4.2 AIR QUALITY

This section of the EIR is based on the Air Quality Technical Report for the Forrester Creek Industrial Park prepared by Scientific Resources Associated (SRA) in January 2009. The report, provided in Appendix B of this EIR, addresses air pollutant emissions as a result of project construction and operation.

4.2.1 EXISTING CONDITIONS

The project site is located in the San Diego Air Basin (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. The MCAS Miramar Monitoring Station is the most representative meteorological monitoring station for the site. The high pressure cell in this area creates two types of temperature inversions that may act to degrade local air quality.

Subsidence inversions occur during the warmer months as descending air associated with the Pacific high pressure cell comes into contact with cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce ozone, commonly known as smog.

4.2.2 REGULATORY STANDARDS

4.2.2.1 FEDERAL

Clean Air Act

The federal Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 [42 U.S.C. 7506(c)] for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. The Clean Air Act, in Section 107(d), provides the designations "non-attainment," "attainment," and "unclassifiable" to describe the long-term, ambient air quality of a particular region. Areas that do not meet (or that contribute to ambient air quality in a nearby area that does not meet) the national primary or secondary standards for a criteria pollutant are given the designation "non-attainment." An "attainment' area is one that meets the national primary or secondary ambient air quality standard for the pollutant. An area that cannot be classified on the basis of available information as either meeting or not meeting the national primary or secondary standard is designated "unclassifiable."

In 1971, in order to achieve the purposes of Section 109 of the CAA, the Environmental Protection Agency (EPA) developed primary and secondary national ambient air quality standards, shown in Table 4.2-1. Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere. Six pollutants of primary concern ("criteria pollutants") were designated: ozone (O_3), carbon monoxide (CO), sulfur dioxide, nitrogen dioxide, lead, and suspended particulates less than or equal to 10 microns in aerodynamic diameter (PM_{10}). If an air basin is not in attainment of federal standards for O_3, the basin is classified as marginal, moderate, serious, severe, or extreme. In 2003, the San Diego Air

Basin (SDAB) was classified as an attainment area for the one-hour National Ambient Air Quality Standard (NAAQS) for O_3. In 2004, the SDAB was designated as a "basic" non-attainment area for the eight-hour NAAQS federal standard for O_3.

The SDAB was once a non-attainment area for CO, but has been an attainment area for CO for over a decade. When an area is reclassified from non-attainment to attainment, it becomes a "maintenance" area, and a maintenance plan must be prepared and implemented. Therefore, the SDAB is a maintenance area for CO.

As of July 28, 2003, the San Diego Air Basin has been reclassified as an attainment area for the 1-hour NAAQS for O_3. On April 15, 2004, the SDAB was designated a basic nonattainment area for the 8-hour NAAQS for O_3. The SDAB is in attainment for the NAAQS for all other criteria pollutants. The SDAB is currently classified as a nonattainment area under the CAAQS for O_3 and PM_{10}.

4.2.2.2 STATE

California Air Resources Board

The federal Clean Air Act permits states to adopt additional or more protective air quality standards. The California Air Resources Board (CARB), part of the California Environmental Protection Agency (CalEPA), is the state agency to which EPA has delegated primary responsibility for implementation of those portions of the CAA, as amended, which entail the day-to-day regulatory functions and contacts with facilities which emit air pollutants within California. The CARB has also set ambient air quality standards, known as the California Ambient Air Quality Standards (CAAQSs). For certain air pollutants, such as particulate matter and O_3, the CAAQSs are more restrictive than the respective NAAQSs. The CARB has also set ambient air quality standards for additional air pollutants which are not addressed by the NAAQSs, namely hydrogen sulfide (H_2S), vinyl chloride, sulfates (SO_4^{2-}), and visibility-reducing particles. A list of these California "criteria" air pollutants and the currently applicable CAAQSs are also listed in Table 4.2-1.

California Health and Safety Code Section 39607(e) requires the Air Resources Board to establish and periodically review area designation criteria. These designation criteria provide the basis for the Board to designate areas of the state as "attainment," "nonattainment," or "unclassified" for the CAAQSs. The SDAB is presently classified as a nonattainment area under the CAAQS for O_3 and PM_{10}.

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) are also responsible for the determination if a substance should be formally identified as a toxic air contaminant (TAC) in California. Several of the components of diesel engine exhaust, including the particulate emissions from diesel-fueled engines, have been listed by CARB as toxic air contaminants, or are recognized by CARB or OEHHA as toxic air pollutants.

