APPENDIX B
AIR QUALITY TECHNICAL REPORT

Air Quality Technical Report

Property Specific Requests General Plan Amendment and Rezone
(GPA 12-005; REZ 14-006)

PDS2012-3800-12-005; PDS2014-REZ-14-006; PDS2012-ER-12-00-003

Lead Agency:
County of San Diego
Planning & Development Services
5510 Overland Avenue, Suite 310
San Diego, California 92123

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Acronyms

°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AB	Assembly Bill
ABM	activity-based model
APCD	San Diego Air Pollution Control District
APS	auxiliary power systems
CAAQS	California Ambient Air Quality Standard
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CFC	chlorofluorocarbon
CGSP	Champagne Gardens Specific Plan Area
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPA	County Planning Area
DPM	diesel particulate matter
EO	Executive Order
FAR	Floor to Area Ratio
FCAA	Federal Clean Air Act
GPA	General Plan Amendment
H_2S	hydrogen sulfide
HAP	hazardous air pollutants
HFC	hydrofluorocarbon
hp	horsepower
IPCC	Intergovernmental Panel on Climate Change
$MTCO_2e$	Metric ton of CO_2 equivalent
N/A	not available
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NOAA	National Oceanic Atmospheric Administration
NOx	oxides of nitrogen
O_3	ozone
OAL	Office of Administrative Law
PEIR	Program Environmental Impact Report
PFC	perfluorocarbon
PM_{10}	particulate matter less than 10 microns
$PM_{2.5}$	particulate matter less than 2.5 microns
ppb	parts per billion
ppm	parts per million
PSR	Property Specific Requests
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SB	Senate Bill

SCAQMD	South Coast Air Quality Management District
SDAB	San Diego Air Basin
SEIR	Supplemental Environmental Impact Report
SF_6	hexafluoride
SFR	single-family residential
SIP	State Implementation Plan
SLT	screening level threshold
SO_2	sulfur dioxide
t/d	tons per day
TAC	Toxic Air Contaminant
T-BACT	Toxics Best Available Control Technology
TIA	Traffic Impact Assessment
Tier 4f	final Tier 4
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compounds

1 Summary

This report represents existing air quality conditions and analyzes the potential impacts to air quality plans, air quality attainment within the County, hazardous air pollutants, and odors that could result from the implementation of the Proposed Project.

A summary of the air quality impacts identified is provided below.

Air Quality Summary of Impacts

Issue Topic	Project Direct Impact	Cumulative Impact	Impact After Mitigation
Air Quality Plans	Potentially significant	Potentially significant	Significant and unavoidable
Air Quality Violations	Potentially significant	Potentially significant	Significant and unavoidable
Nonattainment Criteria Pollutants	Potentially significant	Potentially significant	Significant and unavoidable
Sensitive Receptors	Potentially significant	Potentially significant	Significant and unavoidable
Objectionable Odors	Less than significant	Less than significant	Less than significant

2 Project Description

2.1 Purpose of the Report

This Air Quality Technical Report for the San Diego County General Plan Amendment to include the Property Specific Requests (PSR) provides information on existing conditions in San Diego County, the regulatory setting, and potential air quality impacts associated with implementation of the General Plan Amendment.

2.2 Project Location and Description

San Diego County is located in southwestern California and has a total land area of approximately 2.9 million acres. Eighteen incorporated cities are located within the county, with the remainder of lands being unincorporated, and totaling approximately 2.3 million acres. San Diego County is bordered by Riverside County and Orange County to the north; Imperial County to the east; Mexico to the south; and the Pacific Ocean to the west.

The unincorporated County lands are divided into 24 planning areas. Fifteen of the planning areas are identified as Community Planning Areas (CPAs); the remaining nine are identified as Subregions (County 2011b). The northwest and southwest portions of the unincorporated county generally support a greater level of development than locations further to the east. In the northwest, the CPAs and Subregions affected by the Proposed Project include Pala-Pauma Valley, Fallbrook, Valley Center, North County Metro, Bonsall, and San Dieguito. In the southwest, the CPA affected by the Proposed Project is Crest/Dehesa/Harbison Canyon/Granite Hills (also referred to as Crest-Dehesa). In the east, referred to as the “backcountry,” which is largely undeveloped and supports lands that are generally more environmentally constrained, the Subregions affected by the Proposed Project include the Desert and Mountain Empire Subregions.

The Proposed Project would result in revisions to the adopted General Plan Land Use and zoning designations on private properties, identified in this document as PSR Analysis Areas, totaling approximately 9,336 acres on 882 parcels throughout the unincorporated County. Primarily, the

Proposed Project will amend certain land use designations within the following CPAs, Subregions, and associated PSR Analysis Areas:

- **Bonsall CPA:** 1 PSR Analysis Area (BO18+)
- **Crest-Dehesa CPA:** 1 PSR Analysis Area (CD14)
- **Desert Subregion (specifically within the Borrego Springs CPA):** 2 PSR Analysis Areas (DS8 and DS24)
- **Fallbrook CPA:** 4 PSR Analysis Areas (FB2+, FB17, FB19+, and FB21+)
- **Mountain Empire Subregion (specifically within the Campo/Lake Morena Subregional Group Area):** 2 PSR Analysis Areas (ME26 and ME30A)
- **North County Metropolitan (Metro) Subregion:**
  - North County Metro Subregion (but not within in a Subregional Group Area): 1 PSR Analysis Area (NC18A)
  - Hidden Meadows Subregional Group Area: 1 PSR Analysis Area (NC3A)
  - Twin Oaks Valley Subregional Group Area: 3 PSR Analysis Areas (NC22, NC37, and NC38+)
- **Pala-Pauma Subregion:** 1 PSR Analysis Area (PP30)
- **San Dieguito CPA:** 1 PSR Analysis Area (SD15)
- **Valley Center CPA:** 4 PSR Analysis Areas (VC7+, VC51, VC57+, and VC67)

Generally, the Proposed Project would create amendments to land use designations that would result in increased residential densities; however, some proposed land use amendments would result in reassignment from current residential designations to commercial or industrial designations. Additionally, the Proposed Project would include an update to the land use designations and zoning for properties within the area of the former Champagne Gardens Specific Plan (CGSP) for consistency with the adopted General Plan.

3 Regulatory Setting

3.1 Federal

3.1.1 Clean Air Act

The Federal Clean Air Act (FCAA) of 1970 and last amended in 1990 (42 USC 7401, *et seq*.) required the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS) for six common air pollutants—identified as criteria air pollutants—that originated from provisions of the FCAA. The six criteria pollutants are ozone (O_3), particulate matter less than 10 microns and less than 2.5 microns (PM_{10} and $PM_{2.5}$), nitrogen dioxide (NO_2), carbon monoxide (CO), lead, and sulfur dioxide (SO_2). These federal standards are listed in Table 1. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. USEPA also permits individual states to adopt additional or more protective air quality standards if needed.

Table 1 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]	Federal Standards [2]	
		Concentration [3]	Primary [3, 4]	Secondary [3, 5]
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
	8-hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
Nitrogen Dioxide (NO_2) [6]	1-hour	0.18 ppm (470 mg/m^3)	100 ppb (188 µg/m^3)	None
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	53 ppm (100 µg/m^3)	Same as Primary Standard
Ozone (O_3) [7]	1-hour	0.09 ppm (180 µg/m^3)	--	Same as Primary Standards
	8-hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	
Respirable Particulate Matter (PM_{10}) [8]	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary Standards
	Annual Arithmetic Mean	20 µg/m	--	
Fine Particulate Matter ($PM_{2.5}$) [8]	24 Hour	--	35 µg/m^3	Same as Primary Standards
	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	15 µg/m^3
Sulfur Dioxide (SO_2) [9]	1-hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	--
	3 Hour	--	--	0.5 ppm (1300 µg/m^3)
	24 Hour	0.04 ppm (105 µg/m^3)	--	--
Lead[10, 11]	30 Day Average	1.5 µg/m^3	--	--
	Calendar Quarter	--	1.5 µg/m^3	Same as Primary Standard
	Rolling 3-Month Average[9]	--	0.15 µg/m^3	
Visibility Reducing Particles	8-hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more due to particles.	No Federal Standards	
Sulfates	24 Hour	25 µg/m^3		
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride[10]	24 Hour	0.01 ppm (26 µg/m^3)		

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, 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.

[2] National standards (other than hour ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the USEPA for further clarification and current national policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parenthesis are based on a reference temperature of 25°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.

[4] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[5] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[6] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[7] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[8] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[9] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[10] The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level 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.

[11] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Source: CARB 2016c

USEPA has designated air basins (or portions thereof) as being in "attainment," "nonattainment," or "unclassified" for each criteria air pollutant, based on whether the NAAQS have been achieved. If an area is designated unclassified, it is because there is insufficient data to designate an area, or designations have yet to be made. In addition, the FCAA uses a classification system to design clean-up requirements appropriate for the severity of the pollution and set realistic deadlines for reaching clean-up goals. If an air basin is not in federal attainment for a pollutant, a basin is classified as a marginal, moderate, serious, severe, or extreme nonattainment area, based on the estimated time it would take to reach attainment for that pollutant.

When an area reaches attainment after being designated nonattainment, it officially becomes a maintenance area, requiring adopted plans to demonstrate how maintaining the attainment status is achieved. Table 2 lists the federal attainment status of the San Diego Air Basin (SDAB) for the criteria pollutants. USEPA has designated the SDAB as an attainment maintenance area for CO; a moderate nonattainment area for the 2008 ozone standard; and attainment/unclassified for NO_2, lead, SO_2, $PM_{2.5}$ and PM_{10}.

The FCAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAA amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the FCAA. The SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the FCAA.

Table 2 San Diego Air Basin Attainment Status

Pollutant	State Status	Federal Status
Carbon Monoxide (CO)	Attainment	Maintenance (Moderate)
Nitrogen Dioxide (NO_2)	Attainment	Attainment/Unclassified
Ozone (O_3) (1-hour)	Nonattainment	No federal standard
Ozone (O_3) (8-hour)	Nonattainment	Nonattainment (Moderate)
Lead (Pb)	Attainment	Attainment/Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Attainment/Unclassified
Respirable Particulate Matter (PM_{10})	Nonattainment	Attainment/Unclassified
Sulfur Dioxide (SO_2)	Attainment	Attainment/Unclassified
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	
Visibility Reducing Particles	Unclassified	

Source: USEPA 2016, CARB 2016c

3.2 State

3.2.1 California Clean Air Act

The California Air Resources Board (CARB), a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and State air pollution control programs within California, including setting the California Ambient Air Quality Standards (CAAQS) through the California Clean Air Act (CCAA). CARB also conducts research,

compiles emission inventories, develops suggested control measures, and provides oversight of local programs.

CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts.

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

CARB has designated air basins (or portions thereof) as being in "attainment," "nonattainment," or "unclassified" for each criteria air pollutant, based on whether the CAAQS have been achieved. If an area is designated unclassified, it is because there is insufficient data to designate an area, or designations have yet to be made. Table 2 lists the State attainment status of the SDAB for the criteria pollutants. CARB has designated the SDAB as nonattainment for the 1-hour and 8-hour ozone standards; nonattainment for $PM_{2.5}$ and PM_{10}; and attainment or unclassified for CO, NO_2, lead, and SO_2.

3.2.2 California State Implementation Plan

The FCAA (and its subsequent amendments) required each state to prepare an air quality control plan referred to as the SIP. The SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the FCAA, and will achieve air quality goals when implemented. CARB adopts the California SIP. The San Diego Air Pollution Control District (APCD) has developed the SDAB input to the SIP, which is required under the FCAA for areas that are out of attainment of air quality standards. The SIP includes the APCD's plans and control measures for attaining the ozone NAAQS. The SIP is updated on a triennial basis. CARB adopted its 2007 State Strategy for California's 2007 SIP on September 27, 2007. As part of the State Strategy, the APCD developed its "Eight-Hour Ozone Attainment Plan for San Diego County" Plan (APCD 2007), which provides plans for attaining and maintaining the 8-hour NAAQS for ozone. This Plan accommodates emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by USEPA and CARB, and the emissions and reduction strategies related to mobile sources are considered in the SIP. The SIP does not address impacts from sources of PM_{10} or $PM_{2.5}$. A Redesignation Request and Maintenance Plan for 1997 Ozone Standard in San Diego County was approved by USEPA in 2013.

