maintain the CAAQS. The CAAQS are generally stricter than national standards for the same pollutants and has also established state standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-

reducing particles, for which there are no national standards. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California Ambient Air Quality Standards

The federal CAA permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants, such as particulate matter and ozone, which are more protective of public health than respective federal standards. California has also set standards for some pollutants that are not addressed by federal standards. The state standards for ambient air quality are summarized in **Table 6, California Ambient Air Quality Standards**.

Table 6
California Ambient Air Quality Standards

Pollutant		Averaging Time	Level
Carbon monoxide		8 hours	9 ppm
		1 hour	20 ppm
Lead		30-day average	1.5 µg/m ³
Nitrogen dioxide		1 hour	0.180 ppm
		Annual	0.030 ppm
Ozone		8 hours	0.070 ppm
		1 hour	0.09 ppm
Particulate matter	PM2.5	Annual	12 µg/m ³
	PM10	24 hours	50 µg/m ³
		Annual	20 µg/m ³
Sulfur dioxide		1 hour	0.25 ppm
		24 hours	0.04 ppm
Sulfates		24 hours	25 µg/m ³
Hydrogen sulfide		1 hour	0.03 ppm
Vinyl chloride		24 hours	0.01 ppm

Source: California Air Resources Board. May 2016. *Ambient Air Quality Standards*. Available online at: <https://www.arb.ca.gov/research/aaqs/aaqs2.pdf>.

California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported

by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the EPA for approval and publication in the Federal Register. The 2022 Air Quality Management Plan (2022 AQMP) is the SIP for the Basin. The AQMP identifies the control measures that will be implemented to reduce major sources of pollutants. Implementation of control measures established in the previous AQMPs has substantially decreased the population's exposure to unhealthful levels of pollutants, even while population growth has occurred in the SCAB.

On December 2, 2022, the SCAQMD Governing Board approved the 2022 AQMP that lays a path for improving air quality and meeting federal air pollution standards by 2037. The AQMP aims to, among other goals, reduce almost 70 percent of smog forming emissions by 2037 beyond existing regulations, require zero-emission technologies across all sectors, and lay out specific actions needed from the federal government to reduce emissions from ships, trains, aircraft, and other sources primarily under federal regulatory authority. The 2022 AQMP also focuses on communities disproportionately impacted by air pollution with a dedicated chapter on environmental justice.¹¹

The future air quality levels forecast in the 2022 AQMP are based on the most recent assumptions provided by both CARB and the Southern California Association of Governments (SCAG) for motor vehicle emissions and demographic updates and includes updated transportation conformity budgets.¹² For example, future growth projections were based on demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by SCAG for their 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).¹³ Although a more recent RTP/SCS has been adopted by the SCAG (Connect SoCal 2024), the 2020-2045 RTP/SCS was utilized in the formation of the AQMP. The 2022 AQMP also assumes that development projects will include strategies (mitigation measures) to reduce emissions generated during construction and operation in accordance with SCAQMD and local jurisdiction regulations, which are designed to address air quality

¹¹ South Coast Air Quality Management District, "South Coast AQMD Finalizes Most Ambitious Strategy to Cut Pollution," 2022. Available online at: <http://www.aqmd.gov/docs/default-source/news-archive/2022/aqmp-adopted-dec2-2022.pdf>, accessed August 2023.

¹² *Ibid.*

¹³ *Ibid.* The RTP/SCS is available online at: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial-plan_0.pdf?1606001176.

impacts and pollution control measures. The 2022 AQMP acknowledges that the most significant air quality challenge in the Basin is to reduce NOX emissions sufficiently to meet the upcoming ozone standard deadlines. The 2022 AQMP incorporates the latest scientific and technical information and planning assumptions, including SCAG's 2020-2045 RTP/SCS updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. The 2022 AQMP includes integrated strategies and measures to meet the NAAQS.

California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588)

The California Air Toxics Program is supplemented by the Air Toxics "Hot Spots" program, which became law (AB 2588, Statutes of 1987) in 1987. In 1992, the AB 2588 program was amended by Senate Bill 1731 to require facilities that pose a significant health risk to the community to perform a risk reduction audit and reduce their emissions through implementation of a risk management plan. Under this program, which is required under the Air Toxics "Hot Spots" Information and Assessment Act (Section 44363 of the California Health and Safety Code), facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks when present.

Typically, land development projects generate diesel emissions from construction vehicles during the construction phase, as well as some diesel emissions from small trucks during the operational phase. Diesel exhaust is mainly composed of particulate matter and gases, which contain potential cancer-causing substances. Emissions from diesel engines currently include over 40 substances that are listed by EPA as hazardous air pollutants and by CARB as TACs. On August 27, 1998, CARB identified particulate matter in diesel exhaust as a TAC, based on data linking diesel particulate emissions to increased risks of lung cancer and respiratory disease.¹⁴

In March 2015, the OEHHA adopted "The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments" in accordance with the Health and Safety Code, Section 44300. The Final Guidance Manual incorporates the scientific basis from three earlier developed Technical Support Documents to assess risk from exposure to facility emissions. The 2015 OEHHA Final Guidance has key changes including greater age sensitivity in particular for children, decreased exposure durations, and higher breathing rate profiles. Because cancer risk could be up to three times greater using this new guidance, it may result in greater mitigation requirements, more agency backlog, and increased difficulty

¹⁴ Diesel exhaust is included within pollutants subject to the hotspot program. Please refer to OEHHA's Air Toxics Hot Spot Program Risk Assessment Guidelines. Available online at: <https://oehha.ca.gov/air/crnrr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0>.

in getting air permits. Regardless of the change in calculation methodology, actual emissions and cancer risk within South Coast Air Basin has declined by more than 50% since 2005.

The CARB provides a computer program, the Hot Spots Analysis and Reporting Program (HARP), to assist in a coherent and consistent preparation of a Health Risk Assessment (HRA). HARP2, an update to HARP, was released in March 2015. HARP2 has a more refined risk characterization in HRA and CEQA documents and incorporates the 2015 OEHHA Final Guidance.

3.3 REGIONAL

South Coast Air Quality Management District

The SCAQMD is the air pollution control district for Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The agency's primary responsibility is ensuring that the Basin region meets attainment for the federal and state standards. The SCAQMD is responsible for preparing an air quality management plan in order to meet federal attainment status. The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities. All projects are subject to SCAQMD rules and regulations in effect at the time of construction.

SCAQMD Rules and Regulations

All projects within the jurisdiction of the SCAQMD are subject to SCAQMD rules and regulations, including, but not limited to the following:

- **Rule 401 Visible Emissions** – This rule prohibits an air discharge that results in a plume that is as dark as or darker than what is designated as No. 1 Ringelmann Chart by the United States Bureau of Mines for an aggregate of three minutes in any one hour.
- **Rule 402 Nuisance** – This rule prohibits the discharge of “such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of people or 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.”
- **Rule 403 Fugitive Dust** – This rule requires that future projects reduce the amount of particulate matter entrained in the ambient air as a result of fugitive dust sources by requiring actions to

prevent, reduce, or mitigate fugitive dust emissions from any active operation, open storage piles, or disturbed surface area.

- **Rule 1113 Architectural Coatings** – This rule limits volatile organic compounds (VOCs) in architectural coatings used in the SCAQMD jurisdiction. These limits are application-specific and are updated as availability of low VOC products expands.
- **Rule 1168 Adhesive and Sealant Applications** – This rule reduces emissions of VOCs and eliminates emissions of chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene from the application of adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers.
- **Regulation XIII New Source Review** – This regulation contains Rules 1300 through 1325, which set forth pre-construction review requirements for new, modified, or relocated facilities, to ensure that the operation of such facilities does not interfere with progress in attainment of the NAAQS, and that future growth within SCAQMD is not unnecessarily restricted. The specific air quality goal of this regulation is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors.
- **Rule 1403, Asbestos Emissions from Demolition/Renovation Activities** - The purpose of this rule is to specify work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). The requirements for demolition and renovation activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfiling requirements for asbestos-containing waste materials. All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Ventura, Orange, Riverside, San Bernardino, and Imperial Counties. SCAG develops long-range regional transportation plans including sustainable communities' strategy and growth forecast components, regional transportation improvement programs, regional housing needs allocations and a portion of the South Coast Air Quality management plans. As required by federal and state law, SCAG develops plans pertaining to transportation, growth management, hazardous waste management, housing, and air quality. SCAG data are used in the preparation of air quality forecasts and the conformity analysis included in the AQMP.

To implement SB 375 and reduce GHG emissions by correlating land use and transportation planning, SCAG adopted the 2024-2050 RTP/SCS on April 4, 2024, also known as Connect SoCal 2024.¹⁵ The Connect SoCal 2024 outlines a vision for a more resilient and equitable future, with investment, policies and strategies for achieving the region's shared goals of health, prosperity, accessibility, and connectedness through 2050, with a particular focus on system management, revitalization, and reuse, such as infill development and repurposing underutilized properties. The vision for the region incorporates a range of best practices for increasing transportation choices, reducing dependence on personal automobiles, further improving air quality, and encouraging growth in walkable, mixed-use communities with ready access to transit infrastructure and employment. More and varied housing types and employment opportunities would be located in and near job centers, transit stations and walkable neighborhoods where goods and services are easily accessible via shorter trips. To support shorter trips, people would have the choice of using neighborhood bike networks, car share or micro-mobility services like shared bicycles or scooters. For longer commutes, people would have expanded regional transit services and more employer incentives to carpool or vanpool. Other longer trips would be supported by on-demand services such as micro transit, carshare, and citywide partnerships with ride hailing services. For those that choose to drive, hotspots of congestion would be less difficult to navigate due to cordon pricing and using an electric vehicle will be easier thanks to an expanded regional charging network. The Connect SoCal 2024 is expected to reduce per capita transportation emissions by 19 percent by 2035, which is consistent with SB 375 compliance with respect to meeting the State's GHG emission reduction goals.¹⁶

The Connect SoCal 2024 states that the SCAG region is home to about 18.8 million people and currently includes approximately 6.0 million homes and 9 million jobs.¹⁷ The integrated growth forecast projects that, by 2050, these figures will increase by 2 million people, with nearly 1.6 million more housing units and 1.3 million more jobs.¹⁸ The Connect SoCal 2024 overall land use pattern reinforces the trend of focusing on new housing and employment in the region's Priority Development Areas (PDAs). PDAs account for 8.2 percent of the region's total land area, but implementation of SCAG's recommended growth strategies will help these areas accommodate 66 percent of forecasted household growth and 54 percent of forecasted employment growth between 2019 and 2050. PDAs are areas within the SCAG region where future growth can be located to help the region reach Plan goals; PDAs in the Connect SoCal 2024 include Neighborhood Mobility Areas, Transit Priority Areas (TPAs), Livable Corridors, and Spheres of Influence (in unincorporated areas only). PDAs follow the principles of center-focused placemaking, providing

¹⁵ SCAG. *Connect SoCal 2024 RTP/SCS*, April 4, 2024. Available online at: <https://scag.ca.gov/sites/main/files/file-attachments/23-2987-connect-socal-2024-final-complete-040424.pdf?1714175547>, accessed March 17, 2025.

¹⁶ SCAG, *Final Connect SoCal 2024, Chapter 3: The Plan*, p. 97, accessed March 17, 2025.

¹⁷ SCAG, *Final Connect SoCal 2024, Chapter 2: Our Region Today*, p. 50, accessed March 17, 2025.

¹⁸ SCAG, *Final Connect SoCal 2024, Chapter 1: Executive Summary*, p. 12, accessed March 17, 2025.

locations where many Connect SoCal strategies can be fully realized. This more compact form of regional development, if fully realized, can reduce travel distances, increase mobility options, improve access to workplaces and conserve the region's resource areas.

3.4 LOCAL

Riverside General Plan 2025

The City of Riverside General Plan 2025 (General Plan) was adopted in November of 2007 and considers the continued growth of the City through the year 2025. The General Plan contains an Air Quality Element that summarizes air quality and greenhouse gas issues and outlines policies that will protect Riverside's health and welfare. The Air Quality Element establishes the City's role in supporting the Basin in meeting federal and state air quality standards and identifies provisions and programs to protect the City's residents and businesses from the effects of poor air quality and greenhouse gases. Policies from the General Plan that are relevant to the Project are listed below:

Policy AQ-1.2: Consider potential environmental justice issues in reviewing impacts (including cumulative impacts for each project proposed).

Policy AQ-1.3: Separate, buffer and protect sensitive receptors from significant sources of pollution to the greatest extent possible.

Policy AQ-1.5: Encourage infill development projects within urbanized areas, which include job centers and transportation nodes.

Policy AQ-1.7: Support appropriate planned residential developments and infill housing, which reduce vehicle trips.

Policy AQ-1.17: Avoid locating multiple-family developments close to commercial areas that emit harmful air contaminants.

Policy AQ-1.18: New residential subdivisions shall be designed to encourage "walkable" neighborhoods with pedestrian walkways and bicycle paths to facilitate pedestrian travel.

Policy AQ-1.23: Increase residential and commercial densities around rail and bus transit stations.

Policy AQ-2.4: Monitor and strive to achieve performance goals and/or VMT reduction which are consistent with SCAG's goals.

Policy AQ-3.4: Require projects to mitigate, to the extent feasible, anticipated emissions which exceed AQMP Guidelines.

Policy AQ-3.6: Support “green” building codes that require air conditioning/filtration installation, upgrades or improvements for all buildings, but particularly for those associated with sensitive receptors.

Policy AQ-3.7: Require use of pollution control measures for stationary and area sources through the use of best available control activities, fuel/material substitution, cleaner fuel alternatives, product reformulation, change in work practices and of control measures identified in the latest AQMP.

Policy AQ-4.2: Reduce particulate matter from agriculture (e.g., require use of clean non-diesel equipment and particulate traps), construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way and off-road vehicles to the extent possible, as provided in SCAQMD Rule 403.

Policy AQ-4.3: Support the reduction of all particulates potential sources.

Policy AQ-4.5: Require the suspension of all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.

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

4.0 AIR QUALITY ANALYSIS

4.1 THRESHOLDS AND METHODOLOGY

Thresholds of Significance

The impact analysis provided below is based on the application of the following *California Environmental Quality Act (CEQA) Guidelines* Appendix G, which indicates that a Project would have a significant impact on air quality if it would:

1. Conflict with or obstruct implementation of any applicable air quality plan.
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors), adversely affecting a substantial number of people.

Consistency with the Applicable AQMP

The SCAQMD has adopted criteria for consistency with regional plans and the regional AQMP in its CEQA Air Quality Handbook. Specifically, the indicators of consistency are: 1) whether the project would increase the frequency or severity of existing air quality violations or cause or contribute to new air quality violations; and 2) whether the project would exceed the assumptions utilized in preparing the AQMP.

Violation of Standards or Substantial Contribution to Air Quality Violations

As the agency principally responsible for comprehensive air pollution control in the Basin, the SCAQMD recommends that projects should be evaluated in terms of air pollution control thresholds established by the SCAQMD and published in the CEQA *Air Quality Handbook*. These thresholds were developed by the SCAQMD to provide quantifiable levels to which projects can be compared. The most current significance thresholds, shown in **Table 7, South Coast AQMD Regional Significance Thresholds**, are used in this analysis.

Table 7
South Coast AQMD Air Quality Significance Thresholds

Mass Daily Thresholds ^a		
Pollutant	Construction	Operation
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and Greenhouse Gas (GHG) Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (Project increment)	
Odor	Project creates an odor nuisance pursuant to South Coast AQMD Rule 402	
GHG	10,000 MT/yr CO2eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants ^b		
NO2 1-hour average annual arithmetic mean	South coast AQMD is in attainment; Project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM10 24-hour average annual average	10.4 µg/m³ (construction) ^e & 2.5 µg/m³ (operation) 1.0 µg/m3	
PM2.5 24-hour average	10.4 µg/m³ (construction) ^c & 2.5 µg/m³ (operation)	
SO2 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal - 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 µg/m³ (state)	
CO 1-hour average 8-hour average	South Coast AQMD is in attainment; Project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Ambient Air Quality Standards for Criteria Pollutants ^d (continued)		
Lead 30-day Average Rolling 3-month average	1.5 µg/m³ (state) 0.15 µg/m³ (federal)	

^a Source: South Coast AQMD CEQA Handbook (South Coast AQMD, 1993).

