1.2 Existing Air Quality Conditions

1.2.1 Regional Air Quality

The distinctive climate of the Basin is determined primarily by its terrain and geographical location. Regional meteorology is dominated by a persistent high-pressure area which commonly resides over the eastern Pacific Ocean. Seasonal variations in the strength and position of this pressure cell cause changes in the weather patterns of the area. Warm summers, mild winters, infrequent rainfall, moderate daytime on-shore breezes, and moderate humidity characterize local climatic conditions. This normally mild climatic condition is occasionally interrupted by periods of hot weather, winter storms, and hot easterly Santa Ana winds.

The Basin is an area of high air pollution potential, particularly from June through September. This condition is generally attributed to the large amount of pollutant emissions, light winds and shallow vertical atmospheric mixing. This frequently reduces pollutant dispersion, thus causing elevated air pollution levels. Pollutant concentrations in the Basin vary with location, season and time of day. Ozone (O_3) concentrations, for example, tend to be lower along the coast, higher in the near inland valleys and lower in the far inland areas of the Basin and adjacent desert.

Over the past 30 years, substantial progress has been made in reducing air pollution levels in southern California. The Basin previously was in non-attainment for all NAAQS, except SO_2. The Basin is now in attainment for NO_2, lead, SO_2, and CO. PM_{10} and ozone levels, while reduced substantially from their peak levels, are still far from attainment.

The SCAQMD has published a Basin-wide air toxic study (MATES II, *Multiple Air Toxics Exposure Study*, March 2000). The MATES II study represents one of the most comprehensive air toxics studies every conducted in an urban environment. The study was aimed at determining the cancer risk from toxic air emissions throughout the Basin by conducting a comprehensive monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to fully characterize health risks for those living in the Basin. The study concluded that the average carcinogenic risk in the Basin is approximately 1,400 in one million and is based on a range from about 1,200 in one million to about 1,740 in one million among ten monitoring stations throughout the Basin. Therefore, there is an inherent health risk associated with living in urbanized areas of Southern California, where mobile sources (e.g., cars, trucks, trains, ships, aircraft, etc.) represent the greatest contributors to the overall risk. About 70 percent of all risk is attributed to diesel particulate emissions; about 20 percent to other toxics associated with mobile sources (including benzene, butadiene, and formaldehyde); and about 10 percent of all carcinogenic risk is attributed to stationary sources

(which include industries and other certain businesses such as dry cleaners and chrome plating operations).

1.2.2 Local Area Conditions

1.2.2.1 Existing Pollutant Levels at Nearby Monitoring Stations

The SCAQMD maintains a network of air quality monitoring stations located throughout the Basin and has divided the Basin into air monitoring areas or source receptor areas (SRA). The Project site is located in the West San Gabriel Valley Monitoring Area. The monitoring station for this area is the Pasadena Monitoring Station, which is located at 752 North Wilson Avenue, approximately two miles northwest of the Project site. Criteria pollutants, including O_3, CO, $PM_{2.5}$, and NO_2 are monitored at this station. The nearest, most representative monitoring area for PM_{10} is the East San Gabriel Valley Monitoring Area. The monitoring station for this area is the Azusa Monitoring Station, which is located at 803 North Loren Avenue, approximately 14 miles east of the Project site. The nearest, most representative monitoring area for SO_2 is the East San Fernando Valley Monitoring Area. The monitoring station for this area is the Burbank Monitoring Station, which is located at 228 West Palm Avenue, approximately 11 miles west of the Project site. The most recent data available from these monitoring stations encompasses the years 1999 to 2003. The data, as shown in Table 13 on pages 176 and 177, shows the following pollutant trends:

Ozone—The maximum 1-hour O_3 concentration recorded during the 1999 to 2003 period was 0.16 ppm in 2000 and 2001. During this period, the California standard was exceeded between 15 and 44 times annually and the National standard was exceeded between zero and 7 times. The maximum 8-hour O_3 concentration was 0.13 ppm recorded in 2000. The National standard was exceeded between 3 and 28 times annually.

Carbon Monoxide—The maximum 1-hour CO concentration recorded was 9 ppm recorded in 1999 and 2000. The maximum 8-hour CO concentration recorded was 7.4 ppm recorded in 2000. During this time period, there were no exceedances of the California or National 1-hour or 8-hour CO standards.