4.2.2.3 LOCAL

San Diego Air Pollution Control District

The APCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. 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, and most recently in 2004. The RAQS outlines APCD's plans and control measures designed to attain the state air quality

Table 4.2-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]	Federal Standards[2]	
		Concentration	Primary[3]	Secondary[4]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	0.12 ppm (235 µg/m^3)	Same as Primary Standards
	8 Hour	0.070 ppm (137 µg/m^3)	0.08 ppm (157 µg/m^3)	
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary Standards
	Annual Arithmetic Mean	20 µg/m	50 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard	65 µg/m	Same as Primary Standards
	Annual Arithmetic Mean	12 µg/m	15 µg/m	
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	--	0.053 ppm (100 µg/m^3)	Same as Primary Standard
	1 Hour	0.25 ppm (470 mg/m^3)	--	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	--	0.030 ppm (80 µg/m^3)	--
	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)	--
	3 Hour	--	--	0.5 ppm (1300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	--	--
Lead	30 Day Average	1.5 µg/m^3	--	--
	Calendar Quarter	--	1.5 µg/m^3	Same as Primary Standard
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more due to particles.	No Federal Standards	
Sulfates	24 Hour	25 µg/m^3	No Federal Standards	
Hydrogen Sulfide	1 Hour	0.010 ppm (26 µg/m^3)	No Federal Standards	
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)	No Federal Standards	

(1) California Standards for ozone, carbon monoxide, 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 equal 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 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. 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.

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

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

Source: Scientific Resources Associated, 2009

standards for O_3. The APCD has also developed the air basin's input to the State Implementation Plan (SIP), which is required under the Federal Clean Air Act for areas that are out of attainment of air quality standards. The SIP includes the APCD's plans and control measures for attaining the O_3 NAAQS. The SIP is also updated on a triennial basis. The latest SIP update was submitted by the ARB to the EPA in 1998. The attainment schedule in the SIP called for the SDAB to attain the NAAQS for O_3 by 1999. The San Diego APCD has determined that the SDAB has achieved its O_3 attainment goal, and has applied to the EPA for redesignation as an O_3 attainment area. As of July 28, 2003, the SDAB has been redesignated as an O_3 attainment area for the one-hour NAAQS for O_3; however, the SDAB has been designated as a basic nonattainment area for the new 8-hour NAAQS for O_3.

The RAQS relies on information from ARB and 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 ARB 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 which 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 might be in conflict with the RAQS and SIP, and might 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 O_3.

Ambient Air Quality

The APCD operates a network of ambient air monitoring stations throughout San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest ambient monitoring stations to the project site are the El Cajon monitoring station and the downtown San Diego station (which is the nearest station that measures CO and SO_2). Because the downtown San Diego monitoring station is located in areas where there is substantial traffic congestion, it is likely that pollutant concentrations measured at that monitoring station are higher than concentrations that would be observed or measured in the Project area, and would thus provide a conservative estimate of background ambient air quality. Ambient concentrations of pollutants over the last three years that data is available (2005-2007) are presented in Table 4.2-2.

Air quality has shown improvement in the SDAB such that the 8-hour federal ozone standards were only exceeded once (in 2006) at the El Cajon monitoring station during the period from 2005 through 2007. Multiple exceedances of both the 1-hour and 8-hour CAAQS for ozone were recorded at the El Cajon monitoring station. The El Cajon monitoring station regularly experiences exceedances of the 24-hour and annual CAAQS for PM_{10}. An exceedance of the 24-hour NAAQS for PM_{10} was measured in 2007, but it was associated with the San Diego County fire events in October and was not considered representative of PM_{10} concentrations in the Project area. The data from the monitoring stations indicate that air quality is in attainment of all other standards.

Table 4.2-2. Ambient Background Concentrations (ppm unless otherwise indicated)

Pollutant	Averaging Time	2005	2006	2007	Most Stringent Ambient Air Quality Standard	Monitoring Station
Ozone	8 hour	0.073	0.090	0.082	0.070	El Cajon
	1 hour	0.092	0.106	0.110	0.09	El Cajon
PM_{10}	Annual	28.2 µg/m^3	27.0 µg/m^3	26 µg/m^3	20 µg/m^3	El Cajon
	24 hour	50 µg/m^3	49 µg/m$^{3(2)}$	61 µg/m^3	50 µg/m^3	El Cajon
$PM_{2.5}$	Annual	11.4 µg/m^3	11.6 µg/m^3	12.8 µg/m^3	12 µg/m^3	El Cajon
	24 hour	40.9 µg/m^3	37.6 µg/m^3	395.1 µg/m^3	35 µg/m^3	El Cajon
NO_2	Annual	0.019	0.018	0.016	0.030	El Cajon
	1 hour	0.079	0.069	0.065	0.218	El Cajon
CO	8 hour	3.10	3.27	3.01	9.0	San Diego
	1 hour	4.5	5.3	4.4	20	San Diego
SO_2	Annual	0.003	0.004	0.003	80	San Diego
	24 hour	0.005	0.009	0.006	105	San Diego
	3 hour	0.026	0.030	0.010	1300$^{(1)}$	San Diego
	1 hour	0.036	0.042	0.018	655	San Diego