^b Ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2 unless otherwise stated.

^c Ambient air quality threshold based on South Coast AQMD Rule 403.

Localized Significance Thresholds

In addition to the above regional thresholds, the SCAQMD has developed Localized Significance Thresholds (LSTs) in response to the Governing Board's Environmental Justice Enhancement Initiative (1-4), which was prepared to update the CEQA Air Quality Handbook (1993). LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities and have been developed for NO_x, CO, PM₁₀, and PM_{2.5}. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area (SRA), distance to the sensitive receptor, and project size. LSTs have been developed for emissions generated in construction areas up to five acres in size. However, LSTs only apply to emissions in a fixed stationary location and are not applicable to mobile sources, such as cars on a roadway. **Table 8, SCAQMD LSTs in SRA 23**, shows the LST's for each pollutant for SRA 23 – Metropolitan Riverside County.

Table 8
SCAQMD LSTs in SRA 23

Pollutant	Localized Significance Thresholds		
	1 acre at 25 meters	2 acres at 25 meters	5 acres at 25 meters
Construction			
Nitrogen Oxides (NO _x)	118 lbs/day	170 lbs/day	270 lbs/day
Carbon Monoxide (CO)	602 lbs/day	883 lbs/day	1,577 lbs/day
Respirable Particulates (PM ₁₀)	4 lbs/day	7 lbs/day	13 lbs/day
Fine Particulates (PM _{2.5})	3 lbs/day	4 lbs/day	8 lbs/day
Operation			
Nitrogen Oxides (NO _x)	118 lbs/day	170 lbs/day	270 lbs/day
Carbon Monoxide (CO)	602 lbs/day	883 lbs/day	1,577 lbs/day
Respirable Particulates (PM ₁₀)	1 lbs/day	2 lbs/day	4 lbs/day
Fine Particulates (PM _{2.5})	1 lb/day	1 lbs/day	2 lbs/day

Source: South Coast Air Quality Management District. *Final Localized Significance Threshold Methodology, Appendix C – Mass Rate LST Look-Up Tables*. 2009. Available at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2>

Cumulatively Considerable Increase of Criteria Pollutants

The SCAQMD's *CEQA Air Quality Handbook* identifies several methods to determine the cumulative significance of land use projects (i.e., whether the contribution of a project is cumulatively considerable). However, the SCAQMD no longer recommends the use of these methodologies. Instead, the SCAQMD

recommends that any construction-related emissions and operational emissions from individual development projects that exceed the project-specific mass daily emissions thresholds identified above also be considered cumulatively considerable.¹⁹ The SCAQMD neither recommends quantified analyses of the emissions generated by a set of cumulative development projects nor provides thresholds of significance to be used to assess the impacts associated with these emissions.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

The SCAQMD currently recommends that impacts to sensitive receptors be considered significant when a project generates localized pollutant concentrations of NO₂, CO, PM₁₀, or PM_{2.5} at sensitive receptors near a project site that exceed the localized pollutant concentration thresholds listed above or when a project's traffic causes CO concentrations at sensitive receptors located near congested intersections to exceed the national or state ambient air quality standards. The roadway CO thresholds would also apply to the contribution of emissions associated with cumulative development. Additionally, the SCAQMD recommends impacts to sensitive receptors be considered significant if a project exceeds the TAC thresholds detailed in **Table 6** above.

In addition, the SCAQMD has established localized significance criteria in the form of ambient air quality standards for criteria pollutants. To minimize the need for detailed air quality modeling to assess localized impacts, SCAQMD developed mass-based localized significance thresholds (LSTs) that are the amount of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts. These localized thresholds, are found in the mass rate look-up tables in the "Final Localized Significance Threshold Methodology" document prepared by the SCAQMD.²⁰ LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards, and are developed based on the ambient concentrations of that pollutant for each SRA.

Exposure to Objectionable Odors

A significant impact may occur if objectionable odors occur that would adversely impact sensitive receptors. Odors are typically associated with industrial projects involving the use of chemicals, solvents,

¹⁹ South Coast Air Quality Management District, *White Paper on Regulatory Options for Addressing Cumulative Impacts from Air Pollution Emissions*, Board Meeting, September 5, 2003, Agenda No. 29, Appendix D, p. D-3.

²⁰ South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, Appendix C – Mass Rate LST Look-Up Tables, 2009. Available online at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2>, accessed August 14, 2023.

petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills.

Methodology

This analysis focuses on the nature and magnitude of the change in the air quality environment due to implementation of the Project. Air pollutant emissions associated with the Project would result from Project operations and from Project-related traffic volumes. Construction activities would also generate air pollutant emissions at the Project Site and on roadways resulting from construction-related traffic. The net increase in Project Site emissions generated by these activities and other secondary sources have been quantitatively estimated and compared to thresholds of significance recommended by the SCAQMD (see **Section 4.2, Project Impacts**, below).

Construction Emissions

The regional construction emissions associated with the Project were calculated using the California Emissions Estimator Model (CalEEMod). CalEEMod was developed in collaboration with the air districts of California as a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects.

Construction activities associated with demolition (removal of existing buildings), grading, and building construction would generate pollutant emissions. Specifically, these construction activities would temporarily create emissions of dusts, fumes, equipment exhaust, and other air contaminants. These construction emissions were compared to the thresholds established by the SCAQMD.

In addition to the SCAQMD's regional significance thresholds, the SCAQMD has established localized significance criteria in the form of ambient air quality standards for criteria pollutants. For the purposes of a CEQA analysis, the SCAQMD considers a sensitive receptor to be a receptor such as residence, hospital, or convalescent facility where it is possible that an individual could remain for 24 hours. Thus, according to the SCAQMD, the LSTs for PM₁₀ and PM_{2.5}, which are based on a 24-hour averaging period, would be appropriate to evaluate the localized air quality impacts of a project on nearby sensitive receptors. Additionally, since a sensitive receptor is considered to be present onsite for 24 hours, LSTs based on shorter averaging times, such as the one-hour NO₂ or the one-hour and eight-hour CO ambient air quality standards, would also apply when evaluating localized air quality impacts on sensitive receptors. However, LSTs based on shorter averaging periods, such as the NO₂ and CO LSTs, are applied to receptors such as industrial or commercial facilities since it is reasonable to assume that workers at these sites could

be present for periods of one to eight hours.²¹ Therefore, this analysis evaluates localized air quality impacts from construction activities associated with the Project on sensitive receptors for NO₂, CO, PM₁₀, and PM_{2.5}, and on “non-sensitive” receptors (e.g., industrial or commercial facilities) for NO₂ and CO.

Operational Emissions

Operational emissions associated with the Project were also calculated using CalEEMod. Operational emissions associated with the Project would comprise mobile source emissions, energy demand, and other area source emissions. Mobile source emissions are generated by the increase in motor vehicle trips to and from the Project Site associated with operation of the Project. Area source emissions are generated by natural gas consumption for space and water heating, landscape maintenance equipment, application of architectural coatings, and consumer products. To determine if a regional air quality impact would occur, the increase in emissions is compared with the SCAQMD’s recommended regional thresholds for operational emissions.

As discussed above, the SCAQMD has developed LSTs that are based on the amount of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts. However, because the LST methodology is applicable to projects where emission sources occupy a fixed location, LST methodology would typically not apply to the operational phase of the Project because emissions are primarily generated by mobile sources traveling on local roadways over potentially large distances or areas. LSTs would apply to the operational phase of a project, if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site. For example, the LST methodology applies to operational projects such as warehouse/transfer facilities.²² As the Project would consist of residential uses, an operational analysis against the LST methodology is not directly applicable.

4.2 PROJECT IMPACTS

AQ Impact 1 Would implementation of the Proposed Project conflict with or obstruct implementation of any applicable air quality plan? (*Less than Significant*).

As part of its enforcement responsibilities, the EPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs.

²¹ *Ibid.*

²² SCAQMD, *Sample Construction Scenarios for Projects Less than Five Acres in Size*, February 2005, page 1-3.

Similarly, under state law, the CCAA requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the federal and state ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

Drafted by the SCAQMD, the 2022 AQMP was developed in coordination with CARB, SCAG, and the U.S. EPA to establish a program of rules and regulations to reduce air pollutant emissions to achieve CAAQS and NAAQS. The AQMP's pollutant control strategies are based on SCAG's 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS). While a more recent RTP/SCS has been adopted by the SCAG (Connect SoCal 2024), the 2020-2045 RTP/SCS was utilized in the formation of the AQMP.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's 1993 CEQA Air Quality Handbook, and include the following:

- **Consistency Criterion No. 1:** The proposed Project will not result in an increase in the frequency or severity of an existing air quality violation, or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.
- **Consistency Criterion No. 2:** The proposed Project will not exceed the assumptions in the AQMP, or increments based on the years of the Project build-out phase.

With respect to the first criterion, area air quality planning, including the AQMP, assumes that there will be emissions from new growth, but that such emissions may not impede the attainment and may actually contribute to the attainment of applicable air quality standards within the SCAB. Construction-related emissions would be temporary in nature, lasting only for the duration of the construction period, and would not have a long-term impact on the region's ability to meet state and federal air quality standards. Furthermore, the development projects resulting from implementation of the Project will be required to comply with applicable SCAQMD rules and regulations for new or modified sources. For example, the Project must comply with SCAQMD Rule 403 for the control of fugitive dust during construction. By meeting SCAQMD rules and regulations, future construction activities will be consistent with the goals and objectives of the AQMP to improve air quality in the SCAB. Also discussed herein, the Project would not result in construction or operational air quality emissions that exceed the SCAQMD thresholds of significance (see **AQ Impact 2** below). Thus, the Project will not result in an increase in the frequency or severity of an existing air quality violation, or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP. And, as

discussed in more detail herein, projects, land uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP. Thus, the Project would be consistent with the first criterion.

With respect to the second criterion, the AQMP was prepared to achieve national and state air pollution standards within the region. A project that is considered to be consistent with the AQMP would not interfere with attainment of AQMP goals because the growth from the Project is included in the regional projections used to formulate the AQMP. The Project proposes to consolidate three parcels and develop 117 multifamily units. Based on the City's average household size of 3.06 persons per household, the Project would introduce up to 358 residents.²³ Conservatively assuming that all 358 Project-generated residents relocate from outside of the City, potential population growth associated with the Project would represent less than one percent of the City's 316,690 persons. Population growth impacts are also assessed based on a project's consistency with adopted plans that have addressed growth management from a local and regional standpoint. The Southern California Association of Governments (SCAG) growth forecasts estimate the City's population to reach 387,300 persons by 2050, representing a total increase of 70,610 persons.²⁴ The Project's potential maximum increase of 367 persons would represent less than one percent of the City's projected population increase between 2024 and 2050. Thus, the potential increase in population resulting from the Project would be nominal.

Further, two of the three parcels within the Project Site currently have a land use designation of both Medium Density Residential (MDR), which allows a maximum population density of 18.6 persons per acre. Under the proposed Project, a General Plan Amendment and a rezone is requested to re-designate all parcels of the Project Site to be completely re-designated to HDR and rezoned to R-3-1500, which has an allowed maximum population density of 87 persons per acre. As discussed, the Project would introduce up to 367 new residents, which would result in a population density of 80 people per acre. It is acknowledged that the Project would increase the Site's overall population density compared to the planned population density for the Project Site under the General Plan. However, given that one of the three existing parcels is currently designated as HDR and would allow for an on-site density of 80 persons per acre, this increase would not induce substantial unplanned population growth. Additionally, the Project is supportive of the City's Regional Housing Needs Assessment (RHNA) growth need for 7,394

²³ California Department of Finance, Demographic Research Unit, "E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2021-2024, with 2024 Benchmark." March 2024.

²⁴ Southern California Associations of Governments. Connect SoCal 2024 Southern California Demographic Workshop. Available online at: https://scag.ca.gov/sites/main/files/file-attachments/03_scag_drtp24_citytier2taz_092523.xlsx?1695685277, accessed May 28, 2025.

above moderate-income units.²⁵ Thus, the Project is also consistent with the second criterion. As the Project is consistent with Criterion Nos. 1 and 2, it would not conflict with or obstruct implementation of any applicable air quality plan, and this impact is less than significant.

AQ Impact 2 Would implementation of the Proposed Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard? (*Less than Significant*).

A project may have a significant impact if project-related emissions would result in a cumulatively considerable net increase for a criteria pollutant for which the region is in nonattainment under applicable federal or state ambient air quality standards. The cumulative analysis of air quality impacts follows the SCAQMD's guidance such that construction or operational project emissions will be considered cumulatively considerable if project-specific emissions exceed an applicable SCAQMD recommended daily threshold.

Regional Construction Significance Analysis

For purposes of this analysis, it is estimated that the Project would be constructed in approximately 18 months with construction beginning in mid-2024 and project operations commencing in 2025.²⁶ While construction may begin at a later date and/or take place over a longer period, these assumptions represent the earliest and fastest build-out potential resulting in a worst-case daily impact scenario for purposes of this analysis. This analysis assumes construction would be undertaken with the following primary construction phases: (1) Demolition, (2) Grading and Foundations and (3) Structural Building and Finishing.

Demolition and removal of existing debris would occur for approximately one month. This phase would include the demolition of the three existing buildings (approximately 4,287 square feet of demolition).

²⁵ City of Riverside, *Housing Element Sixth Cycle 2021-2029 Technical Background Report*, 2021. Available at: <https://riversideca.gov/cedd/sites/riversideca.gov.ceedd/files/pdf/planning/general-plan/2023/2022-09%20Final%20Certified%20HE%20Technical%20Background%20Report.pdf>, accessed August 14, 2023.

²⁶ It is acknowledged that construction activities for the Project would begin at a later date than analyzed. However, because air quality emission factors improve (i.e., emissions decrease) each year into the future, the emissions estimated herein present a worst-case analysis.

Grading and foundation preparation would occur for approximately 3.5 months and this analysis assumes cut/fill operations would balance soil on site and no soil import or export would be required.

Building construction would occur for approximately 13.5 months and would include the construction of the proposed structures, connection of utilities, laying irrigation for landscaping, architectural coatings, paving and landscaping the Project Site. Paving and architectural coatings would take place concurrently during the final month of building construction.

The analysis of regional daily construction emissions has been prepared utilizing the CalEEMod computer model recommended by the SCAQMD. Predicted maximum daily construction-generated emissions for the Project are summarized in **Table 8, Construction-Related Criteria Pollutant and Precursor Emissions – Maximum Pounds per Day**. These calculations assume that appropriate dust control measures would be implemented as part of the Project during each phase of development, as specified by SCAQMD Rule 403 (Fugitive Dust). Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes; applying soil binders to uncovered areas; reestablishing ground cover as quickly as possible; utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project Site; and maintaining effective cover over exposed areas. In addition, these calculations assume construction activities would be consistent with SCAQMD Rule 1113 (Architectural Coatings), which regulates the amount of VOC per liter of coating. As shown in **Table 9**, the peak daily emissions generated during the construction of the Project would not exceed any of the regional emission thresholds recommended by the SCAQMD. Therefore, Project construction would not result in a cumulatively considerable net increase of any criteria air pollutant for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard.

Table 9
Construction-Related Criteria Pollutant and Precursor Emissions – Maximum Pounds per Day

Construction Year	ROG	NOx	CO	SO ₂	PM10	PM2.5
2024	1.84	17.1	18.0	0.02	3.71	2.10
2025	57.2	13.9	22.7	0.03	2.15	0.87
Regional Threshold	75	100	550	150	150	55
<i>Exceed?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Source: Impact Sciences August 2023. See Appendix A to this report. Emissions shown are the highest daily from either summer or winter season.

Note: Project emissions account for the reductions from SCAQMD Rule 403 (Fugitive Dust).

Regional Operational Significance Analysis

Project-generated emissions would be associated with motor vehicle use, energy use, and area sources, such as the use of natural-gas-fired appliances, landscape maintenance equipment, consumer cleaning products, and architectural coatings associated with the operation of the Project. The operational emissions from the Project were calculated with CalEEMod and the operational emissions were compared against SCAQMD regional thresholds to determine Project significance. Long-term operational emissions attributable to the Project are summarized in **Table 10, Long-Term Operational Emissions – Maximum Pounds per Day**. As shown, the operational emissions generated by the Project would not exceed the regional thresholds of significance set by the SCAQMD.

