Air Quality and Greenhouse Gas Assessment

Wildomar Master Drainage Plan Lateral C Revision Project

Wildomar, California

Prepared For:

Riverside County Flood Control & Water Conservation District

October 2019

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

CONTENTS

LIST OF TABLES

LIST OF ATTACHMENTS

LIST OF ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AQMP	Air Quality Management Plan
ATCM	Airborne Toxic Control Measures
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Prevention Program
CalEEMod	California Emissions Estimator Model
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Wildomar
CO	carbon monoxide
CO_2	carbon dioxide
DPM	diesel particulate matter
EO	Executive Order

LIST OF ACRONYMS AND ABBREVIATIONS

GHG	greenhouse gas
HAPs	hazardous air pollutants
I-15	Interstate 15
IPCC	Intergovernmental Panel on Climate Change
LOS	levels of service
LSTs	localized significance thresholds
MDP	Master Drainage Plan
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NOx	nitrous oxides
N_2O	nitrous oxide
OEHHA	Office of Environmental Health Hazard Assessment
O_3	ozone
PM	particulate matter
$PM_{2.5}$	fine particulate matter
PM_{10}	coarse particulate matter
Project	Wildomar Master Drainage Plan Line C Revision Project
RCB	reinforced concrete box
RCPG	Regional Comprehensive Plan and Guide
ROGs	reactive organic gases
ROW	right-of-way
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SoCAB	South Coast Air Basin
SO_2	sulfur dioxide
SRA	source receptor area
TACs	toxic air contaminants
USEPA	U.S. Environmental Protection Agency

1.0 INTRODUCTION

This report documents the results of an air quality and greenhouse gas (GHG) emissions assessment completed for the Wildomar Master Drainage Plan (MDP) Line C Revision Project (Project), a revised stormwater drainage and flood protection project in Wildomar, California. The purpose of this assessment is to estimate Project-generated criteria air pollutants and GHG emissions attributable to the Project and to determine the level of impact the Project would have on the environment.

1.1 Project Description

The Riverside County Flood Control and Water Conservation District (District), in partnership with the City of Wildomar (City) is proposing to revise the Wildomar MDP Lateral C facility. Lateral C, Stage 1, from Wildomar Channel to Palomar Street, was constructed in 1987, and Stage 2, from Palomar Street to Pasadena Street, was constructed in 1992. The remaining components of the proposed Lateral C system have not been constructed; however, this facility was originally proposed to be aligned Bundy Canyon Wash to capture storm runoff at the downstream end of the existing Caltrans double 10-foot by 6-foot reinforced concrete box (RCB) culvert under Interstate 15 (I-15), approximately 0.5 mile south of Bundy Canyon Road, and convey it to Wildomar Channel, just northeasterly of McVicar Street.

The revised alignment would begin and end at the same locations as originally designed. However, instead of a concrete-lined trapezoidal channel aligned with the Bundy Canyon Wash, the District moved the alignment and is proposing a RCB be constructed mostly within existing street right-of-way (ROW). In addition to the revision of Lateral C, the District is also proposing the construction of Lateral C-2, Lateral C-3, and Bundy Canyon Basin as part of the Wildomar MDP Lateral C system.

1.2 Project Location

The Project site is located within the city of Wildomar in southwest Riverside County. The proposed Bundy Canyon Basin is located on two vacant parcels totaling approximately 19 acres and situated on the southeast corner of Bundy Canyon Road and Monte Vista Drive. The Bundy Canyon Basin outlet structure begins at the southeast corner of the basin site and runs parallel to Monte Vista Drive for approximately 1,050 feet before ending at the existing Caltrans culvert/I-15 freeway. The proposed storm drains are located mostly within existing paved and unpaved street ROW. More specifically, the Line C realignment begins just southwest of the I-15 freeway and continues south along the White Street ROW until it approaches Central Street. At Central Street, the storm drain continues southwest to Como Street where it continues along Como Street for approximately 1,200 feet. Line C-2 begins at the White Street and Baxter Road interchange and continues east within the Baxter Road ROW for approximately 1,180 feet. Line C-3 begins at the White Street and Grove Street intersection and continues with the Grove Street ROW for approximately 720 feet. The Project is located within Township 6 South, Range 4 West, Sections 26 and 35 West on the Wildomar 7.5 Series Topographic Quadrangle map.

2.0 AIR QUALITY

2.1 Air Quality Setting

Air quality in a region is determined by the region's topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the South Coast Air Basin (SoCAB), which encompasses the Project site.

2.1.1 South Coast Air Basin

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. Wildomar lies in the SoCAB, which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange County. The air basin is on a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean on the southwest, with high mountains forming the remainder of the perimeter (South Coast Air Quality Management District [SCAQMD] 1993).

Temperature and Precipitation

The air basin is part of a semi-permanent, high-pressure zone in the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds. The annual average temperature varies little throughout the 6,645-square-mile SoCAB, ranging from the low 60s to the high 80s, measured in degrees Fahrenheit. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas (SCAQMD 1993).

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 SoCAB 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 SoCAB 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 climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (SCAQMD 1993).

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 SoCAB, 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 SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (SCAQMD 1993).

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 Wildomar (SCAQMD 1993).

2.1.2 Criteria Air Pollutants

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 with a determined margin of safety. Ozone (O_3), course particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. PM is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 2-1.

Table 2-1. Criteria Air Pollutants- Summary of Common Sources and Effects		
Pollutant	**Major Man-Made Sources**	**Human Health & Welfare Effects**
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (NOx) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, 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.
PM_{10} & $PM_{2.5}$	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).
SO_2	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association (CAPCOA) 2013

2.1.3 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 of TACs include cancer, birth defects, neurological damage, and death.

According to CARB's *California Almanac of Emissions and Air Quality* (2005), the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being PM from diesel-fueled engines (DPM). DPM has been identified as a human carcinogen and contains hundreds of different gaseous and particulate components, many of which are toxic. Diesel particles are so small that they penetrate deep into the lungs. Studies show that DPM concentrations are much higher near heavily traveled highways and intersections. Off-road construction equipment and heavy-duty trucks are considered major sources of diesel-related emissions.

