4.3 Air Quality

4.3.1 Existing Conditions

4.3.1.1 Climate

The Grantville Redevelopment Project Area is located within the San Diego Air Basin (SDAB), an area of mild Mediterranean climate, with moderate year-round temperatures. A repetitive pattern of frequent early morning cloudiness, hazy afternoon sunshine, daytime onshore breezes and little temperature change is characteristic of the San Diego climate throughout the year. The average daily maximum in downtown San Diego during the summer is in the upper 70s Fahrenheit (F) with an average daily maximum of 65°F in winter. The thermostat action of the nearby oceanic heat reservoir keeps the daily oscillation of temperature close to 15 degrees. Summer nights in the downtown San Diego area are around 65°F, while early winter mornings drop to the upper 40s F.

Limited rainfall occurs in winter, while summers are often completely dry. An average of ten inches of rain falls each year from November to early April. Year-to-year variations in rainfall amounts are the rule rather than the exception. Rainfall amounts of one-half or twice the annual average are not uncommon. Rain typically falls only 20 days per year with only six days of moderate (0.5" in 24-hours) rainfall per year.

4.3.1.2 Smog and Ozone

Air quality levels tend to decline in some areas of the SDAB during the summer months, when a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and prevents pollutants from dispersing upwards, trapping them within the lower layer. As the pollutants become more concentrated, photochemical reactions occur that produce oxidants, or smog. Abundant sunshine typical in the area furthers this process.

Ozone (O_3) levels in the SDAB have not exceeded the federal one-hour clean air standard since August 30, 1998. O_3, the chief component of smog, is the region's primary criteria pollution problem. This is a vast improvement from the 1970's when O_3 levels in San Diego exceeded the standard about 1 out of 4 days. San Diego has not recorded a Stage I episode (commonly called a Smog Alert) since 1991 and no Stage II episodes since 1979. The number of days exceeding the state standard has decreased dramatically during the past two decades. In 1981, the SDAB exceeded the state standard on 192 days; in 2000, there were 24 days where the state standard was exceeded. The long-term decreases in the number of days the standard has been exceeded reflects the cumulative effect of continued implementation of stationary and mobile source air pollution control programs.

4.3.1.3 Regional and Local Conditions

The SDAB has had a transitional-attainment status of federal standards for O_3. The Basin is either in attainment or unclassified for federal standards of carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), total suspended particulate matter smaller than ten microns in diameter (PM_{10}), and lead.

The SDAB is also in attainment of state air quality standards for all pollutants with the exception of O_3 and PM_{10}. Air pollutants transported into the Basin from the adjacent South Coast Air Basin (Los Angeles, San Bernardino County, Orange County, and Riverside County) substantially contribute to the non-attainment conditions in the SDAB. Figure 4.3-1 depicts the SDAB in relation to the other air basins in Southern California.

4.3.1.4 Ambient Air Quality

The United States Environmental Protection Agency (USEPA) (under the Federal Clean Air Act of 1970, and amended in 1977) established the National Ambient Air Quality Standards (NAAQS) to define and regulate specific pollutants. Individual states have the option to add additional pollutants, require more stringent compliance, or include different exposure periods, then adopt changes as their own state standards. Because California had established the more stringent California Ambient Air Quality Standards (CAAQS) before the federal action in 1971 and because of the unique air quality problems introduced by the restrictive dispersion meteorology, there is a difference between California and national clean air standards, as seen in Table 4.3-1.

The California Air Resources Board (CARB) monitors ambient air quality at approximately 250 air-monitoring stations across the state. Air quality monitoring stations usually measure pollutant concentrations 10 meters (approximately 30 feet) above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Ambient air pollutant concentrations in the SDAB are measured at 10 air-monitoring stations operated by the San Diego Air Pollution Control District (SDAPCD).

