CHAPTER 14 – AIR QUALITY

This chapter presents the potential effects of each alternative on air quality within the Planning Area. General topics addressed include existing air quality conditions and construction and operational air emissions. Air quality impacts are evaluated for emissions of criteria air pollutants, fugitive dust, toxic air contaminants (TACs), and odors. These terms and general effects of various pollutants are described in Section 14.1.2, Planning Area Air Quality Conditions.

14.1 AFFECTED ENVIRONMENT/ENVIRONMENTAL SETTING

14.1.1 Regulatory Framework

The regulatory responsibilities for the protection of air quality within the Planning Area include several federal, state, regional, and local agencies. This section summarizes the statutes, regulations, policies, and agency planning documents that are relevant to the approval, issuance of permits, or implementation of the alternatives analyzed in this Environmental Impact Statement/Environmental Impact Report (EIS/EIR). This section also identifies any relevant federal permits or other entitlements that must be obtained prior to implementing the alternatives. To the extent possible, the analyses or studies required by these regulations and policies are integrated into the environmental effects analyses presented in Section 14.2, Environmental Consequences/Environmental Impacts (40 CFR 1502.25).

14.1.1.1 Federal

The primary legislation that governs federal air quality regulations is the Clean Air Act. The Clean Air Act delegates primary responsibility with implementing national air quality programs to the U.S. Environmental Protection Agency (EPA).

The Clean Air Act required the EPA to establish[1] national ambient air quality standards. As shown in Table 14-1, EPA has established primary and secondary national ambient air quality standards for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable and fine particulate matter (PM_{10} and $PM_{2.5}$), and lead.

If an area does not meet the national ambient air quality standards, federal clean air planning requirements specify that states develop and adopt State Implementation Plans, which are air quality plans showing how air quality standards will be attained. In California, the EPA has delegated authority to prepare State Implementation Plans to the California Air Resources Board (CARB), which has delegated that authority to individual air districts.

14.1.1.2 State

California Air Resources Board

CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and implementation of the California Clean Air Act. The California

[1] Note that in the context of this Plan, the word "establish" is synonymous with "create."

Clean Air Act required CARB to establish California ambient air quality standards (Table 14-1). CARB has established California ambient air quality standards for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the previously mentioned criteria air pollutants.

In addition to the pollutants described previously, TACs are regulated primarily through the Tanner Air Toxics Act (Assembly Bill 1807, Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (Assembly Bill 2588, Chapter 1252, Statutes of 1987). Assembly Bill 1807 set a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review are required before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and adopted EPA's list of hazardous air pollutants as TACs. Most recently, particulate-matter exhaust from diesel engines (diesel PM) was added to CARB's list of TACs. PM_{10} is considered a surrogate for diesel PM and, therefore, is the pollutant used to describe TAC emissions in this analysis.

CARB has adopted an asbestos Airborne Toxic Control Measure (ATCM) for construction, grading, quarrying, and surface mining operations (17 CCR 93105). This statewide regulation requires use of control measures to minimize emissions of asbestos-laden dust. The ATCM applies to any size construction project although there are more stringent mitigation requirements for projects that exceed 1 acre.

Naturally occurring asbestos is known to be present in eastern Sacramento County (CDOC 2006). See Chapter 5, Soils, Geology, and Mineral Resources, for more information on the locations of naturally occurring asbestos in the Planning Area (Figure 5-4). Further, the Sacramento Metropolitan Air Quality Management District (SMAQMD) has regulatory authority to ensure compliance with the asbestos ATCM.

14.1.1.3 Local

Sacramento Metropolitan Air Quality Management District

At the local level, SMAQMD is the primary agency responsible for planning to meet federal and state ambient air quality standards in the Planning Area. SMAQMD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws. SMAQMD has jurisdiction over the Planning Area, which is within the Sacramento Valley Air Basin (SVAB).

SMAQMD also enforces air quality regulations, educates the public about air quality, and implements a number of programs to provide incentives for the replacement or retrofit of older diesel engines and to influence land use development in Sacramento County. Other local jurisdictions within the Planning Area include Sacramento County, Galt, and Rancho Cordova. Each jurisdiction currently has adopted General Plans that contain goals and policies relating to the

reduction of air pollution (these are listed in the following text). Generally, the goals and policies require new development within these jurisdictions to comply with SMAQMD California Environmental Quality Act (CEQA) guidance and thresholds of significance (SMAQMD 2014).

Table 14-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California[a,b]	National[c]	
			Primary[b,d]	*Secondary*[b,e]
Ozone	1-hour	0.09 ppm (180 µg/m^3)	—[e]	Same as primary standard
	8-hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	
CO	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	Same as primary standard
	8-hour	9 ppm (10 mg/m^3)[f]	9 ppm (10 mg/m^3)	
NO_2[g]	Annual arithmetic mean	0.030 ppm (57 µg/m^3)	53 ppb (100 µg/m^3)	Same as primary standard
	1-hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	—
SO_2	24-hour	0.04 ppm (105 µg/m^3)	—	—
	3-hour	—	—	0.5 ppm (1300 µg/m^3)
	1-hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	—
PM_{10}	Annual arithmetic mean	20 µg/m^3	—	Same as primary standard
	24-hour	50 µg/m^3	150 µg/m^3	
$PM_{2.5}$	Annual arithmetic mean	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
	24-hour	—	35 µg/m^3	Same as primary standard
Lead	Calendar quarter	—	1.5 µg/m^3	Same as primary standard
	30-day average	1.5 µg/m^3	—	—
	Rolling 3-month average	—	0.15 µg/m^3	Same as primary standard
Hydrogen sulfide	1-hour	0.03 ppm (42 µg/m^3)	No national standards	
Sulfates	24-hour	25 µg/m^3		
Vinyl chloride[f]	24-hour	0.01 ppm (26 µg/m^3)		
Visibility-reducing particulate matter	8-hour	Extinction of 0.23 per km		

Source: CARB 2017.

Notes: µg/m^3 = micrograms per cubic meter; CO = carbon monoxide; km = kilometers; NO_2 = nitrogen dioxide; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; ppb = parts per billion; ppm = parts per million; SO_2 = sulfur dioxide

a California standards for ozone, SO_2 (1- and 24-hour), NO_2, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b Concentration expressed first in units in which it was issued. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume or micromoles of pollutant per mole of gas.

c National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when 99% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The $PM_{2.5}$ 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current federal policies.

d National primary standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

e National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] CARB has identified lead and vinyl chloride as TACs with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Sacramento County

Sacramento County 2030 General Plan

The *Sacramento County General Plan of 2005–2030* (Sacramento County General Plan) (Sacramento County 2011) Air Quality Element includes goals, objectives, and policies related to the protection of air quality in the County. Applicable policies include the following (Sacramento County 2011):

> **Policy AQ-1:** New development shall be designed to promote pedestrian/bicycle access and circulation to encourage community residents to use alternative modes of transportation to conserve air quality and minimize direct and indirect emission of air contaminants.
>
> **Policy AQ-3:** Buffers and/or other appropriate mitigation shall be established on a project-by-project basis and incorporated during review to provide for protection of sensitive receptors from sources of air pollution or odor. [C]ARB's "Air Quality and Land Use Handbook: A Community Health Perspective", and SMAQMD's approved Protocol (Protocol for Evaluating the Location of Sensitive Land uses Adjacent to Major Roadways) shall be utilized when establishing these buffers.
>
> **Policy AQ-4:** Developments which meet or exceed thresholds of significance for ozone precursor pollutants as adopted by SMAQMD, shall be deemed to have a significant environmental impact. An Air Quality Mitigation Plan shall be submitted to the County of Sacramento prior to project approval, subject to review and recommendation as to technical adequacy by SMAQMD.
>
> **Policy AQ-10:** Encourage vehicle trip reduction and improved air quality by requiring development projects that exceed the SMAQMD's significance thresholds for operational emissions to provide on-going, cost-effective mechanisms for transportation services that help reduce the demand for existing roadway infrastructure.
>
> **Policy AQ-11:** Encourage contractors operating in the county to procure and to operate low-emission vehicles, and to seek low emission fleet status for their off-road equipment.
>
> **Policy AQ-12:** Minimize air pollutant emissions from Sacramento County facilities and operations.

Policy AQ-13: Use [C]ARB and SMAQMD guidelines for Sacramento County facilities and operations to comply with mandated measures to reduce emissions from fuel consumption, energy consumption, surface coating operations, and solvent usage.

Policy AQ-14: Support SMAQMD's development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds and rules to more adequately address the air quality impacts of plans and proposals proposed by the County.

Policy AQ-16: Prohibit the idling of on-and off-road engines when the vehicle is not moving or when the off-road equipment is not performing work for a period of time greater than five minutes in any one-hour period.

Policy AQ-17: Promote optimal air quality benefits through energy conservation measures in new development.

Policy AQ-19: Require all feasible reductions in emissions for the operation of construction vehicles and equipment on major land development and roadway construction projects.

Policy AQ-20: Promote Cool Community strategies to cool the urban heat island, reduce energy use and ozone formation, and maximize air quality benefits by encouraging four main strategies including, but not limited to: plant trees, selective use of vegetation for landscaping, install cool roofing, and install cool pavements.

Policy AQ-21: Support SMAQMD's particulate matter control measures for residential wood burning and fugitive dust.

2030 Galt General Plan

The *2030 Galt General Plan: Policy Document* (Galt General Plan) Conservation Element (Galt 2009a) includes goals, objectives, and policies related to the protection of air quality. Applicable policies include the following (Galt 2009a):

Policy COS-5.1: Vehicle Emission Reduction Programs: The City should support land use, transportation management, infrastructure, and environmental planning programs that reduce vehicle emissions and improve air quality.

Policy COS-5.2: Walkable Design: The City shall require subdivision and site plan designs to maximize pedestrian and bicycle circulation and promote street designs that strongly encourage biking and walking.

Policy COS-5.6: SMAQMD Coordination: The City shall coordinate with SMAQMD on the review of proposed development projects. The City shall use SMAQMD Guide to Air Quality Assessment for determining and mitigating project air quality impacts and related thresholds of significance for use in environmental documents.

Policy COS-5.9: Air Quality Mitigation Measures: The City shall enforce construction and operation related air quality mitigation measures adopted through the CEQA process.