Nitrogen Dioxide—The highest 1-hour NO_2 concentration recorded was 0.17 ppm in 2000. The highest recorded NO_2 Annual Arithmetic Mean (AAM) was 0.042 ppm in 2000. There were no exceedances for either the 1-hour or AAM California or National standards during this time period.

Sulfur Dioxide—A maximum 1-hour SO_2 concentration of 0.01 was recorded for the years 1999-2001. No 1-hour SO_2 monitoring data for 2002 and 2003 was available at the time of

Table 13

POLLUTANT STANDARDS AND AMBIENT AIR QUALITY DATA FROM REPRESENTATIVE MONITORING STATIONS

Pollutant/Standard	1999	2000	2001	2002	2003
Ozone (O_3)					
O_3 (1-hour)					
Maximum Concentration (ppm)	0.12	0.16	0.16	0.14	0.15
Days > CAAQS (0.09 ppm)	15	19	28	23	44
Days > NAAQS (0.12 ppm)	0	7	1	3	7
O_3 (8-hour)					
Maximum Concentration (ppm)	0.10	0.13	0.12	0.10	0.11
Days > NAAQS (0.08 ppm)	3	13	9	10	28
Particulate Matter (PM_{10}) [b]					
PM_{10} (24-hour)					
Maximum Concentration ($\mu g/m^3$)	103	94	106	91	119
Percent of Samples > CAAQS (50 $\mu g/m^3$)	58	42	38	38	N/A
Percent of Samples > NAAQS (150 $\mu g/m^3$)	0	0	0	0	0
PM_{10} (Annual Average)					
Annual Arithmetic Mean (50 $\mu g/m^3$)	56	46	45	45	N/A
Annual Geometric Mean (20 $\mu g/m^3$)	52	43	40	42	N/A
Particulate Matter ($PM_{2.5}$) [c]					
$PM_{2.5}$ (24-hour)					
Maximum Concentration ($\mu g/m^3$)	73 [a]	66	78	58	89
Percent of Samples > NAAQS (65 $\mu g/m^3$)	1	1	1	0	1
$PM_{2.5}$ (Annual)					
Annual Arithmetic Mean (15 $\mu g/m^3$)	21 [a]	19	21	20	N/A
Carbon Monoxide (CO)					
CO (1-hour)					
Maximum Concentration (ppm)	9	9	7	N/A	N/A
Days > CAAQS (20 ppm)	0	0	0	N/A	N/A
Days > NAAQS (35 ppm)	0	0	0	N/A	N/A
CO (8-hour)					
Maximum Concentration (ppm)	6.6	7.4	5.0	4.1	3.7
Days > CAAQS (9.0 ppm)	0	0	0	0	0
Days > NAAQS (9 ppm)	0	0	0	0	0

Table 13 (Continued)

POLLUTANT STANDARDS AND AMBIENT AIR QUALITY DATA FROM REPRESENTATIVE MONITORING STATIONS

Pollutant/Standard	1999	2000	2001	2002	2003
Nitrogen Dioxide (NO_2)					
NO_2 (1-hour)					
Maximum Concentration (ppm)	0.16	0.17	0.15	0.15	0.14
Days > CAAQS (0.25 ppm)	0	0	0	0	0
NO_2 (Annual)					
Annual Arithmetic Mean (0.053 ppm)	0.038	0.042	0.035	0.033	0.032
Sulfur Dioxide (SO_2) [a]					
SO_2 (1-hour)					
Maximum Concentration (ppm)	0.01	0.01	0.01	N/A	N/A
Days > CAAQS (0.25 ppm)	0	0	0	N/A	N/A
SO_2 (24-hour)					
Maximum Concentration (ppm)	0.003	0.004	0.004	0.007	0.005
Days > CAAQS (0.04 ppm)	0	0	0	0	0
Days > NAAQS (0.14 ppm)	0	0	0	0	0
SO_2 (Annual)					
Annual Arithmetic Mean (0.03 ppm)	0.0001	0.0001	0.001	0.002	0.001

ppm = parts per million *$\mu g/m^3$ = micrograms per cubic meter* *N/A = not available*

Ambient data for airborne lead is not included in this table since the basin is currently in compliance with State and national standards for lead.

