4.4 <u>AIR QUALITY</u>

This section summarizes information provided in the *Air Quality Assessment for: Amerige Court, City of Fullerton* (2005) prepared by Mestre Greve Associates and included in its entirety in Appendix C.

4.4.1 ENVIRONMENTAL SETTING

Climate and Meteorological Conditions

The climate in and around the project area, as with all of southern California, is controlled largely by the strength and position of the subtropical high pressure cell over the Pacific Ocean. It maintains moderate temperatures and comfortable humidity and limits precipitation to a few storms during the winter "wet" season. Temperatures are normally mild, except during the summer months, which commonly bring substantially higher temperatures. In all portions of the basin, temperatures well above 100 degrees Fahrenheit (°F) have been recorded in recent years. The annual average temperature in the basin is approximately 62°F.

Wind significantly affects air pollution. Wind direction and speed influence the horizontal dispersion and transport of air pollutants. Southern California frequently has temperature inversions which inhibit the dispersion of pollutants. These conditions are further discussed in the Air Quality Study provided in Appendix C.

Effects of Pollutants on Health

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration and to facilitate improvement in the prevalent air quality.

The following pollutants are regulated by the EPA and are therefore subject to emission reduction measures adopted by federal, state, and other regulatory agencies.

<u>Ozone (O₃)</u>: Ozone is a secondary pollutant formed by the chemical reaction of volatile organic compounds and nitrogen oxides (NOx) under favorable meteorological conditions such as high temperature and stagnation episodes. An elevated level of ozone irritates the lungs and breathing passages causing coughing and pain in the chest and throat thereby increasing susceptibility to respiratory infections and reducing the ability to exercise. Effects are more severe in people with asthma and other respiratory ailments. Long-term exposure may lead to lung tissue scarring and may lower the lung efficiency.

<u>Carbon Monoxide (CO)</u>: Carbon monoxide is primarily emitted from combustion processes and motor vehicles because of incomplete fuel combustion. Elevated concentrations of CO weaken the heart's contractions and lower the amount of oxygen carried by the blood. It is especially dangerous for people with chronic heart disease. Inhalation of moderate levels of carbon monoxide can cause nausea, dizziness, and headaches, and can be fatal at high concentrations.

<u>Particulate Matter (PM10 and PM2.5)</u>: The human body naturally prevents the entry of large airborne particles into the body. However, small particles, with an aerodynamic diameter equal to or less than ten microns (PM10) and even smaller particles with an

aerodynamic diameter equal to or less than 2.5 microns (PM2.5) are trapped in the nose, throat, and upper respiratory tract. These small particulates enter the body and could potentially aggravate existing heart and lung diseases, change the body's defenses against inhaled materials, and damage lung tissue. The elderly, children, and those with chronic lung or heart disease are most sensitive to PM10 and PM2.5. Lung impairment can persist for two to three weeks after exposure to high levels of particulate matter. Some types of particulate matter could become toxic after inhalation due to the presence of certain chemicals and their reaction with internal body fluids.

<u>Nitrogen Oxides (NOx)</u>: Major sources of NOx include power plants, large industrial facilities, and motor vehicles. Nitrogen oxides are emitted from combustion processes and irritate the nose and throat. It increases susceptibility to respiratory infections, especially in people with asthma. The principal concern of NOx is as a precursor to the formation of O_3 .

<u>Sulfur Dioxide (SO₂)</u>: Major sources of SO₂ include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. Emissions of sulfur dioxide aggravate lung diseases, especially bronchitis. It also constricts the breathing passages, especially in asthmatics and people involved in moderate-to-heavy exercise. Sulfur dioxide potentially causes wheezing, shortness of breath, and coughing. High levels of particulate matter appear to worsen the effect of sulfur dioxide, and long-term exposures to both pollutants lead to higher rates of respiratory illness.

<u>Lead (Pb)</u>: Lead is emitted from industrial facilities and from the sanding or removal of old lead-based paint. Smelting or processing the metal is the primary source of Pb emissions, which is primarily a regional pollutant. Lead affects the brain and other parts of the body's nervous system. Exposure to Pb in very young children impairs the development of the nervous system, kidneys, and blood-forming processes in the body.

<u>Volatile Organic Compounds (VOC)</u>: Though VOCs are not directly a health hazard and are not considered a criteria pollutant, they react with NOx in the presence of sunlight to produce ozone. Hence, VOC emissions are regulated as a precursor of ozone. However, some state and local agencies regulate VOCs as Reactive Organic Gases (ROGs) which possess similar characteristics as VOCs.