3.2.3 Assembly Bill 1807 (Tanner Air Toxics Act) and Assembly Bill 2588 (the Air Toxics Hot Spots Information and Assessment Act)

California regulates toxic air contaminates (TACs) primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807), implemented in 1984 and updated in 2010 and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure

for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. Once a TAC is identified, CARB then adopts an airborne toxics control measure for sources that emit that TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate best available control technology for toxics to minimize emissions. None of the TACs identified by CARB have a safe threshold.

TACs may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. These are approximately 192 TACs identified in California. Some of these TACs are groups of compounds which contain many individual substances (for example, copper compounds, polycyclic organic matter).

Identification of hazards involves identifying pollutants of concern and identifying whether these pollutants are potential human carcinogens or associated with other types of adverse health effects. The CARB has developed its Emissions Inventory Criteria and Guidelines Regulations (California Code of Regulations, Title 17, Section 93300-93300.5) and the Emission Inventory Criteria and Guidelines Report (CARB 2007b), which publish a list of TACs. The CARB and the California Office of Environmental Health Hazard Assessment are responsible for identifying TACs, assessing the potential for adverse health effects due to exposure to TACs, and for developing guidelines to assess potential human health risks and notifying the public of the potential for adverse health effects.

3.2.4 California Code of Regulations Section 2485

On October 20, 2005, the CARB approved regulatory measures including the adoption of Title 13, Chapter 9, Article 8, Section 2485 of the California Code of Regulations (CCR) (Section 2485), which regulates idling activities and auxiliary power systems (APS) in commercial vehicle vehicles with a vehicle weight rating of greater than 10,000 pounds. On December 5, 2014, the state's Office of Administrative Law (OAL) approved new Amendments Section 2485, which became effective on January 1, 2015, and now all APS operated in California are required to meet the model year 2007 or newer emissions standards and all new APS are required to meet the USEPA final Tier 4 (Tier 4f) emission standards and by 2023 all APS operating in California will be required to meet the Tier 4f emissions standards. The USEPA final Tier 4 emission standards and diesel fuel rule for new non-road diesel engines, mandates emission reductions of particulate matter and oxides of nitrogen (NO_x) on the order of 90 percent. New diesel engines in most power categories must be fitter with advanced emission after treatment devices, such as particulate filters and NO_x reduction catalysts. Section 2485 also restricts vehicle idling to no more than five minutes at any one location and restricts the operation of an APS to no more than five minutes in any location within 100 feet of a sensitive receptor.

3.2.5 California Health and Safety Code Section 41700

This section of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause injury or damage to business or property. This section also applies to sources of objectionable odors.

3.3 Local

3.3.1 San Diego Air Pollution Control District Regulations

The APCD has jurisdiction over air quality programs in San Diego County. State and local government projects, as well as projects proposed by the private sector, are subject to APCD requirements if the sources are regulated by the APCD. Additionally, the APCD, along with CARB, maintains and operates ambient air quality monitoring stations at numerous locations throughout San Diego County. These stations are used to measure and monitor criteria and toxic air pollutant levels in the ambient air.

The APCD is also responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and State air quality laws. All development projects within the County may be subject to the following APCD rules (as well as others):

- **APCD Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or tend to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (APCD 1976).
- **APCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (APCD 2009a).
- **APCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce volatile organic compounds (VOC) emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (APCD 2015).
- **APCD Regulation IV: Prohibitions; Rule 67.7: Cutback and Emulsified Asphalts.** Requires manufacturers, distributors, and end users of cutback and emulsified asphalt materials for the paving, construction, or maintenance of parking lots, driveways, streets, and highways to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC evaporation content.
- **APCD Regulation IV: Prohibitions; Rule 69.5: Natural Gas-Fired Water Heaters.** Requires manufacturers, distributors, and end users of natural gas-fired water heaters to reduce NO_X emissions.
- **APCD Regulation IV: Prohibitions; Rule 69.6: Natural Gas-Fired Fan-Type Central Furnaces.** Requires manufacturers, distributors, and end users of natural gas-fired, fan-type central furnaces, including combination heating and cooling units to reduce NO_X emissions.
- **APCD Regulation XII: Toxic Air Contaminants; Rule 1200: Toxic Air Contaminants - New Source Review.** Applicable to any new, relocated, or modified emission unit which may increase emissions of one or more TAC(s) and for which an Authority to Construct or Permit to Operate is required pursuant to APCD Rule 10, or for which a Notice of Intention or Application for Certification has been accepted by the California Energy Commission (APCD 1996).

- **APCD Regulation XII: Toxic Air Contaminants; Rule 1210: Toxic Air Contaminant Public Health Risks – Public Notification and Risk Reduction**. Requires owner/ operators of stationary sources for which an approved public health risk assessment has identified public health risks at or above levels specified in the Rule, i.e. maximum incremental cancer risks equal to or equal to 10 in a million or a cancer burden, total acute noncancer health hazard index, or total chronic noncancer hazard index equal to or greater than 1.0, provide written public notice (APCD 2016a).

3.3.2 San Diego County Regional Air Quality Strategy

The San Diego County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004 and most recently in 2016 (APCD 2016b). The RAQS outlines APCD's plans and control measures designed to attain the State air quality standards for ozone. The RAQS outlines APCD's plans and control measures designed to attain the State air quality standards for ozone.

The RAQS relies on information from CARB and San Diego Association of Governments (SANDAG), including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of the County's General Plan. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS. In the event that a project would propose development that is less dense than anticipated within the general plan, the project would likewise be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the general plan and SANDAG's growth projections, the project may be in conflict with the RAQS and SIP, and may have a potentially significant impact on air quality.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin. The SIP also includes rules and regulations that have been adopted by the APCD to control emissions from stationary sources. These SIP-approved rules may be used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for ozone.

3.3.3 San Diego Association of Governments Regional Transportation Plan/Sustainable Communities Strategy

SANDAG adopted San Diego Forward: The Regional Plan on October 9, 2015. Included in the Regional Plan is an update to the San Diego Regional Comprehensive Plan and the 2050 Regional Transportation Plan and Sustainable Communities Strategy. The Regional Plan includes housing forecasts, establishes targets for greenhouse gas emission reduction, and plans capital and operational expenditures for transit programs and operations and transportation related infrastructure. Building on the current (2012) transportation system with funding anticipated over the next 35 years, the Regional Plan outlines projects for rail and bus services, highways, local streets, bicycling, and walking, as well as systems and demand management. The Sustainable Communities Strategy shows how the region would exceed the SB 375 greenhouse gas emissions reduction targets for passenger vehicles established by California Air Resources Board for 2020 and 2035 by using land in a way that makes development more

compact, conserving open space and investing in a transportation network that reduces vehicle miles traveled and gives residents alternative transportation options.

Although SB 375 sets greenhouse gas reduction targets for only the years 2020 and 2035, the Regional Plan also includes a longer 2050 time horizon. This was done because a major local transportation funding program (TransNet Extension Ordinance and Expenditure Plan) extends to almost 2050.

3.3.4 San Diego County General Plan

The San Diego County General Plan (County 2011b) was adopted August 2011 and directs future growth in the unincorporated areas of the County with a projected capacity that will accommodate more than 232,300 existing and future homes. This growth is targeted to occur primarily in the western portions of the unincorporated County where there is the opportunity for additional development. Compared to the previous General Plan, this update reduces housing capacity by 15 percent and shifts 20 percent of future growth from eastern backcountry areas to western communities.

3.3.5 San Diego County Code Section 87.428, Dust Control Measures

The County's Grading Ordinance (County 2012) requires all clearing and grading to be carried out with dust control measures adequate to prevent creation of a nuisance to persons or public or private property. Clearing, grading, or improvement plans shall require that measures such as the following be undertaken to achieve this result: watering, application of surfactants, shrouding, control of vehicle speeds, paving of access areas, or other operational or technological measures to reduce dispersion of dust. These project design measures are to be incorporated into all earth-disturbing activities to minimize the amount of particulate matter emissions from construction.

4 Existing Conditions

4.1 Climate

Regional climate and local meteorological conditions influence ambient air quality. The unincorporated portion of the county is located in the SDAB. The climate of the SDAB is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year.

As described in a National Oceanic Atmospheric Administration (NOAA) memorandum (NOAA 2004), a marked feature of the climate in the SDAB is the wide variation in temperature within short distances. In inland valleys the daytimes are much warmer in the summer and the nights are noticeably cooler in the winter than in the coastal cities. Also, freezing occurs inland much more frequently than in San Diego and other coastal cities.

The seasonal rainfall is about 10 inches in San Diego and other coastal cities, but increases with elevation and distance from the coast. In the mountains to the north and east the average is between 20 and 40 inches, depending on slope and elevation. Most of the precipitation falls in winter, with the mountains also having an occasional thunderstorm in the summer. Eighty-five percent of the rainfall occurs from November through March, but wide variations take place in monthly and seasonal totals. Infrequent amounts of hail occur in San Diego and snow is practically unknown at the official downtown weather station. In each occurrence of snowfall in the City only

a trace was recorded officially, but in some locations in the County amounts of one half inch or slightly more fell, and remained on the ground for an hour or more.

Subsidence inversions occur during warmer months, as descending air associated with the Pacific high-pressure cell meets cool marine air. The boundary between the two layers of air represents a temperature inversion that traps pollutants below it. Radiation inversions typically develop on winter nights with low wind speeds, when air near the ground cools by radiation, and the air aloft remains warm. A shallow inversion layer that can trap pollutants is formed between the two layers.

Under certain conditions, atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County. This often produces high ozone concentrations, as measured at air pollutant monitoring stations within the county. The transport of air pollutants from Los Angeles to San Diego has also occurred within the stable layer of the elevated subsidence inversion, where high levels of ozone are transported.

4.2 Health Effects Related to Air Pollutants

Historically, air quality laws and regulations have divided air pollutants into two broad categories: criteria air pollutants and TACs. Criteria air pollutants are a group of common air pollutants regulated by the federal and state governments by means of ambient standards based on criteria regarding health and/or environmental effects of pollution (USEPA 2016). TACs are often referred to as “non-criteria” air pollutants because ambient air quality standards have not been established for them. Under certain conditions, TACs may cause adverse health effects, including cancer and/or acute and chronic noncancerous effects. The following sections provide a description of relevant criteria air pollutants and TACs.

4.2.1 Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and State standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include ozone, NO_X, SO_2, CO, PM_{10}, $PM_{2.5}$, and lead. These pollutants are discussed below. In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants. The following describes the identified criteria air pollutants and the health effects for each based on information published by USEPA (2015) and CARB (2016b).

Ozone is considered a photochemical oxidant, which is a chemical that is formed when VOC and NO_X, both by-products of combustion, react in the presence of ultraviolet light. Tropospheric (ground level) ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone.

CO is a product of combustion, and the main source of CO in the SDAB is from motor vehicle exhaust. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body’s organs and tissues. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO can cause health effects to those with cardiovascular disease, and can also affect mental alertness and vision.

NO_2 is also a by-product of fuel combustion, and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitrogen oxide (NO) with oxygen. NO_2 is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO_2 can also increase the risk of respiratory illness.

Respirable Particulate Matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM_{10} refers to particulate matter with an aerodynamic diameter of 10 microns or less. $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in this size range has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM_{10} and $PM_{2.5}$ arise from a variety of sources, including road dust, diesel exhaust, combustion, tire and brake wear, construction operations and windblown dust. PM_{10} and $PM_{2.5}$ can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. $PM_{2.5}$ is considered to have the potential to lodge deeper in the lungs.

SO_2 is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes. Generally, the highest concentrations of SO_2 are found near large industrial sources. SO_2 is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease. SO_2 emissions have historically been minimal in the County due to the use of the low sulfur fuels used in the region (APCD 2007).

Lead in the atmosphere occurs as particulate matter, and has historically been emitted from vehicles combusting leaded gasoline, as well as from industrial sources. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Lead has the potential to cause gastrointestinal, central nervous system, kidney and blood diseases upon prolonged exposure. Lead is also classified as a probable human carcinogen.

Sulfates are the fully oxidized ionic form of sulfur. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features. The CARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and due to fact that they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation. Breathing H_2S at levels above the standard would result in exposure to a very disagreeable odor. In 1984, a CARB committee concluded that the ambient standard for H_2S is adequate to protect public health and to significantly reduce odor annoyance.