2.1.4 Ambient Air Quality

Ambient air quality at the Wildomar MDP Line C Revision Project site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains over 60 monitoring stations throughout California. The Lake Elsinore-W Flint Street (506 West Flint Street, Lake Elsinore CA 92530) air quality monitoring station, located approximately 5.25 miles northwest of the development site, is the closest station to the site. The Lake Elsinore-W Flint Street monitoring station monitors ambient concentrations of O_3, $PM_{2.5}$, PM_{10}. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered "generally" representative of ambient concentrations in the development area.

Table 2-2 summarizes the published data concerning O_3, $PM_{2.5}$ and PM_{10} since 2016 from the Lake Elsinore-W Flint Street monitoring station for each year that the monitoring data is provided.

Table 2-2. Summary of Ambient Air Quality Data

Pollutant Standards	2016	2017	2018
O_3			
Max 1-hour concentration (ppm)	0.124	0.121	0.116
Max 8-hour concentration (ppm) (State/federal)	0.094 / 0.093	0.098 / 0.098	0.096 / 0.095
Number of days above state 1-hour standard	15	23	16
Number of days above 8-hour standard (State/federal)	45 / 44	56 / 54	31 / 30
PM_{10}			
Max 24-hour concentration (µg/m^3) (State/federal)	* / 99.7	* / 134.1	* / 105.3
Number of days above 24-hour standard (State/federal)	* / 0	* / 0	* / 0
$PM_{2.5}$			
Max 24-hour concentration (µg/m^3) (State/federal)	31.5 / *	27.2 / *	31.2 / *
Number of days above federal 24-hour standard	*	*	*

Source: CARB 2019a
µg/m^3 = micrograms per cubic meter; ppm = parts per million
** = Insufficient data available*

The attainment status for the SoCAB is included in Table 2-3. 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. Areas for which there is insufficient data available are designated unclassified. The region is designated as a nonattainment area for the federal O_3 and $PM_{2.5}$ standards, and is also a nonattainment area for the State standards for O_3, PM_{10}, and $PM_{2.5}$ (CARB 2018).

Table 2-3. Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State Designation	Federal Designation
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Attainment

Source: CARB 2018

2.2 Regulatory Framework

2.2.1 Federal

Clean Air Act (CAA)

The CAA of 1970 and the CAA Amendments of 1971 required the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (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 (CO_2) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO_2.

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 USEPA 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 a nonattainment or attainment designation. Table 2-3 lists the federal attainment status of the SoCAB for the criteria pollutants.

National Emissions Standards for Hazardous Air Pollutants Program

Under federal law, 188 substances are 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 program. The USEPA is establishing regulatory schemes for specific source categories and requires implementation of Maximum Achievable Control Technologies 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.

2.2.2 State

California Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588)

The California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) is a state-wide program enacted in 1987. AB 2588 requires facilities that exceed recommended Office of Environmental Health Hazard Assessment (OEHHA) levels to reduce risks to acceptable levels. AB 2588 requires hundreds of facilities in Riverside County to quantify the emissions of TACs, and in some cases conduct a health risk assessment and notify the public, while developing risk reduction strategies.

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 PM and gases, which contain potential cancer-causing substances. Emissions from diesel engines currently include over 40 substances that are listed by USEPA as HAPs and by CARB as TACs. On August 27, 1998, CARB identified PM in diesel exhaust as a TAC, based on data linking diesel particulate emissions to increased risks of lung cancer and respiratory disease.

In September 2000, CARB adopted a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan is to reduce DPM emissions and the associated health risk by 75 percent in 2010 and by 85 percent by 2020. As part of this plan, CARB identified Airborne Toxic Control Measures (ATCM) for mobile and stationary emissions sources. Each ATCM is codified in the California Code of Regulations (CCR), including the ATCM to limit diesel-fueled commercial motor vehicle idling, which puts limits on idling time for large diesel engines (13 CCR Chapter 10 Section 2485).

California CAA

The California CAA 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, is responsible for the coordination and administration of both federal and State air pollution control programs within California, including setting the California ambient air quality standards. CARB also conducts research, 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 also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and local air districts.

In addition to standards set for the six criteria pollutants, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Further, in addition to primary and secondary ambient air quality standards, the State has established a set of episode criteria for O_3, CO, NO_2, SO_2, and PM. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health.

California SIP

The federal CAA (and its subsequent amendments) requires each State to prepare an air quality control plan referred to as the 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 USEPA 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 USEPA for approval and publication in the Federal Register. The 2016 Air Quality Management Plan (2016 AQMP) is the SIP for the SoCAB. The 2016 AQMP is a regional blueprint for achieving air quality standards and healthful air in the SoCAB and those portions of the Salton Sea Air Basin that are under the SCAQMD's jurisdiction. The 2016 AQMP represents a new approach, focusing on available, proven, and cost effective alternatives to traditional strategies, while seeking to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The most effective way to reduce air pollution impacts is to reduce emissions from mobile sources. The AQMP relies on a regional and multi-level partnership of governmental agencies at the federal, State, regional, and local level. These agencies (USEPA, CARB, local governments, Southern California Association of Governments [SCAG] and SCAQMD) are the primary agencies that implement the AQMP programs. The 2016 AQMP incorporates the latest scientific and technical information and planning assumptions, including SCAG's latest Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. The 2016 AQMP includes integrated strategies and measures to meet the NAAQS.

Senate Bill (SB) 1889, Accidental Release Prevention Law/California Accidental Release Prevention Program (CalARP)

SB 1889 required California to implement a new federally mandated program governing the accidental airborne release of chemicals promulgated under Section 112 of the CAA. Effective January 1, 1997, the CalARP replaced the previous California Risk Management and Prevention Program and incorporated the mandatory federal requirements. CalARP addresses facilities that contain specified hazardous materials, known as regulated substances, which if involved in an accidental release, could result in adverse offsite consequences. CalARP defines regulated substances as chemicals that pose a threat to public health and safety or the environment because they are highly toxic, flammable, or explosive.