Air Quality Management

The proposed project is located in the South Coast Air Basin (SCAB), and is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). The SCAQMD sets and enforces regulations for stationary sources in the basin and works with the Southern California Association of Governments (SCAG) to develop and implement Transportation Control Measures. The CARB is charged with controlling motor vehicle emissions establishes legal emission rates for new vehicles, and is responsible for the vehicle inspection program. Other important agencies in the basin's air quality management include the U.S. Environmental Protection Agency (EPA) and the SCAG. The EPA implements the provisions of the Federal Clean Air Act (CAA), which establishes ambient air quality standards that are applicable nationwide. In areas that are not achieving these standards, the CAA requires that plans be developed and implemented to meet the standards. The EPA oversees the efforts in the SCAB and ensures that appropriate plans are being developed and implemented. SCAQMD is the primary agency responsible for writing the Air Quality Management Plan (AQMP) (with SCAG's collaboration) in preparing the transportation control measure component of the Plan.

SCAQMD and SCAG, in coordination with local governments and the private sector, have developed the AQMP for the air basin. The AQMP is the most important air management document for the basin because it provides the blueprint for meeting state and federal ambient air quality standards. The 2003 AQMP is the current approved applicable air plan. The plan was adopted locally on August 1, 2003, by the governing board of the SCAQMD. The CARB adopted the plan as part of the California State Implementation Plan on October 23, 2003. The 2003 AQMP was adopted by the EPA on April 9, 2004.

State law mandates the revision of the AQMP at least every three years, and federal law specifies dates for attaining criteria pollutant standards and preparing plans to meet them. Under federal law, the SCAB has been designated by the EPA as a non-attainment area for O_3 , CO, PM10 and PM2.5. The SCAB has met the federal NO₂ standards for the third year in a row, and, therefore, is qualified for redesignation to attainment. A maintenance plan for NO₂ is included in the 2003 AQMP. Under California state law, the CAA mandates the implementation of a program that would achieve the California Ambient Air Quality Standards (CAAQS), and the CAA mandates the implementation of new air quality performance standards. The overall control strategy for the 2003 AQMP is to meet applicable state and federal requirements and to demonstrate attainment with ambient air quality standards.

Monitored Air Quality

Air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates for the SCAB made for existing emissions in the 2003 AQMP indicate that mobile sources are the major source of regional emissions. Motor vehicles (i.e., on-road mobile sources) account for approximately 45 percent of VOC emissions, 63 percent of NOx emissions, and approximately 76 percent of CO emissions.

The closest ambient air quality monitoring station in the SCAB for O_3 , PM10, and NOx is the La Habra Monitoring Station, located near the intersection of Euclid Street and Lambert Road. The monitored air quality data from 2002 to 2005 at the La Habra Monitoring Station for these pollutants are shown in Table 4.4-1. An additional site was used to obtain data not available from the La Habra Monitoring Station. The closest ambient air quality monitoring station for PM is the Anaheim Monitoring Station, located near the intersection of Euclid Street and Lincoln Avenue. The monitored air quality data from 2002 to 2005 for these additional pollutants at the Anaheim Monitoring Station are shown in Table 4.4-2. This data was obtained from the CARB Air Quality Data Statistics website (www.arb.ca.gov/adam/). Both tables also present the federal and state air quality standards.

TABLE 4.4-1 AIR QUALITY LEVELS MEASURED AT THE LA HABRA MONITORING STATION

	California	National		Percent	Max.	Days Ex Stand	ແceeded dard ^b
Pollutant	Standard	Standard	Year	Measurements ^a	Level	State	National
			2005	95	0.094	0	0
Ozone	0.09 ppm	0.12 ppm ^c	2004	97	0.099	6	0
OZONE	for 1 hr	for 1 hr	2003	99	0.165	7	1
			2002	99	0.121	3	0
			2005	95	0.075	-	0
Ozone	0.070 ppm	0.08 ppm	2004	97	0.079	—	0
020116	for 8 hr	for 8 hr	2003	99	0.087	—	2
			2002	99	0.079	—	0
	20 ppm for 1 hr	35 ppm for 1 hr	2005	100	6.8	0	0
<u> </u>			2004	99	7.4	0	0
			2003	100	8.4	0	0
			2002	100	10.2	0	0
	9.0 ppm for 8 hr	9.0 ppm for 8 hr	2005	97	3.07	0	0
<u> </u>			2004	97	4.09	0	0
			2003	98	4.29	0	0
			2002	97	4.49	0	0
			2005	98	0.090	0	NA
NO_{2} (1 br)	0.25 ppm	None	2004	96	0.105	0	NA
	for 1 hr	NONE	2003	99	0.158	0	NA
			2002	89	0.116	0	NA
			2005	98	0.025	NA	No
NO ₂ (Annual	None	0.053 ppm AAM ^d	2004	96	0.025	NA	No
Arithmetic Mean) ^c			2003	99	0.028	NA	No
			2002	89	0.025	NA	No

Percent of year where high pollutant levels were expected when measurements were made

^b For annual averaging times, a yes or no response is given if the annual average concentration exceeded the applicable standard.