(1) Secondary NAAQS
(2) Highest level occurred during the 2007 autumn fire event or during subsequent conditions associated with that event.
Source: www.arb.ca.gov/aqd/aqd.htm (Measurements of all pollutants at El Cajon and San Diego stations, except 1-hour and 3-hour SO_2,1-hour CO, and annual $PM_{2.5}$,) www.epa.gov/air/data/monvals.html (1-hour and 3-hour SO_2,1-hour CO, and annual $PM_{2.5}$)
Source: Scientific Resources Associated, 2009

4.2.3 IMPACT SIGNIFICANCE CRITERIA

Based on the significance criteria in Appendix G of the CEQA Guidelines, a project would have a significant environmental impact if it would:

1. Conflict with or obstruct the implementation of the San Diego Regional Air Quality Strategy (RAQS) or applicable portions of the State Implementation Plan (SIP);
2. Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation;
3. Result in a cumulatively considerable net increase of PM_{10} or exceed quantitative thresholds for O_3 precursors, oxides of nitrogen (NO_X) and volatile organic compounds (VOCs);
4. Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations; or
5. Create objectionable odors affecting a substantial number of people.

To determine impacts from criteria 2 and 3 above, project emissions were evaluated based on the quantitative emission thresholds established by the San Diego APCD. As part of its air quality permitting process, the APCD has established thresholds in Rule 20.2 for the preparation of Air Quality Impact Assessments (AQIA) (Table 4.2-3). For purposes of this EIR, pollutant emissions above these screening criteria would result in a significant impact to air quality.

Table 4.2-3. Screening-Level Criteria for Air Quality Impacts

Pollutant	Total Emissions Pounds per Day
Construction Emissions	
Respirable Particulate Matter (PM_{10})	100
Oxides of Nitrogen (NO_X)	250
Oxides of Sulfur (SO_X)	250
Carbon Monoxide (CO)	550
Volatile Organic Compounds (VOCs)	137

	Pounds per Hour	Pounds per Day	Tons per Year
Operational Emissions			
Respirable Particulate Matter (PM_{10})	—	100	15
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 (VOCs)	—	137	15

Source: San Diego Air Pollution Control District, 2007

If emissions were to 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 (PM_{10} and O_3, with O_3 precursors NOx and VOCs), if emissions exceed the thresholds shown in Table 4.2-3, the project would 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.

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as toxic air contaminants (TACs) or Hazardous Air Pollutants (HAPs). If the project has the potential to result in emissions of any TAC or HAP which could affect a sensitive receptor, the project would be deemed to have a potentially significant impact.

Sensitive receptors are defined as schools (Preschool-12th Grade), 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. If the project would directly impact a sensitive receptor located within one mile and results in a health risk greater than the risk significance thresholds discussed above would have the potential to result in a significant impact.

APCD Rule 51 (Public Nuisance) prohibits 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.

4.2.4 ISSUE 1 – CONFLICT WITH ADOPTED PLANS

Would the proposed project conflict with or obstruct the implementation of the San Diego RAQS or applicable portions of the SIP?

4.2.4.1 IMPACT ANALYSIS

Projects that propose development that is consistent with the growth anticipated by the General Plan would be consistent with the RAQS. In the event that a project would propose development which 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 existing El Cajon General Plan identifies two land use designations for the proposed project site. The northern portion of the project site is designated for open space (OS) uses and the southern portion of the project site is designated as Special Development Area 1 (SDA-1). A very small portion of the site is also designated for Public Institution (PI). The permitted uses in OS are residential (single-family dwellings and planned residential development), agricultural and home occupations. However, portions of the existing OS area on the project site that also fall into an ALUCP Runway Protection Zone are not permitted for residential or home occupation use. The only uses allowed in these areas would be those allowed under the ALUCP. See Section 4.9, Land Use, for further discussion of permitted land uses in ALUCP Runway Protection Zones. SDA-1 specifically excludes residential uses and allows commercial/industrial uses that provide direct and complimentary services to the aviation and industrial uses in and around Gillespie Field. All of these land designations, OS, PI and SDA-1, would result in some level of air pollutant emissions, which are included in the General Plan and consistent with the RAQS.