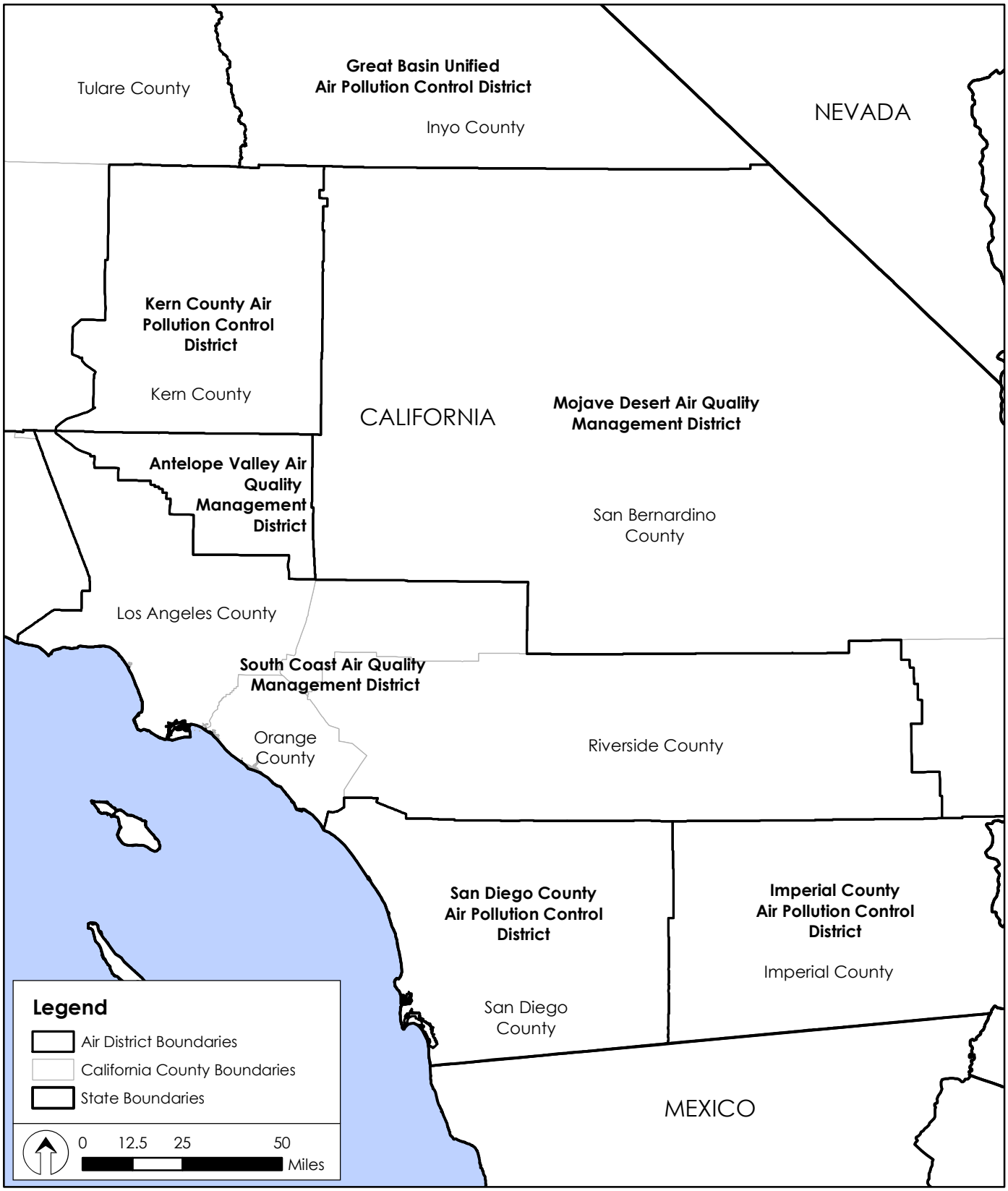
The SDAB is administered by the SDAPCD which maintains air quality monitoring stations throughout San Diego County. The downtown San Diego air quality monitoring station is the station nearest to the Project Area. In general, the City of San Diego has good air quality with the exception of O_3 and PM_{10}. Air quality monitoring data obtained from the downtown San Diego monitoring station indicates that in 2003, the CO, O_3, NO_x, and SO_X levels did not exceed the state standards; however, PM_{10} levels did exceed the state standard 11 days out of the year. Table 4.3-2 depicts the ambient air quality summary for the downtown San Diego monitoring station from 2000 through 2003.