Vinyl chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants and hazardous waste sites, due to microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air causes central

nervous system effects, such as dizziness, drowsiness and headaches. Long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage. Cancer is a major concern from exposure to vinyl chloride via inhalation. Vinyl chloride exposure has been shown to increase the risk of angiosarcoma, a rare form of liver cancer, in humans.

4.2.2 Toxic Air Contaminants

In addition to the above-listed criteria pollutants, TACs are another group of pollutants of concern. AB 1807 sets forth a procedure for the identification and control of TAC in California defines a TAC as an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. Almost 200 compounds have been designated as TACs in California. The ten TACs posing the greatest known health risk in California, based primarily on ambient air quality data, are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, formaldehyde, methylene chloride, para-dichlorobenzene, perchloroethylene, and diesel particulate matter (DPM).

TACs do not have ambient air quality standards. Since no safe levels of TACs can be determined, there are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure.

4.3 Ambient Air Pollutant Levels

San Diego County has a network of air monitoring stations established to get current, accurate data on the ambient concentrations of various criteria pollutants. Air monitoring stations located near the Proposed Project include:

- Escondido Monitoring Site – Represents PSR Analysis Areas BO18+, FB2+, FB17, FB19+, FB21+, NC3A, NC18A, NC22, NC37, NC38+, PP30, VC7+, VC51, VC57+, VC67, and the former CGSP Area
  - Located on East Valley Parkway – measures CO, O_3, NO_2, PM_{10}, $PM_{2.5}$
- El Cajon Monitoring Sites – Represents PSR Analysis Area CD14
  - Located on Floyd Smith Drive - measures NO_2, O_3, PM_{10}, $PM_{2.5}$
  - Located on Redwood Avenue - measures CO, NO_2, O_3, PM_{10}, $PM_{2.5}$
- Otay Mesa Monitoring Sites – Represents PSR Analysis Areas ME26 and ME30A
  - Located at the Donovan Correctional Facility – measures NO_2, O_3, PM_{10}
  - Located on Paseo International – measures CO, NO_2, O_3, PM_{10}
- Del Mar Monitoring Site – Represents PSR Analysis Area SD15
  - Located at Mira Costa College – measures O_3
- Indio Monitoring Site (in Riverside County) – Represents PSR Analysis Areas DS8 and DS24
  - Located on Jackson Street – measures O_3, PM_{10}, $PM_{2.5}$

Data from the ambient air monitoring stations (CARB 2016d) for the last 6 years are presented in Table 3 through Table 9.

Table 3 Air Quality Monitoring Summary for Escondido – East Valley Parkway

Air Pollutant	Monitoring Year					
	2010	2011	2012	2013	2014	2015
CO						
Max 8 Hour (ppm)	2.46	2.30	3.70	3.70	N/A	N/A
Days > NAAQS (9 ppm)	0	0	0	0		
Days > CAAQS (9.0 ppm)	0	0	0	0		
NO_2						
Max Hourly (ppb)	64	62	62	0.061	0.063	0.048
Days > NAAQS (100 ppb)	0	0	0	0	0	0
Days > CAAQS (0.18 ppm)	0	0	0	0	0	0
O_3						
Max 1 Hour (ppm)	**0.105**	**0.098**	0.084	0.084	**0.099**	0.079
Days > CAAQS (0.09 ppm)	2	1	0	0	1	0
Max 8 Hour (ppm)	**0.084**	**0.089**	**0.073**	**0.075**	**0.080**	**0.071**
Days > NAAQS (0.075 ppm*)	3	2	0	0	5	0
Days > CAAQS (0.070 ppm)	5	2	2	4	8	3
PM_{10}						
Max Daily California Measurement (µg/m^3)	43	40	33	**82**	44	31
Days > NAAQS (150 µg/m^3)	0	0	0	0	0	0
Days > CAAQS (50 µg/m^3)	0	0	0	1	0	0
$PM_{2.5}$						
Max Daily National Measurement (µg/m^3)	33.3	27.4	**70.7**	**56.3**	**77.5**	29.4
Days > NAAQS (35 µg/m^3)	0	0	1	1	1	0

* The standard appearing in Table 1 was in effect until October 2015
> = exceed; **Bold** = exceedance
N/A = not available; ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter
CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard
Source: CARB 2016d

Table 4 Air Quality Monitoring Summary for El Cajon – Floyd Smith Drive

Air Pollutant	Monitoring Year					
	2010	2011	2012	2013	2014	2015
NO_2						
Max Hourly (ppb)	N/A	N/A	N/A	N/A	0.057	0.059
Days > NAAQS (100 ppb)					0	0
Days > CAAQS (0.18 ppm)					0	0
O_3						
Max 1 Hour (ppm)	N/A	N/A	N/A	N/A	0.083	0.083
Days > CAAQS (0.09 ppm)					0	0
Max 8 Hour (ppm)	N/A	N/A	N/A	N/A	**0.075**	0.067
Days > NAAQS (0.075 ppm*)					0	0
Days > CAAQS (0.070 ppm)					2	0
PM_{10}						
Max Daily California Measurement (µg/m^3)	N/A	N/A	N/A	N/A	35.3	50.3
Days > NAAQS (150 µg/m^3)					0	0
Days > CAAQS (50 µg/m^3)					0	0
$PM_{2.5}$						
Max Daily National Measurement (µg/m^3)	N/A	N/A	N/A	N/A	13.9	24.7
Days > NAAQS (35 µg/m^3)					0	0

* The standard appearing in Table 1 was in effect until October 2015
> = exceed; **Bold** = exceedance
N/A = not available; ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter
CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard
Source: CARB 2016d

Table 5 Air Quality Monitoring Summary for El Cajon – Redwood Avenue

Air Pollutant	Monitoring Year					
	2010	2011	2012	2013	2014	2015
CO						
Max 8 Hour (ppm)	N/A	1.35	1.86	1.86	N/A	N/A
Days > NAAQS (9 ppm)		0	0	0		
Days > CAAQS (9.0 ppm)		0	0	0		
NO_2						
Max Hourly (ppb)	58	49	59	0.051	0.051	N/A
Days > NAAQS (100 ppb)	0	0	0	0	0	
Days > CAAQS (0.18 ppm)	0	0	0	0	0	
O_3						
Max 1 Hour (ppm)	**0.102**	**0.105**	0.086	0.090	0.059	N/A
Days > CAAQS (0.09 ppm)	1	1	0	0	0	
Max 8 Hour (ppm)	**0.078**	**0.087**	**0.074**	**0.078**	0.053	N/A
Days > NAAQS (0.075 ppm*)	3	1	0	1	0	
Days > CAAQS (0.070 ppm)	6	1	1	3	0	
PM_{10}						
Max Daily California Measurement (µg/m^3)	42.0	41.9	47.2	41.0	47.0	N/A
Days > NAAQS (150 µg/m^3)	0	0	0	0	0	
Days > CAAQS (50 µg/m^3)	0	0	0	0	0	
$PM_{2.5}$						
Max Daily National Measurement (µg/m^3)	27.7	29.7	**37.7**	23.1	**38.1**	N/A
Days > NAAQS (35 µg/m^3)	0	0	1	0	2	

* The standard appearing in Table 1 was in effect until October 2015
> = exceed; **Bold** = exceedance
N/A = not available; ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter
CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard
Source: CARB 2016d

Table 6 Air Quality Monitoring Summary for Otay Mesa – Donovan Correctional Facility

Air Pollutant	Monitoring Year					
	2010	2011	2012	2013	2014	2015
NO_2						
Max Hourly (ppb)	N/A	N/A	N/A	N/A	64	61
Days > NAAQS (100 ppb)					0	0
Days > CAAQS (0.18 ppm)					0	0
O_3						
Max 1 Hour (ppm)	N/A	N/A	N/A	N/A	0.082	0.087
Days > CAAQS (0.09 ppm)					0	0
Max 8 Hour (ppm)	N/A	N/A	N/A	N/A	**0.075**	**0.072**
Days > NAAQS (0.075 ppm*)					0	0
Days > CAAQS (0.070 ppm)					1	2
PM_{10}						
Max Daily California Measurement (µg/m^3)	**57**	**56**	**53**	**65**	**58**	**136**
Days > NAAQS (150 µg/m^3)	0	0	0	0	0	0
Days > CAAQS (50 µg/m^3)	3	2	1	1	3	10

* The standard appearing in Table 1 was in effect until October 2015
> = exceed; **Bold** = exceedance
N/A = not available; ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter
CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard
Source: CARB 2016d

Table 7 Air Quality Monitoring Summary for Otay Mesa – Paseo International

Air Pollutant	Monitoring Year					
	2010	2011	2012	2013	2014	2015
CO						
Max 8 Hour (ppm)	2.21	N/A	N/A	N/A	N/A	N/A
Days > NAAQS (9 ppm)	0					
Days > CAAQS (9.0 ppm)	0					
NO_2						
Max Hourly (ppb)	91	100	77	91	87	N/A
Days > NAAQS (100 ppb)	0	0	0	0	0	
Days > CAAQS (0.18 ppm)	0	0	0	0	0	
O_3						
Max 1 Hour (ppm)	**0.098**	0.076	**0.095**	0.081	0.073	0.061
Days > CAAQS (0.09 ppm)	1	0	1	0	0	0
Max 8 Hour (ppm)	0.068	**0.076**	0.061	0.061	0.063	0.055
Days > NAAQS (0.075 ppm*)	0	1	0	0	0	0
Days > CAAQS (0.070 ppm)	0	1	0	0	0	0
PM_{10}						
Max Daily California Measurement ($\mu g/m^3$)	**108**	**126**	N/A	N/A	N/A	N/A
Days > NAAQS (150 $\mu g/m^3$)	0	0				
Days > CAAQS (50 $\mu g/m^3$)	22	23				

* The standard appearing in Table 1 was in effect until October 2015
> = exceed; **Bold** = exceedance
N/A = not available; ppm = parts per million; ppb = parts per billion; $\mu g/m^3$ = micrograms per cubic meter
CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard
Source: CARB 2016d

Table 8 Air Quality Monitoring Summary for Del Mar – Mira Costa College

Air Pollutant	Monitoring Year					
	2010	2011	2012	2013	2014	2015
O_3						
Max 1 Hour (ppm)	**0.122**	**0.103**	**0.111**	**0.110**	**0.101**	**0.099**
Days > CAAQS (0.09 ppm)	3	5	9	7	2	2
Max 8 Hour (ppm)	**0.072**	**0.075**	**0.079**	**0.070**	**0.088**	**0.076**
Days > NAAQS (0.075 ppm*)	0	0	0	0	2	1
Days > CAAQS (0.070 ppm)	2	1	2	0	4	2

* The standard appearing in Table 1 was in effect until October 2015
> = exceed; **Bold** = exceedance
N/A = not available; ppm = parts per million; ppb = parts per billion; $\mu g/m^3$ = micrograms per cubic meter
CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard
Source: CARB 2016d

Table 9 Air Quality Monitoring Summary for Indio – Jackson Street

Air Pollutant	Monitoring Year					
	2010	2011	2012	2013	2014	2015
O_3						
Max 1 Hour (ppm)	**0.100**	**0.099**	**0.102**	**0.105**	**0.095**	0.093
Days > CAAQS (0.09 ppm)	6	3	2	2	2	0
Max 8 Hour (ppm)	**0.087**	**0.090**	**0.089**	**0.087**	**0.081**	**0.085**
Days > NAAQS (0.075 ppm *)	19	19	24	18	10	4
Days > CAAQS (0.070 ppm)	45	42	45	36	30	12
PM_{10}						
Max Daily California Measurement (µg/m^3)	**106**	**324**	**125**	**144.7**	**118.9**	**88.3**
Days > NAAQS (150 µg/m^3)	0	2	0	0	0	0
Days > CAAQS (50 µg/m^3)	4	3	7	10	15	4
$PM_{2.5}$						
Max Daily National Measurement (µg/m^3)	16.0	35.4	16.4	25.3	18.3	24.6
Days > NAAQS (35 µg/m^3)	0	0	0	0	0	0

* The standard appearing in Table 1 was in effect until October 2015
> = exceed; **Bold** = exceedance
N/A = not available; ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter
CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard
Source: CARB 2016d

4.4 Sensitive Receptors

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. These people include children, the elderly, and persons with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather are defined as sensitive receptors by the APCD. The County Guidelines (DPLU 2007) define sensitive receptors as schools (grades preschool to 12th), hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality but they have also included residents for the purpose of the California Environmental Quality Act (CEQA).

Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods, resulting in sustained exposure to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution but may also be a producer of air pollution. Exposure periods are relatively short and intermittent, as most the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

A geospatial analysis was conducted to identify existing sensitive receptors near the Proposed Project. Table 10 shows the type and location of sensitive receptors near the PSR Analysis Areas and the former CGSP Area.

Table 10 Sensitive Receptors Near Property Specific Requests

CPA/Subregion	PSR Analysis Area/ Former CGSP Area	Sensitive Receptors within 1 mile	
		Type	Location
Bonsall	BO18+	School	0.3 mile
Crest-Dehesa	CD14	School	0.5 mile
		Residential	Bordering(1)
Desert	DS8	School	0.4 mile
		Residential	Bordering
	DS24	Residential	Bordering
Fallbrook	FB2+	Residential	In Analysis Area
	FB17	Residential	0.1 mile
	FB19+	School	0.9 mile
		Residential	In Analysis Area
	FB21+	Residential	In Analysis Area
Mountain Empire	ME26	Residential	In Analysis Area
	ME30A	Residential	Bordering(1)
North County Metro	NC3A	School	0.7 mile
		Residential	In Analysis Area
	NC18A	School	0.6 mile
		Residential	In Analysis Area
	NC22	School	0.7 mile
		Residential	In Analysis Area
	NC37	Residential	In Analysis Area
	NC38+	School	0.3 mile
		Residential	In Analysis Area
Pala-Pauma	PP30	School	0.5 mile
		Residential	Bordering(1)
San Dieguito	SD15	School	0.5 mile
		Residential	0.2 mile
Valley Center	VC7+	Residential	In Analysis Area
	VC51	Residential	In Analysis Area
	VC57+	School	Bordering
		Residential	In Analysis Area
	VC67	School	0.5 mile
		Residential	> 0.1 mile
CGSP Subareas	CG 1-8	Residential	Bordering

(1) Single residence in Analysis Area
Source: Google Earth Pro

5 Methodology and Significance Criteria

5.1 Methodology

5.1.1 Criteria Pollutants

Construction

Regional impacts related to criteria pollutant emissions from short-term construction activities were assessed using the California Emissions Estimator Model (CalEEMod®, version 2016.3.1) (CAPCOA 2016). The CalEEMod model uses EMFAC2014 emission factors for vehicle traffic and OFFROAD2011 for off-road equipment. Construction of the Proposed Project would result in temporary emissions of VOC, CO, NO_X, SO_2, PM_{10}, and $PM_{2.5}$. Emissions from construction activities would result from fuel combustion and exhaust from construction equipment and vehicle traffic (i.e., worker commute and delivery truck trips), grading and site work, and evaporative emissions of VOC from architectural coatings and paving.

Whereas typically in a project-level analysis, the construction daily activity is known and estimations of pounds per day, spatial locations, and temporal data of construction emissions can reasonably be construed; since this project is a program-level analysis, specific information regarding the actual dates, durations, and types of construction activity is currently not available. Therefore, for the purposes of this report, general assumptions were developed to provide a reasonable analysis of construction emissions. In most cases, CalEEMod default conditions were assumed, with the following exceptions, construction start dates are all set at an arbitrary January 1, 2018, for consistency and for worst-case conditions, since the vehicle/equipment fleets would be older, less efficient, and higher emitting. Construction length and phases are set by CalEEMod based on the size of project. The analysis also assumes that each component of the PSR Analysis Area begins construction at the same time, which provides for a conservative analysis. In practice, construction of each component may not occur simultaneously. Adjustments to the CalEEMod defaults were made to accommodate an updated APCD architectural coatings Rule 67.0.1, which requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (APCD 2015).

Operation

Regional impacts related to criteria pollutant emissions from long-term operational activities were assessed in CalEEMod. Long-term operational emissions would occur from mobile sources, onsite fuel combustion such as natural gas or propane for space and water heating and fireplaces, and area sources, such as landscaping, consumer products, and architectural coatings. Criteria pollutant and precursor emissions were estimated in pounds per day. To estimate the most conservative value for individual PSRs, the operational year was set as the first full year after construction is completed. However, for the purposes of evaluating the whole of the Proposed Project, the operational year was used as the buildout year 2050. Adjustments to the CalEEMod defaults were made to accommodate SANDAG's region-specific trip rates for single-family homes (SANDAG 2002). A detailed summary of the assumptions and model data used to estimate the Project's emissions are provided in Attachment A to this technical report.

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the State and federal government as TACs or hazardous air pollutants (HAPs). County of San Diego identifies an excess cancer risk level of 1 in 1 million or less for projects that do not implement Toxics Best Available Control Technology (T-BACT), and an excess cancer risk

level of 10 in 1 million or less for projects that do implement T-BACT. The significance threshold for non-cancer health effects is a health hazard index of one or less. These significance thresholds are consistent with the APCD's Rule 1210 requirements for stationary sources. If a project has the potential to result in emissions of any TAC or HAP which result in a cancer risk of greater than 1 in 1 million without T-BACT, 10 in 1 million with T-BACT, or non-cancer health hazard index of one or more, the project would be deemed to have a potentially significant impact..

5.1.2 Sensitive Receptors

A geospatial study to ascertain the existence of existing sensitive receptors near the PSR Analysis Areas was conducted. The two primary emissions of concern regarding health effects on sensitive receptors for land development projects are diesel-fired particulates and carbon monoxide.

5.1.3 Objectionable Odors

A geospatial study to ascertain the existence of existing sources of odors near the PSR Analysis Areas and former CGSP Area was conducted. Odor issues are very subjective by the nature of odors themselves and their measurements are difficult to quantify. As a result, this guideline is qualitative and each project will be reviewed on an individual basis, focusing on the existing and potential surrounding uses and location of sensitive receptors.

5.2 Significance Criteria

The County of San Diego has approved guidelines for determining significance based on Appendix G of the State CEQA Guidelines. The County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements Air Quality (DPLU 2007) provide guidance that a project would have a significant environmental impact if:

1. The project will conflict with or obstruct the implementation of the San Diego RAQS and/or applicable portions of the SIP.
2. The project would result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation.
    a. The project will result in emissions that exceed 250 pounds per day of NO_X, or 75 pounds per day of VOC.
    b. The project will result in emissions of carbon monoxide that when totaled with the ambient concentrations will exceed a 1-hour concentration of 20 ppm or an 8-hour average of 9 ppm.
    c. The project will result in emissions of $PM_{2.5}$ that will exceed 55 pounds per day.
    d. The project will result in emissions of PM_{10} that exceed 100 pounds per day and increase the ambient PM_{10} concentration by 5 micrograms per cubic meter ($\mu g/m^3$) or greater at the maximum exposed individual.
3. The project will result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is nonattainment under an applicable federal or State ambient air quality standard (including emissions which exceed the screening level thresholds (SLTs) for ozone precursors listed in Table 5 of the Guidelines).
4. The project will expose sensitive receptors to substantial pollutant concentrations.

5. The project will either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which will affect a considerable number of persons or the public.

5.2.1 Issue 1: Air Quality Plans

Based on Appendix G of the CEQA Guidelines, and the County of San Diego Guidelines for Determining Significance Air Quality (DPLU 2007), the Proposed Project would have a significant impact if it would conflict with or obstruct implementation of the RAQS, applicable portions of the SIP, and/or any local air quality plans.

5.2.2 Issue 2: Air Quality Violations

Based on Appendix G of the CEQA Guidelines and the County of San Diego Guidelines for Determining Significance Air Quality (DPLU 2007), the Proposed Project would have a significant impact if it would exceed the quantitative SLTs for attainment pollutants (NO_2, SO_2, and CO), and would result in a significant impact if they exceed the SLTs for nonattainment pollutants (ozone precursors and particulate matter). The SLTs are shown in Table 11. Specifically, the Proposed Project would result in a significant impact if it would result in:

a. Emissions that exceed 250 pounds per day of NO_X, or 75 pounds per day of VOC;
b. Emissions of CO that when totaled with the ambient concentrations will exceed a 1-hour concentration of 20 ppm or an 8-hour average of 9 ppm;
c. Emissions of SO_2 that exceed 250 pounds per day;
d. Emissions of $PM_{2.5}$ that exceed 55 pounds per day; or
e. Emissions of PM_{10} that exceed 100 pounds per day and increase the ambient PM_{10} concentration by 5 $\mu g/m^3$ or greater at the maximum exposed individual.
f. To determine whether a project would (a) result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation; or (b) result in a cumulatively considerable net increase of PM_{10} or $PM_{2.5}$ or exceed quantitative thresholds for ozone precursors, NO_X and VOC, and particulate matter, project emissions may be evaluated based on the quantitative emission thresholds established by the APCD. As part of its air quality permitting process, the APCD has established emissions trigger levels in Rule 20.2 for the preparation of air quality impact assessments. The County of San Diego has also approved the South Coast Air Quality Management District's screening threshold of 55 pounds per day or 10 tons per year as a significance threshold for $PM_{2.5}$.
g. The hourly and yearly SLTs are most appropriately used in situations when temporary emissions like emergency generators or other stationary sources are proposed as a part of a project. The daily SLTs are most appropriately used for the standard construction and operational emissions. For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality.

Table 11 Screening-Level Thresholds for Air Quality Impact Analysis

Construction Emissions	Total Emissions Pounds per Day
Respirable Particulate Matter (PM_{10})	100
Fine Particulate Matter ($PM_{2.5}$)	55
Oxides of Nitrogen (NO_x)	250
Oxides of Sulfur (SO_X)	250
Carbon Monoxide (CO)	550
Volatile Organic Compounds (VOC)	75

Operational Emissions	Pounds Per Hour	Pounds per Day	Tons per Year
Respirable Particulate Matter (PM_{10})	---	100	15
Fine Particulate Matter ($PM_{2.5}$)	---	55	10
Oxides of Nitrogen (NO_x)	25	250	40
Oxides of Sulfur (SO_X)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOC)	---	75	13.7

Toxic Air Contaminant Emissions	
Excess Cancer Risk	1 in 1 million without Toxics Best Available Control Technology (T-BACT) 10 in 1 million with T-BACT
Non-Cancer Hazard	1.0

Source: DPLU 2007

If emissions exceed these thresholds, modeling would be required to demonstrate that the project's total air quality impacts result in ground-level concentrations that are below the state and federal ambient air quality standards, including appropriate background levels. For nonattainment pollutants (ozone, with ozone precursors NO_X and VOC, and $PM_{2.5}$, and PM_{10}), if emissions exceed the thresholds shown in Table 11, the Proposed Project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

5.2.3 Issue 3: Nonattainment Criteria Pollutants

Based on Appendix G of the CEQA Guidelines and the County of San Diego Guidelines for Determining Significance Air Quality (DPLU 2007), the Proposed Project would have a significant impact if it would result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is nonattainment under an applicable federal or State AAQS (including emissions which exceed the SLTs for ozone precursors listed in Table 11). The following guidelines from the County of San Diego Guidelines for Determining Significance, Air Quality, apply to the construction phase:

a. A project that has a significant direct impact on air quality with regard to emissions of PM_{10}, $PM_{2.5}$, NO_x, and/or VOC, would also have a significant cumulatively considerable net increase.
b. In the event of direct impacts from a proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from the proposed project, in combination with the emissions of concern from other

proposed projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, are in excess of the guidelines identified under Issue 2.

The following guidelines from the County of San Diego Guidelines for Determining Significance Air Quality, apply to the operational phase:

a. A project that does not confirm to the RAQS and/or has a significant direct impact on air quality with regard to operational emissions of PM_{10}, $PM_{2.5}$, NO_x, and/or VOC, would also have a significant cumulatively considerable net increase.
b. Projects that cause road intersections to operate at or below LOS E (analysis only required when the addition of peak-hour trips from the proposed project and surrounding projects exceeds 2,000) and create a CO "hotspot" create a cumulatively considerable net increase of CO.