2.2.3 Local

SCAQMD

The SCAQMD is the air pollution control agency for Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino counties. The agency's primary responsibility is ensuring that the federal and State ambient air quality standards are attained and maintained in the SoCAB. 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.

The following is a list of noteworthy SCAQMD rules that are required of construction activities associated with the proposed Project:

- **Rule 402 (Nuisance)** – This rule prohibits the discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.
- **Rule 403 (Fugitive Dust)** – This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible PM are prohibited from crossing any property line. This rule is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM_{10} suppression techniques are summarized below.

    1) Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.

    2) All onsite roads will be paved as soon as feasible or watered periodically or chemically stabilized.

    3) All material transported offsite will be either sufficiently watered or securely covered to prevent excessive amounts of dust.

    4) The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.

    5) Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the work day to remove soil tracked onto the paved surface.

- **Rule 1113 (Architectural Coatings)** – This rule requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories.

2.3 Air Quality Emissions Impact Assessment

2.3.1 Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to 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 pollution concentrations.

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

SCAQMD Thresholds

The significance criteria established by the applicable air quality management or air pollution control district (SCAQMD) may be relied upon to make the above determinations. According to the SCAQMD, an air quality impact is considered significant if a proposed project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The SCAQMD has established thresholds of significance for air quality for construction and operational activities of land use development projects such as that proposed, as shown in Table 2-4.

Table 2-4. SCAQMD Regional Significance Thresholds – Pounds per Day

Air Pollutant	Construction Activities	Operations
ROG	75	55
CO	550	550
NO_x	100	55
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55

Source: SCAQMD 1993 ($PM_{2.5}$ threshold adopted June 1, 2007)

CO Hotspot Analysis

In addition to the daily thresholds listed above, development associated with the proposed Project would also be subject to the ambient air quality standards. These are addressed though an analysis of localized CO impacts. The California one-hour and eight-hour CO standards are:

one-hour = 20 parts per million

eight-hour = nine parts per million

The significance of localized impacts depends on whether ambient CO levels in the vicinity of the Project site are above State and federal CO standards. The SoCAB has been designated as in attainment under the one-hour and eight-hour standards.

Localized Significance Thresholds (LSTs)

In addition to the CO hotspot analysis, the SCAQMD developed LSTs for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at new development sites (offsite mobile source emissions are not included in the LST analysis). LSTs represent the maximum emissions that can be generated at a project site without expecting to cause or substantially contribute to an exceedance of the most stringent national or State ambient air quality standards. LSTs are based on the ambient concentrations of that pollutant within a project source receptor area (SRA), as demarcated by the SCAQMD, and the distance to the nearest sensitive receptor. LST analysis for construction is applicable for all projects that disturb five acres or less on a single day.

Wildomar is located within SCAQMD SRA 25. Table 2-5 shows the LSTs for a one-acre, two-acre, and five-acre project site in SRA 25 with sensitive receptors located within 25 meters of the Project site.

Table 2-5. Local Significance Thresholds (Construction / Operations)

Project Size	Pollutant (pounds per day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
One Acre	162 / 162	750 / 750	4 / 1	3 / 1
Two Acres	234 / 234	1,100 / 1,100	7 / 2	4 / 1
Five Acres	371 / 371	1,965 / 1,965	13 / 4	8 / 2

Source: SCAQMD 2009

TAC Thresholds

The SCAQMD regulates levels of air toxics through a permitting process that covers both construction and operation. The SCAQMD has adopted Rule 1401 for both new and modified sources that use materials classified as air toxics. The SCAQMD CEQA Guidelines for permit processing consider the following types of projects significant:

- Any project involving the emission of a carcinogenic or toxic air contaminant identified in SCAQMD Rule 1401 that exceeds the maximum individual cancer risk of 10 in one million if the project is constructed with best available control strategy for toxics using the procedures in SCAQMD Rule 1401.
- Any project that could accidentally release an acutely hazardous material or routinely release a toxic air contaminant posing an acute health hazard.
- Any project that could emit an air contaminant not currently regulated by a SCAQMD rule, but that is on the federal or State air toxics list.

2.3.2 Methodology

Air quality impacts were assessed in accordance with methodologies recommended by CARB and the SCAQMD. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2016.3.1. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects.

2.3.3 Impacts Analysis

Conflict with the 2016 AQMP

As part of its enforcement responsibilities, the USEPA 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. Similarly, under State law, the California CAA 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.

As previously mentioned, the Project site is located within the SoCAB, which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the SoCAB is in nonattainment. In order to reduce such emissions, the SCAQMD drafted the 2016 AQMP. The 2016 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving State and national air quality standards. The 2016 AQMP is a regional and multi-agency effort including the SCAQMD, the CARB, the SCAG, and the USEPA. The plan's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's 2016 RTP/SCS, updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. (SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans.) The Project is subject to the SCAQMD's AQMP.

According to the SCAQMD, in order to determine consistency with SCAQMD's air quality planning two main criteria must be addressed.

Criterion 1

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) Would the project result in an increase in the frequency or severity of existing air quality violations?

Since the consistency criteria identified under the first criterion pertain to pollutant concentrations, rather than to total regional emissions, an analysis of the Project's pollutant emissions relative to localized pollutant concentrations is used as the basis for evaluating Project consistency. As shown in Table 2-8, localized concentrations of CO, NO_X, and PM (PM_{10} and $PM_{2.5}$) would be less than significant. Therefore, the proposed Project would not result in an increase in the frequency or severity of existing air quality violations. Because ROG are not a criteria pollutant, there is no ambient standard or localized threshold for ROG. Due to the role ROG plays in O_3 formation, it is classified as a precursor pollutant and only a regional emissions threshold has been established.

b) Would the project cause or contribute to new air quality violations?

As shown in Tables 2-6 and 2-9, the proposed Project would result in regional emissions that would be below the SCAQMD regional thresholds during both construction and operations. Therefore, the proposed Project would not have the potential to cause or affect a violation of the ambient air quality standards.

c) Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?

The proposed Project would result in less-than-significant impacts with regard to localized concentrations during Project construction. As such, the proposed Project would not delay the timely attainment of air quality standards or AQMP emissions reductions.