The proposed project would require a General Plan Amendment to change the land use designation of the project site from OS, PI and SDA-1 to Industrial Park (IP). The redesignation of the site would allow industrial development similar to that allowed under the existing SDA-1 designation. Therefore, the project would not propose development that is greater than that anticipated in the General Plan in areas of the project site that are currently designated SDA-1. The area of the site currently designated PI is very small and redesignation of this area to IP would have a negligible effect on development of the site. In areas of the project site that are currently designated OS, development of industrial uses may propose development that is greater than that allowed under the General Plan. However, the northern portion of the project site currently designated OS would be developed with low-density industrial buildings. Low-density industrial buildings are characterized by a low number of employees per square foot, as compared to higher intensity land uses with higher numbers of employees per square foot such as office buildings or hotels. As discussed above, allowable uses in OS-designated areas include agricultural uses and residential uses in areas not governed by the ALUCP. While the proposed low-density industrial project would develop the site with different uses than those allowed under the OS designation, this accounts for a small portion of the project site and would not substantially affect the development allowable under the City's General Plan. In addition, all industrial uses are required to be in compliance with the APCD Rules and Regulations which are generated by the SIP strategies. Therefore, industrial uses are presumed to be in conformance with the SIP. The proposed project would be in compliance with strategies for attaining and maintaining air quality standards. Therefore, the proposed project is not anticipated to conflict with or obstruct the implementation of the RAQS or applicable portions of the SIP.

4.2.4.2 SIGNIFICANCE OF IMPACT

The proposed project would not result in a conflict with or obstruction of the RAQS or SIP. Therefore, impacts would be less than significant.

4.2.4.3 MITIGATION, MONITORING, AND REPORTING

Because no significant impacts were identified, no mitigation is necessary.

4.2.5 ISSUE 2 – POLLUTANT EMISSIONS

Would the proposed project (a) conflict with or obstruct the implementation of the San Diego RAQS or applicable portions of the SIP, or (b) result in emissions that would violate APCD's screening-level criteria for air quality impacts?

4.2.5.1 IMPACT ANALYSIS

Project Construction

Construction of the proposed project would include emissions associated with the three phases of project construction, as described shown below and identified in Table 3-1 in Section 3.3.3.2, Duration of Construction Phasing. Emissions associated with construction were estimated using the URBEMIS Model, Version 9.2.4.

- Phase 1: March 2010 to July 2011, includes demolition and grading plus building construction and paving of Buildings A and B (196,500 square feet [sf])
- Phase 2: July 2011 to April 2012, includes building construction and paving of Building C (191,473sf)
- Phase 3: April 2012 to February 2013, includes building construction and paving of Building D (75,000sf)

Table 3-2 in Section 3.3.3.2, Duration of Construction Phasing, identifies the construction phases and estimated equipment needs for the construction activities.

Tables 4.2-4, 4.2-5, and 4.2-6 show the estimated air pollutant emissions for each phase of construction. As identified in these tables, construction of the proposed project would not result in the exceedence of any screening-level threshold for emissions of criteria pollutants. In addition, the construction phase of the project is short-term in nature. Thus criteria pollutants emissions during construction would result in a less than significant impact on the ambient air quality.

During site preparation and grading, the grading contractor would be required to employ dust control measures consistent with APCD Rules and Regulations. These measures would contribute to a reduction in PM_{10} emissions. Dust control measures may include, but would not be limited to, the following:

- 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 materials at any point of public street access
- Termination of grading if winds exceed 25 mph
- Stabilization of dirt storage piles by chemical binders, tarps, fencing or other erosion control

- Hydroseeding of graded lots
- Reduction of idling times for construction equipment

Table 4.2-4. Maximum Daily Estimated Construction Emissions – Phase 1 Construction

Emission Source	lbs/day					
	VOC	**NOx**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Grading and Site Preparation						
Fugitive Dust – Grading	-	-	-	-	3.08	0.64
Heavy Equipment Exhaust	9.51	84.17	42.80	0.00	3.70	3.40
Worker Travel – Vehicle Emissions	0.06	0.11	1.92	0.00	0.01	0.01
Total	**9.57**	**84.28**	**44.72**	**0.00**	**6.79**	**4.05**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*
Building Construction						
Heavy Equipment Exhaust	6.71	39.88	22.01	0.00	3.01	2.77
Vendor Trips	1.13	15.09	10.60	0.03	0.68	0.57
Worker Travel – Vehicle Emissions	0.50	1.00	18.32	0.02	0.13	0.07
Architectural Coatings	59.33	-	-	-	-	-
Architectural Coating Worker Travel	0.04	0.06	1.18	0.00	0.01	0.00
Total	**67.71**	**56.03**	**52.11**	**0.05**	**3.83**	**3.41**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*
Paving						
Heavy Equipment Exhaust	4.17	25.17	14.26	0.00	2.24	2.06
Asphalt On-Road Diesel	0.03	0.41	0.14	0.00	0.02	0.02
Worker Travel – Vehicle Emissions	0.05	0.08	1.53	0.00	0.01	0.01
Asphalt Off-Gassing	0.14	-	-	-	-	-
Total	**4.39**	**25.66**	**15.93**	**0.00**	**2.27**	**2.09**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*
Maximum Daily Emissions	**72.10**	**84.28**	**68.04**	**0.05**	**6.79**	**5.50**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Scientific Resources Associated, 2009