4.3.1.5 Sensitive Receptors

Smog poses a health hazard to the general population, but particularly to the young, the elderly and the sick. Typical health problems attributed to smog include respiratory ailments, eye and throat irritations, headaches, coughing, and chest discomfort. Table 4.3-3 depicts typical health problems associated with O_3 and other pollutants. Certain land uses are considered to be more sensitive to the effects of air pollution, and concentrations of pollutants are referred to as "sensitive receptors." Sensitive receptors located within and adjacent to the Project Area include schools, residential areas, child and senior care facilities, hospital facilities, and parks.

4.3.1.6 Regional Air Quality Strategy Plan

The continued violations of ambient air quality standards in the SDAB, particularly for O_3 in inland foothill areas, requires that a plan be developed outlining the pollution controls that will be undertaken to improve



SOURCE: SanGIS and BRG Consulting, Inc., 2004

10/19/04

BRG CONSULTING, INC.

Grantville EIR

Air District Boundaries

FIGURE

4.3-1

TABLE 4.3-1
California and Federal Ambient Air Quality Standards

Pollutant	Average Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	*Method*[4]	*Primary*[3.5]	*Secondary*[3.6]	*Method*[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 ug/m^3)	Ultraviolet Photometry	0.12 ppm (235 ug/m^3)[8]	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	———		0.08 ppm (157 ug/m^3)[8]		
Respirable Particulate Matter (PM_{10})	24 Hour	50 ug/m^3	Gravimetric or Beta Attenuation	150 ug/m^3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	20 ug/m^3		50 ug/m^3		
Fine Particulate Matter (PM_{25})	24 Hour	No Separate State Standard		65 ug/m^3	Same as Primary Standard	Inertial Separation and Granvimetic Analysis
	Annual Arithmetic Mean	12 ug/m^3	Gravimetric or Beta Attenuation	15 ug/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	Non-dispersive Infrared Photometyr (NDIR)	9 ppm (10 mg/m^3)	None	Non-dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		———		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	———	Gas Phase Chemiluminescence	0.053 ppm (100 ug/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.25 ppm (470 ug/m^3)		———		
Lead[9]	30 Days Average	1.5 ug/m^3	Atomic Absorption	———	———	———
	Calendar Quarter	———		1.5 ug/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
Sulfur Dioxide ($S0_2$)	Annual Arithmetic Mean	———	Ultraviolet Fluorescence	0.030 ppm (80 ug/m^3)	———	Spectrophotmetry (Pararosoaniline Method)
	24 Hour	0.04 ppm (105 ug/m^3)		0.14 ppm (365 ug/m^3)	———	
	3 Hour	———		———	0.5 ppm (1300 ug/m^3)	
	1 Hour	0.25 ppm (655 ug/m^3)		———	———	

TABLE 4.3-1
California and Federal Ambient Air Quality Standards (cont'd.)

Pollutant	Average Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	*Method*[4]	*Primary*[3.5]	*Secondary*[3.6]	*Method*[7]
Visibility Reducing Particles	8 Hour	Extinction of coefficient of 0.23 per kilometer – visibility of ten miles or more (0.07 – 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 ug/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 ug/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[9]	24 Hour	0.01 ppm (26 ug/m^3)	Gas Chromatography			

Notes:
(1) California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended 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 ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration 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 standard 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 U.S. EPA for further classification and current federal policies.

(3) Concentrations expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon 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) Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

(5) National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

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

(7) Reference method as described by the EPA. An "equivalent method" of measurement may be used, but must have a "consistent relationship to the reference method" and must be approved by the EPA.

(8) New federal 8-hour ozone and fine particulate matter standards were promulgated by U.S. EPA for further classification and current federal policies.

(9) The ARB 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 implementations of control measures at levels below the ambient concentrations specified for these pollutants.