5.2.4 Issue 4: Sensitive Receptors

Based on Appendix G of the CEQA Guidelines, and the County of San Diego Guidelines for Determining Significance Air Quality (DPLU 2007), the Proposed Project would have a significant impact if it would directly impact a sensitive receptor and result in a cancer risk of greater than 1 in one million without implementation of T-BACT, 10 in one million with implementation of T-BACT, or health hazard index of one or more, consistent with the APCD's Rule 1210 requirements for stationary sources. The Proposed Project would also have a significant impact if it places sensitive receptors near CO "hotspots" or creates CO "hotspots" near sensitive receptors.

5.2.5 Issue 5: Objectionable Odors

Based on Appendix G of the CEQA Guidelines, and the County of San Diego Guidelines for Determining Significance Air Quality (DPLU 2007), the Proposed Project, with the exception of agricultural operations, are subject to APCD Rule 51, and would have a significant impact if it would result in the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use which would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

6 Impact Analysis and Mitigation Measures

6.1 Issue 1: Air Quality Plan

6.1.1 Significance of Impacts Prior to Mitigation

The RAQS (APCD 2016b) outlines APCD's plans and control measures designed to attain the State air quality standards for ozone. In addition, the APCD has developed its input to the SIP, which includes the APCD's plans and control measures for attaining the 8-hour ozone NAAQS. These plans accommodate emissions from all sources, including natural sources such as wildfires and biogenic emissions, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by USEPA and CARB, and the emissions and reduction strategies related to mobile sources are considered in the RAQS and SIP.

The RAQS relies on information from CARB and SANDAG, including projected growth in the County, and mobile, area source, and all other source emissions, in order to project future emissions and determine from that the strategies necessary for the reduction of emissions

through regulatory controls. The RAQS and SIP have established a "budget" of emissions that established the upper boundary of potential basin-wide emissions of VOC, NO_X, and CO to maintain progress to attainment of the 8-hour ozone and to maintain CO attainment. Projected USEPA-approved budgets for 2050 in the SDAB are 21 tons per day of VOC, 30 tons per day of NO_X, and 730 tons per day of CO.

The SANDAG Regional Plan (SANDAG 2015) used a calibrated and validated activity-based model (ABM) that combines the resultant activity with CARB's mobile emission factors to estimate projected regional emissions for VOC and NO_X for comparison to the established ozone budget, and for comparison to the CO budget. The ABM requires growth forecast information that is based, in part, on what land uses are projected to be built in each local jurisdiction. Therefore, significant modifications, i.e. increases, in vehicular activity to what is established in growth forecasts could have an effect of creating more emissions that could hinder attainment of the emissions budget.

An emissions budget is the part of the SIP that identifies emission levels necessary for meeting emission reduction milestones, attainment, or maintenance demonstrations. This budget takes into account existing conditions, planned growth based on General Plans for cities and the County within the SANDAG region, and air quality control measures implemented by the APCD. However, the Project proposes densities beyond those approved by the General Plan.

The RAQS utilize SANDAG population forecasts in the development of measures for attaining air quality standards; the SANDAG growth forecasts are based on the adopted General Plan for the County (APCD 2016). The SANDAG model used for projecting growth in the region consider demographic, economic, and land use data (SANDAG 2017). These data may not account for the level of growth associated with buildout of the Proposed Project. The Proposed Project may not be included in the SANDAG growth projections, which the RAQS are based on; therefore, the Proposed Project would not be consistent with the RAQS.

Potential future development allowed under the 2050 buildout condition of the Proposed Project would be required to demonstrate compliance with the strategies and measures adopted as part of the RAQS and SIP during the County's environmental review process for each development application. Additionally, all future development resulting from the Proposed Project would be required to reduce the emissions of VOC, NO_X, and CO by complying with County policies. However, the Proposed Project would result in more intense land uses and contribute to local population and employment growth, and associated increase in VMT that is not accounted for in the General Plan and the RAQS/SIP. Therefore, the Proposed Project would have a potentially significant impact related to obstruction of local air quality plans.

6.1.2 Design Considerations and Mitigation Measures

As discussed above in Section 6.1.1 the Proposed Project would result in a potentially significant impact to the RAQS and SIP, therefore, the following mitigation measures are proposed.

Mitigation Measures

The following mitigation measures are recommended:

M-Air-1.1: The County of San Diego shall provide to SANDAG a revised population, employment, and housing forecast that reflects the anticipated growth generated from the Proposed Project. The updated forecast provided to SANDAG shall be used to inform the APCD to update the RAQS and SIP. The County of San Diego also shall notify the APCD of this revised forecast for use in the future update to the RAQS and SIP as required.

M-Air-1.2: All future construction of residential units on properties approved for increased densities or intensities shall have no wood-burning stoves and all fireplaces shall be fueled by natural gas.

6.1.3 Conclusion

The Proposed Project would result in a more intense land use and contribute to population, employment growth, and associated VMT that is not accounted for in the General Plan, and is therefore, not consistent with the RAQS and SIP. Furthermore, implementation of the Proposed Project along with cumulative projects that propose additional growth than the General Plan allows, would contribute to a significant cumulative impact. Implementation of the adopted General Plan policies and 2011 PEIR mitigation measures, and mitigation measures M-Air-1.1 and M-Air-1.2 would reduce potentially cumulative significant impacts but not to a level less than significant. **Therefore, impacts would remain significant and unavoidable.**

6.2 Issue 2: Air Quality Violations

6.2.1 Significance of Impacts Prior to Mitigation

Potential localized impacts would be exceedances of federal or State standards for $PM_{2.5}$, PM_{10} or CO. The pollutant of regional concern is ozone. Ozone is not emitted directly into the air, but is a regional pollutant formed by a photochemical reaction in the atmosphere. ozone precursors, VOC and NO_X, react in the atmosphere in the presence of sunlight to form ozone. Therefore, the County does not have a recommended ozone threshold, but it has regional thresholds of significance for construction and operational VOC and NO_X.

Construction

Construction of the PSR Analysis Areas and the former CGSP Area associated with the Proposed Project would result in temporary emissions of the air pollutants VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$. Operation of heavy-duty equipment and vehicles during construction would generate exhaust emissions from fuel combustion. Fugitive dust emissions would be generated from earth disturbance during site grading, as well as from construction vehicles operating on open fields or dirt roadways within or adjacent to the construction areas.

Table 12 summarizes the maximum daily construction emissions of each PSR Analysis Area. None of the Analysis Areas would exceed the SLTs by themselves. However, Table 12 shows the estimated quantity of construction emissions for the whole of the Proposed Project at the worst-case scenario of construction occurring on all PSR Analysis Areas beginning January 1, 2018, would be potentially significant.

Table 12 Construction Emissions for Property Specific Requests

PSR Analysis Area / Former CGSP Area	Maximum Daily Emissions in pounds per day				
	VOC[(1)]	NO_X[(1)]	CO	PM_{10}	$PM_{2.5}$
BO18+	38.0	59.6	36.1	20.9	12.4
CD14	8.2	24.3	15.9	7.8	4.5
DS8	20.1	59.6	36.1	20.9	12.4
DS24	31.6	59.6	36.1	20.9	12.4
FB2+	9.3	48.3	23.4	20.9	12.4
FB17	18.9	59.6	36.1	20.9	12.4
FB19+	2.6	11.0	8.3	1.5	1.0
FB21+	8.2	24.3	15.9	7.8	4.5
ME26	14.9	48.3	23.4	20.9	12.4
ME30A	16.6	48.3	23.4	20.9	12.4
NC3A	7.2	48.3	23.1	20.8	12.3
NC18A	19.4	59.6	35.8	20.8	12.3
NC22	29.6	59.6	35.8	20.8	12.3
NC37	7.8	48.3	23.1	20.8	12.3
NC38+	21.7	59.6	35.8	20.8	12.3
PP30	25.3	59.6	36.1	20.9	12.4
SD15	23.6	59.6	35.8	20.8	12.3
VC7+	26.2	59.6	36.1	20.9	12.4
VC51	8.4	48.3	23.4	20.9	12.4
VC57+	35.0	59.6	36.1	20.9	12.4
VC67	66.0	48.3	25.1	20.9	12.4
CGSP	45.0	59.6	35.8	20.8	12.3
County Screening Level Threshold:	***75***	***250***	***550***	***100***	***55***
Proposed Project Construction Total Emissions	**483**	**1,113**	**636**	**413**	**245**

[(1)] NO_X and VOC are ozone precursors.
Note: SO_2 construction emissions for each PSR Analysis Area and the former CGSP Area were below 1 pound per day.
Source CalEEMod Version 2016.3.1

Operational Emissions

Operation of the Proposed Project would result in new sources of criteria pollutants from on-site fuel combustion such as natural gas or propane for space and water heating and fireplaces, area sources, and vehicular sources. Area sources of air pollutant emissions associated with the Proposed Project include landscaping, consumer products, and architectural coatings. Increased volumes of vehicles associated with the operation of the Proposed Project would contribute to regional emissions of NO_X, VOC, CO, SO_2, $PM_{2.5}$ and PM_{10}. Criteria pollutant emissions were calculated using the CalEEMod model based on vehicular trips included in the Traffic Impact Assessment (TIA) (Chen Ryan 2016). For industrial and commercial designations, the estimate of square footage of potential buildings was based on the County's Maximum Floor to Area ratio (FAR) for each use as designated in the County Zoning Ordinance, Part Four - Development Regulations (County 1978). The commercial FAR value is 0.45 and industrial FAR value is 0.50. The allowed Default CalEEMod inputs were changed in the following ways:

- For all architectural coatings, 50 grams per liter of VOC was used per the APCD Rule 67.0.1, which became effective January 1, 2016.
- For single-family residential (SFR) trip rates, SANDAG rates used in the traffic impact assessment were applied. The traffic impact assessment and SANDAG trips per day usually assume weekday trips, the CalEEMod Saturday and Sunday trip rates were adjusted proportionally. The CalEEMod default weekday trip rate for SFR was 9.52 as opposed to the SANDAG rate of 10.
- For San Dieguito, where PSR Analysis Area SD15 is located, the traffic impact assessment assumed acreage would be general commercial and used a specific trip rate per acre. Since CalEEMod needs information in square feet, the relative square footage was computed using the maximum allowed FAR for general commercial (0.45 FAR).
- For PSR Analysis Area VC67, the traffic impact assessment's assumption of Medium Impact Industrial was used for 13 acres and the relative square footage was computed using the maximum allowed FAR for industrial (0.50 FAR).
- For the former CGSP Area, the General Office Building category was used in CalEEMod to cover for Rural Commercial category used in the traffic impact assessment and the relative square footage was computed using the maximum allowed FAR for general commercial (0.45 FAR).

As shown in Table 13, unmitigated operational emissions from some of the individual PSR Analysis Areas in the Proposed Project would exceed significance thresholds in the following PSR Analysis Areas:

- BO18+– VOC
- DS8 – VOC, CO, PM_{10}, and $PM_{2.5}$
- DS24 – VOC
- NC22 – VOC
- PP30 – VOC
- SD15 – VOC, CO, PM_{10}, and $PM_{2.5}$
- VC7+ – VOC, and $PM_{2.5}$
- VC57+ – VOC and $PM_{2.5}$

Table 13 also shows the 2050 buildout emissions from the whole of the Proposed Project, which demonstrates that the Proposed Project's unmitigated operational emissions would be potentially significant.