Criterion 2

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the SoCAB focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining Project consistency focuses on whether or not the proposed Project exceeds the assumptions utilized in preparing the forecasts presented its air quality planning documents. Determining whether or not a project exceeds the assumptions reflected in the 2016 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?

A project is consistent with regional air quality planning efforts in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the SCAQMD air quality plans. Generally, three sources of data form the basis for the projections of air pollutant emissions: The *City of Wildomar General Plan*, SCAG's *Growth Management* Chapter of the *Regional Comprehensive Plan and Guide* (RCPG), and SCAG's 20160RTP/SCS. The RTP/SCS also provides socioeconomic forecast projections of regional population growth. The proposed Project involves the improvement of stormwater drainage and flood protection facilities in order to improve public safety, which is not a trip generating land use. Rather, the proposed Project would address existing stormwater management deficiencies and implement improvements consistent with the City's General Plan to protect life and property by improving existing flood protection barriers. Therefore, the proposed Project would be considered consistent with the applicable General Plan. Furthermore, the proposed Project does not involve any uses that would increase population beyond what is considered in the General Plan and, therefore, would not affect local plans for population growth. Thus, the proposed Project is consistent with the types, intensity, and patterns of land use envisioned for the Project vicinity in the RCPG. The population, housing, and employment forecasts, which were adopted by SCAG's Regional Council, are based on the local plans and policies applicable; these are used by SCAG in all phases of implementation and review. Additionally, as the SCAQMD has incorporated these same projections into the 2016 AQMP, it can be concluded that the proposed Project would be consistent with the projections.

b) Would the project implement all feasible air quality mitigation measures?

The proposed Project would result in less-than-significant air quality impacts. Compliance with emission reduction measures identified by the SCAQMD, such as SCAQMD Rules 402, 403, and 1113, described in the Regulatory Framework subsection above, are required for all projects in the SoCAB. Additionally,

mitigation measure MM 1, described below, requires the use of construction equipment of advanced efficiency. As such, the proposed Project meets this consistency criterion.

c) Would the project be consistent with the land use planning strategies set forth by SCAQMD air quality planning efforts?

The proposed Project would serve to implement regional goals to manage stormwater in the area. The proposed Project is located adjacent to a developed portion of the City. The purpose of the Project is to make improvements to stormwater management. Therefore, the Riverside County Flood Control & Water Conservation District is proposing the structure improvements.

In conclusion, the determination of AQMP consistency is primarily concerned with the long-term influence of a project on air quality. The proposed Project would not result in a long-term impact on the region's ability to meet State and federal air quality standards. The proposed Project's long-term influence would also be consistent with the goals and policies of the SCAQMD's 2016 AQMP. No impact would occur.

Project-Generated Criteria Air Quality Emissions

Construction

Regional Construction Significance Analysis

Construction associated with the proposed Project would generate short-term emissions of criteria air pollutants. The criteria pollutants of primary concern within the Project area include O_3-precursor pollutants (i.e., ROG and NO_X) and PM_{10} and $PM_{2.5}$. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SCAQMD's thresholds of significance.

Construction results in the temporary generation of emissions resulting from site excavation, Project construction, and paving. Motor vehicle exhaust is associated with construction equipment and worker trips. PM is associated with the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne PM are largely dependent on the amount of ground disturbance associated with site preparation activities as well as weather conditions and the appropriate application of water.

The Project would require the net export of approximately 520,000 cubic yards of soil from Phase 1 and 20,000 cubic yards of soil from Phase 2. See Attachment A for more information regarding the construction assumptions, including construction equipment and duration, used in this analysis.

Construction-generated emissions associated the proposed Project were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Predicted maximum daily construction-generated emissions for the proposed Project are summarized in Table 2-6.

Table 2-6. Construction-Related Emissions (Regional Significance Analysis)

Construction Year	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2020	7.20	77.60	46.25	0.09	22.00	12.37
2021	6.84	72.30	44.56	0.09	20.00	11.56
2022	1.46	8.43	10.72	0.02	0.60	0.43
SCAQMD Potentially Significant Impact Threshold	75	100	550	150	150	55
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.1. Refer to Attachment A for Model Data Outputs.

Notes: The reduction/credits for construction emissions are based on measures included in CalEEMod and as required by the SCAQMD through Rule 403. This includes the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stock piles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour (mph). Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied. Modeling accounts for the excavation and stockpiling of 550,000 cubic yards of soil during construction.

As shown in Table 2-6, emissions generated during Project construction would not exceed the SCAQMD's regional thresholds of significance. Therefore, criteria air pollutant emissions generated during Project construction would not result in a cumulatively considerable net increase of any criteria pollutants from which the Project region is in nonattainment under an applicable federal or State ambient air quality standard.

Localized Construction Significance Analysis

The nearest sensitive receptors to the Project site are the residences adjacent to the Project site. In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing LSTs for construction. LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with project-specific level proposed projects.

For this Project, the appropriate SRA for the LSTs is the Lake Elsinore area (SRA 25) since this area includes the Project site. LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The proposed Project would disturb 19 acres during construction. As previously described, the SCAQMD has produced look-up tables for projects that disturb less than or equal to five acres daily. The SCAQMD has also issued guidance on applying the CalEEMod emissions software to LSTs for projects greater than five acres. Since CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment, Table 2-7 is used to determine the maximum daily disturbed acreage for comparison to LSTs.