Policy COS-5.10: New Development Operational Emission Reductions: The City shall require all new development projects which have the potential to result in significant operational air quality impacts (exceeding SMAQMD adopted thresholds), to incorporate design or operational features that result in a reduction in emissions equal to 15 percent from the level that would be produced by an unmitigated project, based upon feasible mitigation under CEQA.

Policy COS-5.11: Construction Mitigation Measures: The City shall require developers to implement dust suppression measures as well as the applicable standard construction mitigation measures associated with exhaust [oxides of nitrogen] NO_x and PM_{10} reduction in accordance with the current SMAQMD CEQA Guide to Air Quality Assessment.

Policy COS-5.12: Construction Mitigation Fees: The City shall require developers to comply with the current SMAQMD construction mitigation fee offset program.

Policy COS-5.13: Air Pollution Control Technology: The City shall follow the rules and regulations as adopted by the SMAQMD to maintain healthful air quality and high visibility standards. These measures shall be applied to new development approvals and permit modifications as appropriate.

Rancho Cordova General Plan

The *City of Rancho Cordova General Plan* (Rancho Cordova General Plan) (Rancho Cordova 2013) Air Quality Element includes goals, objectives, and policies related to the protection of air quality. Applicable policies include the following (Rancho Cordova 2013):

Policy AQ.1.2: Evaluate projects for compliance with state and federal ambient air quality standards and the SMAQMD thresholds of significance.

Policy AQ.1.5: Require odor impact analyses be conducted for evaluating new development requests that either could generate objectionable odors that may violate SMAQMD Rule 402 or any subsequent rules and regulations regarding objectionable odors near sensitive receptors or locate new sensitive receptors near existing sources of objectionable odors.

Should objectionable odor impacts be identified, odor mitigation shall be required in the form of setbacks, facility improvements or other appropriate measures.

Policy AQ.2.2: Encourage mixed-use developments that put residences in close proximity to services, employment, transit, schools, and civic facilities/services.

Policy AQ.2.4: Maximize air quality benefits through selective use of landscaping vegetation that is low in emission of volatile organic compounds, and through re-vegetation of appropriate areas.

Policy AQ.2.5: Utilize the guidelines in the [C]ARB Compatibility and Land Use Handbook: A Community Health Perspective when evaluating new development requests that either would generate toxic air contaminant emissions near sensitive receptors or locate new sensitive receptors near existing sources of air toxic emissions or order to minimize health hazards, and implement all feasible best available control technology, as required by SMAQMD.

Policy AQ.4.1: Promote improved air quality benefits through energy conservation measures for new and existing development.

Policy AQ.4.2: Support vehicle improvements and the use of clean vehicles that reduce emissions and improve air quality.

Policy AQ.4.3: Support SMAQMD's program of retrofitting construction equipment to reduce air pollution.

14.1.2 Planning Area Air Quality Conditions

This section provides information on criteria pollutants and the health effects of these pollutants and describes the existing air quality conditions in the Planning Area.

14.1.2.1 Pollutants and Effects

Concentrations of criteria air pollutants are used to indicate the quality of the ambient air. A brief description of key criteria air pollutants in the SVAB is provided in the following text, including emission source types and health effects. For descriptions of health effects, "acute" refers to effects of short-term exposures to criteria air pollutants, usually at fairly high concentrations, whereas "chronic" refers to effects of long-term exposures to criteria air pollutants, usually at lower, ambient concentrations.

Ozone

Ozone is a photochemical oxidant (a molecule whose oxygen combines chemically with another substance in the presence of sunlight) and the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of reactive organic gasses (ROG) and NO_X in the presence of sunlight. ROGs are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_X are a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels.

Emissions of the ozone precursors ROG and NO_X have decreased over the past several years because of more stringent motor vehicle standards and cleaner burning fuels. Emissions of ROG and NO_x decreased from 2000 to 2010 and are projected to continue decreasing from 2010 to 2035 (CARB 2013).

Acute health effects include increased respiration and pulmonary resistance, including cough, pain, shortness of breath, and lung inflammation. Chronic health effects include permeability of respiratory epithelia and possibility of permanent lung impairment.

Carbon Monoxide

CO is a colorless, odorless gas produced by incomplete combustion of fuels (i.e., motor vehicle exhaust). Acute health effects include headache, dizziness, fatigue, nausea, vomiting, and eventually death. Chronic health effects include permanent heart and brain damage.

Nitrogen Dioxide

NO_2 is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X and are reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local sources of NO_X emissions (EPA 2017).

Acute health effects include coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis (inflammation of the lung tissue) or pulmonary edema (fluid accumulation in the lungs), breathing abnormalities, cough, chest pain, rapid heartbeat, and ultimately death. Chronic health effects include chronic bronchitis and decreased lung function.

Sulfur Dioxide

SO_2 is a gaseous compound of sulfur and oxygen. Sources of SO_2 include coal and oil combustion, refineries, and pulp and paper mills. Acute health effects include irritation of upper respiratory tract and increased asthma symptoms. There is insufficient evidence linking SO_2 exposure to chronic health impacts.

Particulate Matter

PM with an aerodynamic diameter of 10 micrometers or less is referred to as PM_{10}. This size particle is of concern because it is small enough to reach deep into the lungs. PM_{10} consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by reaction of gaseous precursors (CARB 2013). $PM_{2.5}$ includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. PM_{10} and $PM_{2.5}$ emissions in the SVAB are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion (CARB 2013).

Direct emissions of PM_{10} are projected to remain relatively constant through 2035. Direct emissions of $PM_{2.5}$ have steadily declined in the SVAB between 2000 and 2010 and are projected to increase slightly through 2035.

Acute health risks include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, and premature death. Chronic effects include alterations to the immune system and cancer formation.

Lead

Lead is a relatively soft and chemically resistant metal. Lead is present in small particles as a result of a variety of industrial activities. Acute effects include developmental disruptions in fetuses and children. Chronic effects include neurological, endocrine, and cardiovascular damage.

Toxic Air Contaminants

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, the high toxicity or health risk of TACs may pose a threat to public health even at low concentrations.

According to the California Almanac of Emissions and Air Quality (CARB 2013), the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being diesel PM. Diesel PM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1 and 3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

Diesel PM poses the greatest health risk among these 10 TACs mentioned. Based on receptor modeling techniques, the CARB estimated its health risk to be 360 excess cancer cases per million people in the SVAB in the year 2000. Since 1990, the health risk associated with diesel PM has been reduced by 52%. Overall, levels of most TACs, except para-dichlorobenzene and formaldehyde, have decreased since 1990 (CARB 2013).

14.1.2.2 Existing Air Quality Conditions

Regional Air Quality

The Planning Area is located within Sacramento County, California, which is within the SVAB. The SVAB also includes all of Butte, Colusa, Glenn, Shasta, Sutter, Tehama, Yolo, and Yuba Counties; the western portion of Placer County; and the eastern portion of Solano County. The ambient concentrations of air pollutants are determined by the amount of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources, as discussed in the following text.

Climate and Meteorology

The SVAB is a relatively flat area bordered by the northern Coast Ranges to the west and the northern Sierra Nevada to the east. Air flows into the SVAB through the Carquinez Strait, the

only breach in the western mountain barrier, and moves across the Sacramento River–San Joaquin River Delta from the San Francisco Bay area.

The Mediterranean climate type in the SVAB is characterized by hot, dry summers and cool, rainy winters. During the summer, daily temperatures range from 50 degrees Fahrenheit (°F) to more than 100°F. The inland location and surrounding mountains shelter the area from much of the ocean breezes that keep the coastal regions moderate in temperature. Most precipitation in the area results from air masses that move in from the Pacific Ocean, usually from the west or northwest, during the winter months. More than half the total annual precipitation falls during the winter rainy season (November through February); the average winter temperature is a moderate 49°F. Also characteristic of SVAB winters are periods of dense and persistent low-level fog, which is most prevalent between storms. The prevailing winds are moderate in speed and vary from moisture-laden breezes from the south to dry land flows from the north.

The mountains bordering the eastern and western sides of the SVAB create a barrier to airflow, which leads to the entrapment of air pollutants when meteorological conditions are unfavorable for transport and dilution. The highest frequency of poor air movement occurs in the fall and winter when high-pressure cells are present over the SVAB. The lack of surface wind during these periods, combined with the reduced vertical flow caused by a decline in surface heating, reduces the influx of air and leads to the concentration of air pollutants under stable metrological conditions. Surface concentrations of air pollutants are highest when these conditions occur in combination with agricultural burning activities or with temperature inversions, which hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground.

May through October is ozone season in the SVAB. This period is characterized by poor air movement in the mornings with the arrival of the Sacramento River–San Joaquin River Delta sea breeze from the southwest in the afternoons. In addition, longer daylight hours provide a plentiful amount of sunlight to fuel photochemical reactions between ROG and NO_X, which result in ozone formation. Typically, the Sacramento River–San Joaquin River Delta breeze transports air pollutants northward out of the SVAB; however, a phenomenon known as the Schultz Eddy prevents this from occurring during approximately half of the time from July to September. The Schultz Eddy phenomenon causes the wind to shift southward and blow air pollutants back into the SVAB. This phenomenon exacerbates the concentration of air pollutant emissions in the area and contributes to the area violating the ambient air quality standards.

The local meteorology of the Planning Area is represented by measurements recorded at the Western Regional Climate Center Sacramento 5 ESE station. The normal annual precipitation is approximately 18 inches. January temperatures range from a normal minimum of 40°F to a normal maximum of 53.5°F. July temperatures range from a normal

minimum of 59.2°F to a normal maximum of 92°F (WRCC 2015). The predominant wind direction is from the south (WRCC 2002).

Local Air Quality

The Clean Air Act requires the EPA to classify areas in the country as attainment or nonattainment with respect to each criteria air pollutant, dependent on whether the areas meet the national standards. In addition, the CARB makes area designations within California for state ambient air quality standards. The SVAB is in nonattainment for the national and state ozone standards, the state PM_{10} standard, and the national and state $PM_{2.5}$ standards. The attainment status of each pollutant within the SVAB (which includes the Planning Area) for both the California ambient air quality standards and national ambient air quality standards are shown in Table 14-2.