Source: California Air Resources Board (7/9/03)

TABLE 4.3-2
Ambient Air Quality Summary
Downtown San Diego Monitoring Station
2000 Through 2003

Year	Carbon Monoxide (CO)		Ozone (O_3)		Nitrogen Dioxide (NO_x)		Sulfur Dioxide (SO_x)		Fine Particulate Matter (PM_{10})	
	Max. 8-hour Concen-tration (ppm)	Days State Standard Exceeded >0.09 ppm 8-hour	Max. 1-hour Concen-tration (ppm)	Days State Standard Exceeded >0.09 ppm 1-hr	Max. 1-hour Concen-tration (ppm)	Days State Standard Exceeded >0.25 ppm 1-hour	Max. 24-hour Concen-tration (ppm)	Days State Standard Exceeded >0.05 ppm 24-hr	Max. 24-hour Concen-tration (ppm)	Days State Standard Exceeded >50 μg/m³ 24-hour
2000	4.6	0	0.188	1	0.117	0	0.010	0	65	4
2001	4.9	0	0.098	1	0.098	0	0.012	0	66	1
2002	3.5	0	0.090	0	0.102	0	0.007	0	85	7
2003	3.9	0	0.075	0	0.111	0	0.008	0	139	11

Notes: hr = hour
Source: California Air Resources Board (CARB) ADAM Ambient Air Quality Inventory.

air quality. In San Diego County, this attainment planning process is embodied in the Regional Air Quality Strategies (RAQS) developed jointly by the SDAPCD and the San Diego Association of Governments (SANDAG).

A plan to meet the federal standard for O_3 was developed in 1994 during the process of updating the 1991 state-mandated plan. This local plan was combined with plans from all other California non-attainment areas having serious O_3 problems and used to create the California State Implementation Plan (SIP). The SIP was adopted by the Air Resources Board (ARB) after public hearings on November 9th through 19th in 1994, and was forwarded to the USEPA for approval. After considerable analysis and debate, particularly regarding airsheds with the worst smog problems, the EPA approved the SIP in mid-1996.

The proposed project is related to the SIP and/or RAQS through the land use and growth assumptions that are incorporated into the air quality planning document. If a proposed project is consistent with the applicable General Plan of the jurisdiction where it is located, then the project presumably has been anticipated within the regional air quality planning process. Such consistency would ensure that the project would not have an adverse regional air quality impact. If the relocation or change of vehicular emission patterns from a proposed project would not create any further unacceptable microscale impacts immediately adjacent to the proposed Project Area, then the project would have a less than significant air quality impact.

4.3.2 Impact Threshold

For purposes of this EIR, a significant air quality impact would occur if implementation of the proposed project would:

- *Conflict or obstruct the implementation of the San Diego Regional Air Quality Strategy (RAQS) or applicable portions of the State Implementation Plan (SIP);*

TABLE 4.3-3
Health Effects Associated with Air Pollutants

Pollutant	Most Relevant Effects
Ozone	(a)Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals. (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage
Carbon Monoxide (CO)	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses.
Nitrogen Dioxide (NO_2)	(a)Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration.
Sulfur Dioxide (SO_2)	(a)Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
Suspended Particulate Matter (PM_{10})	(a)Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children.
Sulfates (SO_2)	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage
Lead (Pb)	(a)Increased body burden; (b) Impairment of blood formation and nerve conduction.
Visibility-Reducing Particulates	(a) Visibility impairment on days when relative humidity is less than 70 percent

Notes: ppm = parts per million; hr. = hour; avg. = average, ann. = annual; $\mu g/m^3$ = micrograms per cubic meter

Source: Black & Veatch Corporation, 1999.