Table 10
Long-Term Operational Emissions – Maximum Pounds per Day

Source	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Mobile Source	2.57	2.26	18.9	0.04	3.77	0.95
Area Source	5.07	0.06	6.62	<0.01	<0.01	0.98
Energy Use	0.02	0.38	0.16	<0.01	0.03	0.03
<i>Total</i>	<i>7.66</i>	<i>2.70</i>	<i>25.68</i>	<i>0.06</i>	<i>3.81</i>	<i>1.96</i>
Regional Threshold	55	55	550	150	150	55
<i>Exceed?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Source: Impact Sciences, August 2023. See Appendix A to this report.

As shown in **Table 9** and **Table 10**, the Project's construction and operational emissions would not exceed the SCAQMD's thresholds for any criteria air pollutants. Thus, the Project would also not result in a cumulatively considerable net increase of any criteria air pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard. These impacts are less than significant.

Air Quality Health Impacts

On December 24, 2018, the California Supreme Court published its opinion on the *Sierra Club et al. v. County of Fresno et. Al.* (Case No. S219783) which determined that an environmental review must adequately analyze a project's potential impacts and inform the public how its bare numbers translate to potential adverse health impacts or explain how existing scientific constraints cannot translate the emissions numbers to the potential health impacts.

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health. The national and state ambient air quality standards have been set at levels to protect human health with a determined margin of safety.²⁷ As discussed previously, the Basin is in state non-attainment for PM_{2.5}, PM₁₀, and Ozone (O₃) and federal non-attainment for PM_{2.5} and O₃. Therefore, an increase in emissions of particulate matter or ozone precursors (ROG and NO_x) has the potential to push the region further from reaching attainment status and, as a result, are the pollutants of greatest concern in the region. As noted in **Table 7** and **Table 8** above, the Project will emit criteria air pollutants during construction and operation. However, the Project will not exceed SCAQMD thresholds for ozone precursors (ROG and NO_x), PM_{2.5}, PM₁₀, or any other criteria air pollutants, and will not result in a cumulatively significant impact for which the region is in non-attainment. Thus, with respect to the Project's increase in criteria pollutant emissions, the Project would not have the potential cause significant air quality health impacts. With respect to the Project's potential TAC and DPM impacts upon sensitive receptors, please refer to the discussion under **AQ Impact 3**.

AQ Impact 3 **Would implementation of the Proposed Project expose sensitive receptors to substantial air pollutant concentrations? (*Less than Significant*).**

Localized Construction Significance Analysis

As detailed in the methodology section of this report, the SCAQMD has developed localized significance thresholds (LST) for construction areas that are one, two, and five acres in size to simplify the evaluation of localized emissions. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the applicable federal or State ambient air quality standard. LSTs are provided for each source receptor area (SRA) and various distances from the source of emissions. As described previously, the closest air quality sensitive receptors are single-family residences located adjacent to the Project Site.

In the case of this analysis, the Project Site is located within SRA 23 – Metropolitan Riverside County with sensitive receptors (residences) adjacent to the Project Site. As the Project Site is approximately 4.54 acres, LSTs for a 4.54-acre site in SRA 23 with sensitive receptors located within 25 meters were calculated per SCAQMD Linear Regression Methodology and utilized to address the potential localized NO_x, CO, PM₁₀, and PM_{2.5} impacts. As shown in **Table 11, Localized Significance of Construction Emissions – Maximum**

²⁷ SCAQMD, *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, May 6, 2005.

Pounds per Day, the Project would not exceed any of the identified localized thresholds of significance during construction. Therefore, the Project's construction would not expose sensitive receptors to substantial air pollutant concentrations and these impacts would be less than significant.

Table 11
Localized Significance of Construction Emissions – Maximum Pounds per Day

Construction Phase	NOx	CO	PM10	PM2.5
Demolition	12.80	11.30	0.73	0.53
SCAQMD Localized Thresholds	255.17	1,471.92	12.11	8.57
Grading/Foundation Preparation	17.00	16.90	3.55	2.06
SCAQMD Localized Thresholds	255.17	1,471.92	12.11	8.57
Building Construction	13.47	15.89	0.56	0.52
SCAQMD Localized Thresholds	255.17	1,471.92	12.11	8.57
<i>Exceed?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Source: Impact Sciences, July 2023. See **Appendix A** to this report.

Notes: Calculations assume compliance with SCAQMD Rule 403 – Fugitive Dust. SCAQMD's Linear Regression method was applied to the LSTs for a 4.54-acre site with a receptor distance of 25 meters in SRA 23. The building construction emission total includes architectural coating and paving emissions.

Localized Operational Significance Analysis

As discussed previously, because the LST methodology is applicable to projects where emission sources occupy a fixed location, LST methodology would typically not apply to the operational phase of a primarily residential project because emissions for these projects are primarily generated by mobile sources traveling on local roadways over generally large distances or areas. LSTs would apply to the operational phase of a project if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site. For example, the LST methodology applies to operational projects such as warehouse/transfer facilities.²⁸ As the Project would not include warehouse or transfer facilities, an operational analysis against the LST methodology is not directly applicable to the Project. Nevertheless, **Table 11, Localized Significance of On-Site Operational Emissions – Maximum Pounds per Day**, has been included to illustrate the potential on-site emissions during Project operation. As shown in **Table 12**, the Project would not exceed any of the identified localized thresholds of significance. Therefore, the Project's operation would not expose sensitive receptors to substantial air pollutant concentrations and these impacts would be less than significant.

²⁸ SCAQMD, *Sample Construction Scenarios for Projects Less than Five Acres in Size*, February 2005, page 1-3.

Table 12
Localized Significance of On-Site Operational Emissions – Maximum Pounds per Day

Emissions Source	NOx	CO	PM10	PM2.5
Area Sources	0.06	6.62	<0.01	<0.01
Energy Demand	0.36	0.16	0.03	0.03
Total On-Site Emissions	0.42	6.78	0.04	0.04
<i>SCAQMD Localized Thresholds</i>	<i>255.17</i>	<i>1471.92</i>	<i>3.70</i>	<i>1.84</i>
<i>Exceed?</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>No</i>

Source: Impact Science, August 2023. See Appendix A to this report.

The Project would not result in potentially significant CO “hot spots” and a Project-specific CO hotspots analysis is not required to reach this conclusion. It has long been recognized that CO exceedances (“hot spots”) are caused by vehicular emissions, primarily when idling at intersections. Vehicle emissions standards have become increasingly more stringent in the last twenty years. With the turnover of older vehicles, introduction of cleaner fuels and implementation of control technology on industrial facilities, CO concentrations for the Project vicinity have historically met state and federal attainment status for the air quality standards. Based on the measured concentrations provided previously in **Table 3**, CO concentrations in SRA 23 are substantially below the California one-hour or eight-hour CO standards of 20 or 9.0 ppm, respectively. Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. Therefore, the Project would not have the potential to cause or contribute to an exceedance of the California one-hour or eight-hour CO standards of 20 or 9.0 ppm, respectively. Impacts with respect to localized CO concentrations would be less than significant.

Diesel Particulate Matter

Construction would result in the generation of DPM emissions from the use of off-road diesel equipment required for demolition, grading and excavation, building construction, and other construction activities. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer.

In March 2015, the Office of Environmental Health Hazard Assessment (OEHHA) adopted revised guidelines that update previous guidance by incorporating advances in risk assessment with consideration of infants and children using Age Sensitivity Factors (ASF). The intent of the OEHHA 2015 guidance is to provide HRA procedures for use in the Air Toxics Hot Spots Program or for the permitting of existing,

new, or modified stationary sources. As the Project is not part of the Air Toxics Hot Spots Program and is considered an urban infill residential development consisting primarily of mobile and area sources (i.e., non-stationary sources), the OEHHA 2015 guidance is not directly applicable.

The use of diesel-powered construction equipment would be temporary and episodic. The duration of exposure would be short and exhaust from construction equipment dissipates rapidly. Current methodology for conducting health risk assessments is associated with long term exposure periods (9, 30, and 70 years). Therefore, short-term construction activities would not be expected to generate a significant health risk. Furthermore, the Project Site is approximately 4.54 acres. Generally, construction for projects contained in a site of such size represent less than significant health risks due to limitations of the off-road diesel equipment able to operate. When compared to larger sites, smaller sites such as the Project would generally result in reduced DPM emissions, reduced dust-generating ground-disturbance, and reduced duration of construction activities. Furthermore, construction would be subject to and would comply with California regulations limiting the idling of heavy-duty construction equipment to no more than five (5) minutes, which would further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions.²⁹ For these reasons, DPM generated by construction activities would not be expected to expose sensitive receptors to substantial amounts of air toxics and these impacts would be less than significant.

AQ Impact 4 Would the Proposed Project include sources that could create other emissions (such as those leading to odors) adversely affecting a substantial number of people? (*Less than Significant*).

The SCAQMD CEQA *Air Quality Handbook* (1993) identifies certain land uses as sources of odors. These land uses include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Project would not include any of the land uses that have been identified by the SCAQMD as odor sources.

Construction activities associated with the Project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, construction-related odors would be short-term in nature and cease upon Project completion. In addition, the Project would be required to comply with the California Code of Regulations, Title 13, sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no

²⁹ California Air Resources Board, *Frequently Asked Questions Regulation for In-Use Off-Road Diesel-Fueled (Off-Road Regulation)*, 2015. Available online at: <https://ww3.arb.ca.gov/msprog/ordiesel/faq/idlepolicyfaq.pdf>, accessed August 14, 2023.

more than five minutes. This would reduce the detectable odors from heavy-duty equipment exhaust. The Project would also be required to comply with the SCAQMD Rule 1113 – Architectural Coating, which would minimize odor impacts from ROG emissions during architectural coating. Any odor impacts to existing adjacent land uses would be short-term and not substantial. As such, the Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Impacts would be less than significant.

5.0 GREENHOUSE GAS

5.1 GREENHOUSE GAS SETTING

Global Climate Change Background

Global climate change refers to any significant change in climate measurements, such as temperature, precipitation, or wind, lasting for an extended period (i.e., decades or longer).³⁰ Climate change may result from:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation, reduction in sunlight from the addition of GHG and other gases to the atmosphere from volcanic eruptions); and
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, desertification).

In recent decades, changes in climate have caused impacts on natural and human systems on all continents and across the oceans. Impacts are due to observed climate change, irrespective of its cause, indicating the sensitivity of natural and human systems to changing climate.³¹ Continuing changes to the global climate system and ecosystems, and to California, are projected to include:

- Rapidly diminishing sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;³²
- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and ice sheets;

³⁰ U.S. EPA, "Overview of Greenhouse Gases," Available online at: <https://www.epa.gov/ghgemissions/overview-greenhouse-gases>, accessed August 2023.

³¹ Intergovernmental Panel on Climate Change, *Climate Change 2013: The Physical Science Basis*, 2013. Available online at: <http://www.climatechange2013.org/>, accessed August 2023.

³² Intergovernmental Panel on Climate Change, *Climate Change 2013: The Physical Science Basis*, 2013. Available online at: <http://www.climatechange2013.org/>, accessed August 2023.

- Changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;
- Changing levels in snowpack, river flow and sea levels indicating that climate change is already affecting California's water resources;³³
- Dry seasons that start earlier and end later, evoking more frequent and intense wildland fires; and
- Increasing demand for electricity due to rising temperatures.

The natural process through which heat is retained in the troposphere³⁴ is called the “greenhouse effect.” Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere as short-wave radiation. It travels through the atmosphere without warming it and is absorbed by the Earth's surface. When the Earth re-emits this radiation back toward space, the radiation changes to long wave radiation. GHGs are transparent to incoming short wave solar radiation but absorb outgoing long wave radiation. As a result, radiation that otherwise would escape back into space is now retained, warming the atmosphere. This phenomenon is known as the greenhouse effect.

Greenhouse Gas Compounds

Global warming potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO₂). CO₂, by definition, has a GWP of 1 regardless of the time period used, because it is the gas being used as the reference. CO₂ remains in the climate system for a very long time: CO₂ emissions cause increases in atmospheric concentrations of CO₂ that will last thousands of years. Methane (CH₄) is estimated to have a GWP of 28–36 over 100 years. CH₄ emitted today lasts about a decade on average, which is much less time than CO₂. But CH₄ also absorbs much more energy than CO₂. The net effect of the shorter lifetime and higher energy absorption is reflected in the GWP. Nitrous Oxide (N₂O) has a GWP 265–298 times that of CO₂ for a 100-year timescale. N₂O emitted today remains in the atmosphere for more than 100 years, on average. Chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) are sometimes called high-GWP gases because, for

³³ California Environmental Protection Agency (Cal EPA), *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, 2010.

³⁴ The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface from 6 to 7 miles.

a given amount of mass, they trap substantially more heat than CO₂. (The GWPs for these gases can be in the thousands or tens of thousands.)³⁵

California State law defines GHGs to include the following six compounds:

- **Carbon Dioxide** (CO₂) is released to the atmosphere when solid waste, fossil fuels (oil, natural gas, and coal), and wood and wood products are burned. CO₂ emissions from motor vehicles occur during operation of vehicles and operation of air conditioning systems.
- **Methane** (CH₄) is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from the decomposition of organic waste in solid waste landfills, raising livestock, natural gas and petroleum systems, stationary and mobile combustion, and wastewater treatment.
- **Nitrous Oxide** (N₂O) is emitted during agricultural and industrial activities, as well as during combustion of solid waste and fossil fuels. N₂O is also emitted from motor vehicles generally occurring from operation of vehicles.
- **Hydrofluorocarbons** (HFCs) are one of several GWP gases that are not naturally occurring and are generated from industrial processes. HFC (refrigerant) emissions from vehicle air conditioning systems occur due to leakage, losses during recharging, or release from scrapping vehicles at end of their useful life.
- **Perfluorocarbons** (PFCs) are another high GWP gas that are not naturally occurring and are generated in a variety of industrial processes. Emissions of PFCs are generally negligible from motor vehicles.
 - **Sulfur Hexafluoride** (SF₆) is another high GWP gas that is not naturally occurring and is generated in a variety of industrial processes. Emissions of SF₆ are generally negligible from motor vehicles.

State of California Greenhouse Gas Emissions Inventory

The California Air Resources Board (CARB) compiles GHG inventories for the State of California. According to CARB's 2024 emission inventory,³⁶ 2022 emissions from GHG emitting activities statewide were 371.1 million metric tons of carbon dioxide equivalent (MMTCO₂e), 9.3 MMTCO₂e lower than 2021 levels and 59.9 MMTCO₂e below the 2020 GHG limit of 431 MMTCO₂e established through AB 32 and

³⁵ U.S. EPA. "Understanding Global Warming Potentials." Available online at: <https://www.epa.gov/ghgemissions/understanding-global-warming-potentials>, accessed May 29, 2025.

³⁶ CARB, *California Greenhouse Gas Emissions for 2000 to 2022, Trends of Emissions and Other Indicators*, released September 20, 2024. Available online at: https://ww2.arb.ca.gov/sites/default/files/2024-09/nc-2000_2022_ghg_inventory_trends.pdf. Accessed May 29, 2025.

CARB's subsequent Scoping Plans. The 2019 to 2020 decrease in emissions is likely due in large part to the impacts of the COVID-19 pandemic.³⁷ Economic recovery from the pandemic may result in emissions increases over the next few years. As such, the total 2020 reported emissions are likely an anomaly, and any near-term increases in annual emissions should be considered in the context of the pandemic. The most notable highlights in the 2024 edition inventory include:

- The transportation sector showed the largest decline in emissions of 5.2 MMTCO₂e (3.6 percent) compared to 2021. The decrease in on-road transportation was due in large part to reduced use of fossil distillate (17.6 percent) and fossil gasoline (1.7 percent).
- Industrial sector emissions decreased by 1.5 MMTCO₂e (2 percent) compared to 2021. The oil and gas production and processing sub-sector accounted for most of the decrease, with emissions decreasing by 0.9 MMTCO₂e (7 percent).
- Electricity sector emissions decreased by 2.6 MMTCO₂e (4.1 percent) compared to 2021. Total electricity generation increased by 8.5 TWh (2.7 percent) while the carbon intensity of generation decreased by 6.7 percent. Solar power generation increased by 8.8 TWh (14.5 percent) and wind power generation increased by 1.4 TWh (5.5 percent), incentivized by California's clean energy policies. Hydropower generation had a modest increase of 1.8 TWh (4.2 percent) as drought continued to impact hydropower generation. As a result, fossil gas-powered electricity generation decreased by 2.7 TWh (2.5 percent)

Table 13, GHG Emissions in California, provides a summary of GHG emissions reported in California in 2000 and 2021 separated by categories defined by the United Nations Intergovernmental Panel on Climate Change (IPCC).