^c With the implementation of the federal 8-hour ozone standard, the 1-hour standard was revoked as of June 15, 2005. The previous standard is provided for informational purposes.

^d Annual Arithmetic Mean

-- Data Not Reported

NA Not Available

Source: Mestre Greve Associates 2006.

As shown in Table 4.4-1, the federal 1-hour O_3 standard was exceeded only once in 2003, and not at all in 2002, 2004, or 2005. The more stringent state 1-hour O_3 standard was exceeded three days in 2002, seven days in 2003, six days in 2004, and not at all in 2005. The federal 8-hour O_3 standard was exceeded twice in 2003, and not at all in 2002, 2004, or 2005. The CARB website is currently not reporting the number of days that the state 8-hour O_3 standard was exceeded; however, the maximum levels show the standard was exceeded at least on day each year in the past four years at both the La Habra and Anaheim stations. There does not appear to be a noticeable trend in either maximum O_3 concentrations or days of exceedances in the area of the La Habra Monitoring Station.

TABLE 4.4-2 AIR QUALITY LEVELS MEASURED AT THE ANAHEIM MONITORING STATION

	California	National Standard		Percent	Max.	Days Exceeded Standard ^b	
Pollutant	Standard		Year	Measurements ^a	Level	State	National
Ozone			2005	98	0.095	1	0
	0.09 ppm	0.12 ppm ^c	2004	98	0.120	14	0
	for 1 hr	for 1 hr	2003	99	0.136	11	2
			2002	100	0.103	3	0
			2005	98	0.077	NA	0
07070	0.070 ppm	0.08 ppm	2004	98	0.097	NA	8
Ozone	for 8 hr	for 8 hr	2003	97	0.087	NA	1
			2002	97	0.078	NA	0
			2005	100	4.1	0	0
~~	20 ppm for	35 ppm for	2004	100	5.3	0	0
0	1 hr	1 hr	2003	100	6.1	0	0
			2002	100	7.4	0	0
			2005	94	3.27	0	0
<u></u>	9.0 ppm	9.0 ppm for 8 hr	2004	96	4.09	0	0
0	for 8 hr		2003	94	3.89	0	0
			2002	100	5.26	0	0
		None	2005	97	0.089	0	NA
NO ₂	0.25 ppm		2004	98	0.122	0	NA
(1 Hour)	for 1 hr		2003	98	0.127	0	NA
			2002	100	0.100	0	NA
			2005	97	0.021	NA	No
NO ₂	Nana	0.053 ppm	2004	98	0.020	NA	No
(AAM ^c)	None	AAM ^d	2003	98	0.024	NA	No
			2002	100	0.024	NA	No
			2005	100	65	3/18	0/0
DM10 (24 Hours)	50 µg/m ³	150 µg/m ³	2004	100	74	7/42	0/0
	for 24 hr	for 24 hr	2003	100	96	6/38	0/0
			2002	99	69	5/30	0/0
			2005	100	28	Yes	No
	20 $\mu g/m^{3}$	50 µg/m ³	2004	100	34	Yes	No
PINTO (Annual)	AAM ^d	AAM ^d	2003	100	33	Yes	No
			2002	99	34	Yes	No
			2005	-	55	NA	0
DMOE(04 hr)	No	65 µg/m ³	2004	_	59	NA	0
PM2.5 (24 nr)	Standard	for 24 hr	2003	_	116	NA	3
			2002	_	69	NA	1
			2005	_	15	Yes	No
DM2 5 (Annual)	12 µg/m ³	$15 \mu g/m^3$	2004	_	17	Yes	Yes
FIVIZ.5 (Annual)	AAM ^d	AAM ^d	2003	_	17	Yes	Yes
			2002	_	19	Yes	Yes

^a Percent of year where high pollutant levels were expected that measurements were made

^b For annual averaging times, a yes or no response is given if the annual average concentration exceeded the applicable standard. For the PM10 24 hour standard, daily monitoring is not performed. The first number shown in "Days Exceeded State Standard" column is the actual number of days measured in which the State standard was exceeded. The second number shows the number of days the standard would be exceeded if measurements were taken every day.

⁶ With the implementation of the federal 8-hour ozone standard, the 1-hour standard was revoked as of June 15, 2005. The previous standard is provided for informational purposes.

^d Annual Arithmetic Mean

-- Data Not Reported

NA Not Available

Source: Mestre Greve Associates 2006.