Table 13 Operational Unmitigated Emissions for Property Specific Requests

PSR Analysis Area / Former CGSP Area	Maximum Daily Emissions in pounds per day				
	VOC(1)	NO_x(1)	CO	PM_{10}	$PM_{2.5}$
BO18+	**106.2**	6.1	141.4	23.3	19.3
CD14	11.1	0.6	14.6	2.3	2.0
DS8	**616.7**	35.6	**820.8**	**135.4**	**112.1**
DS24	**242.6**	14.0	322.8	53.3	44.1
FB21+	11.1	0.6	14.8	2.4	2.0
FB19+	1.6	0.1	2.1	0.3	0.3
FB17	52.3	3.0	69.6	11.5	9.5
FB2+	25.4	1.5	33.8	5.6	4.6
ME26	41.2	2.3	54.8	9.0	7.5
ME30A	46.0	2.6	61.2	10.1	8.4
NC37	19.0	1.0	25.0	4.0	3.4
NC38+	60.2	3.3	79.2	12.5	10.8
NC3A	17.4	0.9	22.9	3.6	3.1
NC22	**82.4**	4.5	108.3	17.1	14.7
NC18A	53.9	2.9	70.8	11.2	9.6
PP30	**193.4**	11.2	257.4	42.5	35.2
SD15	**488.6**	44.5	**666.0**	**120.5**	**91.0**
VC51	20.6	1.2	27.4	4.5	3.7
VC7+	**401.1**	23.1	533.8	88.1	**72.9**
VC57+	**366.2**	21.1	487.4	80.4	**66.6**
VC67	8.6	12.4	28.6	16.4	4.6
CGSP	52.8	8.1	76.3	16.8	10.6
County Screening Level Threshold:	***75***	***250***	***550***	***100***	***55***
Proposed Project 2050 Total Emissions:	**2,918**	201	**3,919**	**671**	**536**

Bold indicates the regional significance was exceeded
(1) NO_X and VOC are ozone precursors.
SO_2 operational unmitigated emissions for each PSR Analysis Area and the former CGSP Area were below 2 pound per day.
Source CalEEMod Version 2016.3.1

6.2.2 Design Considerations and Mitigation Measures

Implementation of adopted General Plan policies, 2011 PEIR mitigation measures (County 2011a), and additional new mitigation measures would reduce impacts to air quality to the extent feasible. The following provides a list of these policies and measures:

Adopted General Plan Policies

The following policies from the adopted General Plan are applicable to air quality violations and are incorporated here by reference.

COS-14.1: Land Use Development Form. Require that development be located and designed to reduce vehicular trips (and associated air pollution) by utilizing compact regional and community-level development patterns while maintaining community character.

COS-14.2: Villages and Rural Villages. Incorporate a mixture of uses within Villages and Rural Villages that encourage people to walk, bicycle, or use public transit to reduce air pollution and greenhouse gas emissions.

COS-14.8: Minimize Air Pollution. Minimize land use conflicts that expose people to significant amounts of air pollutants.

COS-14.9: Significant Producers of Air Pollutants. Require projects that generate potentially significant levels of air pollutants and/or greenhouse gases such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.

COS-14.10: Low-Emission Construction Vehicles and Equipment. Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce greenhouse gases emissions.

COS-15.1: Design and Construction of New Buildings. Require that new buildings be designed and constructed in accordance with "green building" programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of greenhouse gases and toxic air contaminants.

COS-15.4: Title 24 Energy Standards. Require development to minimize energy impacts from new buildings in accordance with or exceeding Title 24 energy standards.

COS-15.5: Energy Efficiency Audits. Encourage energy conservation and efficiency in existing development through energy efficiency audits and adoption of energy saving measures resulting from the audits.

COS-16.2: Single-Occupancy Vehicles. Support transportation management programs that reduce the use of single-occupancy vehicles.

COS-16.3: Low-Emissions Vehicles and Equipment. Require County operations and encourage private development to provide incentives (such as priority parking) for the use of low- and zero-emission vehicles and equipment to improve air quality and reduce greenhouse gas emissions. [Refer also to Policy M-9.3 (Preferred Parking) in the Mobility Element.]

COS-20.3: Regional Collaboration. Coordinate air quality planning efforts with federal and state agencies, SANDAG, and other jurisdictions.

Adopted 2011 PEIR Mitigation Measures

Air-2.5: Require that the following measures be implemented on all construction projects where project emissions are above the SLTs:

- Multiple applications of water during grading between dozer/scraper passes
- Paving, chip sealing or chemical stabilization of internal roadways after completion of grading
- Use of sweepers or water trucks to remove "track-out" at any point of public street access
- Termination of grading if winds exceed 25 miles per hour
- Stabilization of dirt storage piles by chemical binders, tarps, fencing or other erosion control

- Use of low-sulfur fuels in construction equipment
- Use of low-VOC paints
- Projects exceeding SLTs will require 10 percent of the construction fleet to use any combination of diesel catalytic converters, diesel oxidation catalysts, diesel particulate filters and/or CARB certified Tier I, II, III, IV equipment. Equipment is certified if it meets emission standards established by the USEPA for mobile non-road diesel engines of almost particulate matter all types. Standards established for hydrocarbons, NO_X, CO, and. Tier I standards are for engines over 50 horsepower (hp) (such as bulldozers) built between 1996 and 2000, and engines under 50 hp (such as lawn tractors) built between 1999 and 2000. Tier II standards are for all engine sizes from 2001 to 2006, and Tier III standards are for engines rated over 50 hp from 2006 to 2008. Tier IV standards apply to engines of all sizes built in 2008 or later. Standards are increasingly stringent from Tier I to Tier IV.

Air-2.6: Use County Guidelines for Determining Significance for Air Quality to identify and mitigate adverse environmental effects on air quality.

Air-2.7: Implement APCD regulations for air emissions from all sources under its jurisdiction.

Air-2.9: Implement the Grading, Clearing, and Watercourses Ordinance by requiring all clearing and grading to be conducted with dust control measures.

Construction Mitigation Measure

During any construction related to the development of the individual PSR Analysis Areas or the former CGSP Area, fugitive dust would be lessened though the implementation of the County's Grading Ordinance (County 2012) and the APCD's Measures to Reduce Particulate Matter (APCD 2005) and the APCD Fugitive Dust Rule (Rule 55) (APCD 2009a). Additionally, the County Guidelines (DPLU 2007) includes potential mitigations to be applied to large-scale mass grading to reduce NO_X emissions, for example:

- Grading or fuel use restriction (e.g., aqueous diesel fuel) may be imposed as a mitigation measure;
- Use of modified equipment incorporating such measures as cooled exhaust gas recirculation or lean-NO_X catalysts;
- Require equipment to be maintained in good tune and to reduce excessive idling time;
- Require the use of equipment models newer than 1996; and
- Require a permit to operate from the APCD for any generators that produce greater than 50 horsepower.

Operational Mitigation Measure

Implementation of M-Air-1.2 under Issue 1 is recommended.

Additional mitigation can be obtained through implementation of the applicable mitigations supplied in the 2011 PEIR (County 2011a).

6.2.3 Conclusions

The 2011 PEIR evaluated buildout of the land use designations applied throughout the unincorporated County. The 2011 PEIR determined that buildout would result in potentially significant direct and cumulative impacts to air quality violations. Potential impacts to air quality would be reduced through the implementation of a combination of federal, State and local regulations; existing County regulatory processes; and, specific mitigation measures/ implementation programs identified in the 2011 PEIR; however, even with these programs in place, the impacts would not be reduced to below a level of significant because future development would result in increased emissions of ozone precursor PM_{10} and VOC.

The unmitigated emissions exceed the significance thresholds for eight PSR Analysis Areas, which were all entirely or largely SFR. After looking at one of these sites in detail, it was found that 96 percent of the total VOC emissions came from hearths. In addition, 92 percent of the $PM_{2.5}$ and 89 percent of the CO came from hearths also.

6.3 Issue 3: Nonattainment Criteria Pollutants

6.3.1 Significance of Impacts Prior to Mitigation

Construction

As discussed in Issue 2, the Proposed Project has a significant direct impact on air quality with regard to construction emissions of VOC, CO, NO_X, PM_{10}, and $PM_{2.5}$; therefore, the Proposed Project will also have a construction-related significant cumulatively considerable net increase.

Operation

As discussed above under Issue 2, the Proposed Project has a significant direct impact on air quality with regard to operational emissions of VOC, CO, PM_{10}, and $PM_{2.5}$; therefore, the Proposed Project will also have an operational-related significant cumulatively considerable net increase.

6.3.2 Design Considerations and Mitigation Measures

The 2011 PEIR evaluated buildout of the land use designations applied throughout the unincorporated County. The 2011 PEIR determined that buildout would result in potentially significant direct and cumulative impacts to sensitive receptors. Potential impacts to sensitive receptors would be reduced through the implementation of a combination of federal, State and local regulations; existing County regulatory processes; and, specific mitigation measures/ implementation programs identified in the 2011 PEIR; however, even with these programs in place, the impacts would not be reduced to below a level of significance because future development would result in increased emissions of diesel particulate matter to an existing impacted air quality basin (SDAB).

Implementation of M-Air-1.2, applicable 2011 PEIR mitigation measures, and implementation of adopted General Plan policies would reduce the impact of operational emissions, but impacts will remain significant.

6.3.3 Conclusions

Construction

Implementation of mitigations on future construction activities in the Proposed Project could lessen the impact of fugitive dust, NO_X and PM_{10} emissions; however, for the Proposed Project

would still create a cumulatively considerable net increase of emissions. Therefore, the Proposed Project would result in a cumulatively considerable net increase of a criteria pollutant for which the SDAB is in nonattainment under the NAAQS and CAAQS, and impacts would be potentially significant.

Operation

The 2011 PEIR evaluated buildout of the land use designations applied throughout the unincorporated area. The 2011 PEIR determined that buildout would result in potentially significant direct and cumulative impacts to nonattainment criteria pollutants. Potential impacts to sensitive receptors would be reduced through the implementation of a combination of federal, State and local regulations; existing County regulatory processes; and, specific mitigation measures/implementation programs identified in the 2011 PEIR. However, even with these programs in place, the impacts would not be reduced to below a level of significance because future development would result in increased emissions of PM_{10} and VOC.

Emissions for the Proposed Project would exceed the County's Screening Level Threshold, thus would have a significant cumulatively considerable net increase. Implementation of M-Air-1.2 would decrease impacts, but not to below a level of significance. Impacts of the Proposed Project would remain significant and unavoidable.

6.4 Issue 4: Sensitive Receptors

The 2011 PEIR evaluated buildout of the land use designations applied throughout the unincorporated County. The 2011 PEIR determined that buildout would result in potentially significant direct and cumulative impacts to sensitive receptors. Potential impacts to sensitive receptors would be reduced through the implementation of a combination of federal, State and local regulations; existing County regulatory processes; and, specific mitigation measures/ implementation programs identified in the 2011 PEIR; however, even with these programs in place, the impacts would not be reduced to below a level of significance because future development would result in increased emissions of diesel particulate matter to an existing impacted air quality basin (SDAB).

6.4.1 Significance of Impacts Prior to Mitigation

Carbon Monoxide Hotspots

Similar direct and cumulative impacts identified in the 2011 PEIR related to sensitive receptors would occur with the Proposed Project including the potential for creating new or adding to existing intersection volume and wait times. Since localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles, impacts related to localized CO is typically determined by estimating CO concentrations from the most project-impacted intersections, where the concentrations would be the greatest. Areas with high vehicle density, such as congested intersections and parking garages, have the potential to create high concentrations of CO, are known as CO hot spots. Impacted intersections are usually determined by a traffic study that provides an intersection analysis. Even though the TIA (Chen Ryan 2016) did not evaluate any intersections, the analysis of the three intersections with the most project-related impact for future 2050 buildout conditions were provided (Chen Ryan 2017). The three intersections were on Old Highway 395 at West Lilac Road, West Dulin Road, and East Dulin Road.

CALINE4, a dispersion model for predicting CO concentrations that may result due to the operation of a project, is the preferred method of estimating pollutant concentrations at sensitive receptors near congested roadways and intersections. For each intersection analyzed, CALINE4

adds roadway-specific CO emissions calculated from peak-hour turning volumes to the existing ambient CO air concentrations. The CALINE4 model is used to identify a potential CO hotspot assuming worst-case background CO concentrations.

Implementation of the Proposed Project is not expected to expose existing or future sensitive uses within the unincorporated County to substantial CO concentrations. As shown in Table 14, based on CO modeling of three identified intersections at buildout, CO concentrations would be substantially below the State 20.0 ppm 1-hour ambient air quality standards, and the national and State 9.0 ppm 8-hour ambient air quality standards when growth allowable under the Proposed Project occurs. Therefore, sensitive receptors within the County would not be exposed to substantial CO concentrations, and the potential impacts of the Proposed Project would be less than significant for CO hotspots.

Table 14 CO Hotspot Results of Proposed Project at 2050 Buildout (CO ppm)

Intersection	Caline4 Output (1-hour)	1-hour (with background)	8-hour (without background)	8-hour (with background)
Old Hwy 395 & West Lilac Road	0.1	3.3	0.07	2.3
Old Hwy 395 & West Dulin Road	0.2	3.4	0.14	2.4
Old Hwy 395 & East Dulin Road	0.2	3.4	0.14	2.4
California Standard		***20***		***9.0***
Federal Standard		***35***		***9***

Notes: 1-hour background - 3.24
8-hour background – 2.27
Persistence Factor – 0.7
CO = carbon monoxide; ppm = parts per million
Source: Atkins 2017

Toxic Air Contaminants

Two scenarios have the potential for exposing sensitive receptors to TACs. The first is when a project includes a new or modified source of TACs and would be located near an existing or proposed sensitive receptor. The second scenario involves a residential or other sensitive receptor development locating near an existing or planned source of TACs.