³⁷ CARB's 2022 Sustainable Communities Progress Report shows that prior to the pandemic in 2019 no Metropolitan Planning Organization (except Tahoe) was on-track to meet 2020 SB 375 targets for reductions in light duty vehicle emissions as compared to 2005. CARB determined that if the state's 18 MPOs' all met the SB 375 GHG cars and light-duty trucks emission reduction targets set by CARB in 2018, an 18 percent reduction in per capita VMT (from cars and light-duty trucks) would be achieved by 2035. In the target re-setting report, CARB indicated that to meet the statewide reduction goals set forth by SB 32 and the 2017 Scoping Plan, the state would need to reduce per capita GHG emissions from cars and light-duty trucks by 25 percent by 2035, resulting in a 7 percent gap between the 18 percent emissions reductions targets set for the regions (averaged for the 18 MPOs and compared to a baseline year of 2005). The 2022 Scoping Plan does not update SB 375 GHG reduction targets, but it does set aggressive VMT reduction targets for the years 2030 (25 percent as compared to 2019) and 2045 (30 percent as compared to 2019).

Table 13
GHG Emissions in California

Source Category	2000 (MMTCO ₂ e)	Percent of Total	2021 (MMTCO ₂ e)	Percent of Total
Energy	404.8	87.7%	307.2	80.1%
Energy Industries	158.3	--	100.9	--
Manufacturing Industries & Construction	17.3	--	12.6	--
Transport	177.1	--	146.8	--
Other Sectors (Residential/Commercial/Institutional)	44.8	--	38.4	--
Fugitive Emissions from Solid Fuels	0.0	--	0.0	--
Fugitive Emissions from Oil & Natural Gas	6.1	--	7.6	--
Fugitive Emissions from Geothermal Energy Production	1.1	--	0.8	--
Pollution Control Devices	0.0	--	0.0	--
Industrial Processes & Product Use	19.6	4.2%	33.8	8.9%
Mineral Industry	5.6	--	4.7	--
Chemical Industry	0.1	--	0.0	--
Metal Industry	0.1	--	0.0	--
Non-Energy Products from Fuels & Solvent Use	2.5	--	1.8	--
Electronics Industry	0.5	--	0.3	--
Substitutes for Ozone Depleting Substances	5.6	--	20.8	--
Other Product Manufacture and Use	1.5	--	1.2	--
Other	3.7	--	5.0	--
Agriculture, Forestry, & Other Land Use	28.4	6.2%	29.9	7.8%
Livestock	19.1	--	21.7	--
Aggregate Sources & Non-CO ₂ Sources on Land	9.3	--	8.2	--
Waste	8.9	1.9%	10.4	2.7%
Solid Waste Disposal	6.6	--	8.0	--
Biological Treatment of Solid Waste	0.1	--	0.4	--
Wastewater Treatment & Discharge	2.1	--	2.0	--
Emissions Summary				
Gross California Emissions	461.6		381.3	

Sources:

¹ CARB, California Greenhouse Gas Inventory for 2000-2021 - by IPCC Category. Last updated December 13, 2023. Available online at https://www2.arb.ca.gov/sites/default/files/2023-12/ghg_inventory_ipcc_sum_2000-21.pdf. 2021 is the most recent year of available data and the comparison to the year 2000 is intended to illustrate the changes in GHG emissions over a 21-year period.

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¹ CARB, California Greenhouse Gas Inventory for 2000-2021 - by IPCC Category. Last updated December 13, 2023. Available online at https://ww2.arb.ca.gov/sites/default/files/2023-12/ghg_inventory_ipcc_sum_2000-21.pdf. 2021 is the most recent year of available data and the comparison to the year 2000 is intended to illustrate the changes in GHG emissions over a 21-year period.

5.2 REGULATORY FRAMEWORK

State

California Air Resources Board

The California Air Resources Board (CARB), 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, CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the Federal Government and the local air districts. The SIP is required for the State to take over implementation of the Federal Clean Air Act. CARB also has primary responsibility for adopting

regulations to meet the State's goal of reducing GHG emissions. The State has met its goals to reduce GHG emissions to 1990 levels by 2020. Subsequent State goals include reducing GHG emissions to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050 as well as reaching carbon neutrality by 2045.

Statewide GHG Reduction Targets

Executive Order S-3-05, Assembly Bill 32, Senate Bill 32, Assembly Bill 1279, Executive Order B-55-18, Cap-and-Trade Program, Senate Bill 350, Senate Bill 1383, Senate Bill 97, Senate Bill 375, Emission Performance Standards, Renewable Portfolio Standards (SB 1078, SB 107, SB X 1-2, and SB 100), Assembly Bill 1493, Low Carbon Fuel Standard (Executive Order S-01-07), Advanced Clean Cars Program, Senate Bill 743, California Integrated Waste Management Act (AB 341), California Appliance Efficiency Regulations, California Green Building Code (California Code of Regulations Title 24).

Executive Order S-3-05

Executive Order S-3-05, issued in June 2005, established GHG emissions targets for the State, as well as a process to ensure the targets are met. The order directed the Secretary for the CalEPA to report every two years on the State's progress toward meeting the Governor's GHG emission reduction targets. As a result of this executive order, the California Climate Action Team (CCAT), led by the Secretary of the CalEPA, was formed. The CCAT is made up of representatives from a number of State agencies and was formed to implement global warming emission reduction programs and reporting on the progress made toward meeting statewide targets established under the Executive Order. The CCAT reported several recommendations and strategies for reducing GHG emissions and reaching the targets established in the Executive Order (CalEPA 2006). The statewide GHG targets are as follows:

- By 2010, reduce to 2000 emission levels;
- By 2020, reduce to 1990 emission levels; and
- By 2050, reduce to 80 percent below 1990 levels.

However, with the adoption of the California Global Warming Solutions Act of 2006 (also known as Assembly Bill [AB] 32), discussed below, the Legislature did not adopt the 2050 horizon-year goal from Executive Order No. S-3-05. In the last legislative session, the Legislature rejected legislation to enact the Executive Order's 2050 goal.³⁸

³⁸ The original version of SB 32 as introduced in the Legislature contained a commitment to the 2050 goal, but this commitment was not included in the final version of the bill. See:

The original mandate for the CCAT was to develop proposed measures to meet the emission reduction targets set forth in E.O. S-3-05. The CAT has since expanded and currently has members from 18 state agencies and departments. The CCAT also has ten working groups, which coordinate policies among their members. The working groups and their major areas of focus are:

- Agriculture: Focusing on opportunities for agriculture to reduce GHG emissions through efficiency improvements and alternative energy projects, while adapting agricultural systems to climate change;
- Biodiversity: Designing policies to protect species and natural habitats from the effects of climate change;
- Energy: Reducing GHG emissions through extensive energy efficiency policies and renewable energy generation;
- Forestry: Coupling GHG mitigation efforts with climate change adaptation related to forest preservation and resilience, waste to energy programs and forest offset protocols;
- Land Use and Infrastructure: Linking land use and infrastructure planning to efforts to reduce GHG from vehicles and adaptation to changing climatic conditions;
- Oceans and Coastal: Evaluating the effects of sea level rise and changes in coastal storm patterns on human and natural systems in California;
- Public Health: Evaluating the effects of GHG mitigation policies on public health and adapting public health systems to cope with changing climatic conditions;
- Research: Coordinating research concerning impacts of and responses to climate change in California;
- State Government: Evaluating and implementing strategies to reduce GHG emissions resulting from state government operations; and
- Water: Reducing GHG impacts associated with the state's water.

https://leginfo.legislature.ca.gov/faces/billVersionsCompareClient.xhtml?bill_id=201520160SB32&cversion=20150SB32991 NT. In addition, the Supreme Court recently held in *Cleveland National Forest Foundation et al. v San Diego Association of Governments (SANDAG)* (S223603, July 13, 2017) that SANDAG did not abuse its discretion in declining to adopt the 2050 goal as a measure of significance in an analysis of the consistency of projected 2050 GHG emissions with the goals in Executive Order S-3-05.

The CCAT stated that smart land use is an umbrella term for strategies that integrate transportation and land-use decisions. Such strategies generally encourage jobs/housing proximity, transit-oriented development, and high-density residential/commercial development along transit corridors. These strategies develop more efficient land-use patterns within each jurisdiction or region to match population growth and workforce and socioeconomic needs for the full spectrum of the population. “Intelligent transportation systems” involve the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and the movement of people, goods, and service.³⁹

Assembly Bill 32

The California Global Warming Solutions Act of 2006 (AB 32) was signed into law in September 2006 after considerable study and expert testimony before the Legislature. The law instructs CARB to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. AB 32 directed CARB to set a GHG emission limit based on 1990 levels, to be achieved by 2020. AB 32 set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner.⁴⁰ See ‘Climate Change Scoping Plan’ subheading below.

The heart of AB 32 is the requirement to reduce statewide GHG emissions to 1990 levels by 2020. AB 32 required CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions. CARB accomplished the key milestones set forth in AB 32, including the following:

- June 30, 2007. Identification of discrete early action GHG emissions reduction measures. On June 21, 2007, CARB satisfied this requirement by approving three early action measures.⁴¹ These were later supplemented by adding six other discrete early action measures.⁴²
- January 1, 2008. Identification of the 1990 baseline GHG emissions level and approval of a statewide limit equivalent to that level and adoption of reporting and verification requirements

³⁹ California Environmental Protection Agency, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, 2006.

⁴⁰ Office of Legislative Counsel of California, *The California Global Warming Solutions Act of 2006 (AB 32)*, 2006.

⁴¹ CARB, *Consideration of Recommendations for Discrete Early Actions for Climate Change Mitigation in California*, 2007.

⁴² CARB, *Public Meeting to Consider Approval of Additions to the List of Early Action Measures to Reduce Greenhouse Gas Emissions under the California Global Warming Solutions Act of 2006 and to Discuss Concepts for Promoting and Recognizing Voluntary Early Actions*, 2007.

concerning GHG emissions. On December 6, 2007, CARB approved a statewide limit on GHG emissions levels for the year 2020 consistent with the determined 1990 baseline.⁴³

- January 1, 2009. Adoption of a scoping plan for achieving GHG emission reductions. On December 11, 2008, CARB adopted Climate Change Scoping Plan: A Framework for Change (Scoping Plan).⁴⁴
- January 1, 2010. Adoption and enforcement of regulations to implement the “discrete” actions. Several early action measures have been adopted and became effective on January 1, 2010.^{45,46}
- January 1, 2011. Adoption of GHG emissions limits and reduction measures by regulation. On October 28, 2010, CARB released its proposed cap-and-trade regulations, which would cover sources of approximately 85 percent of California's GHG emissions.⁴⁷ CARB's Board ordered its Executive Director to prepare a final regulatory package for cap-and-trade on December 16, 2010.⁴⁸
- January 1, 2012. GHG emissions limits and reduction measures adopted in 2011 became enforceable.

Executive Order B-30-15

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

⁴³ CARB, *California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit*, 2007.

⁴⁴ CARB, *Climate Change Scoping Plan*, 2008.

⁴⁵ CARB, *Consideration of Recommendations for Discrete Early Actions for Climate Change Mitigation in California*, 2007.

⁴⁶ CARB, *Public Meeting to Consider Approval of Additions to the List of Early Action Measures to Reduce Greenhouse Gas Emissions under the California Global Warming Solutions Act of 2006 and to Discuss Concepts for Promoting and Recognizing Voluntary Early Actions*, 2007.

⁴⁷ CARB, *Cap and Trade 2010*, 2011.

⁴⁸ CARB, *California Cap-and-Trade Program, Resolution 10-42*, 2010.

Senate Bill 32. In 2016, the Legislature passed Senate Bill (SB) 32 with the companion bill AB 197, which further requires California to reduce GHG emissions to 40 percent below 1990 levels by 2030. The bill targets reductions from the leading GHG emitters in the State. Transportation is the largest sector of GHG emissions in California and will be a primary subject for reductions. Through advances in technology and improved public transportation, the State plans to reduce GHG emissions from transportation sources to assist in meeting the 2030 reduction goal. AB 197, signed September 8, 2016, is a bill linked to SB 32 and signed on September 8, 2016, prioritizes efforts to cut GHG emissions in low-income or minority communities. AB 197 requires CARB to make available, and update at least annually, on its website the emissions of GHGs, criteria pollutants, and toxic air contaminants for each facility that reports to CARB and air districts. In addition, AB 197 adds two Members of the Legislature to the CARB board as ex officio, non-voting members and creates the Joint Legislative Committee on Climate Change Policies to ascertain facts and make recommendations to the Legislature and the houses of the Legislature concerning the State's programs, policies, and investments related to climate change.

Executive Order B-55-18

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

AB 1279

On September 16, 2022, California signed into law AB 1279 (The California Climate Crisis Act) which establishes the policy of the state to achieve carbon neutrality as soon as possible, but no later than 2045; to maintain net negative GHG emissions thereafter; and to ensure that by 2045 statewide anthropogenic GHG emissions are reduced at least 85 percent below 1990 levels. The bill requires CARB to ensure that Scoping Plan updates (see below) identify and recommend measures to achieve carbon neutrality, and to identify and implement policies and strategies that enable CO₂ removal solutions and carbon capture, utilization, and storage (CCUS) technologies.

Cap-and-Trade Program

As mentioned above, the Scoping Plan identifies a cap-and-trade program as one of the strategies the State will employ to reduce GHG emissions that cause climate change. The cap-and-trade program is implemented by CARB and "caps" GHG emissions from the industrial, utility, and transportation fuels sections, which account for roughly 85 percent of the State's GHG emissions. The program works by establishing a hard cap on about 85 percent of total statewide GHG emissions. The cap starts at expected

business-as-usual emissions levels in 2012 and declines two to three percent per year. Originally with a planning horizon of 2020, the approval of AB 398 in July 2017 extended the program until 2030.

With the passage of AB 1279, the State has a statutory target to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan demonstrates that planning on a longer time frame for the new carbon neutrality target means we must accelerate our near-term ambition for 2030 in order to be on track to achieve our longer-term target. CARB will use the modeling from the 2022 Scoping Plan to assess what changes may be warranted to the Cap-and-Trade or other programs to ensure we are on track to achieve an accelerated 2030 target. Since the original adoption of the Cap-and-Trade regulation, the program has been amended eight times through a robust public process. Moreover, then-California Environmental Protection Agency Secretary Jared Blumenfeld testified at a Senate hearing in 2022 that CARB will report back to the Legislature by the end of 2023 on the status of the allowance supply with any suggestions on legislative changes to ensure the number of allowances is appropriate to help the state achieve its 2030 target of at least 40% below 1990 levels. As part of that status update, CARB will also provide information on any potential program changes that may be needed to allowance supply to help achieve an accelerated target for 2030 identified in the 2022 Scoping Plan as necessary to achieve carbon neutrality no later than 2045.

Senate Bill 350

Adopted on October 7, 2015, SB 350 supports the reduction of GHG emissions from the electricity sector through a number of measures, including requiring electricity providers to achieve a 50 percent renewables portfolio standard by 2030, a cumulative doubling of statewide energy efficiency savings in electricity and natural gas by retail customers by 2030.

Senate Bill 1383

Approved by the governor in September 2016, SB 1383 requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the strategy to achieve the following reduction targets by 2030:

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

The bill also requires California Department of Resources Recycling and Recovery (CalRecycle), in consultation with the State board, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

Senate Bill 97

Per SB 97, which was signed into law in 2007, the California Natural Resources Agency adopted amendments to the *State CEQA Guidelines*, which address the specific obligations of public agencies when analyzing GHG emissions under CEQA to determine a project's effects on the environment (codified as Public Resources Code [PRC] 21083.05). Specifically, PRC 21083.05 states, “[t]he Office of Planning and Research and the Natural Resources Agency shall periodically update the guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions.”