As shown in Table 4.4-2, the federal 1-hour O_3 standard was exceeded twice in 2003, and not at all in 2002, 2004, or 2005. The more stringent state 1-hour O_3 standard was exceeded 3 days in 2002, 11 days in 2003, 14 days in 2004, and 1 day in 2005. The federal 8-hour O_3 standard was exceeded one day in 2003, and eight days in 2004, but not at all in 2002 or 2005. As mentioned above, the CARB website is currently not reporting the number of days that the state 8-hour O_3 standard was exceeded. Overall, there does not appear to be a noticeable trend in either maximum O_3 concentrations or days of exceedances in the area of the Anaheim Monitoring Station.

The federal standards for PM10 were not exceeded at the Anaheim Monitoring Station. However, the more stringent state standards for 24-hour PM10 concentration were exceeded between 18 and 42 days each year over the past four years. Similarly, the federal standard was not exceeded during the last four years, but the state annual average standard was exceeded in each of the past four years.

For PM2.5, the federal 24-hour standard was exceeded 1 day in 2002, 3 days in 2003, and not at all in 2004 or 2005. In fact, the maximum levels in 2005 were the lowest in the last four years. Additionally, the maximum level for 2003, the highest level in four years, was recorded during the widespread brush fires in October. The next highest concentration in 2003 was near the 2002 maximum. The annual average PM2.5 concentration exceeded the state standard for each of the past four years. The federal standard was exceeded in 2002, 2003, and 2004 and the annual concentration was at the federal standard in 2005. There appears to be a slight downward trend in maximum particulate concentrations in the area. Particulate levels in the area are due to natural sources, grading operations, and motor vehicles.

Overall, the monitored data shown in Tables 4.4-1 and 4.4-2 show that other than the O_3 , PM10, and PM2.5 exceedances mentioned above, no state or federal standards were exceeded for the remaining criteria pollutants.

4.4.2 THRESHOLDS OF SIGNIFICANCE

The following significance criteria are based on the City's Initial Study Checklist for air quality. The project would have a potentially significant impact if it would:

- Violate an air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to pollutant concentrations.
- Conflict with or obstruct implementation of the applicable air quality plan.

Regional Air Quality

In the *1993 CEQA Air Quality Handbook*, the SCAQMD established significance thresholds to assess the regional impact of project-related air pollutant emissions. Table 4.4-3 presents these significance thresholds. There are separate thresholds for short-term construction and long-term operational emissions. A project with daily emission rates below these thresholds are considered to have a less-than-significant effect on regional air quality throughout the SCAB.

TABLE 4.4-3 SCAQMD REGIONAL POLLUTANT EMISSION THRESHOLDS OF SIGNIFICANCE

	Pollutant Emissions (lbs/day)								
	CO ROG NOx PM10 SC								
Construction	550	75	100	150	150				
Operation	550	55	55	150	150				
Source: SCAQMD 2003.									

Local Air Quality

To assess local air quality impacts, The SCAQMD developed a localized significance threshold (LST) methodology and mass rate look-up tables by source receptor area (SRA) to determine whether or not a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each SRA. The LST mass rate look-up tables are applicable only for the NOx, CO, and PM10.

The project is located in SRA 16 and is approximately 2.8 acres in size. The LST thresholds for the proposed project are shown in Table 4.4-4, and the assumptions for calculating the LSTs are provided in the air quality technical report provided in Appendix C.

	Pollutant Emissions (lbs/day)							
	CO NOx PM10							
Construction	593.1	162.7	6.6					
Operation	593.1	162.7	1.5					
Source: SCAQMD 2003.								

TABLE 4.4-4 SCAQMD LOCALIZED SIGNIFICANCE THRESHOLDS

4.4.3 ENVIRONMENTAL IMPACTS

Methodology

Short-term Construction Impacts

Pollutant emissions were calculated for each of the construction activities using the methodologies presented in *Sample Construction Scenarios for Projects Less than Five Acres in Size* by SCAQMD (February 2005). Worksheets developed from those in the Sample Construction Scenario document were used as a basis for the calculations. The worksheets were modified to include ROG and SOx emissions as well as off-site emissions for comparison with the Regional Significance Thresholds. Worksheets showing the data used to calculate the emissions are presented in the technical report provided in Appendix C.

On-Road vehicle emission factors used in the calculations are from CARB's EMFAC2002 model which calculates emissions from on-road vehicles. Emission calculations for off-road equipment are based on emission factors provided by the CARB from their Off-Road Mobile Source Model. PM10 emissions due to material handling and grading equipment operation are from EPA's AP-42 compilation of emission factors with parameters from SCAQMD's CEQA Handbook and

are described in the SCAQMD Sample Construction Scenario document. Where applicable, estimates of number of pieces of equipment and activity levels are based on the Sample Construction Scenarios developed by SCAQMD. General assumptions for each activity are presented in the technical report provided in Appendix C. All the calculations assume watering of the site three times per day per SCAQMD Rule 403 to control fugitive PM10 emissions.