Similar direct and cumulative impacts identified in the 2011 PEIR related to TACs could occur with the Proposed Project. As a result, the Proposed Project could result in potentially significant direct and cumulative impacts regarding TACs.

Additional TAC sources include auto service, emergency standby engine, non-retail facilities, and registered engines. PSR Analysis Areas and former CGSP Area within proximity to these TAC sources is shown in Table 15 and in Figure 1. Auto Services, gas stations, a registered engine, and an emergency standby engine are located outside VC67 Analysis Area. A non-retail facility is located near the former CGSP Area. A registered engine, auto service and an emergency standby engine are located by DS8. PSR Analysis Area NC37 contains a registered engine and two emergency standby engines TAC sources. Several PSR Analysis Areas are located close to or contain TAC sources. Therefore, PSR Analysis Areas NC37, VC67, DS8, and the former CGSP Area would have the potential to expose onsite sensitive receptors to substantial TACs from any TAC-emitting land use identified in the CARB's Land Use Handbook (CARB 2005). Impacts would be significant.

Table 15 Toxic Air Contaminants Sources

PSR Analysis Areas	Equipment Type	Company Name
DS8	[26A] Initial Installations and Renovations	Macs Desert Auto Service
DS8	[34C] Emergency Standby Engine	Pacific Bell
DS8	[34W] Registered Engine (Rule 12)	AT&T Mobility Borrego Springs 2317
DS8	[34H] California Certified Emergency Standby Engine	Borrego Springs Fire Protect District
NC37	[34H] California Certified Emergency Standby Engine	SD Co Of Water Authority
NC37	[34H] California Certified Emergency Standby Engine	Vallecitos Water District
NC37	[34W] Registered Engine (Rule 12)	Vallecitos Water District
VC67	[34W] Registered Engine (Rule 12)	Pacific Bell
VC67	[27R] Vehicle Refinishing Operations	Impact #2 Auto Repair
VC67	[34C] Emergency Standby Engine	Co of SD Facility Ops PR3002
VC67	[26F] Phase II System	Pala Vista Gas
VC67	[26F] Phase II System	SD CO of Pub Works Valley Center Rd
CGSP Area	[26E] Non-Retail Facility	Welk Resort Center

Source: County 2017

Also analyzed was a list of stationary sources that emit TACs for which the APCD inventories and records. Under the Air Toxics "Hot Spots" Information and Assessment Act, stationary sources are required to report the types and quantities of certain substances their facilities routinely release into the air. Emissions of interest are those that result from the routine operation of a facility or that are predictable, including but not limited to continuous and intermittent releases and process upsets or leaks. The list of sources listed in the latest Annual Air Toxics "Hot Spots" Program Report (APCD 2017) were geospatially referenced and compared to the location of the PSR Analysis Areas and the former CGSP Area. Table 16 shows listed stationary sources within 3 miles of the PSR Analysis Areas. No TAC stationary sources were identified near the former CGSP Area.

Table 16 TACs Sources within 3 Miles of PSR Analysis Areas and the former CGSP Area

PSR Analysis Area	Company Name	Distance
CD14	Robertson Ready Mix	1.8 miles
NC3A	Valley Center Water	2.4 miles
	FT Engineering	3.0 miles
NC22	Killion Industries	2.3 miles
	Hues Metal Finishing	2.2 miles

Source: Atkins 2017

6.4.2 Design Considerations and Mitigation Measures

Potentially significant impacts resulting from implementation of the Proposed Project would be reduced by the same regulations, implementation programs (General Plan goals/policies),

including an Authority to Construct from the APCD that would be required for certain TAC sources and associated emission control equipment. As part of the permit review, the APCD will evaluate the health impacts associated with any new stationary emission sources (such as gas stations and dry cleaning facilities) and sources must comply with APCD Rule 1200. Additionally, in accordance with APCD Rule 20, the APCD cannot issue a permit if compliance with Rule 1200 (Toxic Air Contaminants – New Source Review) and all other applicable air quality rules and regulations is not demonstrated.

Adopted 2011 PEIR Mitigation Measures

Implementation of the following mitigation measure would reduce impacts related to TACs, but not to a level below significant.

Air-4.1: Use the policies set forth in the California Air Resources Board Land Use and Air Quality Handbook (CARB 2005) as a guideline for siting sensitive land uses. Implementation of this measure will ensure that sensitive land uses such as residences, schools, day care centers, playgrounds, and medical facilities are sited appropriately to minimize exposure to emissions of toxic air contaminants.

6.4.3 Conclusions

The 2011 PEIR evaluated buildout of the land use designations applied throughout the unincorporated County. The 2011 PEIR determined that buildout would result in potentially significant direct and cumulative impacts to sensitive receptors. Potential impacts to sensitive receptors would be reduced through the implementation of a combination of federal, State and local regulations; existing County regulatory processes; and, specific mitigation measures/ implementation programs identified in the 2011 PEIR; however, even with these programs in place, the impacts would not be reduced to below a level of significance because future development would result in increased emissions of CO and TACs.

The potentially significant direct impacts related to sensitive receptors due to implementation of the Proposed Project would be reduced by the existing regulations, implementation programs (General Plan goals/policies), mitigation measures from the 2011 PEIR, and mitigation measures M-Air-1.2 but not to a level below significant. Therefore, impacts to sensitive receptors as a result of the Proposed Project would remain significant and unavoidable.

6.5 Issue 5: Objectionable Odors

6.5.1 Significance of Impacts Prior to Mitigation

Construction

The CARB Air Quality and Land Use Handbook (CARB 2005) includes a list of the most common sources of odor complaints received by local air districts. Typical sources of odor complaints include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. Construction activities are not a typical source of nuisance odors, although construction could result in minor amounts of odorous compounds associated with diesel heavy-duty equipment exhaust or evaporation of volatile compounds within paint or other coatings. Construction-related operations would be temporary in nature and would cease at the completion of construction. In addition, construction emissions would disperse rapidly from the project site, and would not be at a level to induce a negative odor response. Therefore, construction activities that would result from the Proposed Project would typically not result in

nuisance odors but the potential does exist under special circumstances. Odor impacts associated with construction would be less than significant.

Operation

The CARB Air Quality and Land Use Handbook (CARB 2005) identifies a list of the most common sources of odor complaints received by local air districts. Land uses typically considered associated with odors include wastewater treatment facilities, waste-disposal facilities, or agricultural operations. The project proposes the development of residential, commercial, and mixed-use land uses on the Proposed Project site. The Proposed Project does not contain land uses typically associated with emitting objectionable odors except for the light industrial zoning of VC67 and the potential commercial zoning in SD15 and the former CGSP Area.

Three existing local odor sources identified as either an asphalt batch plant or painting/coating operations are in proximity to some of the PSR Analysis Areas, as shown in Figure 2. An asphalt batch plant lies approximately 900 feet south of PSR Analysis Area FB19+, painting/coating operations approximately 1,800 feet from PSR Analysis Area VC57+ and VC76, and a painting/coating operation approximately 4,600 feet from PSR Analysis Area NC22.

APCD Rule 51 (Public Nuisance) and HSC Division 26, Part 4, Chapter 3, Section 41700 prohibit the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health or safety of the public. Projects are required to obtain permits from APCD, typically industrial and some commercial projects, are evaluated by APCD staff for potential odor nuisance and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance.

The Proposed Project may result in the addition of new sources of odor that has the potential to place sensitive receptors near existing sources of odor; however, future development would be required to comply with existing regulation discussed above for industrial and commercial project. Impacts associated with odors would be less than significant.

6.5.2 Design Considerations and Mitigation Measures

APCD Rule 51 (Public Nuisance) and California Health & Safety Code, Division 26, Part 4, Chapter 3, Section 41700 prohibit the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health or safety of the public. Projects are required to obtain permits from APCD, typically industrial and some commercial projects, are evaluated by APCD staff for potential odor nuisance and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance. Impacts related to objectionable odors would be less than significant; therefore, no mitigation is required.

6.5.3 Conclusions

Although odor impacts are unlikely, the Proposed Project would be required to comply with the County odor policies enforced by APCD, including Rule 51 in the event a nuisance complaint occurs, and County Code Sections 63.401 and 63.402, which prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. Therefore, impacts associated with objectionable odors would be less than significant.

6.6 Cumulative Impacts

The cumulative impact analysis study area for air quality in the 2011 PEIR was identified as the County and surrounding vicinity including the San Diego region or the airshed for reactive air

pollutants and surrounding vicinity for nonreactive or less reactive pollutants (PEIR Section 2.3.4). As the Proposed Project is applying the adopted General Plan principles to assign land use designations for the project areas throughout the unincorporated county, the cumulative study area for air quality is the same as the 2011 PEIR and is hereby incorporated by reference. In addition, Section 1.9 of the San Diego County Property Specific Requests SEIR (Cumulative Project Assessment Overview), provides an update of new projects since adoption of the 2011 General Plan that are considered in the cumulative analysis in order to make the analysis complete.

6.6.1 Issue 1: Air Quality Plans

Cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality plans if, in combination, they would conflict with or obstruct implementation of the RAQS and/or applicable portions of the SIP. Cumulative projects are required to show compliance with applicable air quality plans during CEQA review and prior to project approval.

Cumulative projects located in adjacent jurisdictions, including incorporated cities, adjacent counties, and State-managed lands, would be required to comply with the SIP, and the RAQS or other applicable regional air quality plan. Future development associated with the buildout of the Proposed Project would be required to demonstrate compliance with the strategies and measures adopted as part of the RAQs and SIP during the County's environmental review process for each development application. Additionally, all future development resulting from the Proposed Project would be required to reduce the emissions of ozone precursors and particulate by complying with County policies. However, the Proposed Project would result in more intense land uses and contribute to local population growth, employment growth, and associated increase VMT that is not accounted for in the General Plan.

In the Regional Plan, SANDAG has projected that in 2050, emissions from all sources in the SDAB would be 13 tons per day of VOC, 19 tons per day of NO_X, and 119 tons per day of CO. These projected emissions are under the budget by 8 tons per day of VOC, 11 tons per day of NO_X, and 611 tons per day of CO.

The CalEEMod model was used to project what the operational emissions would be from potential development due to the Proposed Project's general plan amendments and zoning changes. For determining impact on the RAQS, emissions of VOC, NO_X, and CO were presented in tons per day. Table 17 shows the USEPA-approved emissions budget for 2050 and the projected emissions from sources in the SDAB from the Regional Plan (SANDAG 2015), which yields the surplus available emissions that is below the budget. Also included are estimated emissions from the potential development from the Proposed Project for the 2050 buildout year. As Table 17 demonstrates the potential development from the Proposed Project would represent 6.9 percent of the budget for VOC, 0.3 percent of the budget for NO_X, and 0.3 percent of the budget for CO.

However, a single project contributing approximately 7 percent of the budgeted VOC emissions, in addition to an unknown number of future projects may cause an exceedance of the budgeted emissions could cause a significant conflict with, or obstruct the implementation of the RAQS.

The potentially significant cumulative impact related to consistency with the RAQS and SIP would be reduced by implementation of M-Air-1.1 and M-Air-1.2, as shown in Table 18, but not to a level below significant. Implementation of the proposed project along with cumulative projects that would also result in general plan amendments would contribute to a significant cumulative impact. Therefore, the proposed project would have a potential significant cumulative impact associated with Air Quality Plans.