[a] *Includes less than 12 months of data.*
[b] *PM_{10} sample were collected every six days.*
[c] *$PM_{2.5}$ samples were collected every three days.*

Source: South Coast Air Quality Management District, Air Quality Data 1998-2001 and California Air Resources Board, Air Quality Data, 2003.

the completion of this EIR. The highest 1-hour concentration recorded of SO_2 was 0.01 ppm during years 1999 through 2001. The maximum 24-hour concentration and AAM were 0.007 ppm and 0.002 ppm both recorded in 2002. No violations of the SO_2 California or National standards were recorded from 1999 to 2003.

Particulate Matter (PM_{10})—The highest recorded 24-hour PM_{10} concentration recorded was 119 $\mu g/m^3$ in 2003. During the period 1999 to 2003, the CAAQS for 24-hour PM_{10} was

violated between 38 and 58 percent of the time and the NAAQS was not violated. The maximum AAM and annual geometric mean recorded were 56 $\mu g/m^3$ and 52 $\mu g/m^3$, respectively.

Fine Particulates ($PM_{2.5}$)—The maximum 24-hour $PM_{2.5}$ concentration recorded was 89 $\mu g/m^3$ in 2003. The 24-hour NAAQS was exceeded between 0 and 1 percent annually from 1999-2003. The highest AAM of 21 was recorded in 1999 and 2001.

Lead—The Basin is currently in compliance with California and National standards for lead.

1.2.2.2 Existing Health Risk in the Surrounding Area

According to the SCAQMD's MATES-II study, the cancer risk in the Project vicinity is approximately 1,000 to 1,200 in one million, which is approximately 14 to 29 percent lower than the average cancer risk in the Basin of 1,400 per million. Mobile sources represent the greatest contributor to the cancer risk in the Project vicinity.

1.2.2.3 Sensitive Receptors

Some population groups, such as children, the elderly, and acutely ill and chronically ill persons, especially those with cardio-respiratory diseases, are considered more sensitive to air pollution than others. Sensitive land use receptors in the vicinity of the project site primarily include residential uses. As shown in Section II, Figure 2 on page 28, the nearest residential receptor locations include the following:

- Paseo Colorado Urban Village. This is a mixed-use development with residential units above ground-floor and second-story retail and restaurants and is located approximately 75 feet north of the Project site across Green Street.
- Residential units east of Euclid Avenue. These residential units, interspersed among commercial uses, are approximately 75 feet east of the Project site.
- Multi-family residential at Marengo Avenue and Cordova Street. These residential units are approximately 200 feet southeast of the Project site.
- Concord-Pasadena Senior housing and Arpeggio Apartments. These residential units are approximately 130 feet south of the Project site.
- Sheraton Hotel. This 317-room hotel is located on the same block and immediately to the south of the Project site.

2.0 IMPACTS ANALYSIS

2.1 Significance Thresholds

The City of Pasadena has not adopted specific Citywide significance thresholds for air quality impacts. However, because of the SCAQMD's regulatory role in the Basin, the significance thresholds and analysis methodologies in the *SCAQMD CEQA Air Quality Handbook* are used in evaluating Project impacts.

2.1.1 Regional Impacts

The SCAQMD has promulgated daily emission thresholds for construction and operational activities. The SCAQMD thresholds are set at a level that either promote or maintain regional attainment of the relevant ambient air quality standards. A project is deemed to have a significant impact on regional air quality if emissions of criteria pollutants (specified in pounds of pollutant emitted per day) related to either project construction or operation exceed the significance thresholds summarized in Table 14 on page 180.

2.1.2 Localized Impacts

The SCAQMD recommends that an analysis of the Project's potential to create localized elevated levels of CO concentrations be analyzed. This analysis is recommended by the SCAQMD as CO is considered to be the best indicator for changes in localized pollutant concentrations attributable to mobile sources (vehicles).[42] The SCAQMD recommends that a significance threshold of 20 ppm and 9.0 ppm be used for assessing 1-hour and 8-hour CO concentrations, respectively, attributable to operation sources. An analysis at selected intersections is performed to determine the potential for the presence or the creation of CO hot spots attributable to Project operations.