Long-term Operational Emissions

Based on the data provided in the traffic report for the project (Albert Grover & Associates 2006), on-site and regional emissions resulting from motor vehicles were calculated using CARB's EMFAC2002 computer model. Emissions from natural gas consumption were also included in the emission calculations.

Standard Conditions and Requirements

The following standard requirement applies to the proposed project.

SC 4-1 During construction of the proposed project, the property owner/developer and its contractors shall be required to comply with SCAQMD Rules 402 and 403, which shall assist in reducing short-term air pollutant emissions. SCAQMD Rule 402 requires that air pollutant emissions not be a nuisance off site. SCAQMD Rule 403 (Tables 1, 2, and 3 of Rule 403) requires that fugitive dust be controlled with the best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. This requirement shall be included as notes on the contractor specifications.

Impact Analysis

Threshold 4.1: Would the proposed project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Air quality impacts are divided into short-term and long-term impacts. Short-term impacts are usually the result of construction or grading operations. Long-term impacts are associated with the built out condition of the proposed project (long-term operation).

Short-Term Construction-Related Impacts

Temporary impacts would result from project construction activities. Air pollutants would be emitted by construction equipment, and fugitive dust would be generated during demolition of the existing facilities, grading, and excavation of the site.

The majority of the project site is currently a parking lot serving the neighboring commercial areas. As previously described in Section 3, Project Description, the construction phasing of the project has been designed to provide the same level of parking during construction as during existing conditions. Construction would take place in four phases. During Phase 1, the south parking lot and existing 131 W. Commonwealth Building would be demolished, and the south parking lot would be re-paved to provide the maximum amount of public parking possible. During Phase 2, the north parking area would be demolished and the parking structure portion of the north building would be constructed. During Phase 3, the residential and commercial portions of the north building would be constructed, wrapping around the south and east sides of the parking structure. The final phase of construction would be to demolish the south parking area and construct the south building and the Commonwealth Building.

The air quality technical report includes a calculation of on-site emission calculations for each individual construction activity; no single construction activity would result in on-site emissions exceeding the LST. However, as discussed above, some construction activities would occur concurrently. Table 4.4-5 presents the combined on-site emissions for concurrent construction activities. The data in Table 4.4-5 shows that the concurrent construction activities would not result in combined on-site emissions exceeding the LST.

TABLE 4.4-5 COMBINED ON-SITE EMISSIONS FOR CONCURRENT CONSTRUCTION ACTIVITIES

	On-Site Emissions (lbs/day)						
Activity	СО	NOx	PM10				
Construct North Parking Structure Combined with:							
Construct North Wrap Building	24.8	46.4	4.1				
Construct North Wrap Building Combined with:							
Demolish South Parking Lot	35.2	72.0	6.6				
Excavation South Building	22.9	43.6	5.7				
Grading South Buildings	23.8	47.5	5.8				
Construct South Buildings	23.9	43.1	3.9				
Localized Significance Threshold	593.1	162.7	6.6				
Exceed Threshold?	NO	NO	NO				
Source: Mestre Greve Associates 2006.							

The air quality technical report also includes total emissions calculation for construction activities (combination of on-site emissions discussed above and emissions from on-road vehicles traveling outside the project boundaries). These emissions are compared to the Regional Significance Thresholds. No single construction activity would result in on-site emissions exceeding the regional significance thresholds. Table 4.4-6 presents the results of the total emissions calculations for the concurrent construction activities. As shown, concurrent construction activities would not result in combined emissions exceeding the significance thresholds.

TABLE 4.4-6 COMBINED TOTAL EMISSIONS FOR CONCURRENT CONSTRUCTION ACTIVITIES

	Pollutant Emissions (Ibs/day)						
Activity	СО	NO ₂	PM10	SO ₂	ROG		
Construct North Parking Structure Combined with:							
Construct North Wrap Building	39.1	93.5	5.0	4.2	9.8		
Construct North Wrap Building Combined with:							
Demolish South Parking Lot	44.3	87.1	6.9	10.3	10.7		
Excavate South Building	38.0	97.1	6.8	5.4	9.3		
Construct South Buildings	30.5	55.5	6.0	6.6	7.4		
Significance Threshold	550	100	150	150	75		
Exceed Threshold?	NO	NO	NO	NO	NO		
Source: Mestre Greve Associates 2006.							