Sustainable Communities and Climate Protection Act (Senate Bill 375)

The Sustainable Communities and Climate Protection Act of 2008, or SB 375 (Chapter 728, Statutes of 2008), establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the State on September 30, 2008. SB 375 finds that the “transportation sector is the single largest contributor of greenhouse gases of any sector.”⁴⁹ Under SB 375, CARB is required, in consultation with the Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. SCAG is the Metropolitan Planning Organization in which the City of Riverside is located in. CARB set targets for 2020 and 2035 for each of the 18 metropolitan planning organization regions in 2010, and updated them in 2018.⁵⁰ In March 2018, the CARB updated the SB 375 targets for the SCAG region to require an 8 percent reduction by 2020 and a 19 percent reduction by 2035 in per capita passenger vehicle GHG emissions.⁵¹ As discussed further below, SCAG has adopted an updated Regional Transportation Plan / Sustainable Community Strategies (RTP/SCS) subsequent to the update of the emission targets. The 2020–2045 RTP/SCS is expected to reduce per capita transportation emissions by 19 percent by 2035, which is consistent with SB 375 compliance with respect to meeting the State’s GHG emission reduction goals.⁵²

Under SB 375, the target must be incorporated within that region’s Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides

⁴⁹ State of California, Senate Bill No. 375, September 30, 2008.

⁵⁰ CARB, “Sustainable Communities & Climate Protection Program – About,” Available online at: <https://ww2.arb.ca.gov/ourwork/programs/sustainable-communities-climate-protection-program/about>, accessed August 2023.

⁵¹ CARB, “SB 375 Regional Greenhouse Gas Emissions Reduction Targets,” Available online at: <https://www.arb.ca.gov/cc/sb375/finaltargets2018.pdf>, accessed August 2023.

⁵² SCAG, *Final 2020–2045 RTP/SCS*, Chapter 0: Making Connections, p. 5, May 7, 2020.

that local land use plans and policies (e.g., general plans) are not required to be consistent with either the RTP or SCS.

California Climate Action Registry

The California Climate Action Registry (CCAR) is a private non-profit organization formed by the State of California that serves as a voluntary GHG registry to protect and promote early actions to reduce GHG emissions by organizations. Senate Bill 1771 (SB 1771, Sher) formally established the CCAR with technical changes made to the statute in SB 527, which finalized the structure of the CCAR. The CCAR began with 23 charter members and currently has over 300 corporations, universities, cities and counties, government agencies and environment organizations voluntarily measuring, monitoring, and publicly reporting their GHG emissions using the CCAR protocols. The CCAR has published a General Reporting Protocol, as well as project- and industry-specific protocols for landfill activities, livestock activities, the cement sector, the power/utility sector, and the forest sector. The protocols provide the principles, approach, methodology, and procedures required for participation in the CCAR.

Due to the growth of the CCAR, it now operates under the Climate Action Reserve,⁵³ which is a national offsets program for the United States carbon market. As part of this transition, the California Climate Action Registry was instrumental in establishing The Climate Registry, with the mission of expanding the California Registry's emissions reporting work to include all of North America.⁵⁴ Emissions inventory reporting is being transitioned to the Climate Registry and reports for the 2009 reporting year will be the last the California Registry will accept. However, even after that year, the California Registry will continue to represent its members' emissions reports to the state of California.

Assembly Bill 1493

Mobile Source Reductions Assembly Bill 1493, the "Pavley Standard," required CARB to adopt regulations by January 1, 2005, to reduce GHG emissions from non-commercial passenger vehicles and light-duty trucks of model year 2009 through 2016. The bill also required the California Climate Action Registry to develop and adopt protocols for the reporting and certification of GHG emissions reductions from mobile sources for use by CARB in granting emission reduction credits. The bill authorizes CARB to grant emission reduction credits for reductions of GHG emissions prior to the date of enforcement of regulations, using model year 2000 as the baseline for reduction.⁵⁵ In 2004, CARB applied to the U.S. EPA for a waiver under

⁵³ Additional information about the Climate Action Reserve may be obtained at the following website:
<http://www.climateactionreserve.org/>.

⁵⁴ Additional information about The Climate Registry may be obtained at the following website:
<http://www.theclimateregistry.org/>.

⁵⁵ CARB, *Clean Car Standards – Pavley, Assembly Bill 1493*, 2017.

the federal Clean Air Act to authorize implementation of these regulations. On June 30, 2009, the U.S. EPA granted the waiver with the following provision: CARB may not hold a manufacturer liable or responsible for any noncompliance caused by emission debits generated by a manufacturer for the 2009 model year. CARB has adopted a new approach to passenger vehicles (cars and light trucks), by combining the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California.

Low Carbon Fuel Standard (Executive Order S-01-07)

Executive Order S-01-07 (January 18, 2007) requires a 10 percent or greater reduction in the average fuel carbon intensity for transportation fuels in California regulated by CARB. CARB identified the Low Carbon Fuel Standard (LCFS) as a Discrete Early Action item under AB 32, and the final resolution (09-31) was issued on April 23, 2009.⁵⁶ In 2009, CARB approved for adoption the LCFS regulation, which became fully effective in April 2010 and is codified at Title 17, California Code of Regulations (CCR), Sections 95480-95490. The LCFS reduced GHG emissions by reducing the carbon intensity of transportation fuels used in California by 10 percent between 2011 and 2020. In 2018, CARB approved amendments to LCFS regulations, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

Senate Bill 743 (SB 743)

SB 743, adopted September 27, 2013, encourages land use and transportation planning decisions and investments that reduce vehicle miles traveled (VMT), which contribute to GHG emissions, as required by AB 32. Key provisions of SB 743 include reforming aesthetics and parking CEQA analysis for certain urban infill projects and eliminating the measurement of auto delay, including Level of Service (LOS), as a metric that can be used for measuring traffic impacts in transit priority areas. SB 743 requires the Governor's Office of Planning and Research (OPR) to develop revisions to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects within transit priority areas that promote the "...reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses." It also allows OPR to develop alternative metrics outside of transit priority areas.

⁵⁶ CARB, *Initial Statement of Reasons for Proposed Regulation for the Management of High Global Warming Potential Refrigerants for Stationary Sources*, 2009.

In December 2018, the Natural Resources Agency updated the CEQA Guidelines and provided guidance for implementing SB 743.

California Integrated Waste Management Act (AB 341)

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

California Appliance Efficiency Regulations

The Appliance Efficiency Regulations (Title 20, Sections 1601 through 1608), adopted by the CEC, include standards for new appliances (e.g., refrigerators) and lighting, if they are sold or offered for sale in California. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

California Green Building Code (California Code of Regulations Title 24)

Although not originally aimed at reducing GHG emissions, CCR Title 24 Part 6: *California's Energy Efficiency Standards for Residential and Nonresidential Buildings* (Title 24), was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. Since then, Title 24 has been amended to recognize that energy-efficient buildings require less electricity and reduce fuel consumption, which subsequently reduces GHG emissions. The current 2022 Title 24 standards were adopted, among other reasons, to respond to the requirements of AB 32. Specifically, new development projects constructed within California after January 1, 2023, are subject to the mandatory planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and environmental quality measures of the California Green Building Standards (CalGreen) Code (CCR Title 24, Part 11). Title 24 standards are updated triennially; the next update is scheduled to be adopted in 2025 and will take effect on January 1, 2026.

CEQA Guidelines

In August 2007, the California State Legislature adopted Senate Bill 97 (SB 97) (Chapter 185, Statutes of 2007), requiring the Governor's Office of Planning and Research (OPR) to prepare and transmit new CEQA Guidelines for the mitigation of GHG emissions or the effects of GHG emissions to the Resources Agency

by July 1, 2009. In response to SB 97, the OPR adopted CEQA Guidelines that became effective on March 18, 2010.

However, neither a threshold of significance nor any specific mitigation measures are included or provided in the guidelines.⁵⁷ The guidelines require a lead agency to make a good-faith effort, based on the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. Discretion is given to the lead agency whether to: (1) use a model or methodology to quantify GHG emissions resulting from a project, and which model or methodology to use; or (2) rely on a qualitative analysis or performance-based standards. Furthermore, three factors are identified that should be considered in the evaluation of the significance of GHG emissions:

1. The extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.⁵⁸

The administrative record for the Guidelines Amendments also clarifies “that the effects of greenhouse gas emissions are cumulative and should be analyzed in the context of California Environmental Quality Act’s requirements for cumulative impact analysis.”⁵⁹

Senate Bill 1 (SB 1) and Senate Bill 1017 (SB 1017) (Million Solar Roofs)

SB 1 and SB 1017, enacted in August 2006, set a goal to install 3,000 megawatts of new solar capacity by 2017 – with a stated intent to move the state toward a cleaner energy future and help lower the cost of solar systems for consumers. The Million Solar Roofs Program is a ratepayer-financed incentive program aimed at transforming the market for rooftop solar systems by driving down costs over time. It provides up to \$3.3 billion in financial incentives that decline over time.

⁵⁷ See 14 Cal. Code Regs. §§ 15064.7 (generally giving discretion to lead agencies to develop and publish thresholds of significance for use in the determination of the significance of environmental effects), 15064.4 (giving discretion to lead agencies to determine the significance of impacts from GHGs).

⁵⁸ 14 Cal. Code Regs. § 15064.4(b).

⁵⁹ Letter from Cynthia Bryant, Director of the Governor’s Office of Planning and Research to Mike Chrisman, California Secretary for Natural Resources, dated April 13, 2009.

GHG Emissions Standards for Baseload Generation

SB 1368, which was signed into law on September 29, 2006, prohibits any retail seller of electricity in California from entering into a long-term financial commitment for baseload generation if the GHG emissions are higher than those from a combined-cycle natural gas power plant. This performance standard (i.e., reducing long-term GHG emissions as a result of electrical baseload generation) applies to electricity generated both within and outside of California, and to publicly owned, as well as investor-owned, electric utilities.

Senate Bill 350 (SB 350)

Adopted on October 7, 2015, SB 350 supports the reduction of GHG emissions from the electricity sector through a number of measures, including requiring electricity providers to achieve a 50 percent renewable portfolio standard by 2030, a cumulative doubling of statewide energy efficiency savings in electricity and natural gas by retail customers by 2030.

Climate Change Scoping Plan

The Scoping Plan is a GHG reduction roadmap developed and updated by CARB at least once every five years, as initially required by AB 32. It lays out the transformations needed across various sectors to reduce GHG emissions and reach the State's climate targets. CARB adopted the Final 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan Update) in December 2022 as the third update to the initial plan that was adopted in 2008. The initial 2008 Scoping Plan laid out a path to achieve the AB 32 target of returning to 1990 levels of GHG emissions by 2020, a reduction of approximately 15 percent below business-as-usual activities.⁶⁰ The 2008 Scoping Plan included a mix of incentives, regulations, and carbon pricing, laying out the portfolio approach to addressing climate change and clearly making the case for using multiple tools to meet California's GHG targets. The 2013 Scoping Plan Update (adopted in 2014) assessed progress toward achieving the 2020 target and made the case for addressing short-lived climate pollutants (SLCPs).⁶¹ The 2017 Scoping Plan Update,⁶² shifted focus to the newer SB 32 goal of a 40 percent

⁶⁰ CARB, *Climate Change Scoping Plan*, 2008. Available online at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/document/adopted_scoping_plan.pdf, accessed August 2023.

⁶¹ CARB, *First Update to the Climate Change Scoping Plan*, 2014. Available online at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf, accessed August 2023.

⁶² CARB, *California's 2017 Climate Change Scoping Plan*, 2017. Available online at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf, accessed August 2023.

reduction below 1990 levels by 2030 by laying out a detailed cost-effective and technologically feasible path to this target, and also assessed progress towards achieving the AB 32 goal of returning to 1990 GHG levels by 2020. The 2020 goal was ultimately reached in 2016, four years ahead of the schedule called for under AB 32.

The 2022 Scoping Plan Update is the most comprehensive and far-reaching Scoping Plan developed to date. It identifies a technologically feasible, cost-effective, and equity-focused path to achieve new targets for carbon neutrality by 2045 and to reduce anthropogenic GHG emissions to at least 85 percent below 1990 levels, while also assessing the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan.⁶³ The 2030 target is an interim but important stepping stone along the critical path to the broader goal of deep decarbonization by 2045. The relatively longer path assessed in the 2022 Scoping Plan Update incorporates, coordinates, and leverages many existing and ongoing efforts to reduce GHGs and air pollution, while identifying new clean technologies and energy. Given the focus on carbon neutrality, the 2022 Scoping Plan Update also includes discussion for the first time of the natural and working lands sectors as sources for both sequestration and carbon storage, and as sources of emissions as a result of wildfires. See **Table 14, Estimated Statewide Greenhouse Gas Emissions Reductions in the 2022 Scoping Plan**, below.

The 2022 Scoping Plan Update reflects existing and recent direction in the Governor's Executive Orders and State Statutes, which identify policies, strategies, and regulations in support of and implementation of the Scoping Plan. Among these include Executive Order B-55-18 and AB 1279 (The California Climate Crisis Act), which identify the 2045 carbon neutrality and GHG reduction targets required for the Scoping Plan.

Table 15 below provides a summary of major climate legislation and executive orders issued since the adoption of the 2017 Scoping Plan.

⁶³ CARB, *California's 2017 Climate Change Scoping Plan*, 2017. Available online at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf, accessed August 2023.

Table 14
Estimated Statewide Greenhouse Gas Emissions Reductions in the 2022 Scoping Plan

Emissions Scenario	GHG Emissions (MMTCO ₂ e)
2019	
2019 State GHG Emissions	404
2030	
2030 BAU Forecast	312
2030 GHG Emissions without Carbon Removal and Capture	233
2030 GHG Emissions with Carbon Removal and Capture	226
2030 Emissions Target Set by AB 32 (i.e., 1990 level by 2030)	260
Reduction below Business-As-Usual necessary to achieve 1990 levels by 2030	52 (16.7%) ^a
2045	
2045 BAU Forecast	266
2045 GHG Emissions without Carbon Removal and Capture	72
2045 GHG Emissions with Carbon Removal and Capture	(3)

MMTCO₂e = million metric tons of carbon dioxide equivalents; parenthetical numbers represent negative values.

^a 312 – 260 = 52. 52 / 312 = 16.7%

Source: CARB, Final 2022 Climate Change Scoping Plan, November 2022.