Table 2-7. Equipment-Specific Grading Rates

Construction Phase	Equipment Type	Equipment Quantity	Acres Graded/Disturbed per Eight-Hour Day	Operating Hours per Day	Acres Graded per Day
Phase 1 Utility Relocation	Tractors/ Loaders/ Backhoes	3	0.5	8	1.5
				Total	**1.5**
Phase 1 Project Construction	Water Trucks	2	0	8	0
	Excavators	2	0	8	0
	Scrapers	3	1	8	3
	Bulldozers	2	0.5	8	1
	Dump Trucks	8	0	8	0
				Total	**4**
Phase 2 Utility Relocation	Tractors/ Loaders/ Backhoes	1	0.5	8	0.5
				Total	**0.5**
Phase 2 Project Construction	Excavators	2	0	8	0
	Rubber Tired Loaders	1	0.5	8	0.5
	Signal Boards	2	0	8	0
	Tractors/ Loaders/ Backhoes	1	0.5	8	0.5
	Dump Trucks	5	0	8	0
				Total	**1**
Phase 2 Paving	Pavers	1	0	8	0
	Rollers	1	0	8	0
	Signal Boards	2	0	8	0
	Tractors/ Loaders/ Backhoes	1	0.5	8	0.5
				Total	**0.5**
Maximum Total Acres Graded per Day					**4**

As shown in Table 2-7, Project implementation could potentially disturb up to four acres daily. Therefore, for a conservative analysis, the LST threshold value for a five-acre construction were sourced from the LST lookup tables.

The nearest sensitive receptors to the Project site are the residences adjacent to the Project site. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. Notwithstanding, the SCAQMD Methodology explicitly states: "*It is possible that a project may have*

receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters." Therefore, LSTs for receptors located at 25 meters were utilized in this analysis.

The SCAQMD's methodology clearly states that "off-site mobile emissions from a project should not be included in the emissions compared to LSTs." Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered. Table 2-8 presents the results of localized emissions during construction activity. The LSTs reflect a maximum disturbance of five acres daily at 25 meters for the proposed Project.

Table 2-8. Construction-Related Emissions (Localized Significance Analysis)

Activity	Pollutant (pounds per day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
No Mitigation				
Phase 1- Utility Relocation (2020)	40.31	19.23	21.80	12.10
Phase 1- Project Construction (2020)	77.00	45.60	19.10	10.10
Phase 1- Project Construction (2021)	61.80	43.93	19.83	9.86
Phase 2- Utility Relocation (2021)	34.81	14.37	19.78	11.50
Phase 2- Project Construction (2021)	47.55	30.47	10.69	5.44
Phase 2- Paving (2021)	9.07	10.19	0.48	0.44
Phase 2- Paving (2022)	7.96	10.13	0.40	0.37
SCAQMD Localized Screening Threshold (Adjusted for five acres of disturbance at 25 meters)	371	1,965	13	8
Exceed SCAQMD Threshold?	**No**	**No**	**Yes**	**Yes**
Mitigation with Implementation of MM 1				
Phase 1- Utility Relocation (2020)	17.33	20.62	8.51	4.80
Phase 1- Project Construction (2020)	41.23	49.33	7.90	4.50
Phase 1- Project Construction (2021)	41.23	49.33	7.90	4.50
Phase 2- Utility Relocation (2021)	13.90	15.93	7.63	4.45
Phase 2- Project Construction (2021)	28.24	34.38	4.57	2.58
Phase 2- Paving (2021)	7.40	11.00	0.43	0.43
Phase 2- Paving (2022)	7.40	11.00	0.42	0.43
SCAQMD Localized Screening Threshold (Adjusted for five acres of disturbance at 25 meters)	371	1,965	13	8
Exceed SCAQMD Threshold?				

Source: CalEEMod version 2016.3.1. Refer to Attachment A for Model Data Outputs.

Notes: The reduction/credits for construction emissions are based on measures included in CalEEMod and as required by the SCAQMD through Rule 403. This includes the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stock piles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 mph. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied. Tier 3 engines for all construction equipment was applied per MM 1. Modeling accounts for the excavation and stockpiling of 550,000 cubic yards of soil during construction..

As shown, with the implementation of mitigation measure MM-1, emissions of these pollutants on the peak day of construction would not result in significant concentrations of pollutants at nearby sensitive

receptors. Mitigation measure MM-1 requires diesel-fueled construction equipment to have CARB-certified Tier 3 or better engines to reduce PM_{10} and $PM_{2.5}$. While impacts would be considered less than significant with the implementation of mitigation measure MM-1, the proposed Project would be also subject to SCAQMD Rules 402, 403, and 1113, described in the Regulatory Framework subsection above, to further reduce specific construction-related emissions.

Mitigation Measures

MM 1 During all construction activities, all diesel-fueled construction equipment, including but not limited to rubber-tired dozers, graders, scrapers, excavators, asphalt paving equipment, cranes, and tractors, shall be CARB Tier 3 Certified or better as set forth in Section 2423 of Title 13 of the CCR, and Part 89 of Title 40 of the Code of Federal Regulations.

Operations

Regional Operational Significance Analysis

The proposed Project involves the development of the Bundy Canyon Basin and revisions to Lateral C. The proposed Project will not include the provisions of new permanent stationary or mobile sources of emissions and vehicle trips to the Project area because maintenance will be minimal. Therefore, regional operations emissions would result in a less-than-significant long-term regional air quality impact.

Localized Operational Significance Analysis

According to the SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed project only if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., warehouse or transfer facilities). The proposed Project does not include such uses. Therefore, in the case of the proposed Project, the operational-phase LST protocol does not need to be applied.

Exposure of Sensitive Receptors to TACs

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

Construction-Generated Air Contaminants

Construction-related activities would result in temporary, short-term Project-generated emissions of DPM from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading); soil hauling truck traffic; paving; application of architectural coatings; and other miscellaneous activities. For construction activity, DPM is the primary TAC of concern. Particulate exhaust emissions from diesel-

fueled engines (i.e., DPM) were identified as a TAC by the CARB in 1998. The potential cancer risk from the inhalation of DPM, as discussed below, outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. Accordingly, DPM is the focus of this discussion.

Based on the emission modeling conducted the maximum mitigated construction-related annual emissions of $PM_{2.5}$ exhaust, considered a surrogate for DPM, would be 1.73 pounds per day during 2020 construction activity, 1.73 pounds per day during 2021 construction activity, and 0.43 pound per day during 2022 construction activity (see Attachment A). ($PM_{2.5}$ is considered a surrogate for DPM because more than 90 percent of DPM is less than one microgram in diameter and therefore is a subset of particulate matter under 2.5 microns in diameter [i.e., $PM_{2.5}$], according to CARB. Most $PM_{2.5}$ derives from combustion, such as use of gasoline and diesel fuels by motor vehicles.). Furthermore, even during the most intense month of construction, emissions of DPM would be generated from different locations on the Project site, rather than a single location, because different types of construction activities (e.g., demolition, site preparation, building construction) would not occur at the same place at the same time.