Table 14-2. Attainment Status Designations for the SVAB

Pollutant	National Standard	State Standard
Ozone	Nonattainment (1-hour)[a] classification = severe	Nonattainment (1-hour) classification = serious[b]
	Nonattainment (8-hour)[c] classification = severe	Nonattainment (8-hour)
	Nonattainment (8-hour)[d] classification = severe	
PM_{10}	Attainment (24-hour)	Nonattainment (24-hour)
		Nonattainment (annual)
$PM_{2.5}$	Nonattainment (24-hour)	(No state standard for 24-hour)
	Unclassified/attainment (annual)	Nonattainment (annual)
CO	Attainment (1-hour)	Attainment (1-hour)
	Attainment (8-hour)	Attainment (8-hour)
NO_2	Unclassified/attainment (1-hour)	Attainment (1-hour)
	Unclassified/attainment (annual)	Attainment (annual)
SO_2	(Attainment pending) (1-hour)	Attainment (1-hour)
		Attainment (24-hour)
Lead (particulate)	Unclassified/attainment (3-month rolling average)	Attainment (30-day average)
Hydrogen sulfide	No national standard	Unclassified (1-hour)
Sulfates		Attainment (24-hour)
Visibility-reducing particles		Unclassified (8-hour)

Source: SMAQMD 2013.

Notes: CO = carbon monoxide; NO_2 = nitrogen dioxide; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; SO_2 = sulfur dioxide

[a] Air quality meets federal 1-hour ozone standard (77 FR 64036–64039). The EPA revoked this standard, but some associated requirements still apply. SMAQMD attained the standard in 2009. SMAQMD has requested the EPA recognize attainment to fulfill the requirements.

[b] Per California Health and Safety Code, Section 40921.5(c), the classification is based on 1989–1991 data and, therefore, does not change.

[c] 1997 standard.

[d] 2008 standard.

Criteria air pollutant concentrations are measured at several monitoring stations in the SVAB. In general, the ambient air quality measurements from these stations are representative of the air quality in and around the Planning Area. Table 14-3 summarizes

the air quality data from the last 3 years (2012–2014) for pollutants in nonattainment within the SVAB, including the frequency of exceedances of applicable federal and state air quality standards. CARB and EPA use this type of monitoring data to designate an area's attainment status for criteria air pollutants.

Table 14-3. Summary of Annual Sacramento Valley Air Basin Air Quality for Nonattainment Pollutants (2012–2014)

Averaging Time	2012	2013	2014
Ozone[a]			
Maximum concentration (1-hour/8-hour average ppm)	0.122/0.107	0.12/0.088	0.11/0.085
Number of days national standard exceeded (8-hour)	46	12	23
Number of days state standard exceeded (1-hour /8-hour)	22/75	8/32	12/49
Fine Particulate Matter (PM_{10})[a]			
Maximum concentration (24-hour µg/m^3)	96.7	96.4	125.3
Number of days national standard exceeded (estimates/measured)	0/0	*/0	*/0
Number of days state standard exceeded (estimated/measured[b])	18.7/3	23.3/21	13.2/13
Respirable Particulate Matter ($PM_{2.5}$)[a]			
Number of days national standard exceeded (24-hour measured[b])	3.1	13.0	4.0
High annual state standard designation value	15	14	13
Maximum concentration (24-hour µg/m^3)	123.3	75.6	190.2

Source: CARB 2014.

Notes: µg/m^3 = micrograms per cubic meter; ppm = parts per million; * = insufficient data to determine value

[a] Data for ozone and $PM_{2.5}$ based on Sacramento County summary tables. Data for PM_{10} based on the T Street Site located at 1309 T Street, Sacramento California, 95814.

[b] Measured days are those days that an actual measurement was greater than the level of the state daily standard or the national daily standard. Measurements are typically collected every 6 days. Estimated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

14.2 ENVIRONMENTAL CONSEQUENCES/ ENVIRONMENTAL IMPACTS

14.2.1 Methodology for Assessing Impacts of Each Alternative on Air Quality

Air quality impacts are typically evaluated in terms of temporary emissions, most commonly associated with construction activities, and operational emissions, such as those resulting from land use development, increased mobile-source emissions, or additional and new stationary emission sources, such as industrial facilities. The alternatives were evaluated in the context of the planned urban development, land use patterns within the Planning Area, and emissions sources associated with them (e.g., stationary, mobile, area). Impacts were identified where the actions associated with the alternative would result in new or additional emissions of concern.

The projects and activities included in each alternative, including the conceptual preserve, are described in Chapter 2, Alternatives, Including the Proposed Action/Proposed Project. Potential temporary and permanent air quality impacts for each alternative were analyzed based on the anticipated development projects and preserve establishment, management, and maintenance over the 50-year EIS/EIR study period, as described in Section 3.6.3.

Specific to emissions from preserve establishment/re-establishment, emissions from construction- and operational-related activities were quantified using the California Emissions Estimate Model. Modeling was for an estimated high-activity day implementing habitat establishment/re-establishment and used conservative assumptions (i.e., assumptions that would lead to higher emissions) so as to not underestimate emissions from this activity. For example, the modeling assumed that approximately 385 acres of habitat establishment/re-establishment would be completed in a single year, which is roughly 20% of the total habitat establishment/re-establishment required for each alternative over the entire 50-year study period. This is above what would actually be expected to occur as each alternative is implemented over time. The modeling included the use of heavy-duty equipment for earth movement and grading and operational-related vehicle use. Model assumptions and parameters are included in Appendix H, Modeling Data and Assumptions for Air Quality and Greenhouse Gas Analyses.

Cumulative effects are analyzed consistently with the methodology described in Section 3.7, Cumulative Effects Analysis in Resource Chapters 4 through 16.

By nature, pollutants emitted into the air are a regional issue since emissions from multiple sources over a large regional area combine to create the overall air quality conditions. However, the types of emissions and sources within each air basin are regulated through local agencies. As described previously, SMAQMD regulates emissions and sources within the SVAB. Further, significance thresholds determined by SMAQMD are designed to ensure compliance with state air quality planning efforts. Thus, the planning framework is structured such that compliance with regional planning efforts and regulations would ensure compliance with state and federal efforts as well. As such, the lead agencies determined that an appropriate geographic scale for evaluating the cumulative impacts of each EIS/EIR alternative on air quality resources should include air emissions occurring within the SVAB as regulated by SMAQMD.

As discussed in Section 3.4, Previous Planning Area Environmental Reviews, the EIR documents previously prepared for the General Plans of Sacramento County, Galt, and Rancho Cordova (Sacramento County 2010; Galt 2009b; Rancho Cordova 2006) analyzed direct and cumulative impacts of urban growth planned within each jurisdiction, including impacts to air quality. When the impact analyses or conclusions provided in these General Plan EIR documents were determined by the lead agencies to be appropriate for use in the analysis of the EIS/EIR alternatives, a brief summary or description of the incorporated information or analysis is

provided in Sections 14.2.2, No Action/No Project Alternative; 14.2.3, Proposed Action/Proposed Project Alternative; and 14.2.4, Reduced Permit Term Alternative.

14.2.1.1 Determination of Impact Significance

For the air quality analysis in this chapter, the evaluation of the significance of air quality effects considers both a federal conformity analysis process and more typical specific significance criteria found in other chapters of this EIS/EIR. Both are described in the following text.

Federal Conformity Analysis

A non-transportation project located in a nonattainment or maintenance area must undergo a general conformity analysis in accordance with Title 40 of the Code of Federal Regulations, Section 93, to ensure that the project does not:

- Cause or contribute to new violations or any standard in any area
- Increase the frequency or severity of an existing violation of any standard
- Delay timely attainment of any standard requiring interim emission reduction or other milestones

As a part of the general conformity process, a conformity analysis is required if a federal action satisfies one of the following two conditions:

- The action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at or above emission rates in Table 14-4.
- The action's direct and indirect emissions of any criteria pollutant represent 10% of a nonattainment or maintenance area's total emissions inventory for that pollutant.

Table 14-4. Federal *De Minimis* Levels

Pollutant	Federal Attainment Classification	*De Minimis* Level (Tons/Year)
Ozone (VOC[a])	Severe nonattainment	25
Ozone (NO_x)	Severe nonattainment	25
CO	Attainment	NA
PM_{10}	Attainment	NA
$PM_{2.5}$	Nonattainment	100
Lead	Attainment	NA

Notes: CO = carbon monoxide; NA = not applicable; NO_x = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter; PM_{10} = coarse, respirable, or inhalable particulate matter

[a] Volatile organic compounds (VOCs) are similar to ROG; however, VOC is the term used in the federal conformity analysis regulations for this component of ozone precursors.

If the total direct emissions associated with the action are below the *de minimis* levels indicated in Table 14-4, general conformity requirements do not apply; the action is considered in

conformity and would not result in an adverse impact. Because the air basin encompassing the Planning Area is in attainment (based on federal standards) for the criteria pollutants indicated in Table 14-4 except ozone (severe nonattainment status) and $PM_{2.5}$ (nonattainment status), a conformity analysis for ozone and $PM_{2.5}$ must be completed for the alternatives.

Significance Criteria

As discussed in Section 3.8.1, Significance Thresholds, the criteria used to evaluate the significance of each alternative's impacts on air quality are based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and typical thresholds used to evaluate effects on air quality in recent EIRs prepared by Sacramento County. Based on these sources, a significant adverse impact could occur if the alternative would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. 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.
4. Expose sensitive receptors to pollutant concentrations in excess of standards.
5. Create objectionable odors affecting a substantial number of people.

Thresholds provided by the SMAQMD are used to further define applicable air quality standards. Based on numeric criteria used by the SMAQMD, a significant adverse impact would occur if the alternative would:

1. Cause construction-generated criteria air pollutant or precursor emissions to exceed the SMAQMD-recommended thresholds of 85 pounds/day (lb/day) for NO_X, 80 lb/day and 14.6 tons/year for PM_{10}, and 82 lb/day and 15 tons/year for $PM_{2.5}$.
2. Result in a net increase in long-term operational criteria air pollutant or precursor emissions that exceed the SMAQMD-recommended thresholds of 65 lb/day for ROG and NO_X, 80 lb/day and 14.6 tons/year for PM_{10}, and 82 lb/day and 15 tons/year for $PM_{2.5}$.
3. Result in long-term operational local mobile-source CO emissions that would violate or contribute substantially to concentrations that exceed the 1-hour California ambient air quality standards of 20 ppm or the 8-hour California ambient air quality standards of 9 ppm.
4. Expose sensitive receptors to a substantial increase in TAC emissions that exceed 10 in 1 million for carcinogenic risk (i.e., the risk of contracting cancer) and/or a noncarcinogenic hazard index of 1.0 or greater.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) does not provide suggested criteria for evaluating a beneficial effect. The following criteria were developed by the lead agencies. A beneficial impact could occur if the alternative would:

1. Result in a net reduction in criteria pollutant emissions compared to a baseline environmental condition.
2. Result in a net reduction in TAC emissions compared to a baseline environmental condition.
3. Reduce the exposure of sensitive receptors to pollutants compared to a baseline environmental condition.
4. Prevent or eliminate the generation of objectionable odors affecting a substantial number of people, or reduce the number of people exposed to an objectionable odor.