Table 17 Potential Development Unmitigated Emissions of Proposed Project at 2050 Buildout

Data for Buildout Year of 2050	2050 Emissions in tons per day		
	VOC	NO_X	CO
RAQS Emissions Budget for 2050	21	30	730
SANDAG Projected County-wide Emissions	13	19	119
Surplus Emissions (Budget – Projected)	8	11	611
Proposed Project 2050 Buildout Unmitigated Emissions	1.46	0.10	1.96
Unmitigated Project Percent of Budget	6.9%	0.3%	0.3%

Source: SANDAG 2015

Table 18 Potential Development Mitigated Emissions of Proposed Project at 2050 Buildout

Data for Buildout Year of 2050	2050 Emissions in tons per day		
	VOC	NO_X	CO
RAQS Emissions Budget for 2050	21	30	730
SANDAG Projected County-wide Emissions	13	19	119
Surplus Emissions (Budget – Projected)	8	11	611
Proposed Project 2050 Buildout Mitigated Emissions	0.06	0.08	0.24
Mitigated Project Percent of Budget	0.29%	0.27%	0.03%

Source: SANDAG 2015

6.6.2 Issue 2: Air Quality Violations

Cumulative projects located in the San Diego region would have the potential to result in a significant cumulative air quality violation if, in combination, they would violate any air quality standard or contribute to an existing or projected air quality violation. New stationary sources of criteria pollutants or projects that would increase vehicle trips may result in increases in pollutant emissions that would violate an air quality standard. New residential development resulting from the Proposed Project would increase vehicle trips and would have the potential to result in an associated air quality violation of the CAAQS or NAAQS from the emission of criteria pollutants due to increased vehicle trips. These projects, and the other cumulative projects located in the unincorporated County and adjacent jurisdictions, including incorporated cities, adjacent counties, and federal and State-managed lands, would be required to comply with NAAQS and CAAQS pursuant to CEQA prior to approval. CEQA requires proposed projects provide detailed information on the potentially significant environmental effects they are likely to have, list ways in which the significant environmental effects would be minimized, and identify alternatives that would reduce or avoid the significant impacts identified for the project. To the extent feasible, significant environmental impacts would be mitigated to below a level of significance, consistent with CEQA. However, air quality impacts associated with the development of cumulative projects such as the Passerelle, Campus Park in the Fallbrook CPA which proposes the development of an additional 1,099 dwelling units may be significant and unavoidable. Therefore, cumulative projects in the region would result in a potentially significant cumulative impact associated with air quality violations.

6.6.3 Issue 3: Nonattainment Criteria Pollutants

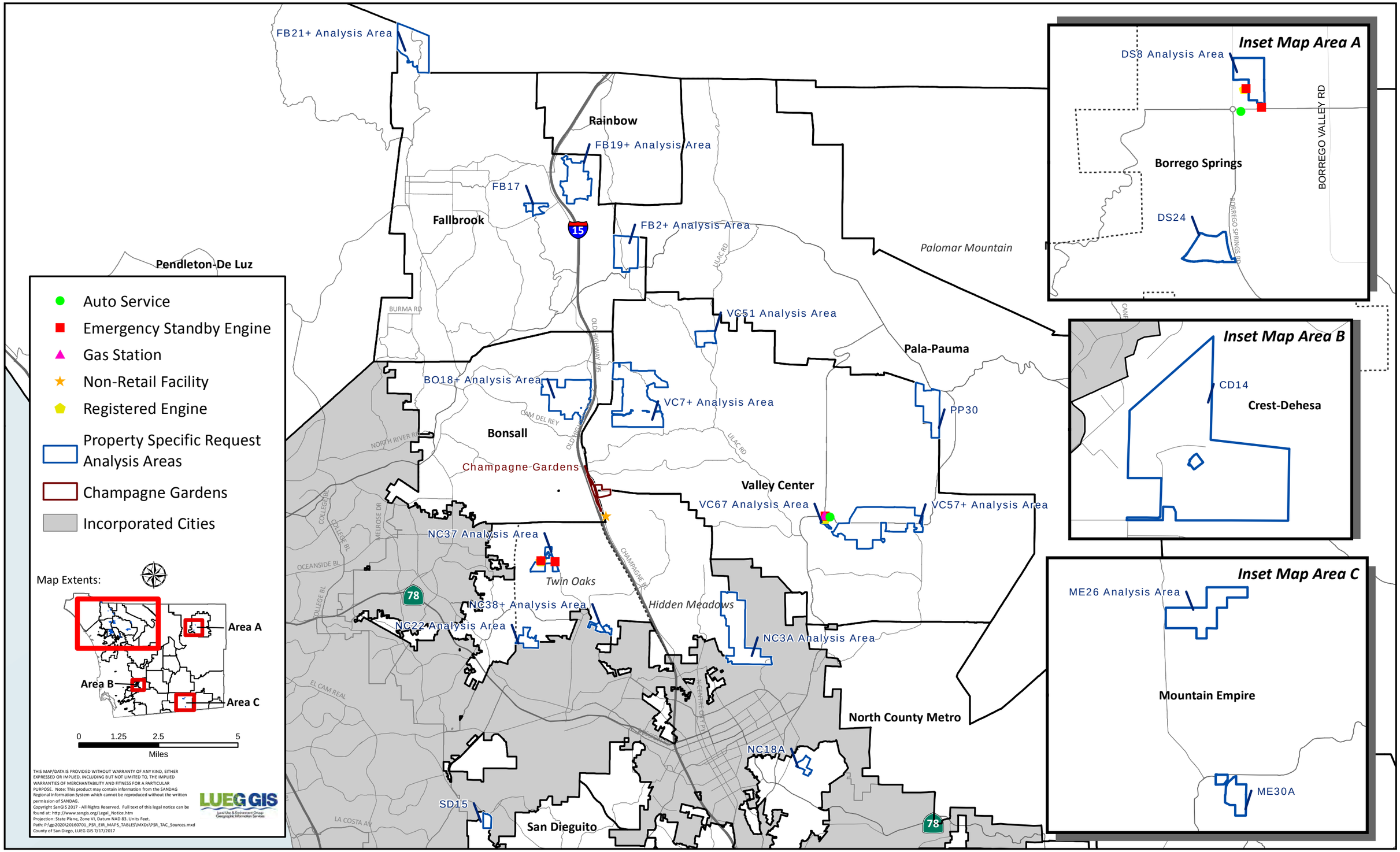
Cumulative projects located in the San Diego region would have the potential to result in a significant cumulative impact associated with nonattainment criteria pollutants if, in combination, they would result in a net increase of any criteria pollutant for which the SDAB is nonattainment. The SDAB is designated a moderate nonattainment area for the 8-hour NAAQS for ozone and as a nonattainment area under the CAAQS for ozone, PM_{10} and $PM_{2.5}$. Development of cumulative projects in the region would have the potential to result in new sources of particulate matter from construction activities. In addition, the operation of proposed cumulative projects would result in increases in vehicle trips that would increase emissions of ozone precursors. Construction of residential units resulting from land use designation changes of the Proposed Project would result in particulate matter emissions from off-road equipment, vehicles, and fugitive dust from surface disturbance. The SDAB is already in nonattainment for ozone and PM_{10} and $PM_{2.5}$, therefore, implementation of the Proposed Project would result in pollutants which would be cumulatively considerable, requiring the incorporation of mitigation. Therefore, cumulative projects in the region would result in a potentially significant cumulative impact associated with nonattainment of criteria pollutants.

6.6.4 Issue 4: Sensitive Receptors

Cumulative projects located in the San Diego region would have the potential to result in a significant cumulative impact associated with sensitive receptors if, in combination, they would expose sensitive receptors to a substantial concentration of TACs that would significantly increase cancer risk. Implementation of cumulative projects would have the potential to result in new sources of TACs, especially diesel particulate matter from truck trips. In general, construction of cumulative projects would result in a temporary increase in truck trips to haul construction materials to and from the site. In addition, new industrial or commercial developments would have the potential to result in permanent increases in truck trips to an area due to project operation. Placement of new sensitive receptors near existing TAC emissions would have the potential to result in a significant cumulative impact. Cumulative projects located in adjacent jurisdictions, including incorporated cities, adjacent counties, and State-managed lands, would be required to comply with the CARB's recommendations for siting new sensitive receptors, and stationary sources in the SDAB would be required to comply with emission thresholds for TACs. Therefore, cumulative projects in the region would result in a potentially significant cumulative impact associated with sensitive receptors.

6.6.5 Issue 5: Objectionable Odors

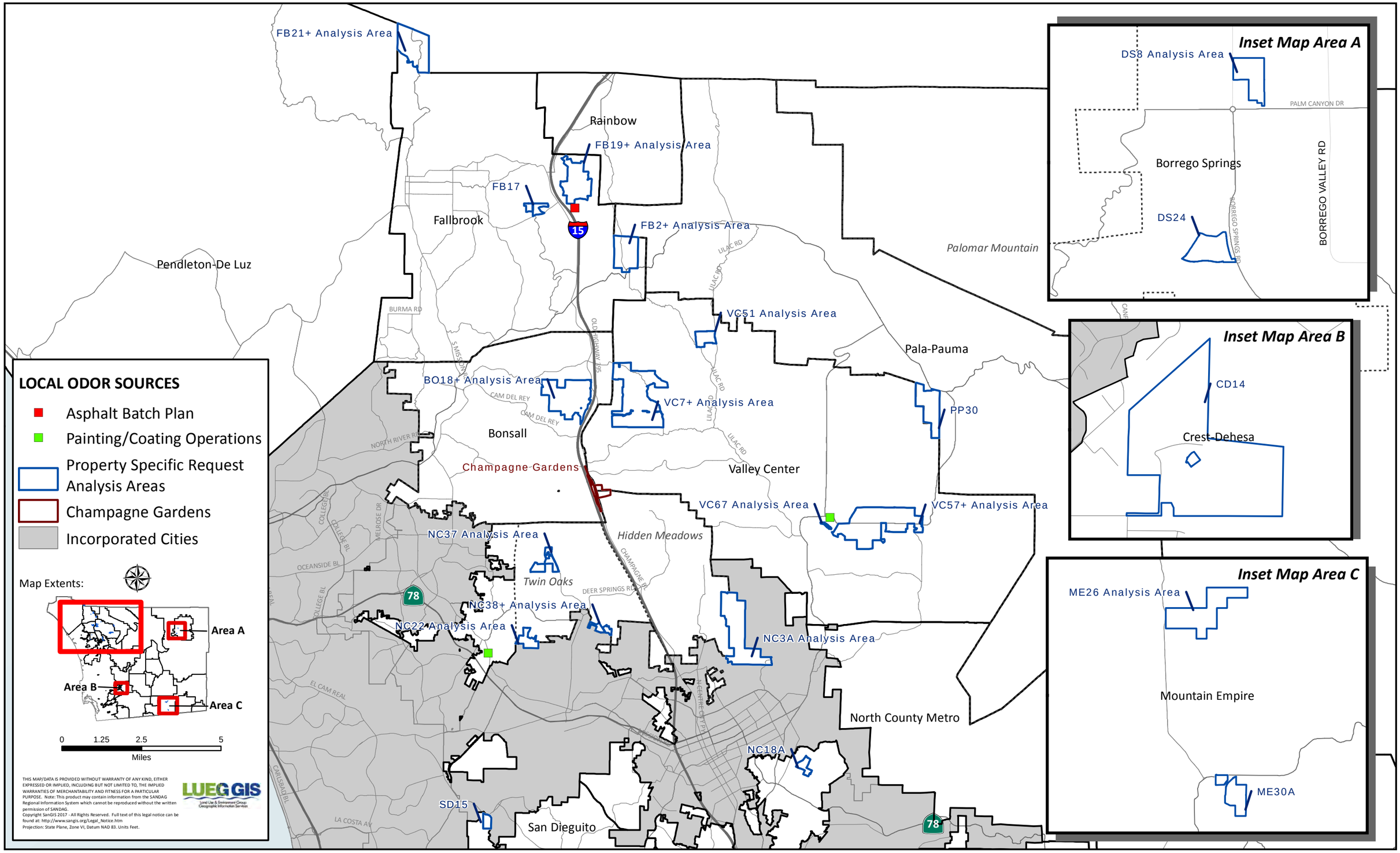
Cumulative projects located in the San Diego region would have the potential to result in a significant cumulative impact associated with objectionable odors if, in combination, they would create objectionable odors or place sensitive receptors next to existing objectionable odors. Cumulative projects located in incorporated cities and on-going projects would be required to comply with APCD's rules and regulations regarding odor control. However, odor impacts are localized in nature and cumulative projects would not combine to result in a cumulative odor impact. Therefore, the Proposed Project would result in a less than significant cumulative impact.



Source: SanGIS, County of San Diego, 2017

Toxic Air Contaminants Sources

Figure 1



Source: SanGIS, County of San Diego, 2017

Local Odor Sources

Figure 2

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