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for any exposed receptor. Thus, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the OEHHA, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-, 30-, or nine-year exposure period; further, such assessments should be limited to the period/duration of activities associated with the proposed Project. Consequently, an important consideration is the fact that construction of the proposed Project is not anticipated to last nine consecutive years, the minimum duration of exposure from which to calculate health risk (Project construction is anticipated to approximately five months), and that on a day-to-day basis construction activity generally spans eight hours as opposed to throughout the entire day.

Therefore, considering the relatively low mass of DPM emissions that would be generated during even the most intense season of construction and the fact that construction would not last as long as the minimum duration of exposure from which to calculate health risk, construction-related TAC emissions would not expose sensitive receptors to substantial amounts of air toxics.

Furthermore, the Project has been evaluated against the SCAQMD's LSTs for construction. As previously stated, LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4) and can be used to assist lead agencies in analyzing localized impacts associated with project-specific level of proposed projects. As shown in Table 2-7, with the implementation of mitigation measure MM-1 the emissions of pollutants on the peak day of construction would not result in significant concentrations of pollutants at nearby sensitive receptors.

Operational Air Contaminants

Operation of the proposed Project would not result in the development of any substantial sources of air toxics. There are no stationary sources associated with the operations of the Project. Nor would the Project attract mobile sources that spend long periods queuing and idling at the site. Therefore, the Project would not be a source of TACs.

CO Hot Spots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service (LOS) during the peak commute hours. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the Project vicinity have steadily declined.

Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. The analysis prepared for CO attainment in the SCAQMD 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan) in Los Angeles County can be used to demonstrate the potential for CO exceedances. The SCAQMD CO hot spot analysis was conducted for four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the LOS in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be LOS E at peak morning traffic and LOS F at peak afternoon traffic (LOS E and F are the two least efficient traffic LOS ratings). Even with the inefficient LOS and volume of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992).

The proposed Project would not generate any new traffic trips and average daily trips would be the same with and without Project implementation. Because the proposed Project would not increase traffic volumes at any intersection to more than 100,000 vehicles per day, there is no likelihood of the Project traffic exceeding CO values.

Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Construction

During construction, the proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area.

Operations

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 proposed Project would not include any of the land uses that have been identified by the SCAQMD as odor sources.

Cumulative Air Quality Impacts

The cumulative setting for air quality includes the City and the SoCAB. The SoCAB is designated as a nonattainment area for State standards of O_3, PM_{10}, and $PM_{2.5}$. The region is also designated as a nonattainment area for federal standards of O_3 and $PM_{2.5}$. Cumulative growth in population, vehicle use, and industrial activity could inhibit efforts to improve regional air quality and attain the ambient air

quality standards. Thus, the setting for this cumulative analysis consists of the SoCAB and associated growth and development anticipated in the air basin.

The SCAQMD's approach to assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and California CAAs. As discussed earlier, the proposed Project would be consistent with the 2016 AQMP, which is intended to bring the SoCAB into attainment for all criteria pollutants. In addition, the SCAQMD recommends that any given project's potential contribution to cumulative impacts be assessed using the same significance criteria as for project-specific impacts. Therefore, individual projects that do not generate operational or construction emissions that exceed the SCAQMD's daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the air basin is in nonattainment and therefore would not be considered to have a significant, adverse air quality impact. Alternatively, individual Project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable. As previously noted, the Project will not exceed the applicable SCAQMD regional thresholds for construction or operational-source emissions. As such, the Project will result in a cumulatively less-than-significant impact.

3.0 GREENHOUSE GASES

3.1 Greenhouse Gas Setting

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are CO_2, CH_4, and N_2O. Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (Intergovernmental Panel on Climate Change [IPCC] 2014).

Table 3-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013).

Table 3-1. Greenhouse Gases

Greenhouse Gas	Description
CO_2	CO_2 is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
CH_4	CH_4 is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. CH_4 is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about12 years.[2]
N_2O	N_2O is a clear, colorless gas with a slightly sweet odor. N_2O is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Sources: [1] USEPA 2016a, [2] USEPA 2016b, [3] USEPA 2016c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; suffice it to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

3.1.1 Sources of Greenhouse Gas Emissions

In 2019, CARB released the 2019 edition of the California GHG inventory covering calendar year 2017 emissions. In 2017, California emitted 424.1 million gross metric tons of CO_2e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2017, accounting for approximately 41 percent of total GHG emissions in the state. This sector was followed by the industrial sector (24 percent) and the electric power sector including both in-state and out-of-state sources (15 percent) (CARB 2019b).

Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water), respectively, two of the most common processes for removing CO_2 from the atmosphere.

3.2 Regulatory Framework

3.2.1 State

Executive Order (EO) S-3-05

EO S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

While dated, this EO remains relevant because a more recent California Appellate Court decision, Cleveland National Forest Foundation v. San Diego Association of Governments (November 24, 2014) 231 Cal.App.4th 1056, examined whether it should be viewed as having the equivalent force of a legislative mandate for specific emissions reductions. While the California Supreme Court ruled that the San Diego Association of Governments did not abuse its discretion by declining to adopt the 2050 goal as a measure of significance in light of the fact that the EO does not specify any plan or implementation measures to achieve its goal, the decision also recognized that the goal of a 40 percent reduction in 1990 GHG levels by 2030 is "widely acknowledged" as a "necessary interim target to ensure that California meets its longer-range goal of reducing greenhouse gas emissions 80 percent below 1990 levels by the year 2050."

Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006

In September 2006, Governor Schwarzenegger signed the California Global Warming Solutions Act of 2006, AB 32. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 also requires that these reductions "…shall remain in effect unless otherwise amended or repealed. (b) It is the intent of the Legislature that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020. (c) The [Air Resources Board] shall make recommendations to the Governor and the Legislature on how to continue reductions of greenhouse gas emissions beyond 2020." (California Health and Safety Code, Division 25.5, Part 3, Section 38551).