The impact analysis for the three EIS/EIR alternatives considers the context, intensity, and severity of potential impacts to each of these air quality impact criteria and presents a determination of significance applicable to each of these criteria.

14.2.1.2 Significance Criteria That Will Not be Evaluated Further

This section identifies topics related to air quality and the significance criteria that are not carried forward into the impact analysis and provides the reasoning for this determination.

Naturally occurring asbestos is known to be present in eastern Sacramento County. As previously discussed, CARB adopted an ATCM to control exposure to asbestos from construction, grading, quarrying, and surface-mining operations (17 CCR 93105). Compliance with the requirements of the ATCM would avoid any potential impacts associated with naturally occurring asbestos. Further, the release of naturally occurring asbestos and associated impacts are discussed in Chapter 5. This issue is not discussed further in this chapter.

Controlled burns may be required in habitat preserves under any of the alternatives as a plant-pest management tool. Open burns are regulated through SMAQMD by Rule 407. Controlled burns would be infrequent (typically up to once annually at a limited number of preserves and not every year), and before initiating a controlled burn, an open burn permit must be obtained from SMAQMD. Burn implementation must comply with all permit requirements to limit air emissions. Further, controlled burns would not be a primary plant-pest control method, with other options, such as managed grazing, available. This issue is not discussed further in this chapter.

14.2.2 No Action/No Project Alternative

The No Action/No Project Alternative is described in Section 2.2, No Action/No Project Alternative, in Chapter 2 of this EIS/EIR.

14.2.2.1 Direct and Indirect Effects of the Alternative

Construction Emissions

Much of the future urban development included in the No Action/No Project Alternative is described in the General Plans of Sacramento County, Galt, and Rancho Cordova (see Section 2.2.1, Future Projects/Activities Likely Under the No Action/No Project Alternative).

Construction associated with future development could result in emissions of criteria air pollutants, TACs, and odors. Activities such as the construction of new urban and rural developments and the required infrastructure (e.g., roads, utilities) to support these developments would generate ozone precursors (NO_x and ROG), particulate matter (PM_{10} and $PM_{2.5}$), and odors and TACs associated with diesel exhaust (i.e., PM_{10}) from the use of heavy-duty construction equipment. Local mobile CO emissions could result from construction vehicle exhaust associated with worker commute vehicles and operations of heavy equipment. Fugitive dust emissions of PM_{10} and $PM_{2.5}$ would occur as a result of grading activities, earth movement, and vehicle movement on unpaved surfaces.

The impact analysis presented in the *Sacramento County General Plan Update Final EIR* (Sacramento County 2010, pp. 11-1 through 11-118) determined the following within Sacramento County:[2]

- Construction-related emissions of criteria air pollutants (ROG, NO_X, PM_{10}, and $PM_{2.5}$) would be considered significant and unavoidable
- Construction-related exposure of sensitive receptors to TACs would be less than significant

The *Sacramento County General Plan Update Final EIR* did not explicitly evaluate odor from construction activities.

The impact analysis presented in the *City of Galt General Plan Update Final EIR* (Galt 2009b, pp. 10-38 to 10-58), determined the following within Galt:

- Construction-related emissions of criteria air pollutants (ROG, NO_X, PM_{10}, and $PM_{2.5}$) would be considered significant and unavoidable
- Construction-related exposure of sensitive receptors to TACs would be significant and unavoidable
- Construction-related odors would be considered less than significant

[2] As described further in Section 3.4.1, the proposed project analyzed within the *Sacramento County General Plan EIR* assumed development within a designated "Jackson Highway Corridor New Growth Area" that was not part of the alternative ultimately selected by Sacramento County. However, Sacramento County is currently processing master plans in the Jackson Highway Corridor; therefore, the referenced conclusions from the proposed project analysis are relevant to the No Action/No Project Alternative.

The impact analysis presented in the *City of Rancho Cordova General Plan Final EIR* (Rancho Cordova 2006, pp. 4.6-1 to 4.6-39), determined the following within Rancho Cordova:

- Construction-related emissions of criteria air pollutants (ROG, NO_X, PM_{10}, and $PM_{2.5}$) would be considered significant and unavoidable
- Construction-related exposure of sensitive receptors to TACs would be significant and unavoidable
- Construction-related odors would be considered less than significant

As discussed in Section 3.4, the three General Plan EIRs used different study periods ending in 2030 (Galt 2008), 2030 (Rancho Cordova 2006), and 2050 (Sacramento County 2010), respectively. However, the 50-year study period for this EIS/EIR ends in 2065 (Section 3.6.3). Therefore, additional urban development can be expected to occur within Galt, Rancho Cordova, and Sacramento County in the years after each General Plan EIR study period ends but before this EIS/EIR's study period ends in 2065. Therefore, the impact analyses and conclusions incorporated from the three General Plan EIRs may not have considered all of the future urban development that is included in the project description of each EIS/EIR alternative. Consequently, when determining the significance of each impact described in the EIS/EIR, the lead agencies considered the impact analysis and the conclusions incorporated by reference from the General Plan EIRs, along with the effects of all urban development activities and projects that are included in the description of each EIS/EIR alternative.

As explained in Section 2.2.2, Expected Regulatory Environment Under the No Action/ No Project Alternative, the regulatory environment of the No Action/No Project Alternative is expected to restrict the ability of local agencies to permit approximately 1,900 acres of future urban development in the Mather Core Recovery Area (MCRA), and this future urban development would be shifted or displaced to one or more of the areas of undeveloped land outside of the Urban Services Boundary (USB) discussed in Section 2.2.3, Loss of Natural Lands Under the No Action/No Project Alternative.

Development shifted or displaced outside of the USB could result in construction worker commute and vendor haul trips being longer in distance, resulting in higher vehicle miles traveled (VMT), relative to what would be expected if urban development was confined to the USB. An increase in regional VMT associated with construction trips would result in increased exhaust emissions of ROG, NOx, PM_{10}, $PM_{2.5,}$ odor (exhaust odors), and TACs. Construction-related emissions as a result of increased vehicle trips and VMT would contribute further to the already significant unavoidable impacts to existing air quality described in the documents referenced previously.

Regarding emissions of local mobile CO, CO concentrations that could result in significant effects may occur at intersections experiencing extreme delays and congestion, typically over 31,600 vehicles per hour (SMAQMD 2014). However, mobile CO emissions are expected to decrease per VMT over time due to cleaner burning fuels and improved vehicle engine technology. The No Action/No Project Alternative would be expected to result in increases in regional VMT associated with construction worker trips (associated with urban development and mitigation preserve construction) as a result of longer travel distances between construction sites. However, this would not result in substantial increases in congestion at any one intersection because trips would be dispersed throughout the region rather than concentrated in any one area, and construction activity and associated trips would be spread over the 50-year study period because individual projects are constructed over time.

Under the No Action/No Project Alternative, new urban development would continue to include mitigation actions to offset impacts to listed species, wetlands, and other regulated natural resources, including on-site or off-site mitigation preserves (Sections 2.2.1 and 2.2.2). Mitigation for unavoidable impacts could also continue to occur through purchasing credits at a mitigation or conservation bank approved by the applicable resource agencies (e.g., U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers), by payment into an in-lieu fee program, on-site project developer–responsible mitigation, or off-site project developer–responsible mitigation.

Where on-site and off-site project developer responsible mitigation preserves are established (constructed) under the No Action/No Project Alternative, they would typically be established in an uncoordinated project-by-project manner. This would often result in smaller, more isolated preserves predominantly located within the MCRA and elsewhere in the USB since projects would establish on-site mitigation preserves associated with resource avoidance areas and only establish off-site mitigation preserves for resource impacts that could not be avoided. Emissions associated with establishment/construction of mitigation preserves would be evaluated on a project-by-project basis and, therefore, have not been specifically described within the General Plan EIRs.

Activities associated with the establishment of habitat mitigation preserves would vary depending on the type of preserve. A preserve intended solely to protect existing habitat might require little work to shift the existing use to preserve. However, a preserve that includes habitat establishment/re-establishment would include minor construction activities, such as earth movement and grading. Both types of preserves could require fence installation, installation of interpretive features, and other minor work. The use of heavy equipment for grading and earth moving could result in exhaust emissions (ROG, NOx, PM, CO) and mobilization of fugitive dust (i.e., PM_{10} and $PM_{2.5}$).

Although specific details regarding the size of mitigation preserves and types of construction activities under the No Action/No Project Alternative are not known, as stated in Section 14.2.1, Methodology for Assessing Impacts of Each Alternative on Air Quality, an estimate of emissions was conducted based on conservative assumptions of preserve size and likely construction equipment that would be used (e.g., trucks, loaders, backhoes) for a preserve involving habitat establishment/re-establishment. Refer to Appendix H for information on the assumptions entered into the emissions modeling.

Based on the modeling conducted, mitigation preserve establishment during periods of maximum activity could result in emissions of up to 75 lb/day of NO_x, 12.5 lb/day of PM_{10}, and 6.9 lb/day of $PM_{2.5}$ from the use of heavy equipment, worker commute trips, and vendor haul trips. Emissions from ROG were quantified and included in Appendix H of this EIS/EIR, but SMAQMD does not have a construction threshold for ROG; therefore, it is not evaluated here. This level of emissions would not exceed applicable SMAQMD thresholds of significance of 82 lb/day for NO_x. With regards to PM_{10} and $PM_{2.5}$, SMAQMD requires incorporation of all available emissions and dust control measures as a threshold of significance for projects subject to CEQA review. Where establishment of individual on-site and off-site preserves are implemented as mitigation under the No Action/No Project Alternative, preserve establishment would occur on a project-by-project basis, and projects of sufficient scale and impacts to require mitigation preserve establishment would likely also undergo CEQA review. Therefore, all aspects of these projects, including mitigation preserve establishment, would likely be required to include all available dust control measures/best management practices (BMPs) required by SMAQMD for projects subject to CEQA. However, all projects within the SMAQMD jurisdiction, even those not subject to CEQA review, would be subject to SMAQMD rules adopted for the purpose of reducing fugitive dust emissions (e.g., Rules 401, 402, and 403). Nonetheless, based on the conservative emissions modeling, dust emissions would be relatively minor and, therefore, would not contribute significantly to the existing nonattainment status of the SVAB. Thus, based on the relatively low emissions of PM_{10} and $PM_{2.5,}$ because any potential grading or earth moving would be subject to currently adopted rules to reduce dust, and because no emissions thresholds related to criteria pollutants would be exceeded, construction-related emissions associated with mitigation preserve establishment would not result in new or additional impacts to air quality.