Table 15
Major Climate Legislation and Executive Orders Enacted Since the 2017 Scoping Plan

Bill/Executive Order	Summary
Assembly Bill 1279 (AB 1279) (Muratsuchi, Chapter 337, Statutes of 2022) <i>The California Climate Crisis Act</i>	<p>AB 1279 establishes the policy of the state to achieve carbon neutrality as soon as possible, but no later than 2045; to maintain net negative GHG emissions thereafter; and to ensure that by 2045 statewide anthropogenic GHG emissions are reduced at least 85 percent below 1990 levels. The bill requires CARB to ensure that the Scoping Plan updates identify and recommend measures to achieve carbon neutrality, and to identify and implement policies and strategies that enable CO₂ removal solutions and carbon capture, utilization, and storage (CCUS) technologies.</p> <p>This bill is reflected directly in the 2022 Scoping Plan Update.</p>
Senate Bill 905 (SB 905) (Caballero, Chapter 359, Statutes of 2022) <i>Carbon Capture, Removal, Utilization, and Storage Program</i>	<p>SB 905 requires CARB to create the Carbon Capture, Removal, Utilization, and Storage Program to evaluate, demonstrate, and regulate CCUS and carbon dioxide removal (CDR) projects and technology.</p> <p>The bill requires CARB, on or before January 1, 2025, to adopt regulations creating a unified state permitting application for approval of CCUS and CDR projects. The bill also requires the Secretary of the Natural Resources Agency to publish a framework for governing agreements for two or more tracts of land overlying the same geologic storage reservoir for the purposes of a carbon sequestration project.</p> <p>The 2022 Scoping Plan Update modeling reflects both CCUS and CDR contributions to achieve carbon neutrality.</p>

Bill/Executive Order	Summary
Senate Bill 846 (SB 846) (Dodd, Chapter 239, Statutes of 2022) <i>Diablo Canyon Powerplant: Extension of Operations</i>	<p>SB 846 extends the Diablo Canyon Power Plant's sunset date by up to five additional years for each of its two units and seeks to make the nuclear power plant eligible for federal loans. The bill requires that the California Public Utilities Commission (CPUC) not include and disallow a load-serving entity from including in their adopted resource plan, the energy, capacity, or any attribute from the Diablo Canyon power plant.</p> <p>The 2022 Scoping Plan Update explains the emissions impact of this legislation.</p>
Senate Bill 1020 (SB 1020) (Laird, Chapter 361, Statutes of 2022) <i>Clean Energy, Jobs, and Affordability Act of 2022</i>	<p>SB 1020 adds interim renewable energy and zero carbon energy retail sales of electricity targets to California end-use customers set at 90 percent in 2035 and 95 percent in 2040. It accelerates the timeline required to have 100 percent renewable energy and zero carbon energy procured to serve state agencies from the original target year of 2045 to 2035. This bill requires each state agency to individually achieve the 100 percent goal by 2035 with specified requirements. This bill requires the CPUC, California Energy Commission (CEC), and CARB, on or before December 1, 2023, and annually thereafter, to issue a joint reliability progress report that reviews system and local reliability.</p> <p>The bill also modifies the requirement for CARB to hold a portion of its Scoping Plan workshops in regions of the state with the most significant exposure to air pollutants by further specifying that this includes communities with minority populations or low-income communities in areas designated as being in extreme federal non-attainment.</p> <p>The 2022 Scoping Plan Update describes the implications of this legislation on emissions.</p>
Senate Bill 1137 (SB 1137) (Gonzales, Chapter 365, Statutes of 2022) <i>Oil & Gas Operations: Location Restrictions: Notice of Intention: Health protection zone: Sensitive receptors</i>	<p>SB 1137 prohibits the development of new oil and gas wells or infrastructure in health protection zones, as defined, except for purposes of public health and safety or other limited exceptions. The bill requires operators of existing oil and gas wells or infrastructure within health protection zones to undertake specified monitoring, public notice, and nuisance requirements. The bill requires CARB to consult and concur with the California Geologic Energy Management Division (CalGEM) on leak detection and repair plans for these facilities, adopt regulations as necessary to implement emission detection system standards, and collaborate with CalGEM on public access to emissions detection data.</p>
Senate Bill 1075 (SB 1075) (Skinner, Chapter 363, Statutes of 2022) <i>Hydrogen: Green Hydrogen: Emissions of Greenhouse Gases</i>	<p>SB 1075 requires CARB, by June 1, 2024, to prepare an evaluation that includes: policy recommendations regarding the use of hydrogen, and specifically the use of green hydrogen, in California; a description of strategies supporting hydrogen infrastructure, including identifying policies that promote the reduction of GHGs and short-lived climate pollutants; a description of other forms of hydrogen to achieve emission reductions; an analysis of curtailed electricity; an estimate of GHG and emission reductions that could be achieved through deployment of green hydrogen through a variety of scenarios; an analysis of the potential for opportunities to integrate hydrogen production and applications with drinking water supply treatment needs; policy recommendations for regulatory and permitting processes associated with transmitting and distributing hydrogen from production sites to end uses; an analysis of the life-cycle GHG emissions from various forms of hydrogen production; and an analysis of air pollution and other environmental impacts from hydrogen distribution and end uses.</p> <p>This bill would inform the production of hydrogen at the scale called for in the 2022 Scoping Plan Update.</p>
Assembly Bill 1757 (AB 1757) (Garcia, Chapter 341, Statutes of 2022) <i>California Global Warming Solutions Act of 2006: Climate Goal: Natural and Working Lands</i>	<p>AB 1757 requires the California Natural Resources Agency (CNRA), in collaboration with CARB, other state agencies, and an expert advisory committee, to determine a range of targets for natural carbon sequestration, and for nature-based climate solutions, which reduce GHG emissions in 2030, 2038, and 2045 by January 1, 2024. These targets must support state goals to achieve carbon neutrality and foster climate adaptation and resilience.</p> <p>This bill also requires CARB to develop standard methods for state agencies to consistently track GHG emissions and reductions, carbon sequestration, and additional benefits from natural and working lands over time. These methods will account for GHG emissions reductions of CO₂, methane, and nitrous oxide related to natural and working lands and the potential impacts of climate change on the ability to reduce GHG emissions and sequester carbon from natural and working lands, where feasible.</p> <p>This 2022 Scoping Plan Update describes the next steps and implications of this legislation for the natural and working lands sector.</p>

Bill/Executive Order	Summary
Senate Bill 1206 (SB 1206) (Skinner, Chapter 884, Statutes of 2022) <i>Hydrofluorocarbon gases: sale or distribution</i>	<p>SB 1206 mandates a stepped sales prohibition on newly produced high- global warming potential (GWP) HFCs to transition California's economy toward recycled and reclaimed HFCs for servicing existing HFC-based equipment. Additionally, SB 1206 also requires CARB to develop regulations to increase the adoption of very low-, i.e., GWP < 10, and no-GWP technologies in sectors that currently rely on higher-GWP HFCs.</p>
Senate Bill 27 (SB 27) (Skinner, Chapter 237, Statutes of 2021) <i>Carbon Sequestration: State Goals: Natural and Working Lands: Registry of Projects</i>	<p>SB 27 requires CNRA, in coordination with other state agencies, to establish the Natural and Working Lands Climate Smart Strategy by July 1, 2023. This bill also requires CARB to establish specified CO2 removal targets for 2030 and beyond as part of its Scoping Plan. Under SB 27, CNRA is to establish and maintain a registry to identify projects in the state that drive climate action on natural and working lands and are seeking funding.</p> <p>CNRA also must track carbon removal and GHG emission reduction benefits derived from projects funded through the registry.</p> <p>This bill is reflected directly in the 2022 Scoping Plan Update as CO2 removal targets for 2030 and 2045 in support of carbon neutrality.</p>
Senate Bill 596 (SB 596) (Becker, Chapter 246, Statutes of 2021) <i>Greenhouse Gases: Cement Sector: Net-zero Emissions Strategy</i>	<p>SB 596 requires CARB, by July 1, 2023, to develop a comprehensive strategy for the state's cement sector to achieve net-zero-emissions of GHGs associated with cement used within the state as soon as possible, but no later than December 31, 2045. The bill establishes an interim target of 40 percent below the 2019 average GHG intensity of cement by December 31, 2035. Under SB 596, CARB must:</p> <ul style="list-style-type: none"> Define a metric for GHG intensity and establish a baseline from which to measure GHG intensity reductions. Evaluate the feasibility of the 2035 interim target (40 percent reduction in GHG intensity) by July 1, 2028. Coordinate and consult with other state agencies. Prioritize actions that leverage state and federal incentives. Evaluate measures to support market demand and financial incentives to encourage the production and use of cement with low GHG intensity. <p>The 2022 Scoping Plan Update modeling is designed to achieve these outcomes.</p>
Executive Order N-82-20	<p>Governor Newsom signed Executive Order N-82-20 in October 2020 to combat the climate and biodiversity crises by setting a statewide goal to conserve at least 30 percent of California's land and coastal waters by 2030. The Executive Order also instructed the CNRA, in consultation with other state agencies, to develop a Natural and Working Lands Climate Smart Strategy that serves as a framework to advance the state's carbon neutrality goal and build climate resilience. In addition to setting a statewide conservation goal, the Executive Order directed CARB to update the target for natural and working lands in support of carbon neutrality as part of this Scoping Plan, and to take into consideration the NWL Climate Smart Strategy.</p> <p>CO2 Executive Order N-82-20 also calls on the CNRA, in consultation with other state agencies, to establish the California Biodiversity Collaborative (Collaborative). The Collaborative shall be made up of governmental partners, California Native American tribes, experts, business and community leaders, and other stakeholders from across the state. State agencies will consult the Collaborative on efforts to:</p> <ul style="list-style-type: none"> Establish a baseline assessment of California's biodiversity that builds upon existing data and can be updated over time. Analyze and project the impact of climate change and other stressors in California's biodiversity. Inventory current biodiversity efforts across all sectors and highlight opportunities for additional action to preserve and enhance biodiversity. <p>CNRA also is tasked with advancing efforts to conserve biodiversity through various actions, such as streamlining the state's process to approve and facilitate projects related to environmental restoration and land management. The California Department of Food and Agriculture (CDFA) is directed to advance efforts to conserve biodiversity through measures such as reinvigorating populations of pollinator insects, which restore biodiversity and improve agricultural production.</p> <p>The Natural and Working Lands Climate Smart Strategy informs the 2022 Scoping Plan Update.</p>

Bill/Executive Order	Summary
Executive Order N-79-20	<p>Governor Newsom signed Executive Order N-79-20 in September 2020 to establish targets for the transportation sector to support the state in its goal to achieve carbon neutrality by 2045. The targets established in this Executive Order are:</p> <p>100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035.</p> <p>100 percent of medium- and heavy-duty vehicles will be zero-emission by 2045 for all operations where feasible, and by 2035 for drayage trucks.</p> <p>100 percent of off-road vehicles and equipment will be zero-emission by 2035 where feasible.</p> <p>The Executive Order also tasked CARB to develop and propose regulations that require increasing volumes of zero- electric passenger vehicles, medium- and heavy-duty vehicles, drayage trucks, and off-road vehicles toward their corresponding targets of 100 percent zero-emission by 2035 or 2045, as listed above.</p> <p>The 2022 Scoping Plan Update modeling reflects achieving these targets.</p>
Executive Order N-19-19	<p>Governor Newsom signed Executive Order N-19-19 in September 2019 to direct state government to redouble its efforts to reduce GHG emissions and mitigate the impacts of climate change while building a sustainable, inclusive economy. This Executive Order instructs the Department of Finance to create a Climate Investment Framework that:</p> <p>Includes a proactive strategy for the state’s pension funds that reflects the increased risks to the economy and physical environment due to climate change.</p> <p>Provides a timeline and criteria to shift investments to companies and industry sectors with greater growth potential based on their focus of reducing carbon emissions and adapting to the impacts of climate change.</p> <p>Aligns with the fiduciary responsibilities of the California Public Employees’ Retirement System, California State Teachers’ Retirement System, and the University of California Retirement Program.</p> <p>Executive Order N-19-19 directs the State Transportation Agency to leverage more than \$5 billion in annual state transportation spending to help reverse the trend of increased fuel consumption and reduce GHG emissions associated with the transportation sector. It also calls on the Department of General Services to leverage its management and ownership of the state’s 19 million square feet in managed buildings, 51,000 vehicles, and other physical assets and goods to minimize state government’s carbon footprint. Finally, it tasks CARB with accelerating progress toward California’s goal of five million ZEV sales by 2030 by:</p> <p>Developing new criteria for clean vehicle incentive programs to encourage manufacturers to produce clean, affordable cars.</p> <p>Proposing new strategies to increase demand in the primary and secondary markets for ZEVs.</p> <p>Considering strengthening existing regulations or adopting new ones to achieve the necessary GHG reductions from within the transportation sector.</p> <p>The 2022 Scoping Plan Update modeling reflects efforts to accelerate ZEV deployment.</p>
Senate Bill 576 (SB 576) (Umberg, Chapter 374, Statutes of 2019) <i>Coastal Resources: Climate Ready Program and Coastal Climate Change Adaptation, Infrastructure and Readiness Program</i>	<p>Sea level rise, combined with storm-driven waves, poses a direct risk to the state’s coastal resources, including public and private real property and infrastructure. Rising marine waters threaten sensitive coastal areas, habitats, the survival of threatened and endangered species, beaches, other recreation areas, and urban waterfronts. SB 576 mandates that the Ocean Protection Council develop and implement a coastal climate adaptation, infrastructure, and readiness program to improve the climate change resiliency of California’s coastal communities, infrastructure, and habitat. This bill also instructs the State Coastal Conservancy to administer the Climate Ready Program, which addresses the impacts and potential impacts of climate change on resources within the conservancy’s jurisdiction.</p>
Assembly Bill 65 (AB 65) (Petrie-Norris, Chapter 347, Statutes of 2019) <i>Coastal Protection: Climate Adaption: Project Prioritization: Natural Infrastructure: Local General Plans</i>	<p>This bill requires the State Coastal Conservancy, when it allocates any funding appropriated pursuant to the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access For All Act of 2018, to prioritize projects that use natural infrastructure in coastal communities to help adapt to climate change. The bill requires the conservancy to provide information to the Office of Planning and Research on any projects funded pursuant to the above provision to be considered for inclusion into the clearinghouse for climate adaptation information. The bill authorizes the conservancy to provide technical assistance to coastal communities to better assist them with their projects that use natural infrastructure.</p>

Bill/Executive Order	Summary
Executive Order B-55-18	<p>Governor Brown signed Executive Order B-55-18 in September 2018 to establish a statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and to achieve and maintain net negative emissions thereafter. Policies and programs undertaken to achieve this goal shall:</p> <p>Seek to improve air quality and support the health and economic resiliency of urban and rural communities, particularly low-income and disadvantaged communities.</p> <p>Be implemented in a manner that supports climate adaptation and biodiversity, including protection of the state's water supply, water quality, and native plants and animals.</p> <p>This Executive Order also calls for CARB to:</p> <p>Develop a framework for implementation and accounting that tracks progress toward this goal.</p> <p>Ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.</p> <p>The 2022 Scoping Plan Update is designed to achieve carbon neutrality no later than 2045 and the modeling includes technology and fuel transitions to achieve that outcome.</p>
<p>Senate Bill 100 (SB 100) (De León, Chapter 312, Statutes of 2018)</p> <p><i>California Renewables Portfolio Standard Program: emissions of greenhouse gases</i></p>	<p>Under SB 100, the CPUC, CEC, and CARB shall use programs under existing laws to achieve 100 percent clean electricity. The statute requires these agencies to issue a joint policy report on SB 100 every four years. The first of these reports was issued in 2021.</p> <p>The 2022 Scoping Plan Update reflects the SB 100 Core Scenario resource mix with a few minor updates.</p>
<p>Assembly Bill 2127 (AB 2127) (Ting, Chapter 365, Statutes of 2018)</p> <p><i>Electric Vehicle Charging Infrastructure: Assessment</i></p>	<p>This bill requires the CEC, working with CARB and the CPUC, to prepare and biennially update a statewide assessment of the electric vehicle charging infrastructure needed to support the levels of electric vehicle adoption required for the state to meet its goals of putting at least 5 million zero-emission vehicles on California roads by 2030 and of reducing emissions of GHGs to 40 percent below 1990 levels by 2030. The bill requires the CEC to regularly seek data and input from stakeholders relating to electric vehicle charging infrastructure.</p> <p>This bill supports the deployment of ZEVs as modeled in the 2022 Scoping Plan Update.</p>
<p>Senate Bill 30 (SB 30) (Lara, Chapter 614, Statutes of 2018)</p> <p><i>Insurance: Climate Change</i></p>	<p>This bill requires the Insurance Commissioner to convene a working group to identify, assess, and recommend risk transfer market mechanisms that, among other things, promote investment in natural infrastructure to reduce the risks of climate change related to catastrophic events, create incentives for investment in natural infrastructure to reduce risks to communities, and provide mitigation incentives for private investment in natural lands to lessen exposure and reduce climate risks to public safety, property, utilities, and infrastructure. The bill requires the policies recommended to address specified questions.</p>
<p>Assembly Bill 2061 (AB 2061) (Frazier, Chapter 580, Statutes of 2018)</p> <p><i>Near-zero-emission and Zero-emission Vehicles</i></p>	<p>Existing state and federal law set specified limits on the total gross weight imposed on the highway by a vehicle with any group of two or more consecutive axles. Under existing federal law, the maximum gross vehicle weight of that vehicle may not exceed 82,000 pounds. AB 2061 authorizes a near-zero-emission vehicle or a zero-emission vehicle to exceed the weight limits on the power unit by up to 2,000 pounds.</p> <p>This bill supports the deployment of cleaner trucks as modeled in this 2022 Scoping Plan Update.</p>

The 2022 Scoping Plan Scenario identifies the need to accelerate AB 32's 2030 target, from 40 percent to 48 percent below 1990 levels. Cap-and-Trade regulation continues to play a large factor in the reduction of near-term emissions for meeting the 2030 reduction target. Every sector of the economy will need to begin to transition in this decade to meet these GHG reduction goals and achieve carbon neutrality no later than 2045. The 2022 Scoping Plan Update approaches decarbonization from two perspectives, managing a phasedown of existing energy sources and technologies, as well as increasing, developing, and deploying alternative clean energy sources and technology. The Scoping Plan Scenario is summarized in Table 2-1

starting on page 72 of the Scoping Plan. It includes references to relevant statutes and Executive Orders (see also **Table 15** above), although it is not comprehensive of all existing new authorities for directing or supporting the actions described. Table 2-1 in the 2022 Scoping Plan Update identifies actions related to a variety of sectors such as: smart growth and reductions in Vehicle Miles Traveled (VMT); light-duty vehicles (LDV) and zero-emission vehicles (ZEV); truck ZEVs; reduce fossil energy, emissions, and GHGs for aviation ocean-going vessels, port operations, freight and passenger rail, oil and gas extraction; and petroleum refining; improvements in electricity generation; electrical appliances in new and existing residential and commercial buildings; electrification and emission reductions across industries such as the for food products, construction equipment, chemicals and allied products, pulp and paper, stone/clay/glass/cement, other industrial manufacturing, and agriculture; retiring of combined heat and power facilities; low carbon fuels for transportation, business, and industry; improvements in non-combustion methane emissions, and introduction of low GWP refrigerants.