Table 4.2-5. Maximum Daily Estimated Construction Emissions – Phase 2 Construction

Emission Source	lbs/day					
	VOC	**NOx**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Building Construction						
Heavy Equipment Exhaust	6.23	37.63	22.38	0.00	2.87	2.64
Vendor Trips	0.93	11.74	8.85	0.02	0.55	0.45
Worker Travel – Vehicle Emissions	0.52	0.89	16.40	0.02	0.12	0.06
Architectural Coatings	57.23	-	-	-	-	-
Architectural Coating Worker Travel	0.03	0.06	1.05	0.00	0.01	0.00
Total	**64.94**	**50.32**	**48.68**	**0.04**	**3.55**	**3.15**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*
Paving						
Heavy Equipment Exhaust	3.95	23.90	14.12	0.00	2.12	1.95
Asphalt On-Road Diesel	0.02	0.35	0.12	0.00	0.02	0.01
Worker Travel – Vehicle Emissions	0.04	0.08	1.42	0.00	0.01	0.01
Asphalt Off-Gassing	0.13	-	-	-	-	-
Total	**4.17**	**24.39**	**16.71**	**0.00**	**2.16**	**1.97**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*
Maximum Daily Emissions	**69.11**	**74.71**	**65.39**	**0.00**	**5.71**	**5.12**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Scientific Resources Associated, 2009

Table 4.2-6. Maximum Daily Estimated Construction Emissions – Phase 3 Construction

Emission Source	lbs/day					
	VOC	**NOx**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Building Construction						
Heavy Equipment Exhaust	5.86	35.37	31.31	0.00	2.62	2.41
Vendor Trips	0.37	4.60	3.47	0.01	0.21	0.17
Worker Travel – Vehicle Emissions	0.19	0.32	5.95	0.01	0.05	0.03
Architectural Coatings	16.70	-	-	-	-	-
Architectural Coating Worker Travel	0.01	0.02	0.38	0.00	0.00	0.00
Total	**23.13**	**40.31**	**41.11**	**0.02**	**2.88**	**2.61**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*
Paving						
Heavy Equipment Exhaust	3.95	23.90	14.12	0.00	2.12	1.95
Asphalt On-Road Diesel	0.01	0.13	0.04	0.00	0.01	0.00
Worker Travel – Vehicle Emissions	0.04	0.08	1.42	0.00	0.01	0.01
Asphalt Off-Gassing	0.05	-	-	-	-	-
Total	**4.05**	**24.11**	**15.58**	**0.00**	**2.14**	**1.96**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*
Maximum Daily Emissions	**27.18**	**64.42**	**56.69**	**0.02**	**5.02**	**4.57**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Scientific Resources Associated, 2009

Project Operation

The project's potential operational emissions from specific industrial park operations were not evaluated because specific tenants, buildings or uses are not known at this time. Emission sources associated with industrial uses would be subject to the permitting requirements of the SDAPCD and would be required to comply with SDAPCD Rules and Regulations governing the emissions of air contaminants. As such, these sources would not be allowed to emit pollutants that would cause a significant impact on the ambient air quality.

The main operational source of ongoing air pollutant emissions associated with the completed industrial park project would be impacts associated with traffic. In addition, minor emissions would be associated with energy use. Traffic generated from the proposed project was calculated in the Traffic Impact Analysis, Appendix F (LLG 2009). At full buildout, the project would generate 3,704 average daily trips (ADT), averaging 20 miles per trip. The air pollutants calculated to be generated by these sources are shown in Table 4.2-7. The assumptions used in the calculations are provided in Appendix B. As Table 4.2-7 shows, the proposed project would not exceed any of the screening level thresholds established for emissions of criteria pollutants. Therefore, no significant impacts associated with operational air pollutant emissions would occur as a result of the proposed project.