Regarding exposure of sensitive receptors to TACs, odors, and local CO, construction activities associated with mitigation preserve establishment would be relatively minor and temporary. As such, exposure would be minimal and would not result in excessive exposure at any one receptor for an extended period of time.

Operational Emissions

Operations associated with future development could result in emissions of criteria air pollutants, TACs, and odors. Emissions of criteria air pollutants would be associated with mobile (on-road and off-road vehicles), area-wide, and stationary sources associated with proposed development. TAC and odor emissions would be associated with operational-related mobile and stationary sources, such as diesel exhaust on roadways and various developments, such as dry cleaners, gas stations, and other industrial or commercial land uses.

The impact analysis presented in the *Sacramento County General Plan Update Final EIR* (Sacramento County 2010, pp. 11-1 through 11-118) determined the following within Sacramento County:

- Operational-related emissions of criteria air pollutants (ROG, NO_x, PM_{10}, and $PM_{2.5}$) would be significant and unavoidable.
- Operational-related (on and off road mobile) emissions of criteria air pollutants (ROG, NO_x, PM_{10}, and $PM_{2.5}$) would be significant and unavoidable.
- Operational-related mobile CO emissions would be less than significant.
- Operational-related emissions of TACs from mobile sources would be significant and unavoidable.
- Operational-related emissions of TACs from stationary sources would be significant and unavoidable.

The Sacramento County General Plan Update Final EIR (Sacramento County 2010) did not explicitly evaluate odor emissions.

The impact analysis presented in the *City of Galt General Plan Update Final EIR* (Galt 2008, pp. 10-38 to 10-58) determined the following within Galt:

- Operational-related (stationary, area-wide) emissions of criteria air pollutants (ROG, NO_x, PM_{10}, and $PM_{2.5}$) would be significant and unavoidable.
- Operational-related (on and off road mobile) emissions of criteria air pollutants (ROG, NO_x, PM_{10}, and $PM_{2.5}$) would be significant and unavoidable.
- Operational-related mobile CO emissions would be less than significant.
- Operational-related emissions of TACs from mobile sources would be significant and unavoidable.
- Operational-related odor emissions would be considered less than significant.
- Operational-related emissions of TACs from stationary sources would be significant and unavoidable.

The impact analysis presented in the *City of Rancho Cordova General Plan Final EIR* (Rancho Cordova 2006, pp. 4.6-1 to 4.6-39) determined the following within Rancho Cordova:

- Operational-related (stationary, area-wide) emissions of criteria air pollutants (ROG, NO_x, PM_{10}, and $PM_{2.5}$) would be significant and unavoidable.
- Operational-related (on and off road mobile) emissions of criteria air pollutants (ROG, NO_x, PM_{10}, and $PM_{2.5}$) would be significant and unavoidable.
- Operational-related mobile-CO emissions would be less than significant.
- Operational-related emissions of TACs from mobile sources would be significant and unavoidable.
- Operational-related emissions of TACs from stationary sources would be less than significant.
- Operational-related odor emissions would be considered less than significant.

As stated previously, the General Plan EIRs analyzed the effects of urban development through a period between 2030 and 2050; however, the lead agencies anticipate that urban development projects would continue through the end of the EIS/EIR 50-year study period (2065). Therefore, the lead agencies extrapolated that the significant and unavoidable air quality impacts identified in the EIRs would continue to be significant and unavoidable as additional urban development is implemented. However, less-than-significant CO and odor impacts would remain less than significance according to the reasons described in the following text.

Operational-related mobile-source emissions would be associated with vehicular exhaust as a function of VMT within the Planning Area. Most VMT would be generated by urban development in the Planning Area. As described previously and in Section 2.2.2, the regulatory environment of the No Action/No Project Alternative is expected to restrict the ability of local agencies to permit approximately 1,900 acres of future urban development in the MCRA, and this future urban development would be shifted or displaced to one or more of the areas of undeveloped land outside of the USB, as described in Section 2.2.3. Urban development shifted or displaced outside of the USB could result in longer or increased vehicle trips and, therefore, increase mobile-source emissions of ROG, NO_x, PM_{10}, $PM_{2.5}$, odor, and TACs relative to what would occur if urban development was confined to the USB. Increased mobile-source emissions would contribute further to the already significant unavoidable impacts to air quality described in the documents listed previously. Regarding emissions of mobile CO, as stated previously, CO concentrations that could result in significant effects may occur at intersections experiencing extreme delays and congestion, typically over 31,600 vehicles per hour (SMAQMD 2014). However, mobile CO emissions are expected to decrease per VMT over time due to cleaner burning fuels and improved vehicle engine technology. Although regional VMT may increase as a result of dispersed development patterns anticipated under the No Action/No Project

Alternative, regional VMT would be spread throughout the region and would not result in increases in congestion at any one intersection of sufficient scale to cause adverse CO concentrations. No substantial increases in mobile CO would be anticipated.

The shifted or displaced urban development under the No Action/No Project Alternative would not result in an overall change in stationary emission sources compared to what is identified in the General Plan EIRs listed previously because it is assumed that, although the location of some urban development might change, the overall types and amounts of development would generally remain the same. Therefore, the emissions of TACs, odors, and criteria air pollutant from stationary sources under the No Action/No Project Alternative would remain similar to the impacts described previously for each jurisdiction.

Operational emissions associated with mitigation preserve management include mobile-source exhaust emissions (i.e., vehicle trips) associated with visits by Preserve Managers/crews for maintenance and monitoring and transporting livestock for grazing management specific to mitigation preserve management activities. Additionally, depending on the specifics of the activities associated with mitigation preserve maintenance, several pieces of heavy equipment and the associated crews may infrequently use local roadways, resulting in on- and off-site exhaust emissions and fugitive dust. These activities could result in localized, temporary emissions. Mitigation preserves may be established on existing grazing or agricultural lands. For impact analysis purposes, maximum day vehicle trips and emissions associated with mitigation preserve operations are estimated as additional to the continuation of existing agricultural operations that are not specific to mitigation preserve management; however, during most days, the level of activity would not be substantially different from typical agricultural and range management occurring on the land prior to being established as a mitigation preserve. The types of activities on existing rangeland and farmland are similar to what would occur on mitigation preserves established on these land types, such as fence installation or repair, access road maintenance, and drainage repairs.

Although specific details regarding the mitigation preserve activities or operational/maintenance trip numbers are not known, an estimate of preserve operational emissions was calculated based on conservative assumptions of preserve numbers, size, activities that would take place, and equipment that would be used for those activities. The emissions modeling represents a maximum day of mitigation preserve operation and maintenance, where an estimated 159 vehicle trips and 32 hours of heavy-duty equipment use would occur, such as a day when heavy maintenance or repairs (e.g., landscape contouring, drainage infrastructure repairs, alteration of graded access roads) are needed along with regular operations. During the majority of days over the 50-year EIS/EIR study period, the amount of mitigation preserve management activity and attendant vehicle trips and heavy-duty equipment operations would be much less and not substantially different from activities

associated with agricultural and rangeland operations and management on lands prior to being established as mitigation preserves. The maximum activity estimate is intended to be conservative to avoid the risk of understating the impacts of the alternative. Refer to Appendix H for more information on the emissions modeling assumptions for the alternatives.

Based on the modeling conducted, preserve maintenance and operations during periods of high activity could result in 19 lb/day of NO_x and up to 3.5 lb/day of ROG emissions. Emissions of PM_{10} would be 2 lb/day and $PM_{2.5}$ 1 lb/day. This level of emissions would not exceed applicable SMAQMD thresholds of significance of 65 lb/day for NO_x or ROG. Regarding PM_{10} and $PM_{2.5}$, emissions from regular mitigation preserve operations and maintenance activities, such as fence repair, firebreak mowing, and management of grazing animals, would be minor, and as shown by the modeling, would not exceed 2 lb/day. Preserve operational- and maintenance-related activities would not result in substantial dust emissions; therefore, they would not contribute to the existing nonattainment status of the SVAB.

With regards to exposure of sensitive receptors to TACs, odors, and local CO, activities associated with mitigation preserve operations and maintenance under this alternative would be relatively minor and temporary and similar to existing rangeland and farmland operations. As such, exposure would be minimal and would not result in excessive exposure at any one receptor for an extended period of time.

14.2.2.2 Cumulative Effects of the Alternative

Emissions from past and present urban development, agricultural activities, and other stationary and mobile emission sources in the SVAB have resulted in the existing air quality conditions described in Section 14.1.2.2, Existing Air Quality Conditions. The existing nonattainment status for ozone, PM_{10}, and $PM_{2.5}$ indicate a significant adverse impact on air quality from these past and present emission sources.

The types of future reasonably foreseeable "other" projects, activities, and actions, described in Section 3.7.2, Reasonably Foreseeable Other Actions, are similar to the types of past and present actions that occurred in the study area. The other reasonably foreseeable future actions in the study area (see Section 3.7.2) that were not included in the Section 2.2.2 description of the No Action/No Project Alternative include additional new urban development in the Elk Grove sphere of influence and in Rancho Murieta, development of the Wilton Rancheria Casino, master planned developments inside the Urban Development Area (UDA)[3]

[3] As discussed in Section 1.1.1, the term Urban Development Area (UDA) is used by the EIS/EIR to discuss all lands where urban development Covered Activity projects or activities could occur under the action alternatives. Therefore, "UDA" means all lands within Sacramento County's USB boundary that are also within the Planning Area (including lands within the Rancho Cordova city limits that are within the Planning Area), all lands within Galt's city limits, and all lands within the City of Galt's sphere of influence (see Figure 1-1).

named “Rio Del Oro” and “Mather South,” further rural residential development outside the UDA, continued urban development of cultivated agricultural lands, major infrastructure projects such as California High-Speed Rail and the California WaterFix, and expansion of the existing National Wild Refuge and the Cosumnes River Preserve (see Section 3.7.2 for details of these projects). Some of these foreseeable projects, such as urban development in the Elk Grove sphere of influence, would result in criteria pollutant emissions during construction and from mobile and stationary sources during operation. Large infrastructure projects would likely have a larger proportion of emissions during construction versus operation, and in the case the California High-Speed Rail Project, could result in a net reduction in emissions during operation. Expansion of refuges and preserves would result in relatively minor emissions compared to other categories of foreseeable projects. However, in total, the reasonably foreseeable future projects would result in increased emissions of criteria pollutants into the SVAB and result in an incremental contribution to significant adverse effects on air quality.