As shown in Tables 4.4-5 and 4.4-6, the pollutant emissions associated with the construction of the project are not projected to be greater than the Significance Thresholds established by the SCAQMD in the *CEQA Air Quality Handbook*. Therefore, construction of the project would not result in significant short-term air quality impacts.

In 1998, the CARB identified particulate matter from diesel-fueled engines (Diesel Particulate Matter or DPM) as a Toxic Air Contaminant (TAC). The majority of the heavy construction equipment utilized during construction of the proposed project would be diesel-fueled and would therefore emit DPM. Impacts from toxic substances are related to cumulative exposure and are assessed over a 70-year period. Cancer risk is expressed as the maximum number of new cases of cancer projected to occur in a population of one million people due to exposure to the cancer-causing substance over a 70-year lifetime (California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Guide to Health Risk Assessment). Demolition and grading for the project (when the peak diesel exhaust emissions would occur) is expected to take approximately three to six months. Because of the relatively short duration of construction compared to a 70-year lifespan, diesel emissions resulting from the construction of the project are not expected to result in a significant impact.

Long-Term Operation-Related Impacts

Local Air Quality

Air Quality Impacts Near Intersections Affected by Project-Generated Traffic:

Increased traffic volumes due to the project would emit increased amounts of pollutants in the vicinity of the roads utilized by this traffic, which can cause pollutant levels to exceed the ambient air quality standards. Carbon monoxide (CO) is the pollutant of major concern along roadways because the most notable sources of CO are motor vehicles. For this reason CO concentrations are usually indicative of the local air quality generated by a roadway network, and are used as an indicator of its impacts on local air quality. Carbon monoxide concentrations are highest near intersections where queuing increases emissions. Local air quality impacts can be assessed by comparing future carbon monoxide levels with state and federal CO standards (shown in Table 4.4-1) as well as by comparing future CO concentrations with and without the project.

CO modeling was performed for the 2003 AQMP to demonstrate attainment of the federal CO standards. Modeling was performed for four intersections considered the worst-case intersections in the South Coast Air Basin. These intersections included Wilshire at Veteran, Sunset at Highland, La Cienega at Century, and Long Beach at Imperial. Table 4-10 of Appendix V of the AQMP shows that modeled one-hour average concentrations at these four intersections for 2002 conditions are actually below the eight-hour standard of nine parts per million (ppm). The highest modeled one-hour average concentration of 4.6 ppm occurred at the Wilshire and Veteran intersection. None of the intersections in the project area have peak hour traffic volumes that exceed those at the intersections modeled in the AQMP nor do they have any geometric qualities that would result in higher concentrations than for the intersections modeled for the AQMP. Generally, only intersections to exceed the state ambient air quality standards of 20 ppm for a 1-hour averaging time and 9 ppm for an 8-hour averaging time.

The traffic study prepared for the project shows that only four intersections are projected to operate at a LOS of D or worse in year 2025: (1) Chapman Avenue at Malden Avenue; (2) Chapman Avenue at Harbor Boulevard; (3) Chapman Avenue at Lemon Street; and

(4) Commonwealth Avenue at Harbor Boulevard. However, the project would increase peak hour traffic volumes by 1.2 percent or less and this increase in traffic would not affect the LOS at these intersections. Therefore, the proposed project is not expected to affect pollutant concentrations in the vicinity of these intersections. Additionally, the traffic volumes projected for these four Fullerton intersections have traffic volumes that are well below the volumes at the intersections modeled for the 2003 AQMP. Therefore, local CO concentrations would not exceed the state or federal ambient air quality standards.

Based on the modeling from the AQMP and the fact that the project would not substantially affect intersection operations, in terms of CO generation, all intersections in the project vicinity are not expected to experience CO concentrations in excess of the state standards. Therefore, the proposed project would not result in a significant local air quality impact.

On-Site Project Emissions:

The traffic study prepared for the project by Albert Grover & Associates (2006) indicates that the project would generate 2,488 daily trips. It was assumed that each vehicle trip would have a 0.2-mile component within the project site. The product of the project daily trips and trip length equate to a total of 498 daily, on-site vehicle miles traveled (VMT) which would be generated by the proposed project. Using CARB's EMFAC2002 computer model, the on-site emissions presented in Table 4.4-7 were calculated. The data show that on-site emissions would not exceed the LST. Therefore, the operation of the project would not result in a significant local air quality impact.

	Pollutant Emissions (lbs/day)					
Activity	СО	NOx	PM10			
Vehicular Trips	5.5	1.1	0.0			
Natural Gas Consumption	0.4	1.9	0.0			
On-Site Project Emissions	5.9	2.9	0.1			
Localized Significance Threshold	593.1	162.7	1.5			
Exceed Threshold?	NO	NO	NO			
Source: Mestre Greve Associates 2006.						