- *Violate any air quality standard or contribute substantially to an existing or projected air quality violation;*
- *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors);*
- *Expose sensitive receptors to substantial pollutant concentrations including air toxics such as diesel particulates; or*
- *Create objectionable odors affecting a substantial number of people.*

The San Diego Air Pollution Control District (SDAPCD) provides criteria in Regulation II, Rule 20.2, Table 20-2-1, "Air Quality Impact Assessment (AQIA) Trigger Levels." These were established for air quality permitting purposes for stationary source emissions. These thresholds were not established specifically for CEQA purposes or to assess mobile source emissions. AQIA Trigger levels currently enforced by the County of San Diego are shown quantitatively in Table 4.3-4. However, in lieu of established CEQA thresholds, these standards are utilized for assessment of significance as the standards are compatible with those utilized elsewhere in the State (such as South Coast Air Quality Management District [SCAQMD] standards, etc.). Table 4.3-4 depicts the thresholds for determining significance of this project.

TABLE 4.3-4
SDAPCD Thresholds of Significance for Air Quality Impacts

	Thresholds Significance		
Pollutant	Pounds Per Hour	Pounds Per Day	Tons Per Year
Carbon Monoxide (CO)	100	**550**	100
Oxides of Sulfur (SO_x)	25	**250**	40
Volatile Organic Compounds (VOC's)[(1)]	---	**137**	15
Reactive Organic Gases (ROG's)	---	**137**	15
Oxides of Nitrogen (NO_x)	25	**250**	40
Particulate Matter (PM_{10})	---	**100**	15

Notes 1=VOC thresholds based upon SCAQMD levels per SDAPCE/DPLU requirements (9/01).
Source: SDAPCD Rule 1501, 20.2(d)(2).

4.3.2.1 CO "Hotspot" Thresholds

Exhaust emissions from motor vehicles can potentially cause a direct, localized "hotspot" impact at or near proposed developments or sensitive receptors. CO is a product of incomplete combustion of a fossil fuel; unlike O_3, CO is emitted directly out of a vehicle exhaust pipe and is heavier than air. The optimum condition for the occurrence of a CO hotspot would be cool and calm weather at a congested major roadway intersection with sensitive receptors nearby, and where vehicles are idling or moving at a stop-

and-go pace. Criteria for vehicular emission impacts include significance determinations for intersection and parking structure hotspots.

A significant impact would occur if the CO hotspot analysis of vehicular intersection emissions exposes sensitive receptors to concentrations that are in excess of the following thresholds:

- 20 parts per million (ppm) for 1-hour average, and/or
- 9.0 ppm for 8-hour average.

A proposed project would have a significant air pollution impact associated with parking structures if it would expose sensitive receptors to CO pollution concentrations that are in excess of the following thresholds:

- 50 ppm for 8-hour average for attendants, and
- 9.0 ppm for 8-hour average for the general public.

4.3.3 Impact

4.3.3.1 Construction Impacts

The proposed project is the adoption and implementation of the Redevelopment Plan. The Redevelopment Plan identifies potential redevelopment activities; however, no specific development is proposed. Implementation of the Redevelopment Plan will involve the development of projects throughout the Project Area over the life of the Redevelopment Plan (20 to 30 years). Most redevelopment is anticipated to occur within a 20 to 30 year timeframe, with the rate of development determined by market demand and absorption of commercial, office, and industrial space in the Project Area. Projects will vary from redevelopment of existing parcels with newer commercial and industrial uses, to infrastructure and public utility improvements. Construction associated with redevelopment activities within the Project Area will generate emissions as a result of demolition activity, grading and site preparation, and building construction. Demolition, grading, and site preparation generates primarily PM_{10} emissions (dust) and oxides of nitrogen (NO_X) which are generated by diesel-powered construction vehicles and equipment. The construction of buildings will primarily generate emissions of reactive organic compounds (ROC) as a result of the application of architectural coatings (paint). Future construction activities within the Project Area will be required to comply with City of San Diego development regulations. During future construction activity within the Project Area, federal, state, and local development standards and requirements that are designed to minimize air quality emissions will be implemented through standard development procedures. These measures typically include, but are not limited to the following:

- Water or dust control agents will be applied to active grading areas, unpaved surfaces, and dirt stockpiles as necessary. All soil to be stockpiled over 30 days will be protected with a secure tarp or tackifiers to prevent windblown dust.
- Properly maintain diesel-powered on-site mobile equipment and use gasoline-powered on-site mobile equipment instead of diesel-powered mobile equipment, to the maximum extent possible.
- Wash-off trucks leaving construction sites.