The construction, stationary, and mobile-source air emissions from these foreseeable other projects were generally included in the analysis of cumulative air emissions impacts incorporated from the General Plan EIRs. These General Plan EIRs identified significant and unavoidable air quality impacts from emissions of criteria pollutants during construction and operation. Consequently, the combination of past, present, and reasonably foreseeable future projects would result in continued significant adverse cumulative air quality effects, with the SVAB likely remaining in nonattainment for ozone, PM_{10}, and $PM_{2.5}$.

As discussed previously, the direct and indirect impacts of No Action/No Project Alternative would adversely affect existing air quality through the emissions of criteria pollutants. Therefore, the No Action/No Project Alternative incremental effects are determined to be significant and cumulatively considerable when viewed in connection with the significant cumulative impact of the past, present, and foreseeable other projects in the study area.

14.2.3 Proposed Action/Proposed Project Alternative

The Proposed Action/Proposed Project Alternative is described in Section 2.3, Proposed Action/Proposed Project.

14.2.3.1 Direct and Indirect Effects of the Alternative

Construction Emissions

The Proposed Action/Proposed Project Alternative includes types of urban development similar to those anticipated under the No Action/No Project Alternative; therefore, the sources and types of emissions associated with construction of this development would also be similar to those described for the No Action/No Project Alternative. However, the Proposed

Action/Proposed Project Alternative does not include the MCRA regulatory requirements of the No Action/No Project Alternative (refer to Section 2.2.2); this provides the opportunity for urban development Covered Activities within the MCRA to be implemented consistent with the Sacramento County and Rancho Cordova General Plans without development occurring outside the USB. As a result, a portion of construction worker commute and vendor haul trips between future construction sites for development could be shorter in distance compared to the No Action/No Project Alternative. This would result in lower VMT and, therefore, reduced exhaust emissions of ROG, NO_x, and PM, under the Proposed Action/Proposed Project Alternative compared to the No Action/No Project Alternative.

Further, the SSHCP includes Avoidance and Minimization Measures (SSHCP AMMs) that would be included in all Covered Activity projects and activities over the 50-year permit term. As summarized in Table 2-6 of this EIS/EIR, SSHCP AMMs BMP-5, BMP-9, and BMP-11 would require implementation of BMPs to control dust emissions by watering disturbance sites, returning disturbed areas to pre-project conditions and limiting vehicle travel speed. Several elements of these SSHCP AMMs would also be implemented under the No Action/No Project Alternative as part of standard best practices or regulatory requirements (see Table 2-6). However, the Proposed Action/Proposed Project Alternative includes additional on-site monitoring and measurement of the effectiveness of each SSHCP AMM implemented and annual reporting of the effectiveness of each SSHCP AMM. The Proposed Action/Proposed Project Alternative includes processes for annual review of SSHCP AMM effectiveness and a process to make adaptive changes to an SSHCP AMM that is not effective for avoiding impacts to air quality. This additional layer of oversight of SSHCP AMM implementation and SSHCP AMM effectiveness under the Proposed Action/Proposed Project Alternative increases avoidance and minimization of impacts to air quality from dust emissions during construction activities.

The potential adverse effects from construction emissions identified previously for the No Action/No Project Alternative future condition without the SSHCP would still occur under the Proposed Action/Proposed Project Alternative but to a lesser extent because of the reduced vehicle trips resulting from not having urban development shifted or displaced outside the MCRA and more effective reductions in dust emissions resulting from SSHCP AMMs BMP-5, BMP-9, and BMP-11. This would result in a ***Minor Beneficial*** effect when comparing the Proposed Action/Proposed Project Alternative to the No Action/No Project Alternative baseline condition.

Regarding emissions of localized mobile CO, the potential for individual intersections to experience sufficient vehicle trips per hour to result in adverse CO concentrations is not appreciably different between the Proposed Action/Proposed Project Alternative and the No Action/No Project Alternative. Although the Proposed Action/Proposed Project Alternative is expected to result in decreases in regional VMT associated with construction worker trips as a result of shorter travel distances between construction sites, this would not result in changes to

congestion or delays at intersections sufficient to appreciably alter CO concentrations because trips would be dispersed throughout the region and spread over the 50-year EIS/EIR study period; that is, as described previously for the No Action/No Project Alternative, no potential adverse effects from CO emissions are anticipated for the No Action/No Project Alternative future condition without the SSHCP, which would still be the case with implementation of the SSHCP under the Proposed Action/Proposed Project Alternative. Therefore, there would be ***No Impact*** when comparing the Proposed Action/Proposed Project Alternative to the No Action/No Project Alternative baseline condition.

As discussed in Section 2.3.5, the Proposed Action/Proposed Project Alternative would include the establishment of an interconnected Preserve System in the Planning Area and a comprehensive preserve management program that would be implemented in perpetuity. The Preserve System under the Proposed Action/Proposed Project Alternative would be more contiguous and more connected than the preserves that would be established under the No Action/No Project Alternative. Preserve establishment could include a variety of activities during construction that would result in emissions. Activities associated with the construction/establishment of preserves under the Proposed Action/Proposed Project Alternative would be the same as those described for the No Action/No Project Alternative. However, under the Proposed Action/Proposed Project Alternative, preserves would often be larger, more frequently linked, and established/constructed by the SSHCP Implementing Entity rather than by different entities on a project-by-project basis. The SSHCP AMMs described above for development would also apply to relevant preserve activities (e.g., grading for vernal pool establishment/re-establishment). Therefore, the Proposed Action/Proposed Project Alternative, through the SSHCP AMMs, provides for more effective reductions in dust emissions during implementation of preserve activities relative to the No Action/No Project Alternative. This would be a ***Minor Beneficial*** effect when comparing the Proposed Action/Proposed Project Alternative to the No Action/No Project Alternative baseline condition.

In addition to on-site emissions associated with heavy equipment and earth movement at preserve sites, construction and worker vehicle trips would also result in mobile-source emissions associated with the establishment of preserves. As a result of a more contiguous and connected Preserve System, construction-related vehicular trips associated with vendor and worker trips for preserve establishment/construction could be fewer because of a smaller number of “job sites” and coordinated preserve activities directed by the SSHCP Implementing Entity. This would result in fewer mobile-source emissions; that is, construction-related mobile-source emissions as identified for the No Action/No Project Alternative future condition associated with mitigation preserve activities without the SSHCP would still occur but potentially to a lesser extent with implementation of the SSHCP under the Proposed Action/Proposed Project Alternative. This

would be a ***Minor Beneficial*** effect when comparing the Proposed Action/Proposed Project Alternative to the No Action/No Project Alternative baseline condition.

Operational Emissions

The Proposed Action/Proposed Project Alternative Covered Activities include types of urban development consistent with those anticipated under the No Action/No Project Alternative. However, under the Proposed Action/Proposed Project Alternative, urban development would not be shifted or displaced outside of the USB. Therefore, operational-related vehicular trips associated with development would be shorter, resulting in fewer mobile-source emissions; that is, potential significant adverse effects from operation of development identified previously for the No Action/No Project Alternative future condition without the SSHCP would also occur, but to a lesser extent, with implementation of the SSHCP under the Proposed Action/Proposed Project Alternative. This would be a ***Minor Beneficial*** effect when comparing the Proposed Action/Proposed Project Alternative to the No Action/No Project Alternative baseline condition.

As identified previously, the types of urban development under Proposed Action/Proposed Project Alternative would be consistent with those identified for the No Action/No Project Alternative. Therefore, stationary and area-wide sources of TACs, odors, and criteria air pollutants (e.g., ROG, NO_x, PM_{10}, and $PM_{2.5}$) associated with operation of the Proposed Action/Proposed Project Alternative would be similar to those described for the No Action/No Project Alternative. Adverse effects from emissions of TACs and criteria air pollutants from stationary and area-wide sources described for the No Action/No Project Alternative would also apply to the Proposed Action/Proposed Project Alternative. However, no significant potential adverse effects from generation of odors are anticipated for either alternative. Thus, with respect to TACs, odors, and stationary and area-wide sources of criteria air pollutants, there would be ***No Impact*** when comparing the Proposed Action/Proposed Project Alternative to the No Action/No Project Alternative baseline condition.

Regarding emissions of localized mobile CO, for the reasons described for construction emissions associated with the Proposed Action/Proposed Project Alternative (i.e., there would be no changes in operations of individual intersection of sufficient scale to result in harmful CO concentrations), there would be ***No Impact*** when comparing the Proposed Action/Proposed Project Alternative to the No Action/No Project Alternative baseline condition.

As a result of development being confined to the UDA under the Proposed Action/Proposed Project Alternative, regional VMT associated with urban development may be redirected to other roadways throughout the Planning Area relative to the No Action/No Project Alternative. Thus, individual receptors that may be exposed to mobile-source TACs and odors may not be

the same under the two alternatives. However, because the overall duration, types, and numbers of trips past any particular receptor resulting from urban development would be similar, overall mobile-source TAC and odor generation and related exposure impacts in the Planning Area would also be similar; that is, potential adverse effects from operational-related mobile-sources of TACs and odors as described for the No Action/No Project Alternative would also occur for the Proposed Action/Proposed Project Alternative. However, no significant potential adverse effects from generation of, or exposure to, odors are anticipated for either alternative. Thus, with respect to mobile-source TACs and odors, there would be ***No Impact*** when comparing the Proposed Action/Proposed Project Alternative to the No Action/No Project Alternative baseline condition.