TABLE 4.4-7ON-SITE PROJECT EMISSIONS

Regional Air Quality

Motor vehicles would be the primary source of regional emissions generated by the proposed project. Other emissions from the project site could include the combustion of natural gas for space heating and the use of consumer products. Emissions could also be generated off site by the use of natural gas and oil for the generation of electricity consumed by the project.

The traffic study prepared for the project indicates that the project will generate 2,488 daily trips. The average trip length for the proposed project is estimated to be 8.5 miles. The product of the project daily trips and trip length equate to a total of 21,148 VMT generated by the proposed project. Using CARB's EMFAC2002 computer model, the regional vehicular emissions were calculated. The data, presented in Table 4.4-8, show that the total project emissions would not exceed the SCAQMD regional significance thresholds. Therefore, the project would not result in a significant regional air quality impact and no mitigation is required.

	Pollutant Emissions (lbs/day)						
Source	СО	ROG	NOx	PM10	SOx		
Vehicular Trips	233.3	26.1	45.6	2.0	0.2		
Natural Gas Consumption	0.4	0.1	1.9	0.0	0.0		
Consumer Product Usage	0.0	6.8	0.0	0.0	0.0		
Electrical Generation	0.7	0.0	4.0	0.1	0.4		
Total Project Emissions	234.5	33.0	51.4	2.2	0.6		
Significance Threshold	550	55	55	150	150		
Exceed Threshold?	NO	NO	NO	NO	NO		
Source: Mestre Greve Associates 2006.							

TABLE 4.4-8 TOTAL PROJECT EMISSIONS

Table 4.4-9 compares the net increase in emissions resulting from the project to the projected basin-wide emissions listed in the 2003 AQMP. This comparison shows that the project represents a very small fraction of the total regional emissions. As a result, the project would represent, at most, five thousandths of a percent of the total regional emissions.

TABLE 4.4-9COMPARISON OF PROJECT EMISSIONS WITH SCAB EMISSIONS

	Pollutant Emissions (Ibs/day)						
Source	СО	ROG	NOx	PM10	SOx		
Project Emissions	0.117	0.017	0.026	0.001	0.000		
2020 SCAB	2,414	584	532	318	76		
Project as a Percentage of Basin	0.0049%	0.0028%	0.0048%	0.0003%	0.0004%		
Source: Mestre Greve Associates 2006.							

Impact 4.1: The short-term, construction-related and long-term, operational air quality emissions generated from the project would not exceed SCAQMD significance thresholds; therefore, no significant impacts would result and no mitigation beyond compliance with SCAQMD regulations is required.

Threshold 4.2: Would the proposed project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

A project which has a significant net increase of any criteria pollutant for which the project region is in non-attainment is considered to result in a cumulatively significant impact. As previously noted, EPA has designated SCAB as in extreme non-attainment for 1-hour ozone and 8-hour ozone, and serious non-attainment for suspended particulates (PM10) and CO. The SCAG was formerly a non-attainment area for nitrogen dioxide (NO₂); however it qualifies for redesignation to attainment because it has met federal standards for several years in a row. Until the SCAB is re-designated, NO₂ monitoring would continue to be required.

As addressed under Threshold 4.1 above, the proposed project would not result in significant construction-related or long-term operational air quality impacts. Additionally, the project is consistent with the *City of Fullerton General Plan*. As such, the proposed project is in

compliance with SCAQMD's AQMP and would not result in a significant contribution to cumulative air quality impacts.

Impact 4.2: The proposed project would contribute to a net increase in CO, NOx, and PM10; however, the project contribution is not significant. The project would not result in a significant contribution to cumulative air quality impacts.

Threshold 4.3: Would the proposed project expose sensitive receptors to pollutant concentrations?

The emissions associated with construction and operation of the project were shown to be less than the SCAQMD significance thresholds for local and regional air quality impacts. Therefore, air quality impacts due to project construction and operation are not considered to be significant. A contributing factor in the project's projected low emissions is the project's implementation of SCAQMD Rule 403 regarding reductions in fugitive particulate matter emissions; the project is required to comply with this rule. Nearby sensitive receptors would not be exposed to pollutant concentrations which would be considered significant. No mitigation is required.

Impact 4.3: Construction and operation of the proposed project would not expose sensitive receptors to pollutant concentrations that exceed SCAQMD thresholds.

Threshold 4.4:Would the proposed project conflict with or obstruct implementation
of the applicable air quality plan?

The CEQA Guidelines, Section 15125 requires an EIR to discuss any inconsistencies between the proposed project and applicable General Plans and regional plans. Regional plans that apply to the proposed project include the South Coast Air Quality Management Plan (AQMP). In this regard, this section discusses the consistency of the proposed project and the AQMP.