- Replace ground cover on construction sites if it is determined that the site will be undisturbed for lengthy periods.
- Reduce speeds on unpaved roads to less than 15 miles per hour.
- Halt all grading and excavation operations when wind speeds exceed 25 miles per hour.
- Dirt and debris spilled onto paved surfaces at the project site and on the adjacent roadways will be swept or vacuumed and disposed of at the end of each workday to reduce suspension of particulate matter caused by vehicle movement.
- Cover all trucks hauling dirt, sand, soil or other loose material to and from the construction site and/or maintain a two-foot minimum freeboard.
- Use zero emission volatile organic compound (VOC) paints.

The construction emissions associated with the redevelopment activities have the potential to exceed the pollutant emission thresholds. This issue is considered a significant impact. Implementation of Mitigation Measure AQ1 will reduce this impact to a level less than significant. Mitigation Measure AQ1 requires future redevelopment projects to prepare a project-specific air quality analysis to determine if construction emissions will exceed local air quality significance thresholds, and implement measures to reduce these emissions. Future redevelopment projects shall implement federal, state, and local development standards and requirements that are designed to minimize air quality emissions.

4.3.3.2 Long-Term Emissions

Redevelopment of the Project Area according to existing Community Plan land uses will generate an increase of average daily vehicular trips (ADTs) over the 20 to 30 year redevelopment timeframe (refer to Section 4.2 Transportation/Circulation). The increase in ADT reflects the increase in land use intensity and changes in land uses that will occur as properties are redeveloped and vacant parcels are developed. Future land uses will generate mobile emissions associated with project related ADT's and stationary emissions through on-site consumption of energy (i.e., lighting, water, fireplaces, and space heating and cooling). Stationary sources include two types: point and area. Point sources are those which are specific sites that have one or more emission sources at a facility with an identified location (e.g., industrial operations, power plant). Area sources comprise many small emission sources (e.g., homes, offices, and retail shops) which do not have specifically identified locations, but for which emissions can be calculated using per unit standards. Related to stationary emissions, redevelopment activities will generate both point and area source emissions.

In order to determine the mobile and stationary air pollutant emission levels generated by future redevelopment activities, the net increase in land use development under the Community Plan was modeled using the South Coast Air Quality Management District's URBEMIS 2002 for Windows, version 7.5.0 air quality modeling program. Table 4.3-5 identifies the projected air pollutant emissions based on estimated future development, and illustrates that the stationary pollutant emission levels will be below the significance threshold limits for the criteria pollutants. With the exception of SO_x, mobile pollutant emission levels generated by the proposed Redevelopment Plan will exceed the significance threshold limits for the criteria pollutants.

TABLE 4.3-5
Projected Long-Term Air Pollutant Emissions

Pollutant	*Community Plan*			Significance Thresholds	Exceeds Significance Thresholds?
	Stationary Emissions	Mobile Emissions	Total Emissions		
CO	2.28	4,095.15	4,097.43	550	Yes
ROG	6.89	328.21	335.10	137	Yes
NO_X	2.95	376.10	379.05	250	Yes
PM_{10}	0.01	1,148.39	1,148.40	100	Yes
SO_X	0.01	6.58	6.59	250	No

Notes: CO – carbon monoxide
ROG – reactive organic gases
NO_X – nitrogen dioxide
PM_{10} – fine particulate matter
SO_X – sulfur dioxide