Activities associated with the operation and maintenance of preserves under the Proposed Action/Proposed Project Alternative would be very similar to those described for the No Action/No Project Alternative. However, under the Proposed Action/Proposed Project Alternative, preserves would often be larger, more frequently linked, and managed by the SSHCP Implementing Entity rather than by different entities on a project-by-project basis. As a result of a more contiguous and connected Preserve System with larger preserves overall, operational-related vehicular trips associated with maintenance and worker trips for preserve maintenance could be fewer because of a smaller overall number of individual preserves to be visited. Trips to multiple preserves could also be consolidated as personnel directed by the SSHCP Implementing Entity would have activities to perform at multiple preserves and could drive to multiple preserves in a single vehicle "trip." However, preserve management under the Proposed Action/Proposed Project Alternative would be more intensive than under the No Action/No Project Alternative, resulting in an increase in trips to implement the more active management strategy compared to the No Action/No Project Alternative. Therefore, overall, operational-related mobile-source emissions associated with preserve activities for the Proposed Action/Proposed Project Alternative would be similar to those identified previously for the No Action/No Project Alternative. This would be a ***Less Than Significant Adverse*** effect when comparing the Proposed Action/Proposed Project Alternative to the No Action/No Project Alternative baseline condition.

As identified for the No Action/No Project Alternative, exposure of sensitive receptors to TACs, odors, and local CO from mitigation preserve operations would be relatively minor and temporary. As such, exposure would be minimal and would not result in excessive exposure at any one receptor for an extended period of time. For the same reasons described for mobile-source emissions resulting from Preserve System operations, this conclusion would not change for the Proposed Action/Proposed Project Alternative. Therefore, there would be ***No Impact*** when comparing the Proposed Action/Proposed Project Alternative to the No Action/No Project Alternative baseline condition.

General Conformity

With regards to general conformity *de minimis* levels, the net change in peak annual emissions between the Proposed Action/Proposed Project Alternative and the No Action/No Project Alternative would be subject to the General Conformity Rule. These emissions include construction-related mobile sources and operational-related mobile, stationary, and area-wide sources, as described for the Proposed Action/Proposed Project Alternative.

As discussed previously, construction and operational emissions associated with the Proposed Action/Proposed Project Alternative would be similar or reduced compared to the No Action/No Project Alternative. As such, implementation of the Proposed Action/Proposed Project Alternative would not result in a net increase in emissions that would be subject to general conformity. Therefore, the Proposed Action/ Proposed Project Alternative would be exempt from general conformity (i.e., assumed to conform).

14.2.3.2 Significance of Direct and Indirect Effects

In summary, compared to the No Action/No Project Alternative baseline condition, the Proposed Action/Proposed Project Alternative would result in the following:

- Reduced mobile-source criteria pollutant, TAC, and odor emissions and dust emissions from construction of urban development and preserve establishment
- Similar CO emissions during construction of urban development and preserve establishment
- Reduced mobile-source criteria pollutant emissions from operation of urban development
- Similar emissions of criteria pollutants, TACs, and odors from stationary and area-wide sources associated with operation of urban development
- Similar CO emissions during the operation of urban development
- Similar exposure of sensitive receptors to mobile-source TACs and odors from operation of urban development
- Reduced mobile-source emissions from Preserve System operation
- Similar exposure of sensitive receptors to TACs, odors, and CO from Preserve System operation

Therefore, after considering the significance of impacts from the Proposed Action/Proposed Alternative on the air quality impact criteria, the Proposed Action/Proposed Project Alternative would result in ***Minor Beneficial*** effects to air quality compared to the impacts that would occur under the No Action/No Project Alternative baseline condition.

14.2.3.3 Cumulative Effects of the Alternative

The effects of past, present, and reasonably foreseeable other projects on air quality in the SVAB were described in Section 14.2.2.2, Cumulative Effects of the Alternative, and represent a significant adverse cumulative impact on air quality within the SVAB. As discussed in Section 14.2.2.2, the incremental effects of the No Action/No Project Alternative were determined to be significant and cumulatively considerable when viewed in connection with the effects of the past, present, and foreseeable other projects in the SVAB.

Various elements of the Proposed Action/Proposed Project Alternative would reduce emissions of criteria pollutants compared to the No Action/No Project Alternative, including more effective emission reductions from implementation of SSHCP AMMs and the lack of urban development being shifted or displaced outside the USB, reducing VMT. The reduced emissions result in the minor beneficial effects identified previously, and the Proposed Action/Proposed Project Alternative would make a smaller incremental contribution to any cumulative air quality impacts compared to the incremental effects of the No Action/No Project Alternative. Therefore, the Proposed Action/Proposed Project Alternative does not result in a cumulatively considerable (i.e., significant) contribution to the significant adverse cumulative impacts on air quality. The Proposed Action/Proposed Project Alternative would result in a ***Minor Beneficial Cumulative*** effect to air quality compared to the No Action/No Project Alternative baseline condition**.**

14.2.4 Reduced Permit Term Alternative

As described in Section 2.3.3, Covered Activities and Loss of Natural Land Covers Under the Proposed Action/Proposed Project Alternative, the Reduced Permit Term Alternative includes the same types of new urban development and infrastructure as those anticipated under the No Action/No Project Alternative.

Under the Reduced Permit Term Alternative, the core of the Preserve System established inside the UDA would be associated with the development of five large Master Plans, as discussed in Section 2.3.4, Covered Species Under the Proposed Action/Proposed Project Alternative, for the Reduced Permit Term Alternative and Section 2.3.3 for the Proposed Action/Proposed Project Alternative. Because the core of the Preserve System inside the UDA under both EIS/EIR action alternatives is associated with the same five large Master Plans, approximately 70% of the UDA preserves established under the Reduced Permit Term Alternative would have similar sizes, boundaries, and locations as the UDA preserves established under the Proposed Action/Proposed Project Alternative. However, the shorter duration of the Reduced Permit Term Alternative, as well as the smaller amount of urban development and associated development fees collected by the Reduced Permit Term SSHCP, would not allow the SSHCP Implementing Entity to establish as many acres of new preserves in the Planning Area as would occur under the Proposed Action/Proposed Project

Alternative's 50-year permit term. Therefore, fewer new preserves would be established under the Conservation Strategy for the Reduced Permit Term Alternative. This difference would be especially pronounced outside the UDA.

As described in Section 2.4, Reduced Permit Term Alternative, the federal Endangered Species Act and the California Endangered Species Act incidental take permits and the Clean Water Act permit strategy for SSHCP Covered Activities would be valid only during the 30-year permit term of the Reduced Permit Term SSHCP, and the Reduced Permit Term SSHCP Conservation Strategy would be implemented only during this 30-year term. The urban development Covered Activities and Conservation Strategies associated with the five master plans would be implemented inside the UDA during this 30-year period. However, the EIS/EIR uses a 50-year analysis study period to evaluate all alternatives (see Section 3.6.3); therefore, the EIS/EIR study period extends beyond the end of the 30-year permit term for the Reduced Permit Term Alternative. Therefore, as described in Section 3.6.7.2, Analysis of the Reduced Permit Term Alternative, After the End of the Permit Term (Years 31–50), the EIS/EIR analysis of the Reduced Permit Term Alternative also considers future urban development that is not part of the project description of the Reduced Permit Term Alternative but is still expected to occur within the Planning Area after the end of the permit term (i.e., in Years 31–50 of the EIS/EIR study period).

As described in Section 3.6.7.2, project mitigation preserves established after the end of the 30-year Reduced Permit Term Alternative would be established under a project-by-project process for obtaining individual authorizations under the Clean Water Act, federal Endangered Species Act, California Endangered Species Act, and Section 1600 of the California Fish and Game Code. Consequently, mitigation preserves established in Years 31–50 of the EIS/EIR study period would not be established using a regional, landscape-based approach that balances new urban development with the need for conservation, which would be provided by an HCP. Therefore, much of the Preserve System inside the UDA would be very similar under the two action alternatives, but the Preserve System outside the UDA would be substantially different between the Reduced Permit Term Alternative and the Proposed Action/Proposed Project Alternative. Under the Reduced Permit Term Alternative, it is unlikely that mitigation preserves established outside the UDA would be contiguous or interconnected, and it is unlikely that a large, contiguous, 10,500-acre, landscape-sized Vernal Pool Preserve would be established in the southwestern portion of the Planning Area. Likewise, the No Action/No Project Alterative would not result in contiguous, interconnected preserves outside the UDA or establish a 10,500-acre Vernal Pool Preserve in the Planning Area. In these ways, the new mitigation preserves established outside the UDA under the Reduced Permit Term Alternative and the No Action/No Project Alternative would be similar.

14.2.4.1 Direct and Indirect Effects of the Alternative

Construction Emissions

The Reduced Permit Term Alternative includes types of urban development similar to those anticipated under the No Action/No Project Alternative; therefore, the sources and types of emissions associated with construction of this development would also be similar to those described previously for the No Action/No Project Alternative. However, the Reduced Permit Term Alternative does not include the MCRA regulatory requirements of the No Action/No Project Alternative (refer to Section 2.2.2). This provides the opportunity for urban development Covered Activities within the MCRA to be implemented consistently with the Sacramento County and Rancho Cordova General Plans without development occurring outside the USB. As a result, a portion of construction worker commute and vendor haul trips between future construction sites for development could be shorter in distance compared to the No Action/No Project Alternative. This would result in lower VMT and, therefore, reduced mobile-source emissions of ROG, NO_x, and PM under the Reduced Permit Term Alternative compared to the No Action/No Project Alternative.

Further, during the 30-year permit term under the Reduced Permit Term Alternative, AMMs like those included in the SSHCP would be included in all Covered Activity projects and activities within the Planning Area. As summarized in Table 2-6 of this EIS/EIR, SSHCP AMMs BMP-5, BMP-9, and BMP-11 would require implementation of BMPs to control dust emissions during construction by watering disturbance sites, returning disturbed areas to pre-project conditions, and limiting vehicle travel speed. Several of the elements of these SSHCP AMMs would also be implemented under the No Action/No Project Alternative as part of standard BMPs or regulatory requirements (see Table 2-6). However, the Reduced Permit Term Alternative would include additional on-site monitoring and measurement of the effectiveness of each SSHCP AMM implemented and annual reporting of the effectiveness of each SSHCP AMM. The Reduced Permit Term Alternative would include processes for annual review of SSHCP AMM effectiveness and a process that makes adaptive changes to an SSHCP AMM that is not effective at avoiding impacts to air quality. This additional layer of oversight of SSHCP AMM implementation and SSHCP AMM effectiveness under the Reduced Permit Term Alternative increases avoidance and minimization of impacts to air quality from dust emissions during construction activities.