Table 4.2-7. Estimated Operational Emissions

Emission Source	VOC	NOx	CO	SO_x	PM_{10}	$PM_{2.5}$
Year 2011	**lbs/day**					
Energy Use	0.06	0.81	0.68	0.00	0.00	0.00
Landscaping	0.13	0.02	1.60	0.00	0.00	0.00
Architectural Coatings	2.71	-	-	-	-	-
Vehicular Emissions	27.30	122.01	253.45	0.39	43.04	9.35
Total	**30.20**	**122.84**	**255.73**	**0.39**	**43.04**	**9.35**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*
	tons/year					
Energy Use	0.01	0.15	0.12	0.00	0.00	0.00
Landscaping	0.01	0.00	0.14	0.00	0.00	0.00
Architectural Coatings	0.49	-	-	-	-	-
Vehicular Emissions	3.41	15.25	31.68	0.05	5.38	1.17
Total	**3.92**	**15.40**	**31.94**	**0.05**	**5.38**	**1.17**
Screening-Level Thresholds	15	40	100	100	15	10
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*
Year 2012	**lbs/day**					
Energy Use	0.06	0.81	0.68	0.00	0.00	0.00
Landscaping	0.13	0.02	1.60	0.00	0.00	0.00
Architectural Coatings	2.71	-	-	-	-	-
Vehicular Emissions	51.08	221.78	475.43	0.79	84.47	17.68
Total	**53.98**	**222.61**	**477.71**	**0.79**	**84.47**	**17.68**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*

Table 4.2-7. Continued

Emission Source	VOC	NOx	CO	SO_x	PM_{10}	$PM_{2.5}$
	tons/year					
Energy Use	0.01	0.15	0.12	0.00	0.00	0.00
Landscaping	0.01	0.00	0.14	0.00	0.00	0.00
Architectural Coatings	0.49	-	-	-	-	-
Vehicular Emissions	6.38	27.72	59.43	0.10	10.56	2.21
Total	**6.89**	**27.87**	**59.69**	**0.10**	**10.56**	**2.21**
Screening-Level Thresholds	15	40	100	100	15	10
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*
Year 2013	lbs/day					
Energy Use	0.06	0.81	0.68	0.00	0.00	0.00
Landscaping	0.13	0.02	1.60	0.00	0.00	0.00
Architectural Coatings	2.71	-	-	-	-	-
Vehicular Emissions	53.85	238.86	497.31	0.91	99.26	20.06
Total	**56.75**	**239.69**	**499.59**	**0.91**	**99.26**	**20.06**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*
	tons/year					
Energy Use	0.01	0.15	0.12	0.00	0.00	0.00
Landscaping	0.01	0.00	0.14	0.00	0.00	0.00
Architectural Coatings	0.49	-	-	-	-	-
Vehicular Emissions	6.73	29.86	62.16	0.11	12.41	2.51
Total	**7.24**	**30.01**	**62.42**	**0.11**	**12.41**	**2.51**
Screening-Level Thresholds	15	40	100	100	15	10
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Scientific Resources Associated, 2009

During 2011 and 2012, operations of earlier project phases would occur simultaneously with construction of later phases. Worst-case daily emissions were totaled to evaluate if these emissions would be above the significance thresholds. As shown in Table 4.2-8, simultaneous construction and operation would result in emissions below the significance thresholds for all pollutants except NO_x emissions in 2012. Therefore, for all pollutants except NO_x, impacts would be less than significant. NO_x emissions would exceed the screening level threshold in 2012, resulting in a potentially significant project impact. However, impacts associated with simultaneous construction of Phase 3 and operation of Phases 1 and 2 would be temporary and only occur in 2012. Once project construction is finished, NO_x emissions levels would be reduced to below the threshold level. In addition, an exceedance of the screening threshold would only have the potential to occur on days when construction activities are at their maximum level (all construction equipment operating all day long).

Table 4.2-8. Simultaneous Construction and Operation Emissions

Emission Source	VOC	NOx	CO	SO_x	PM_{10}	$PM_{2.5}$
Year 2011						
Phase 1 Operational Emissions	30.20	122.84	255.73	0.39	43.79	9.35
Phase 2 Construction Emissions	69.11	74.71	65.39	0.00	5.71	5.12
Total	**99.31**	**197.55**	**321.12**	**0.39**	**49.50**	**14.47**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*
Year 2012						
Phase 1 and 2 Operational Emissions	53.98	222.61	477.71	0.79	84.47	17.68
Phase 3 Construction Emissions	27.18	64.42	56.69	0.02	5.02	4.57
Total	**81.16**	**287.03**	**534.4**	**0.81**	**89.49**	**22.25**
Screening-Level Thresholds	137	250	550	250	100	55
Above Thresholds?	*No*	*Yes*	*No*	*No*	*No*	*No*

Source: Scientific Resources Associated, 2009

4.2.5.2 SIGNIFICANCE OF IMPACT

Construction and operation of the proposed project would not conflict with or obstruct the implementation of the RAQS or applicable portions of the SIP. Criteria pollutant emissions during project construction and operation, when independent of one another, would not exceed screening level thresholds. However, under a worst-case scenario with both project construction of Phase 3 and operation of Phases 1 and 2 occurring simultaneously, the proposed project would result in an exceedance of the NO_x emissions threshold in 2012. This is considered to be a significant impact.