AB 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed AB 32 (Health and Safety Code §38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). AB 32 anticipates that the GHG reduction goals will be met, in part, through local government actions. CARB has identified a GHG reduction target of 15 percent from current levels for local governments and notes that successful implementation relies on local governments' land use planning and urban growth decisions.

Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which was re-approved by CARB on August 24, 2011, that outlines measures to meet the 2020 GHG reduction goals. To meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels or about 15 percent from today's levels. The Scoping Plan recommends measures for further study and possible State implementation, such as new fuel regulations. It estimates that a reduction of 174 million metric tons of CO_2e (about 191 million U.S. tons) from the transportation, energy, agriculture, and forestry sectors and other sources could be achieved should the State implement all of the measures in the Scoping Plan.

The Scoping Plan is required by AB 32 to be updated at least every five years. The first update to the AB 32 Scoping Plan was approved on May 22, 2014 by CARB. The 2017 Scoping Plan Update was adopted on December 14, 2017. The Scoping Plan Update addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40-percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include: increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes

EO B-30-15

On April 20, 2015 Governor Brown signed EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's EO aligns California's GHG reduction targets with those of leading international governments such as the 28-nation European Union, which adopted the

same target in October 2014. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, discussed above). California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius, the warming threshold at which major climate disruptions are projected, such as super droughts and rising sea levels.

SB 32 and AB 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

SB X1-2 of 2011 and SB 350 of 2015

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California. SB X1-2 mandates that renewables from these sources make up at least 50 percent of the total renewable energy for the 2011-2013 compliance period, at least 65 percent for the 2014-2016 compliance period, and at least 75 percent for 2016 and beyond. In October 2015, SB 350 was signed by Governor Brown, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from renewable resources by 2030.

3.2.2 Regional

SCAQMD

To provide guidance to local lead agencies on determining significance for GHG emissions in CEQA documents, SCAQMD staff is convening an ongoing GHG CEQA Significance Threshold Working Group. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that provide input to SCAQMD staff on developing the significance thresholds. On October 8, 2008, the SCAQMD released the Draft AQMD Staff CEQA GHG Significance Thresholds. These thresholds have not been finalized and continue to be developed through the working group.

On September 28, 2010, SCAQMD Working Group Meeting #15 provided further guidance, including an interim screening level numeric "bright-line" threshold of 3,000 metric tons of CO_2e annually and an

efficiency-based threshold of 4.8 metric tons of CO_2e per service population (residents plus employees) per year in 2020 and 3.0 metric tons of CO_2e per service population per year in 2035. The SCAQMD has not announced when staff is expecting to present a finalized version of these thresholds to the governing board. The SCAQMD has also adopted Rules 2700, 2701, and 2702 that address GHG reductions; however, these rules are currently applicable only to boilers and process heaters, forestry, and manure management projects.

SCAG

On April 7, 2016, the SCAG Regional Council adopted the 2016 RTP/SCS. The 2016 RTP/SCS charts a course for closely integrating land use and transportation – so that the region can grow smartly and sustainably. It was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. The SCAG region strives toward sustainability through integrated land use and transportation planning. The SCAG region must achieve specific federal air quality standards and is required by state law to lower regional GHG emissions.

Riverside County Climate Action Plan (CAP)

The Riverside County CAP (2015) main objectives are to provide a more livable, equitable, and economically vibrant community through the incorporation of sustainability features and reduction of GHG emissions. The goals and policies identified in the CAP are geared towards improving sustainability in Riverside County and incorporating environmental responsibility into its daily management. To achieve compliance with statewide GHG reduction targets the County of Riverside has put into effect local policies that will reduce GHG emissions by 15 percent by 2020. These policies encourage energy efficiency and renewable energy in buildings, transit-oriented planning, water conservation and increase water diversion. The CAP provides a focused roadmap for advancing environmental sustainability and reducing GHG emissions in the County.

Riverside County GHG Screening

As part of the 2018 updated CAP, the County implemented cost-effective strategies for reducing community-wide GHG emissions associated with new development projects. These strategies include applying an emissions level that is determined to be less than significant for small projects, and utilizing the Screening Tables to mitigate project GHG emissions that exceed a threshold of 3,000 metric tons of CO_2e per year. The purpose of the Screening Tables is to provide guidance in measuring the reduction of GHG emissions attributed to certain design and construction measures incorporated into development projects.

3.3 Greenhouse Gas Emissions Impact Assessment

3.3.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to greenhouse gas emissions if it would:

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

2) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

SCAQMD Thresholds

On September 28, 2010, the SCAQMD recommended an interim screening level numeric, bright-line threshold of 3,000 metric tons of CO_2e annually and an efficiency-based threshold of 4.8 metric tons of CO_2e per service population (residents plus employees) per year in 2020 and 3.0 metric tons of CO_2e per service population per year in 2035. These thresholds were developed as part of the SCAQMD GHG CEQA Significance Threshold Working Group. The working group was formed to assist the SCAQMD's efforts to develop a GHG significance threshold and is composed of a wide variety of stakeholders including the state Office of Planning and Research, CARB, the Attorney General's Office, a variety of city and county planning departments in the SoCAB, various utilities such as sanitation and power companies throughout the basin, industry groups, and environmental and professional organizations. The numeric bright-line and efficiency-based thresholds were developed to be consistent with CEQA requirements for developing significance thresholds, are supported by substantial evidence, and provide guidance to CEQA practitioners and lead agencies with regard to determining whether GHG emissions from a proposed project are significant.

For the purposes of this evaluation, the proposed Project will first be compared to the SCAQMD interim screening level numeric bright-line threshold of 3,000 metric tons of CO_2e annually. If it is determined that the proposed Project is estimated to exceed this screening threshold, it will then be compared to the SCAQMD-recommended efficiency-based threshold of 4.8 metric tons of CO_2e per service population per year in 2020, and 3.0 metric tons of CO_2e per service population per year in 2035.