The potential adverse effects from construction emissions identified previously for the No Action/No Project Alternative future condition would still occur under the Reduced Permit Term Alternative but to a lesser extent because of the reduced vehicle trips resulting from not having urban development shifted or displaced outside the MCRA and more effective reductions in dust emissions resulting from SSHCP AMMs BMP-5, BMP-9, and BMP-11. This

would result in a ***Minor Beneficial*** effect when comparing the Reduced Permit Term Alternative to the No Action/No Project Alternative baseline condition.

Regarding emissions of localized mobile CO, the potential for individual intersections to experience sufficient vehicle trips per hour to result in adverse CO concentrations is not appreciably different between the Reduced Permit Term Alternative and the No Action/No Project Alternative. The Reduced Permit Term Alternative would result in decreases in regional VMT associated with construction worker trips as a result of shorter travel distances between construction sites. However, these reductions in VMT would not result in changes to congestion or delays at intersections sufficient to appreciably alter CO concentrations because trips would be dispersed throughout the region and spread over the 50-year EIS/EIR study period. That is, as described previously for the No Action/No Project Alternative, no potential adverse effects from CO emissions are anticipated for the No Action/No Project Alternative future condition, which would still be the case with implementation of the Reduced Permit Term Alternative. Therefore, there would be ***No Impact*** when comparing the construction CO emissions and concentrations under the Reduced Permit Term Alternative to the No Action/No Project Alternative baseline condition.

The Reduced Permit Term Alternative includes an interconnected Preserve System established during the 30-year permit term and a comprehensive preserve management program for those preserves to be implemented in perpetuity. The Preserve System established during the 30-year permit term under the Reduced Permit Term Alternative would be consolidated and linked (similar to the Proposed Action/Proposed Project Alternative). As described in Section 2.4.5, Conservation Strategy Under the Reduced Permit Term Alternative, in Chapter 2, continued establishment of a coordinated preserve management and monitoring program would cease after the end of the 30-year permit term. The interconnected Preserve System established during the permit term would remain intact, whereas future mitigation preserves established during Years 31–50 of the EIS/EIR study period would not be established in an as consolidated manner and would resemble mitigation preserve establishment patterns under the No Action/No Project Alternative. The resulting scenario would be such that a portion of preserves would reflect a more interconnected Preserve System, although with fewer acres compared to the Proposed Action/Proposed Project Alternative, and a portion would reflect an establishment pattern like the No Action/No Project Alternative.

Impacts to air quality from preserve establishment during the 30-year permit term under the Reduced Permit Term Alternative would be similar to those identified previously for the Proposed Action/Proposed Project Alternative; therefore, a minor beneficial effect to air quality (e.g., mobile-source emissions, dust emissions) would occur during this time when comparing the Reduced Permit Term Alternative to the No Action/No Project Alternative baseline condition. During Years 31–50 of the 50-year EIS/EIR study period, project-by-project mitigation for impacts to listed species would resemble the No Action/No Project Alternative. During this

period, impacts to air quality from mitigation preserve establishment under the Reduced Permit Term Alternative would be very similar to those that would occur under No Action/No Project Alternative. Given the reduced emissions resulting from preserve establishment during the 30-year permit term, over the total 50-year EIS/EIR study period, the Reduced Permit Term Alternative would result in an overall ***Minor Beneficial*** effect to air quality resulting from preserve establishment compared to the No Action/No Project Alternative baseline condition.

Operational Emissions

The Reduced Permit Term Alternative includes types of urban development consistent with those anticipated under the No Action/No Project Alternative. However, under the Reduced Permit Term Alternative, urban development would not be shifted or displaced outside of the USB. Therefore, operational-related vehicular trips associated with development would be shorter, resulting in fewer mobile-source emissions. That is, potential significant adverse effects from operation of development identified previously for the No Action/No Project Alternative future condition would also occur but to a lesser extent with implementation of the Reduced Permit Term Alternative. This would be a ***Minor Beneficial*** effect when comparing the Reduced Permit Term Alternative to the No Action/No Project Alternative baseline condition.

As identified previously, the types of urban development under the Reduced Permit Term Alternative would be consistent with those identified for the No Action/No Project Alternative. Therefore, stationary and area-wide sources of TACs, odors, and criteria air pollutants (e.g., ROG, NO_x, PM_{10}, and $PM_{2.5}$) associated with operation of the Reduced Permit Term Alternative would be similar to those described for the No Action/No Project Alternative. Adverse effects from emissions of TACs and criteria air pollutants from stationary and area-wide sources described previously for the No Action/No Project Alternative would also apply to the Reduced Permit Term Alternative. However, no significant potential adverse effects from generation of odors are anticipated for either alternative. Thus, with respect to TACs, odors, and stationary and area-wide sources of criteria air pollutants, there would be ***No Impact*** when comparing the Reduced Permit Term Alternative to the No Action/No Project Alternative baseline condition.

Regarding emissions of localized mobile CO, for the reasons described previously for construction emissions associated with the Reduced Permit Term Alternative (i.e., there would be no changes in operations of individual intersections of sufficient scale to result in harmful CO concentrations), there would be ***No Impact*** when comparing the Reduced Permit Term Alternative to the No Action/No Project Alternative baseline condition.

As a result of development being confined to the UDA under the Reduced Permit Term Alternative, regional VMT associated with urban development may be redirected to other roadways throughout the Planning Area relative to the No Action/No Project Alternative. Thus,

individual receptors that may be exposed to mobile-source TACs and odors may not be the same under the two alternatives. However, because the overall duration, types, and numbers of trips past any particular receptor resulting from urban development would be similar, overall mobile-source TAC and odor generation and related exposure impacts in the Planning Area would also be similar. That is, potential adverse effects from operational-related mobile-sources of TACs and odors as described previously for the No Action/No Project Alternative would also occur for the Reduced Permit Term Alternative. However, no significant potential adverse effects from generation of or exposure to odors are anticipated for either alternative. Thus, with respect to mobile-source TACs and odors, there would be a ***No Impact*** when comparing the Reduced Permit Term Alternative to the No Action/No Project Alternative baseline condition.

Impacts to air quality from the management and operation of preserves established during the 30-year permit term under the Reduced Permit Term Alternative would be similar to those identified previously for the Proposed Action/Proposed Project Alternative; therefore, a minor beneficial effect to air quality (e.g., mobile-source emissions, dust emissions) would occur when comparing the Reduced Permit Term Alternative to the No Action/No Project Alternative baseline condition. Management and operation of mitigation preserves established during Years 31–50 of the 50-year EIS/EIR study period would resemble the No Action/No Project Alternative. Impacts to air quality from the operation and management of these mitigation preserves included in the Reduced Permit Term Alternative would be very similar to those that would occur under No Action/No Project Alternative. Given the reduced preserve operations and management emissions resulting from the preserves established during the 30-year permit term, the Reduced Permit Alternative would result in an overall ***Minor Beneficial*** effect to air quality resulting from preserve operation and management compared to the No Action/No Project Alternative baseline condition.

As identified for the No Action/No Project Alternative, exposure of sensitive receptors to TACs, odors, and local CO from mitigation preserve operations would be relatively minor and temporary. As such, exposure would be minimal and would not result in excessive exposure at any one receptor for an extended period of time. For the same reasons described previously in Sections 14.2.2 and 14.2.3 for mobile-source emissions resulting from Preserve System operations, this conclusion would not change for the Reduced Permit Term Alternative. Therefore, there would be ***No Impact*** when comparing the Reduced Permit Term Alternative to the No Action/No Project Alternative baseline condition.

General Conformity

Regarding general conformity *de minimis* levels, the net change in peak annual emissions between the Reduced Permit Term Alternative and the No Action/No Project Alternative would be subject to the General Conformity Rule. These emissions include construction-related mobile

sources and operational-related mobile, stationary, and area-wide sources, as described previously for the Reduced Permit Term Alternative.

As discussed previously, construction and operational emissions associated with the Reduced Permit Term Alternative would either be similar or reduced compared to the No Action/No Project Alternative. As such, implementation of the Reduced Permit Term Alternative would not result in a net increase in emissions that would be subject to general conformity. Therefore, the Reduced Permit Term Alternative would be exempt from general conformity (i.e., assumed to conform).

14.2.4.2 Significance of Direct and Indirect Effects

In summary, compared to the No Action/No Project Alternative baseline condition, the Reduced Permit Term Alternative would result in the following:

- Reduced mobile-source criteria pollutant, TAC, and odor emissions and dust emissions from construction of urban development and preserve establishment
- Similar CO emissions and concentrations during construction of urban development and preserve establishment
- Reduced mobile-source criteria pollutant emissions from operation of urban development
- Similar emissions of criteria pollutants, TACs, and odors from stationary and area-wide sources associated with operation of urban development
- Similar CO emissions during the operation of urban development
- Similar exposure of sensitive receptors to mobile-source TACs and odors from operation of urban development
- Reduced mobile-source emissions from Preserve System operation
- Similar exposure of sensitive receptors to TACs, odors, and CO from Preserve System operation

Therefore, after considering the significance of impacts from the Reduced Permit Term Alternative on the air quality impact criteria, the Reduced Permit Term Alternative would result in ***Minor Beneficial*** effects to air quality compared to the impacts that would occur under the No Action/No Project Alternative baseline condition.

14.2.4.3 Cumulative Effects of the Alternative

The effects of past, present, and reasonably foreseeable other projects on air quality in the SVAB were described in Section 14.2.2.2 and represent a significant adverse cumulative impact on air quality within the SVAB. As discussed in Section 14.2.2.2, the incremental effects of the No Action/No Project Alternative were determined to be significant and cumulatively

considerable when viewed in connection with the effects of the past, present, and foreseeable other projects in the SVAB.

Various elements of the Reduced Permit Term Alternative would reduce emissions of criteria pollutants compared to the No Action/No Project Alternative, including more effective emission reductions from implementation of SSHCP AMMs and the lack of urban development being shifted or displaced outside the USB, thereby reducing VMT. The reduced emissions result in the minor beneficial effects identified previously, and the Reduced Permit Term Alternative would make a smaller incremental contribution to any cumulative air quality impacts compared to the incremental effects of the No Action/No Project Alternative. Therefore, the Reduced Permit Term Alternative does not result in a cumulatively considerable (i.e., significant) contribution to the significant adverse cumulative impacts on air quality. The Reduced Permit Term Alternative would result in a ***Minor Beneficial Cumulative*** effect to air quality compared to the No Action/No Project Alternative baseline condition.

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