4.2.5.3 MITIGATION, MONITORING, AND REPORTING

The following mitigation measures have been identified to reduce significant impacts associated with NO_x during simultaneous project construction of Phase 3 and operation of Phases 1 and 2 to below a level of significance.

Air-1 During project construction, the construction contractor shall be required to ensure that construction equipment is maintained in good tune and that excessive idling time is minimized. This shall be made a requirement of the construction contract and be verified by City Planning staff prior to the issuance of a grading permit for the construction of Phase 3.

Air-2 During the simultaneous construction of Phase 3 and operation of Phases 1 and 2, the construction contractor shall limit daily construction hours to approximately 4 hours per day, in order to reduce emissions below the daily significance level threshold for NO_x. This shall be made a requirement of the construction contract and be verified by City Planning staff prior to the issuance of a grading permit for the construction of Phase 3.

Although mitigation measure Air-2 would reduce impacts to below a level of significance, it is considered to be infeasible by the City of El Cajon because it would double the duration of construction for Phase 3 from 11 months to 22 months. This would result in an economic impact to the project applicant by significantly increasing the cost of construction of Phase 3. In addition, it would negatively affect the

residential properties to the west of the project site that are adjacent to the Phase 3 construction area, by exposing them to nuisance noise and dust from construction for an additional 11 months.

Because mitigation measure Air-2 is considered to be infeasible, the following mitigation measure would be implemented that would reduce emissions of NO_x from simultaneous project construction and operational activities.

Air-3 During the simultaneous construction of Phase 3 and operation of Phases 1 and 2, the construction contractor shall use at least 10 percent Tier I, II, or III certified equipment as approved by the California Air Resources Board. This shall be made a requirement of the construction contract and be verified by City Planning staff prior to the issuance of a grading permit for the construction of Phase 3.

Due to the potential mix of construction equipment from Tiers 1, 2 and 3 that may be used, it not possible to quantify the emissions reduction that would occur from implementation of mitigation measure Air-3. Therefore, while measures Air-1 and Air-3 would reduce the emissions of NO_x during simultaneous project construction and operation activities, the project may still result in emissions levels that exceed the allowable daily emissions threshold for NO_x. Therefore, although reduced, impacts would be potentially significant and unavoidable.

4.2.6 ISSUE 3 – SENSITIVE RECEPTORS

Would the proposal expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations?

4.2.6.1 IMPACT ANALYSIS

With regard to evaluating whether a project would have a significant impact on sensitive receptors, air quality regulators typically define sensitive receptors as schools, hospitals, resident care facilities, or day-care centers. The project site is located adjacent to properties zoned and developed for industrial and residential uses. For the purposes of this project, the residential area located immediately west of the project site is considered to be a sensitive receptor.

Project Construction

Of the criteria pollutants that could constitute substantial concentrations of danger to sensitive receptors, PM_{10} emissions associated with construction generally result in near-field impacts that have rapidly diminishing effect with increasing distance from the point or points of origin. The impacts of diesel exhaust particulate matter was also evaluated as it is a known carcinogenic compound and long-term exposure to the compound has the potential to result in adverse health effects. Diesel exhaust particulate matter would be emitted during construction due to the operation of heavy equipment at the site. As seen in Tables 4.2-4, 4.2-5, and 4.2-6, construction of the proposed project does not result in CO concentrations above the screening threshold. Other pollutants of concern tend to disperse rapidly into the atmosphere, so that dangerous concentrations are not likely. Most pollutant emissions, as shown in Tables 4.2-4, 4.2-5, and 4.2-6, are far below the standards for generation established by federal and state agencies.

Project Operation

Pollutant emissions associated with the completed project, as shown in Table 4.2-7, are dominated by vehicular emissions. Severe concentrations of pollutants from traffic are generally recognized as CO "hot

spots." The potential for CO hot spots associated with the project was assessed according to the Caltrans Project-Level Carbon Monoxide Protocol for screening projects. According to this protocol, intersections or roadways in which the level of service (LOS) decreases to a LOS E or worse are typically assessed for CO hot spots.

Based on the Traffic Impact Analysis (LLG 2009), the following three intersections were identified for CO hot spot analysis due to failing LOS: Gillespie Way and Weld Avenue, and Fanita Drive and Grossmont College Drive, and SR-67 southbound ramps and W. Bradley Avenue (Appendix F, LLG 2009). Maximum 1-hour and 8-hour CO concentrations were evaluated for existing plus cumulative plus project scenarios. The CAAQS standard for maximum CO concentration is 20 ppm over 1 hour and 9 ppm over 8 hours. The NAAQS standard for maximum CO concentration for 1 hour is 35 ppm and 9 ppm for 8 hours. All three intersections fall below the maximum CO concentration as seen in Table 4.2-9 below. Therefore, the proposed project would not result in CO hot spots.