Achieving the targets described in the 2022 Scoping Plan Update will require continued commitment to and successful implementation of existing policies and programs, and identification of new policy tools and technical solutions to go further, faster. California’s Legislature and state agencies will continue to collaborate to achieve the state’s climate, clean air, equity, and broader economic and environmental protection goals. It will be necessary to maintain and strengthen this collaborative effort, and to draw upon the assistance of the federal government, regional and local governments, tribes, communities, academic institutions, and the private sector to achieve the state’s near-term and longer-term emission reduction goals and a more equitable future for all Californians. The Scoping Plan acknowledges that the path forward is not dependent on one agency, one state, or even one country. However, the State can lead by engaging Californians and demonstrating how actions at the state, regional, and local levels of governments, as well as action at community and individual levels, can contribute to addressing the challenge.

Aligning local jurisdiction action with state-level priorities to tackle climate change and the outcomes called for in the 2022 Scoping Plan Update is identified as critical to achieving the statutory targets for 2030 and 2045. The 2022 Scoping Plan Update discusses the role of local governments in meeting the State’s GHG reductions goals. Local governments have the primary authority to plan, zone, approve, and permit how and where land is developed to accommodate population growth, economic growth, and the changing needs of their jurisdictions. They also make critical decisions on how and when to deploy transportation infrastructure, and can choose to support transit, walking, bicycling, and neighborhoods that do not force people into cars. Local governments also have the option to adopt building ordinances that exceed statewide building code requirements and play a critical role in facilitating the rollout of ZEV infrastructure. As a result, local government decisions play a critical role in supporting state-level measures

to contain the growth of GHG emissions associated with the transportation system and the built environment—the two largest GHG emissions sectors over which local governments have authority.

The 2022 Scoping Plan Update also identifies multiple legal tools open to local jurisdictions to support statewide priorities, including development of a climate action plan (CAP), sustainability plan, or inclusion of a plan for reduction of GHG emissions and climate actions within a jurisdiction’s general plan.

Regional

SCAQMD Draft Guidance Regarding Interim CEQA GHG Significance Thresholds

SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds. In its October 2008 document, the SCAQMD proposed a 30% emission reduction target to determine significance for commercial/residential projects that emit greater than 3,000 metric tons per year. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for stationary source/industrial projects where the SCAQMD is lead agency. However, SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects) and has formed a GHG Significance Threshold Working Group to further evaluate potential GHG significance thresholds.

SCAG Connect SoCal 2024 RTP/SCS

On April 4, 2024, the Southern California Association of Governments (SCAG) Regional Council unanimously voted to approve and fully adopt Connect SoCal 2024 Regional Transportation Plan / Sustainable Communities Strategy (Connect SoCal 2024 RTP/SCS).⁶⁴

Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. It charts a path toward a more mobile, sustainable and prosperous region by making connections between transportation networks, between planning strategies and between the people whole collaboration can improve the quality of life for Southern Californians. In addition, Connect SoCal is supported by a combination of transportation and land use strategies that outline how the region can achieve California’s greenhouse gas emission reduction goals and federal CAA requirements. The Connect SoCal 2024 outlines a vision for a more resilient and equitable future, with investment, policies and strategies for achieving the region’s shared goals of health, prosperity, accessibility, and connectedness

⁶⁴ Southern California Association of Governments, *Connect SoCal 2024 RTP/SCS*, 2024. Available online at: <https://scag.ca.gov/sites/default/files/2024-05/23-2987-connect-socal-2024-final-complete-040424.pdf>, accessed May 29, 2025.

through 2050, with a particular focus on system management, revitalization, and reuse, such as infill development and repurposing underutilized properties. The plan also strives to achieve broader regional objectives, such as the preservation of natural lands, improvement of public health, increased roadway safety, support for the region's vital goods movement industries and more efficient use of resources.

Local

Riverside General Plan 2025

The Riverside General Plan 2025 (General Plan) was adopted in November of 2007 and considers the continued growth of the City through the year 2025. The General Plan contains an Air Quality Element and an Open Space and Conservation Element that includes policies intended to reduce GHGs. The following policies are applicable to the Project:

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

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

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

Policy AQ-8.17: Develop measures to encourage that a minimum of 40 percent of the waste from all construction sites throughout Riverside be recycled by the end of 2008.

Riverside Restorative Growthprint

The City's Economic Prosperity Action Plan and Climate Action Plan was adopted in January of 2016 and supports the City's commitment to taking action on the pressing issue of climate change, reducing greenhouse gas emissions and supporting the transition to a low-carbon economy. The Riverside Restorative Growthprint (RRG) combines two plans: the Economic Prosperity Plan (RRG-EPAP) and the Climate Action Plan (RRG-CAP), which work in conjunction to spur entrepreneurship and smart growth while advancing the City's GHG emission reduction goals. The adoption of the RRG will result in actions to reduce GHG emissions that align with the City's planning priorities and its vision of a future "green" economy based on sustainable businesses. The RRG-EPAP identifies the measures and strategies in the RRG-CAP with the greatest potential to drive local economic prosperity through clean-tech investment,

entrepreneurship, and expansion of local green businesses.⁶⁵ Measures and strategies that are relevant to the Project are listed below:

State and Regional Energy Measures

Measure SR-2: 2013 California Building Energy Efficiency Standards (Title 24, Part 6)

Maximize energy efficiency building and appliance standards and pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities). Through the implementation of the goals, policies, and actions of the Green Plan, the City is committed to creating a more sustainable and environmentally conscious community. (Note: the Project would be built to comply with the 2022 California Building Energy Efficiency Standards).

Measure SR-13: Construction & Demolition Waste Diversion

Meet mandatory requirement to divert 50% of construction and demolition waste from landfills by 2020 and exceed requirement by diverting 90% of construction and demolition waste from landfills by 2035.

Local Reduction Measures

Measure E-2: Shade Trees

Strategically plant trees at new residential developments to reduce the urban heat island effect.

Measure T-6: Density

Improve jobs-housing balance and reduce vehicle miles traveled by increasing household and employment densities.

Measure T-18: SB 743 - Alternative to LOS

Use SB 743 to incentivize development in the downtown and other areas served by transit.

⁶⁵ City of Riverside, *Riverside Restorative Growthprint*, 2016. Available at: <https://www.riversideca.gov/cedd/sites/riversideca.gov/cedd/files/pdf/planning/other-plans/2016%20Riverside%20Restorative%20Growthprint%20Economic%20Proposerity%20Action%20Plan%20and%20Climate%20Action%20Plan.pdf>, accessed August 14, 2023.

5.3 THRESHOLDS AND METHODOLOGY

Thresholds of Significance

Consistent with Appendix G of the *State CEQA Guidelines*, a project would have a significant impact if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy or regulations adopted for the purpose of reducing the emissions of greenhouse gas emissions.

As discussed previously, the SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds. In December 2008, the SCAQMD adopted an interim 10,000 metric tons CO₂e (MTCO₂e) per year screening level threshold for stationary source/industrial Projects for which the SCAQMD is the lead agency. The SCAQMD continues to consider adoption of significance thresholds for non-industrial development Projects. The most recent proposal issued in September 2010 uses the following tiered approach to evaluate potential GHG impacts from various uses:

Tier 1: Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2: Consider whether or not the proposed Project is consistent with a locally adopted GHG reduction plan (i.e., a Climate Action Plan) that has gone through public hearings and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3: Consider whether the Project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MTCO₂e/year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MTCO₂e/year), commercial projects (1,400 MTCO₂e/year), and mixed-use projects (3,000 MTCO₂e/year). Under option 2 a single numerical screening threshold of 3,000 MTCO₂e/year would be used for all non-industrial projects. If the Project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4: Consider whether the Project generates GHG emissions in excess of applicable performance standards for the Project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MTCO₂e per service population for Project level analyses

and 6.6 MTCO₂e per service population for plan level analyses. If the Project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5: Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the Project efficiency target to Tier 4 levels.

The thresholds identified above are not adopted by the SCAQMD or distributed for widespread public review and comment, and the working group tasked with developing the thresholds has not met since September 2010. The future schedule and likelihood of threshold adoption is uncertain. However, for the purposes of illustrating the scope of the Project's increase of GHG emissions, this analysis utilizes the proposed 3,000 MTCO₂e/year draft threshold for non-industrial Projects (Tier 3). These draft thresholds have been utilized for illustrative purposes for numerous Projects in the City and throughout the Basin. It should be noted that the Project's impact analysis is based on consistency with applicable plans, policies or regulations adopted for the purpose of reducing GHG emissions.

Methodology

GHG emissions were calculated with the CalEEMod. Operational GHG emissions result from both direct and indirect sources. Direct emissions include emissions from fuel combustion in vehicles and natural gas combustion from stationary sources. Indirect sources include off-site emissions occurring as a result of electricity and water consumption and solid waste.

5.4 PROJECT IMPACTS

Impact GHG-1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Section 15064.4(a) of the *State CEQA Guidelines* states, in part, that a lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project.

The Project would generate GHG emissions during temporary, short-term construction activities such as demolition, grading, running of construction equipment engines, movement of on-site heavy-duty construction vehicles, hauling of materials to and from the site, asphalt paving, and construction worker motor vehicle trips.

With the use of CalEEMod, GHG emissions associated with Project construction were calculated from off-road equipment usage, hauling vehicles, delivery, and worker trips to and from the site. According to CalEEMod calculations, the total GHG construction emissions would be approximately 200 MT CO₂e for

2024 and 377 MT CO₂e for 2025, totaling approximately 577 MT CO₂e.⁶⁶ However, these emissions would be temporary in nature and would represent a small portion of a Project's lifetime GHG emissions. As GHG emissions from construction activities would occur over a relatively short time span, it would contribute a relatively small portion of the lifetime GHG emission impact of the Project. The total construction GHG emissions were divided by 30 years to determine an annual construction emission rate to be amortized over the Project's first 30 years of operations, consistent with SCAQMD recommendations. Amortized over a 30-year period, the Project is anticipated to emit approximately 19 metric tons of carbon dioxide per year (MT CO₂e/year).

The operations of the Project would generate GHG emissions from mobile sources (vehicles traveling to and from the Project Site), the usage of energy, water, and generation of solid waste and wastewater. Emissions of operational GHGs are shown in **Table 16, Project Greenhouse Gas Emissions**. As shown, the GHG emissions generated by the Project would be approximately 1,106 CO₂e MTY.

As discussed previously, the SCAMQD Draft Threshold (Tier 3) identified a screening threshold of 3,000 MTCO₂e/year for non-industrial projects. As the Project would generate approximately 1,106 MTCO₂e/year, the Project would be below the SCAQMD's draft threshold. This quantified illustration of the Project's scope of GHG emissions is provided for informational purposes, and significance under CEQA is based on the Project's consistency with statewide and regional policies and plans to meet the state reduction goals set in AB 32, SB 32, and AB 1279 as outlined in CARB's 2022 Scoping Plan, SB 375 (per SCAG's Connect SoCal 2024 RTP/SCS), and the City's Climate Action Plan (also known as the RRG). See **Impact GHG-2**, below.

⁶⁶ It is acknowledged that construction would begin at a later date than analyzed. However, because air quality and GHG emission factors improve (i.e., emissions decrease) each year into the future, the emissions estimated herein present a worst-case analysis.

Table 16
Project Greenhouse Gas Emissions

Emissions Source	Metric Tons of Carbon Dioxide Equivalent (per year)
Construction Emissions	19.00
Mobile Sources	687.00
Area Sources	2.02
Energy Sources	349.00
Water Sources	22.10
Waste Sources	27.00
Refrigerants	0.23
Total GHG Emissions	1,106.35

Source: Impact Sciences, Inc. August 2023. See **Appendix A** for CalEEMod data.

Impact GHG-2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gas emissions.

Pursuant to Appendix G of the *CEQA Guidelines*, a significant GHG impact is identified if a Project could conflict with applicable GHG reduction plans, policies, or regulations. The relevant adopted regulatory plans and regulations include AB 32, SB 32, AB 1279 (through consistency with CARB's 2022 Scoping Plan), SCAG's 2020 Connect SoCal Plan, and the City's RRG (CAP) (see **Table 17** below).

Table 17
Project Consistency with the City of Riverside Restorative Growthprint

Measures	Consistency Analysis
State and Regional Measures	
Measure SR-1: Renewables Portfolio Standard. Utilities must secure 33% of their renewable sources by 2020.	Not applicable: The Project does not impact utility providers from acquiring more renewable sources of energy.
Measure SR-2: 2013 California Building Energy Efficiency Standards (Title 24, Part 6). Mandatory energy efficiency standards for buildings.	Consistent. While this measure is outdated, the Project would be designed to meet current (2022) California Building Energy Efficiency Standards (Title 24, Part 6).

Measures	Consistency Analysis
Measure SR-3: HERO Residential Program. Financing for homeowners to make energy efficient, renewable energy, and water conservation improvements.	Not applicable. This measure provides financing for homeowners looking to make sustainable renovations to their homes. The Project proposes the development of 117 multi-family units; this measure is not relevant to the Project.
Measure SR-4: HERO Commercial Program. Financing for business owners to make energy efficient, renewable energy, and water conservation improvements.	Not applicable. This measure provides financing for business owners looking to make sustainable renovations to their businesses. The Project proposes the development of 117 multi-family units; this measure is not relevant to the Project.
Measure SR-6: Pavley and Low Carbon Fuel Standard. Requirements for vehicles to use cleaner fuels.	Not applicable. This measure details requirements for vehicles to use cleaner fuels and is therefore not relevant to the Project. Vehicular improvements are not relevant to the Project.
Measure SR-7: Metrolink Expansion. Additional Metrolink transit service provided to Western Riverside County	Not applicable. Greater regional transportation improvements are not relevant to the Project.
Measure SR-8: Express Lanes. Additional express lanes added along major freeways in Western Riverside County.	Not applicable. Greater regional transportation improvements are not relevant to the Project.
Measure SR-9: Congestion Pricing. Expansion of the toll lanes along SR-91.	Not applicable. Greater regional transportation improvements are not relevant to the Project.
Measure SR-10: Telecommuting. Work arrangement in which employees do not commute to a central place of work.	Not applicable. Greater regional transportation improvements are not relevant to the Project.
Measure SR-11: Goods Movement. Efficient movement of goods through inland Southern California.	Not applicable. Greater regional transportation improvements are not relevant to the Project.
Measure SR-12: Electric Vehicle Plan and Infrastructure. Facilitate electric vehicle use by providing necessary infrastructure.	Consistent. The Project includes a total of 175 covered parking spaces with EV vehicle charging infrastructure within the first floor of the apartment buildings.
Measure SR-13: Construction & Demolition Waste Diversion. Meet mandatory requirement to divert 50% of C&D waste from landfills by 2020 and exceed requirement by diverting 90% of C&D waste from landfills by 2035.	Consistent: In compliance with CALGreen requirements, at least 65 percent of all nonhazardous construction waste generated by the proposed Project would be recycled and/or salvaged (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).
Local Reduction Measures	
Measure E-1: Traffic and Street Lights. Replace traffic and street lights with high-efficiency bulbs.	Not applicable. The Project would not alter City traffic or street lights.
Measure E-2: Shade Trees. Strategically plant trees at new residential developments to reduce the urban heat island effect.	Consistent. While the Project would remove nine existing trees, the Project will surpass this quantity by planting multiple trees and palms that would provide shade throughout the site.
Measure E-3: Local Utility Programs – Electricity. Financing and incentives for business and home owners to make energy efficient, renewable energy, and water conservation improvements.	Not applicable. The Project proposes the development of 117 multi-family units and is therefore not relevant to a measure that provides incentives to homeowners and business owners.
Measure 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. The Project is not on publicly owned property.
Measure E-5: UCR Carbon Neutrality. Collaborate with UCR to achieve a carbon neutral campus	Not applicable. The Project does not have any connection with University of California Riverside.
Measure E-6: RPU Technology Grants. RPU grant programs to foster research, development and demonstration of innovative solutions to energy problems.	Not applicable. The Project does not have any relevance to RPU grant programs.