Based on the types of fuels to be used, specifically gasoline and diesel, during Project construction and operations, emissions of sulfates, hydrogen sulfide, lead, and vinyl chloride are expected to be negligible.[43] Although State and/or Federal air quality standards exist, these

[42] *Prior to 1978, mobile emissions were the primary source of lead resulting in air concentrations. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. Currently, industrial sources are the primary source of lead resulting in air concentrations. The proposed Project does not contain an industrial component; therefore, lead emissions are not analyzed in this report.*

[43] *Emissions of these pollutants would be negligible for the following reasons. The phase-in of reformulated gasoline and diesel fuels over the past few decades have vastly reduced the airborne presence of lead and sulfates in the South Coast Air Basin and thus are no longer pollutants of broad based concern. Hydrogen sulfide emissions are not a concern since these types of emissions are generally associated with sewer gas, some*

(Footnote continued on next page)

Table 14

SCAQMD REGIONAL SIGNIFICANCE THRESHOLDS

Air Contaminant	Construction (Pounds per Day)	Post-Construction Operations (Pounds per Day)
Carbon Monoxide	550	550
Nitrogen Oxides	100	55
Reactive Organic Compounds	75	55
Particulate Matter	150	150
Sulfur Oxides	150	150

Source: South Coast Air Quality Management District, CEQA Air Quality Handbook, November 1993.

pollutants are not analyzed herein due to the negligible, and less than significant, quantities that would be generated.

2.1.3 Air Toxics

The SCAQMD *CEQA Air Quality Handbook*, Chapter 10, Air Toxics, provides significance thresholds for potential adverse health risks associated with the operation of a proposed project. The SCAQMD guidelines for operation permit processing considers the following types of projects significant:

- Any project involving the emission or threatened emission of a carcinogenic or toxic air contaminant identified in District Rule 1401 that exceeds the maximum individual cancer risk of ten in one million, or

- Any project where the Chronic or Acute Hazard Indices exceed 1.0 at any receptor location. An acute hazard index is defined as the ratio of the estimated maximum 1-hour concentration of a toxic air contaminant for a potential maximally exposed individual to its acute reference exposure level (REL). The chronic hazard index is the ratio of the estimated long-term level of exposure to a toxic air contaminant for a potential maximally exposed individual to its chronic reference exposure level. The chronic hazard index calculations include multi-pathway consideration.

natural gas, and geothermal energy use. Vinyl chloride emissions are generally associated with polyvinyl chloride (PVC) plastic and vinyl products manufacturing activities which would not occur at the Project site.

2.1.4 Odors

Odors are generally regarded as an annoyance rather than a hazard to health. The science of predicting the potential for odors to adversely affect residential populations is relatively new and odor assessment is very complex. Absent established significance criteria for odors by the EPA, CARB or CEQA, the SCAQMD's Rule 402, "Nuisance," (State Health and Safety Code Section 41700) is used as the criterion for odor. Thus, the Project would have a significant impact if the Project results in a discharge of quantities of air contaminants or other material that cause a nuisance or annoyance to a considerable number of persons.

2.1.5 Consistency with SCAQMD and SCAG Air Quality Policies

The Project would have a significant impact with regard to consistency with SCAQMD and SCAG air quality policies if one of the following occurs: (1) an increase in the frequency or severity of existing air quality violations; (2) the Project causes or contributes to new air quality violations; (3) delays timely attainment of air quality standards or the interim emission reductions specified in the AQMP; or (4) exceeds the assumptions utilized in the SCAQMD's AQMP. Consistency with the assumptions in the AQMP includes forecasted emission levels, which are based on population, housing and employment growth projections; implementation of mitigation measures; and land use policies (e.g., General Plan).

2.2 Methodologies/Analysis of Project Impacts

An analysis of potential air quality impacts was conducted for construction and operation of the Project. For each of these phases, an analysis was performed for regional emissions. The analysis also addresses local area CO from mobile sources and toxic air contaminants (i.e., diesel exhaust) for Project operation. The air quality modeling worksheets are provided in Appendix D of this EIR.