3.3.2 Methodology

GHG impacts were assessed in accordance with methodologies recommended by CARB and the SCAQMD. Where criteria air pollutant quantification was required, emissions were modeled using the CalEEMod, version 2016.3.1. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects.

3.3.3 Impacts Analysis

Contribution of Greenhouse Gas Emissions

Construction

Construction-related activities that would generate GHGs include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 3-2 illustrates the specific construction-generated GHG emissions that would result from construction of the Project.

Table 3-2. Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons/Year)
2020	175
2021	787
2022	63
Total	**1,025**

Source: CalEEMod version 2016.3.1. See Attachment B for emission model outputs.
Notes: Emission projections account for the net export of approximately 520,000 cubic yards of soil from Phase 1 and 20,000 cubic yards of soil from Phase 2.

As shown in Table 3-2, Project construction would result in the generation of approximately 1,025 metric tons of CO_2e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease.

Operations

In terms of operational GHG emissions, the proposed Project involves the development of Bundy Canyon Basin and revisions to Lateral C. The proposed Project will not include the provision of new permanent stationary or mobile sources of emissions, and therefore, by its very nature, would not generate quantifiable GHG emissions. Additionally, vehicle trips to the Project area due to maintenance will be minimal.

Conflict with any Applicable Plan, Policy, or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases

The Riverside County CAP is a strategic planning document that identifies sources of GHG emissions within the County's boundaries, presents current and future emission estimates, identifies a GHG reduction target for future years, and presents strategies, policies, and actions to reduce emissions form the energy, transportation, land use, water use, and waste sectors. The GHG reduction strategies in the CAP build on inventory results and key opportunities prioritized by the County staff and members of the public. The CAP consists of strategies that identify steps the County will take to support reductions in GHG emissions. The County will achieve these reductions in GHG emissions through a mix of voluntary programs and new strategic standards. All standards presented in the CAP respond to the needs of development through achieving more efficient and sustainable resources.

Both the existing and the projected GHG inventories in the CAP were derived based on the land use designations and associated designations defined in the Riverside County General Plan. The proposed Project involves the improvement of stormwater drainage and flood protection facilities in order to improve public safety. The proposed project does not involve any uses that would increase population beyond what is considered in the City General Plan. Since the Project is consistent with the General Plan it is consistent with the types, intensity, and patterns of land use envisioned for the site vicinity in the General Plan, and as a result, the Project would not conflict with the land use assumptions or exceed the population or job growth projections used by the County to develop the CAP.

In addition to complying with the land use assumptions and population/job growth projections used by the County to develop the CAP, Project compliance with the County's GHG Plan is demonstrated through the CAP development review process, which ensures the implementation of appropriate GHG-reduction requirements to projects. Specifically, this process employs Screening Tables to mitigate project GHG emissions that exceed a threshold of 3,000 metric tons of CO_2e per year. The purpose of the Screening Tables is to provide guidance in measuring the reduction of GHG emissions attributable to certain design and construction measures incorporated into development projects. The 3,000 metric tons of CO_2e per year value is used in defining small projects that are considered less than significant and do not need to use the Screening Tables or alternative GHG mitigation analysis described below. As shown above, the proposed Project would generate less than 3,000 metric tons of CO_2e per year during construction and operations. Therefore, the Project would comply with the emissions reduction targets in the County's GHG Plan. A less than significant impact would occur in this regard.

The proposed Project would not conflict with an adopted plan, policy, or regulation pertaining to GHGs.

Cumulative GHG Impacts

Climate change is a global problem. And GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have much longer atmospheric lifetimes of one year to several thousand years that allow them to be dispersed around the globe.

It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. The additive effect of Project-related GHGs would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. In addition, the proposed Project as well as other cumulative related projects would also be subject to all applicable regulatory requirements, which would further reduce GHG emissions. As previously discussed, the proposed Project would not conflict with the 2016 RTP/SCS. As a result, the Project would not conflict with any GHG reduction plans. Therefore, the Project's cumulative contribution of GHG emissions would be less than significant and the Project's cumulative GHG impacts would also be less than cumulatively considerable.

4.0 REFERENCES

CAPCOA. 2013. Health Effects. http://www.capcoa.org/health-effects/.

CARB. 2008. Climate Change Scoping Plan Appendices (Appendix F).

———. 2018. State and Federal Area Designation Maps. http://www.arb.ca.gov/desig/adm/adm.htm.

———. 2019a. Air Quality Data Statistics. http://www.arb.ca.gov/adam/index.html.

———. 2019b. California Greenhouse Gas Emission Inventory 2019 Edition. https://ww3.arb.ca.gov/cc/inventory/data/data.htm

———. 2016b. *Methane*. https://www3.epa.gov/climatechange/ghgemissions/gases/ch4.html.

———. 2016c. *Nitrous Oxide*. https://www3.epa.gov/climatechange/ghgemissions/gases/n2o.html.

IPCC. 2013. *Carbon and Other Biogeochemical Cycles*. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. http://www.climatechange2013.org/ images/report/WG1AR5_ALL_FINAL.pdf.

———. 2014. *Climate Change 2014 Synthesis Report: Approved Summary for Policymakers*. http://www.ipcc.ch/.

Riverside, County of. 2015. Riverside County General Plan.

———. 2018. Riverside County Climate Action Plan.

SCAQMD. 1992. *1992 Federal Attainment Plan for Carbon Monoxide*.

———. 1993. *CEQA Air Quality Handbook*.

———. 2008. *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]).

———. 2009. *Localized Significance Threshold Appendix C – Mass Rate LST Look-Up Tables*. Revised October 21, 2009. http://www.aqmd.gov/ceqa/handbook/LST/LST.html.

USEPA. 2016a. *Climate Change – Greenhouse Gas Emissions: Carbon Dioxide*. http://www.epa.gov/climatechange/emissions/co2.html.

LIST OF ATTACHMENTS

Attachment A – CalEEMod Output File for Air Quality Emissions

Attachment B – CalEEMod Output File for Greenhouse Gas Emissions

ATTACHMENT A

CalEEMod Output File for Air Quality Emissions

ATTACHMENT B

CalEEMod Output File for Greenhouse Gas Emissions