Measures	Consistency Analysis
Measure T-1: Bicycle Infrastructure Improvements. Expand on-street and off-street bicycle infrastructure, including bicycle lanes and bicycle trails.	Not applicable. Greater regional transportation improvements are not relevant to the Project.
Measure T-2: Bicycle Parking. Provide additional options for bicycle parking.	Consistent. The Project will provide vertical parking for bicycles.
Measure T-3: End of Trip Facilities. Encourage use of non-motorized transportation modes by providing appropriate facilities and amenities for commuters.	Not applicable. Greater regional transportation improvements are not relevant to the Project.
Measure T-4: Promotional Transportation Demand Management. Encourage Transportation Demand Management strategies.	Not applicable. Greater regional transportation improvements are not relevant to the Project.
Measure T-5: Traffic Signal Coordination. Incorporate technology to synchronize and coordinate traffic signals along local arterials.	Not applicable. Greater regional transportation improvements are not relevant to the Project.
Measure T-6: Density. Improve jobs-housing balance and reduce vehicle miles traveled by increasing household and employment densities	Consistent. The Project proposes to develop 117 multi-family units on a 4.54-acre urban site, improving the City's jobs-housing balance.
Measure T-7: Mixed-Use Development. Provide for a variety of development types and uses.	Not applicable. The Project is not a mixed-use development.
Measure T-8: Pedestrian-Only Areas. Encourage walking by providing pedestrian-only community areas.	Not applicable. The Project is not in a central business district and is not a major activity center.
Measure T-9: Limit Parking Requirements for New Development. Reduce requirements for vehicle parking in new development projects.	Not applicable. City goals to limit parking requirements are not relevant to the Project.
Measure T-10: High Frequency Transit Service. Implement bus rapid transit service in the subregion to provide alternative transportation options	Not applicable. Greater regional transportation improvements are not relevant to the Project.
Measure T-11: Voluntary Transportation Demand Management. Encourage employers to create TDM programs for their employers.	Not applicable. Greater regional transportation goals are not relevant to the Project.
Measure T-12: Accelerated Bike Plan Implementation. Accelerate the implementation of all or specified components of a jurisdiction's adopted bike plan.	Not applicable. Greater regional transportation goals are not relevant to the Project.
Measure T-13: Fixed Guideway Transit. By 2020, complete feasibility study and by 2025 Introduce a fixed route transit service in the jurisdiction.	Not applicable. Greater regional transportation goals are not relevant to the Project.
Measure T-14: Neighborhood Electric Vehicle Programs. Implement development requirements to accommodate Neighborhood Electric Vehicles and supporting infrastructure.	Consistent. While this measures is directed at the City to implement development requirements, the Project is able to accommodate NEVs through EV vehicle charging infrastructure within the first floor of the apartment buildings.
Measure T-15: Subsidized Transit. Increase access to transit by providing free or reduced passes.	Not applicable. Greater regional transportation goals are not relevant to the Project.
Measure T-16: Bike Share Program. Create nodes offering bike sharing at key locations throughout the City.	Not applicable. Greater regional transportation goals are not relevant to the Project.
Measure T-17: Car Share Program. Offer Riverside residents the opportunity to use car sharing to satisfy short-term mobility needs.	Not applicable. Greater regional transportation goals are not relevant to the Project.
Measure T-18: SB 743- Alternative to LOS. Use SB 743 to incentivize development in the downtown and other areas served by transit.	Not applicable. Greater regional transportation goals are not relevant to the Project.

Measures	Consistency Analysis
Measure T-19: Alternative Fuel & Vehicle Technology and Infrastructure. Promote the use of alternative fueled vehicles such as those powered by electric, natural gas, biodiesel, and fuel cells by Riverside residents and workers.	Consistent. The Project includes a total of 175 covered parking spaces with EV vehicle charging infrastructure within the first floor of the apartment buildings.
Measure T-20: Eco- Corridor / Green Enterprise Zone. Create a geographically defined area(s) featuring best practices in sustainable urban design and green building focused on supporting both clean-tech and green businesses.	Not applicable. Greater regional transportation goals are not relevant to the Project.
Measure W-1: Water Conservation and Efficiency. Reduce per capita water use by 20% by 2020.	Consistent. While the measure is outdated, the Project has incorporated water efficient appliances and landscaping in its design.
Measure SW-1: Yard Waste Collection. Provide green waste collection bins community-wide.	Not applicable. This City sustainability goal is not relevant to the Project.
Measure SW-2: Food Scrap and Compostable Paper Diversion. Divert food and paper waste from landfills by implementing commercial and residential collection program.	Not applicable. This City sustainability goal is not relevant to the Project.
Measure A-1: Local Food and Agriculture. Promote local food and agricultural programs.	Not applicable. This City sustainability goal is not relevant to the Project.
Measure A-2: Urban Forest. Augment City's Urban and Community Forest Program to include an Urban Forest Management Plan	Not applicable. This City sustainability goal is not relevant to the Project.

Consistency With AB 32, SB 32, AB 1279 & 2022 Scoping Plan

The Project is generally consistent with the goals of AB 32, SB 32, AB 1279, and the associated CARB Scoping Plans, which call for strategies to reduce Statewide GHG emissions. As discussed previously, Appendix D, Local Actions, of the 2022 Scoping Plan Update recommends that jurisdictions that want to take meaningful climate action aligned with the State's climate goals should look to the following three priority areas:

- transportation electrification,
- VMT reduction, and
- building decarbonization.

To assist local jurisdictions, the 2022 Scoping Plan Update presents a non-exhaustive list of impactful GHG reduction strategies that can be implemented by local governments within these three priority areas (Priority GHG Reduction Strategies for Local Government Climate Action Priority Areas).⁶⁷ The following discussion illustrates how the Project will ensure GHG emissions from these priority areas are reduced to the maximum extent feasible.

Transportation Electrification. The applicable priority GHG reduction strategies for local government climate action related to transportation electrification are discussed below and would support the Scoping Plan action to have 100 percent of all new passenger vehicles be zero-emission by 2035 (see Table 2-1 of the Scoping Plan).

- *Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans).*

The CARB approved the Advanced Clean Cars II rule codifying Executive Order N-79-20 and requiring 100 percent of new cars and light trucks sold in California be zero-emission vehicles by 2035. The State has also adopted AB 2127, which requires the CEC to analyze and examine charging needs to support California's EVs in 2030. Implementation of AB 2127 will help decision makers allocate resources to install new EV chargers where they are needed most. The State has also adopted AB 1236 and AB 970, which require cities to adopt streamline permitting procedures for EV charging stations.

The Project Site will provide a total of 215 parking spaces. Of the 215 parking spaces, 40 will be uncovered open parking and the remaining 175 parking spaces will be incorporated into the first floor of each building; the 175 covered parking spaces will have an EV connection. As such, through the provision of electric vehicle charging infrastructure, the Project would support the transportation electrification Scoping Plan strategy.

VMT Reduction. The applicable priority GHG reduction strategies for local government climate action related to VMT reduction are discussed below and would support the Scoping Plan action to reduce VMT (see Table 2-1 of the Scoping Plan).

- *Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking.*

⁶⁷ Table 1 of Appendix D, 2022 Scoping Plan Update, November 2022.

- *Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing the allowable density of a neighborhood).*

The Project will support VMT reduction through increased residential density, mix of uses (including residential and recreational), access to regional transit services (the Project Site is within walking distance to bus stops located along Jones Avenue and Hole Avenue), and improved pedestrian connectivity through the provision of new walkways on-site. Additionally, according to the City's *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment* (TIA Guidelines), the City has adopted five screening criteria that could be applied to screen projects out of a detailed VMT analysis. Based on the City's TIA Guidelines, the following screening criteria are relevant to the Project's proposed land use:

- Projects located within a Transit Priority Area (TPA);
- Projects located in a low-VMT generating area identified on the most recent TREDLite VMT;
- Screening tool;
- Affordable housing projects; and
- Projects generating less than 110 daily vehicle trips

To assess the Project's applicability with the criteria listed above, the TREDLite VMT screening tool was used as part of the *Mikasa Residential – Vehicle Miles Traveled Screening Memorandum* (VMT Memorandum). Based on the VMT Memorandum, the Project is located in a low-VMT generating area per the most recent TREDLite VMT screening tool.⁶⁸ Accordingly, the Project is deemed to be screened out from conducting a VMT analysis based on the City's TIA Guidelines. As the Project would include design features that reduce VMT, as well as the Project's proximity to regional transit and location within a low-VMT generating area, the Project would be consistent with the VMT Reduction Scoping Plan strategy.

Building Decarbonization. The priority GHG reduction strategy for local government climate action related to building decarbonization applicable to the Project is discussed below and would support the Scoping Plan actions regarding meeting increased demand for electrification without new fossil gas-fire resources and all electric appliances (see Table 2-1 of the Scoping Plan).

- *Adopt all-electric new construction reach codes for residential and commercial uses.*

⁶⁸ CR Associates, *Mikasa Residential – Vehicle Miles Traveled Screening Memorandum*, April 2, 2025.

California's transition away from fossil fuel-based energy sources will bring GHG emissions associated with building energy use down to zero as the electric supply becomes 100 percent carbon free. California has committed to achieving this goal by 2045 through SB 100, the 100 Percent Clean Energy Act of 2018. SB 100 strengthened the State's RPS by requiring that 60 percent of all electricity provided to retail users in California come from renewable sources by 2030 and that 100 percent come from carbon-free sources by 2045. The land use sector will benefit from RPS because the electricity used in buildings will be increasingly carbon-free, but implementation does not depend (directly, at least) on how buildings are designed and built.

The Project would be designed to comply with the California Green Building Standards Code; Title 24, Part 6 of the California Code of Regulations; California Building Code and Energy Code standards, as applicable to the type of use being developed on site. Additionally, Riverside Public Utilities is required to comply with the State's Renewables Portfolio Standard, mandating that investor-owned utilities, electric service providers, and community choice aggregators must meet a 33 percent total procurement of eligible renewable energy resources by 2020 and 60 percent total procurement by 2030. This ensures that a portion of the electricity consumed during Project operations would be generated from renewable resources. Further, as previously discussed, the Project would also comply with measures that are presented in the Riverside Restorative Growthprint by implementing different design elements that increase energy efficiency. As the Project is designed, in part, to support building decarbonization, the Project would be consistent with this Scoping Plan strategy.

Consistency with SB 375 (Connect SoCal 2024)

The State of California has adopted plans and policies designed to reduce regional and local GHG emissions. SB 375 requires that each MPO prepare an SCS in the RTP that demonstrates how the region will meet greenhouse gas emissions targets. SB 375 establishes a collaborative relationship between MPOs and CARB to establish GHG emissions targets for each region in the state. Under the guidance of the goals and objectives adopted by SCAG's Regional Council, the RTP/SCS was developed to provide a blueprint to integrate land use and transportation strategies to help achieve a coordinated and balanced regional transportation system. The RTP/SCS represents the culmination of several years of work involving dozens of public agencies, 191 cities, hundreds of local, county, regional and state officials, the business community, environmental groups, as well as various nonprofit organizations. Adoption of the 2024 RTP/SCS substantiated that the growth forecasts for the SCAG region, taking into account efforts to reduce climate change impacts from GHG emissions, were consistent with the goals of SB 375.

The primary goal of the RTP/SCS is to provide a vision for future growth in southern California that will decrease per capita GHG emissions from passenger vehicles. However, the strategies contained in the

RTP/SCS will produce benefits for the region far beyond simply reducing GHG emissions. The RTP/SCS integrates the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The regional vision of the SCS maximizes current voluntary local efforts that support the goals of SB 375. The RTP/SCS focuses the majority of new housing and job growth in Priority Development Areas (PDAs), areas within the SCAG region where people have access to multiple modes of transportation or that trip origins and destinations are closer together, allowing for shorter trips, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development.

As previously discussed, according to the City’s TIA Guidelines, the City has adopted five screening criteria that could be applied to screen projects out of a detailed VMT analysis. Based on the VMT Memorandum, the Project is located in a low-VMT generating area per the most recent TREDLite VMT screening tool.⁶⁹ Accordingly, the Project is deemed to be screened out from conducting a VMT analysis based on the City’s TIA Guidelines. The Project proposes to develop 117 multifamily units and is located within what the City considers a “low-VMT generating area.” As such, the Project’s less-than-significant VMT impact would align with the goals of the RTP/SCS and Scoping Plan to reduce VMTs. Furthermore, the Project is serviced by the Riverside Transit Agency’s Line 12, with the nearest bus stop located approximately 825 feet south of the Project Site. The Project’s density and close proximity to bus services supports the RTP/SCS vision of decreasing per capita emissions from passenger vehicles. While the Project is not consistent with its General Plan land use designation and its zoning classification, the Project is consistent with the following relevant RTP/SCS policies demonstrated in **Table 18**, below.

Table 18
Project Consistency with SCAG’s Connect SoCal 2024 RTP/SCS

Regional Planning Policies		Consistency Analysis
Mobility		
Encourage residential and employment development in areas surrounding existing and planned transit/rail stations.	Consistent: The Project will revitalize an underutilized plot of land and turn it into an infill development that would result in the construction of 117 multifamily residential units. The Project provides EV charging for passenger vehicles and is in proximity to bus services. These features would incentivize the use of public transit, active transportation, and fuel-efficient vehicles for traveling to and from the site. Additionally, the Project is being developed in a built-out neighborhood, providing compact development housing in an already largely developed area and is in proximity to local job centers. The Project’s location, its density, and its mobility options are consistent with the actions and strategies of the RTP/SCS.	
Encourage the development of transportation projects that provide convenient, cost-effective and safe alternatives to single-occupancy vehicle travel (e.g., trips made by foot, on bikes via transit, etc.)		
Communities		

⁶⁹ CR Associates, *Mikasa Residential – Vehicle Miles Traveled Screening Memorandum*, April 2, 2025.

Regional Planning Policies	Consistency Analysis
Promote the growth of origins and destinations with a focus on future housing and population growth, in areas with existing and planned urban infrastructure that includes transit and utilities.	Consistent: The Project entails construction of 117 multifamily residential units. This satisfies the region’s need for more housing within a “low VMT generating area,” and the Project’s proximity to bus services promotes the goals of the RTP/SCS as well as the RHNA.
Promote the growth of origins and destinations, in areas with a proclivity toward multimodal options like transit and active transportation, to reduce single occupant vehicle (SOV) dependency and vehicle miles traveled.	
Encourage housing development in transit-supportive and walkable areas to create more interconnected and resilient communities.	
Environment	
Promote sustainable development and best practices that enhance resource conservation, reduce resource consumption, and promote resilience.	Consistent. The Project includes a total of 175 covered parking spaces with EV vehicle charging infrastructure within the first floor of the apartment buildings. The Project would include water-efficient appliances and fixtures in every residential unit in accordance with the current Title 24 standards. Additionally, the Project includes a community hall, gym, pool, spa, and tot lot/play area, which would serve to reduce trips by residents seeking these amenities at potential off-site locations.
Support communities across the region to advance innovative sustainable development practices.	
Economy	
Explore and advance the transition toward zero-emission and clean technologies and other transformative technologies, where viable.	Consistent. The Project includes a total of 175 covered parking spaces with EV vehicle charging infrastructure within the first floor of the apartment buildings.

Source: SCAG, *Connect SoCal 2024 – Chapter 3.3: Regional Planning Policies*, adopted April 4, 2024. Available online at: <https://scag.ca.gov/sites/default/files/2024-05/23-2987-connect-socal-2024-final-ch-03-our-plan-040424.pdf>, accessed May 29, 2025.

Conclusion

Given the Project's relatively small increase in GHG emissions and the Project's consistency with all relevant adopted regulatory plans, the Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Moreover, the Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases and these impacts would be less than significant.

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