2.2.1 Construction

The analysis of potential construction air quality impacts reflects the schematic design presented in this EIR. The Applicant has indicated that it is committed that any redesign of the Project, should such a redesign occur, would incorporate a building envelope (e.g., development program, building height, setbacks, and building massing) and site access and loading dock plan that would be in substantial compliance with that set forth in this EIR. As such, any redesign would not result in construction air quality impacts that are greater than those described below.

2.2.1.1. Regional Construction Impacts

Construction of the Project has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the Project site. In addition, fugitive dust emissions would result from demolition and construction activities. Mobile source emissions, primarily NO_X, would result from the use of construction equipment such as bulldozers, wheeled loaders, and cranes. During the finishing phase, paving operations and the application of architectural coatings (i.e., paints) and other building materials would release reactive organic compounds. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

Emissions for the regional construction air quality analysis were compiled using the URBEMIS2002 emissions inventory model developed by the CARB. The URBEMIS2002 model separates the construction process into three phases. The first phase is building demolition with emissions resulting from demolition dust, debris haul truck trips, equipment exhaust, and worker commute exhaust. The second phase of construction is site grading with emissions resulting from fugitive dust, soil haul truck trips, equipment exhaust, and worker commute exhaust. The third phase is subdivided into building equipment, architectural coating, asphalt, and worker commute. Emissions from the third phase of construction include equipment exhaust from building construction and asphalt paving, ROC emissions from architectural coating and asphalt paving, and worker commute exhaust. The equipment mix and construction duration for each stage is detailed in Appendix C of this EIR.

The Project would be completed in two major phases. Phase I would include improvements to the eastern portion of the site and Phase II would include improvements to the western portion of the site. Phase I is anticipated to commence in early 2005 with demolition of the parking levels on the eastern side of the site. Phase I would continue, with the construction of the new Parking Structure, which is anticipated to occur between June 2005 and March 2006, and the renovation and expansion of the Conference Center building, which is anticipated to occur between April 2006 and August 2006.

Phase II is anticipated to commence upon the completion of Phase I and would start with demolition of the existing parking structure and construction of the new Exhibition Hall and Ballroom building. This work would be accomplished in 12 months. In addition, the Ice Skating Center would be converted to Ballroom space during this phase. Phase II would be accomplished in seven months. Completion of the Project is expected by the end of 2007. Daily construction-related regional emissions for the proposed Project construction are presented in Table 15 on page 183. Construction-related daily emissions would exceed SCAQMD

Table 15

PROJECT-RELATED REGIONAL CONSTRUCTION EMISSIONS
(Pounds per Day)

	Estimated Emissions				
	CO	NO_X	PM_{10}	ROC	SO_X
Phase 1					
Demolition	80	81	4	10	<1
Site Preparation	109	99	24	14	<1
Building Erection and Finishing	112	103	4	31	<1
Worst-Case Day	112	103	24	31	<1
SCAQMD Daily Threshold (lbs/day)	550	100	150	75	150
Pounds per Day Over (Under)	(438)	3	(126)	(44)	(150)
Significant?	No	Yes	No	No	No
Phase 2					
Demolition	82	77	4	10	<1
Site Preparation	110	96	24	14	<1
Building Erection and Finishing	121	99	4	114	<1
Worst-Case Day	121	99	24	114	<1
SCAQMD Daily Threshold (lbs/day)	550	100	150	75	150
Pounds per Day Over (Under)	(429)	(1)	(126)	39	(150)
Significant?	No	No	No	Yes	No

[a] *The equipment mix for each phase is provided in Appendix D of this EIR.*

Source: PCR Services Corporation, 2004.

significance thresholds for NO_X during the building construction and finishing portion of Phase I construction; and for ROC during the building construction and finishing portion of Phase II construction. Thus, emissions of these pollutants would result in significant short-term regional air quality impacts. Daily emissions of CO, SO_X, and PM_{10} would be considered adverse, but less than significant, since the levels of these emissions would fall below the SCAQMD significance thresholds during Phase I and Phase II construction activities.

The emission forecasts provided reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner. Because of these conservative assumptions, actual emissions could be less than those forecasted.