Source: BRG Consulting, Inc., URBEMIS 2002 for Windows 7.5.0

Table 4.3-6 identifies the existing stationary and mobile pollutant emissions currently generated within the Project Area. The table is provided to illustrate that existing pollutant emissions also exceed the significance threshold limits. In the long-term, air pollutant emissions are projected to decrease, which reflects the cumulative effect of continued implementation of mobile source air pollution control programs. The effectiveness of air quality management regulations is demonstrated by the historical decreases in pollution concentrations as discussed in Section 4.3.1. The primary reduction factor for these pollutants will be due to federal regulations (the federal Clean Air Act) requiring automobile manufacturers to continually reduce emission levels generated by automobiles. As identified in Table 4.3-5, the net increase in mobile source air emissions generated by redevelopment according to the Community Plan will exceed the emission thresholds of significance as identified in Table 4.3-4. This is considered a significant unavoidable impact. The redevelopment activities are considered to be consistent with the General Plan (Navajo, Tierrasanta, and College Area Community Plans) and future redevelopment activities and associated pollutant emissions have been contemplated in the RAQS Plan. The project will not conflict with implementation of the RAQS Plan.

Implementation of Mitigation Measure AQ2 will reduce the potential increase in air emission levels in the Project Area to the extent feasible. Mitigation Measure AQ2 requires that a project-specific air quality analysis be prepared for each specific redevelopment activity to determine the potential air quality impact associated with the activity and identify measures to reduce air emissions. The following foreseeable future changes to the Project Area and surrounding communities are also anticipated to reduce air pollutant emissions:

TABLE 4.3-6
Existing Air Pollutant Emissions
Year 2004

Pollutant	Existing Land Uses			Significance Thresholds	Exceeds Significance Thresholds?
	Stationary Emissions	Mobile Emissions	Total Emissions		
CO	11.95	20,882.54	20,894.49	550	Yes
ROG	2.00	1,643.14	1,645.14	137	Yes
NO_X	19.69	2,023.21	2,042.90	250	Yes
PM_{10}	0.05	1,582.07	1,582.12	100	Yes
SO_X	0.00	15.97	15.97	250	No

Notes: CO – carbon monoxide
ROG – reactive organic gases
NO_X – nitrogen dioxide
PM_{10} – fine particulate matter
SO_X – sulfur dioxide

Source: BRG Consulting, Inc., URBEMIS 2002 for Windows 7.5.0

- Implementation of roadway infrastructure improvements may provide better operational efficiency and alternative travel routes.
- The expansion of mass transit opportunities, including the San Diego Trolley line and trolley station in the Project Area and surrounding communities.

While the air pollution reduction measures and policies identified above and vehicle technological advancements will reduce CO, ROG, and NO_x emissions, mobile air quality impacts will remain significant and unavoidable.

4.3.3.3 Odor

The inhalation of volatile organic compounds causes smell sensations in humans. There are four primary ways in which these odors can affect human health:

- The VOCs can produce toxicological effects;
- The odorant compounds can cause irritations in the eye, nose, and throat;
- The VOCs can stimulate sensory nerves that can cause potentially harmful health effects; and,
- The exposure to perceived unpleasant odors can stimulate negative cognitive and emotional responses based on previous experiences with such odors.

Future redevelopment activity could generate emissions that are known to produce odorous conditions. However, sources of odor generation that would be anticipated due to future redevelopment activity (such as diesel emissions due to construction, roofing material application, etc.) are not expected to result in a significant impact. Odor generation as a result of construction activity would be intermittent and

would terminate upon completion of the construction phase of a redevelopment project. In the long-term, the project does not propose any specific uses that would generate odors, and future activities would be required to comply with City of San Diego and APCD regulations that control odor emissions. No significant odor impact is anticipated from future redevelopment activities.

4.3.3.4 CO Hotspots

Redevelopment activities within the Project Area have the potential to generate traffic on area roadways and increase the exposure of sensitive receptors to carbon monoxide (CO) levels in excess of state and federal standards. The potential for CO "hot spots" or places where CO concentrations exceed applicable standards, to impact sensitive receptors, such as residences, hospitals, and schools is a primary concern. CO hotspots typically occur in areas where there is a poor level of service on a roadway and vehicles are idling at congested intersections. These hotspots occur mostly in the early morning hours when winds are stagnant, temperatures are relatively low, and ambient CO concentrations are elevated. Table 4.3-7 depicts the intersections that were identified by the traffic analysis to perform at LOS E or below. Vehicles idling at these intersections could create CO hot spots which may impact sensitive receptors in the vicinity of the intersections.