The purpose of the consistency discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the project would interfere with the region's ability to comply with federal and state air quality standards. If the decision-makers determine that the project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD's CEQA Handbook states that "New or amended GP Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A proposed project is considered to be consistent with the plan if it furthers one or more policies and does not obstruct other policies. The Handbook identifies two key indicators of consistency:

- (1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP (except as provided for CO in Section 9.4 for relocating CO hot spots).
- (2) Whether the project will exceed the assumptions in the AQMP in 2010 or increments based on the year of project buildout and phase.

The proposed project does not involve a General Plan Amendment, Zone Change, or Specific Plan and a consistency analysis is not required. However, the two criteria evaluated are discussed below.

<u>Criterion 1 – Increase in the Frequency or Severity of Violations?</u>

Based on the air quality modeling analysis provided in the air quality technical report included in Appendix C, short-term construction and long-term operation would not result in significant impacts based on the SCAQMD thresholds of significance. It is unlikely that short-term construction activities would increase the frequency or severity of existing air quality violations due to required compliance with SCAQMD Rules and Regulations. Similarly, the emissions from the project are projected to be a fraction of a percentage of the basin-wide emissions. The analysis for long-term local air quality impacts showed that local pollutant concentrations are not projected to exceed any of the air quality standards.

The proposed project is not projected to contribute to the exceedance of any air pollutant concentration standards, thus the project is found to be consistent with the AQMP for the first criterion.

Criterion 2 – Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the project with the assumptions in the AQMP. Thus, the emphasis of this criterion is to ensure that the analyses conducted for the project are based on the same forecasts as the AQMP. The Regional Comprehensive Plan and Guide (RCPG) consists of three sections: Core Chapters, Ancillary Chapters, and Bridge Chapters. The Growth Management, Regional Mobility, Air Quality, Water Quality, and Hazardous Waste Management chapters constitute the Core Chapters of the document. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA.

Because the SCAG forecasts are not detailed, the test for consistency of this project is not specific. The traffic modeling upon which much of the air quality assessment is based, is the County of Orange Congestion Management Program (CMP) Methodology. The AQMP assumptions are based upon projections from local general plans. Projects that are consistent with the local general plan are consistent with the AQMP assumptions. The long-term emissions from the operation of the project are below the significance thresholds and, therefore, are not considered to be regionally significant. Therefore, the emissions from the project would be consistent with the AQMP assumptions.

Impact 4.4: The proposed project would not contribute to the exceedance of any air pollutant concentration standards and emissions from the project would be consistent with the AQMP assumptions. The project would not conflict with the AQMP.

4.4.4 CUMULATIVE IMPACTS

As previously discussed, the project site is located within the SCAB, a 6,600-square-mile area comprised of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The SCAB is the study area for cumulative air quality impacts. As previously noted, the EPA has designated the SCAB as in extreme non-attainment for 1-hour ozone and 8-hour ozone, and in serious non-attainment for PM10 and CO. The SCAG was formerly a non-attainment area for NO₂, however it qualifies for re-designation to attainment

because it has met federal standards for several years in a row. Until the SCAB is redesignated, NO_2 monitoring would continue to be required. Further, the La Habra and Anaheim Monitoring Station data, which is representative of the project site, show that violations of thresholds exist for O_3 and PM10.

As addressed in this section, the proposed project would not result in significant constructionrelated or long-term operational air quality impacts. Additionally, the project is consistent with the *City of Fullerton General Plan*. As such, the proposed project is in compliance with SCAQMD's AQMP and would not contribute cumulatively to air quality impacts.

4.4.5 MITIGATION PROGRAM

Short-Term Impacts

The emissions associated with construction of the project were shown to be less than the SCAQMD Significance Thresholds. Therefore, air quality impacts due to project construction are not considered to be significant. Construction of the project would not result in a significant air quality impact. The project's projected low emissions are dependent upon implementation of SCAQMD Rule 403 (fugitive particulate matter reductions). This rule is stated as SC 4-1 and with its implemention, no mitigation is required.

Long-Term Impacts

Local Air Quality Impacts

The future CO emissions are projected to be in compliance with the 1-hour and 8-hour state and federal standards and, therefore, the local CO impacts resulting from the project are not considered to be significant. On-site emissions generated by the project would be less than the SCAQMD LST. Therefore, the project will not result in a significant local air quality impact. No mitigation is required.

Regional Emissions

The emissions associated with operation of the project were shown to be less than the SCAQMD Significance Thresholds. Therefore, air quality impacts resulting from operation of the project are not considered significant. The project will not result in a significant air quality impact. No mitigation is required.

4.4.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

There are no unavoidable significant air quality impacts associated with the project.