Table 4.2-9. CO "Hot Spot" Evaluation

Intersection	Existing Plus Cumulative Plus Project
Maximum 1-hour Concentration Plus Background, ppm; CAAQS = 20 ppm; NAAQS = 35 ppm	
SR-67 SB ramps and W. Bradley Avenue	5.8
Fanita Drive and Grossmont College Drive	5.8
Weld Boulevard and Gillespie Way	5.7
Maximum 8-hour Concentration Plus Background, ppm; CAAQS = 9.0 ppm; NAAQS = 9 ppm	
SR-67 SB ramps and W. Bradley Avenue	3.62
Fanita Drive and Grossmont College Drive	3.62
Weld Boulevard and Gillespie Way	3.55

Source: Scientific Resources Associated, 2009

Diesel exhaust particulate matter would also be generated as part of project operation from truck traffic traveling to and from to the site. Particulate emissions from truck traffic associated with project operations in the vicinity of sensitive receptors (adjacent residences) were analyzed in the Air Quality Technical Report (SRA 2009) based on the Traffic Impact Analysis (LLG 2009) and the EMFAC2007 Model (ARB 2007). The EMFAC2007 model is the current Caltrans emission factor model for on-road traffic. At full operation, the proposed project would generate 370 daily truck trips. As calculated, the maximum residential excess cancer risk associated with exposure to diesel particulate emissions from project-generated trips was 0.984 in one million, which is below the significance threshold of one in one million. The maximum chronic non-cancer hazard at the nearest residence was 0.000618 in one million, which is also below the significance threshold of one in one million.

Taking into account the levels of pollutants associated with the project and the factors associated with the project's location, size, and characteristics, the project is not anticipated to result in concentrations of air pollutants that would adversely affect sensitive receptors, including the adjacent residences to the west of the project site.

4.2.6.2 SIGNIFICANCE OF IMPACT

The proposed project would not expose sensitive receptors to substantial pollutant concentrations. Therefore, no significant impact would occur.

4.2.6.3 MITIGATION, MONITORING, AND REPORTING

Because no significant impacts were identified, no mitigation is necessary.

4.2.7 ISSUE 4 – ODORS

Would the proposal create objectionable odors affecting a substantial number of people?

4.2.7.1 IMPACT ANALYSIS

During construction, diesel equipment operating at the site could generate some nuisance odors; however, due to the temporary nature of construction, odors associated with project construction would not be significant.

The project could produce objectionable odors, which would result from volatile organic compounds, ammonia, carbon dioxide, hydrogen sulfide, methane, alcohols, aldehydes, amines, carbonyls, esters, disulfides dust and endotoxins from the construction and operational phases. However, these substances, if present at all, would only be in trace amounts (less than 1 $\mu g/m^{3)}$. Specific industrial uses are not known at this time; however, the project's emissions would be consistent with land uses in the surrounding area. In accordance with the City of El Cajon's Zoning Ordinance, Section 17.60.070 Performance Standard – Air Quality (C), "No emission shall be permitted of odorous gases or other odorous matter in such quantities as to be readily detectable at the property line of the use from which such odor emits, or at the point of greatest concentration if further than the lot line. Any process which may involve the creation or emission of any odors shall be provided with an adequate secondary safeguard system of control, so that that control will be maintained if the primary safeguard system should fail. In no event shall odors, gases or other odorous matter be emitted in such quantities as to be readily detectable when diluted to a ration of one volume of odorous air to four volumes of clean air."

Any emissions emanating from the proposed project would be required to comply with the City's Zoning Code and emissions would be required to be diluted by a volume of 4 to 1 at the property line at a minimum.
To evaluate whether odors would affect nearby sensitive receptors, the SCREEN3 odor dilution model was run using a unit emission rate of 1 gram per second, and the amount of dilution was projected at distances from the proposed project site. Based on this model, odors from the project site would be diluted four-fold from 15 feet from the source to 115 feet from the source. The nearest sensitive receptors to the project site are residences located approximately 150 feet to the west of Building D and approximately 150 feet north of Building C. Dilution would occur due to atmospheric dispersion and increasing distance from the odor source to nearby receptors. Therefore, any odor compounds would be diluted by a volume of at least 4 to 1 by the time they would reach adjacent residential receptors. Thus odors would be diluted at the property line in accordance with the City of El Cajon's Zoning Code requirements.

4.2.7.2 SIGNIFICANCE OF IMPACT

The proposed project would not create objectionable odors affecting substantial numbers of people. Therefore, impacts would be less than significant.

4.2.7.3 MITIGATION, MONITORING, AND REPORTING

Because no significant impacts were identified, no mitigation is necessary.