TABLE 4.3-7
Poorly Operating Intersections

Intersections	Level of Service
Friars & I-15 south bound ramps	F
Friars & Mission Gorge Road	F
Twain & Mission Gorge Road	F
Fairmont Avenue & Mission Gorge Road	F
Camino Del Rio & I-8 west bound off-ramp & Fairmont Avenue	F
I-8 east bound on- and off-ramps & Fairmont Avenue	E

Source: Katz, Okitsu & Associates, 2004.

The Level of Service indicated for each of these intersections is for the Year 2030 traffic conditions. Therefore, air quality impact analyses required as part of Mitigation Measure AQ2 will need to include an analysis of the potential CO Hot Spot concentrations utilizing CALINE-4 (or equivalent) line dispersion modeling. This model calculates the highest possible CO concentrations from worst-case wind angle and factors micro-climate conditions, geometrics of the intersection, distance to the receptor, etc.

4.3.3.5 Regional Air Quality Strategy

A project that is consistent with the applicable General Plan of the jurisdiction in which it is located has been anticipated within the regional air quality planning process (i.e., the RAQS Plan). Consistency with the RAQS Plan will ensure that the project does not have an adverse impact on regional air quality.

The Redevelopment Plan is consistent with the Navajo, Tierrasanta and College Area Community Plan land uses as no community plan amendment is proposed; therefore, the project is consistent with the goals and policies of the RAQS.

4.3.4 Significance of Impact

A. Short-term

Future construction activities will result in a significant short-term air quality impact.

B. Long-term

A significant and unavoidable air quality impact has been identified associated with future mobile related air pollutant emissions.

4.3.5 Mitigation Measures

AQ1 A project-specific air quality analysis shall be prepared for future redevelopment projects to determine the emissions associated with construction activities and identify measures to reduce air emissions. In addition, future redevelopment projects shall implement appropriate federal, state, and local development standards and requirements that are designed to minimize short-term construction related air quality emissions. These measures typically include, but are not limited to the following:

- Apply water or dust control agents to active grading areas, unpaved surfaces, and dirt stockpiles as necessary. Protect all soil to be stockpiled over 30 days with a secure tarp or tackifiers to prevent windblown dust.
- Properly maintain diesel-powered on-site mobile equipment and use gasoline-powered on-site mobile equipment instead of diesel-powered mobile equipment, to the maximum extent possible.
- Wash-off trucks leaving construction sites.
- Replace ground cover on construction sites if it is determined that the site will be undisturbed for lengthy periods.
- Reduce speeds on unpaved roads to less than 15 miles per hour.
- Halt all grading and excavation operations when wind speeds exceed 25 miles per hour.
- Sweep or vacuum dirt and debris spilled onto paved surfaces at the project site and on the adjacent roadways and dispose of these materials at the end of each workday.
- Cover all trucks hauling dirt, sand, soil or other loose material to and from the site and/or maintain a two-foot minimum freeboard.
- Use zero emission volatile organic compound (VOC) paints.

AQ2 A project-specific air quality analysis shall be prepared for each subsequent redevelopment project in order to assess the potential air quality impact associated with the activity and identify measures to reduce air emissions. The air quality assessment shall include an evaluation of construction-related emissions, stationary and mobile source emissions, including CO "hot spot" emissions, if necessary. Measures shall be identified and implemented on a project-by-project basis to reduce emissions to the extent feasible (e.g., solar heating and energy, building design and efficient heating and cooling systems, maximize opportunities for mass transit, etc.)

4.3.6 Conclusion

4.3.6.1 Short-Term

Mitigation Measure AQ1 will reduce the significant short-term air quality impact associated with project-specific construction activities to a level less than significant.

4.3.6.2 Long-Term

The long-term air quality impact is considered significant and unavoidable, as there are no technologies available to reduce the future vehicular related air pollutant emissions to a level less than significant. However, the project is consistent with the General Plan (Navajo, Tierrasanta and College Area Community Plans) and no conflict with implementation of the RAQS is anticipated.

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