2.2.1.2 Toxic Air Contaminants

The greatest potential for toxic air contaminant (TAC) emissions would be related to diesel particulate emissions associated with heavy equipment operations during grading and excavation activities. According to SCAQMD methodology, health effects from carcinogenic air

toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of TACs over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. Given the relatively short-term construction schedule of 36 months, the Project would not result in a long-term (i.e., 70 years) substantial source of TAC emissions and corresponding individual cancer risk. Although not anticipated, construction activities may involve exposure to asbestos, lead-based paint, and polychlorinated biphenyls. Via mandatory compliance with SCAQMD Rules, no construction activities would expose sensitive receptors to TACs. Therefore, Project-related toxic emission impacts during construction would not be significant.

2.2.1.3 Odors

Potential sources that may emit odors during construction activities include the use of architectural coatings and solvents. SCAQMD Rule 1113 limits the amount of volatile organic compounds from architectural coatings and solvents. Via mandatory compliance with SCAQMD Rules, no construction activities or materials are proposed which would create objectionable odors. In addition, the expansion of the kitchen in the Conference Center could potentially create objectionable odors during operation of the Project. SCAQMD Rule 1138 limits emissions associated with restaurant operations. Via mandatory compliance with SCAQMD Rules, operation of the expanded kitchen would not create objectionable odors. Therefore, no impact would occur and no mitigation measures would be required.

2.2.2 Operations

The analysis of potential operational air quality impacts reflects the schematic design presented in this EIR. The Applicant has indicated that it is committed that any redesign of the Project, should such a redesign occur, would incorporate a building envelope (e.g. development program, building height, setbacks, and building massing) and site access and loading dock plan that would be in substantial compliance with that set forth in this EIR. As such, any redesign would not result in operational air quality impacts that are greater than those described below.

2.2.2.1 Regional Operation Impacts

Regional air pollutant emissions associated with Project operations are typically generated by both the consumption of electricity and natural gas, and by the operation of on-road vehicles. However, as stated in the traffic study completed by Linscott Law & Greenspan, Engineers, the Project would not result in an increase in average daily vehicle trips and, similarly, the Project would not result in any new mobile source emissions. Pollutant emissions associated with energy demand (i.e., electricity generation and natural gas consumption) are classified by the SCAQMD as regional stationary source emissions. Electricity is considered an

area source since it is produced at various locations within, as well as outside of, the Basin. Since it is not possible to isolate where electricity is produced, these emissions are considered to be regional in nature. Emissions related to natural gas consumption would occur on the Project site. Criteria pollutant emissions associated with the production and consumption of energy were calculated using emission factors from the SCAQMD's *CEQA Air Quality Handbook* (Appendix to Chapter 9). As indicated in Table 16 on page 186, the addition of 164,320 square feet of Project-related building space would result in small amounts of energy-related criteria pollutant emissions. These emissions would be well below the SCAQMD significance thresholds, and as such, regional operational impacts would be less than significant.

2.2.2.2 Local Operation Impacts

As stated in the traffic study completed by Linscott Law & Greenspan, Engineers, the Project would not result in an increase in average daily vehicle trips, peak hour trips, impede traffic flow, nor move traffic closer to a receptor location. In addition, the Project would not increase the number of vehicles operating in cold start mode. As such, Project-related traffic would not have a potential to adversely effect local CO concentrations. Impacts would be less than significant, and no mitigation measures are required.

2.2.2.3 Air Toxic Impacts

The primary source of potential air toxics associated with Project operations include diesel particulates from delivery trucks (e.g., truck traffic on local streets, on-site truck idling and movement and operation of transportation refrigeration units) and equipment used to off-load deliveries. As discussed in the traffic study, the general number of deliveries would not change as a result of the Project. The proposed locations of the Conference Center loading dock operations would remain consistent with those currently provided on site, with subterranean dock areas located off of Marengo Avenue and Euclid Avenue. All of the loading activity would continue to be accommodated on site with the Project.

The SCAQMD recommends that health risk assessments should be conducted for substantial sources of diesel particulates (e.g., truck stops and warehouse distribution facilities) and has provided guidance for analyzing mobile source diesel emissions.[44] Potential localized air toxic impacts from on-site sources of diesel particulate emissions would be minimal since the Project would not change the number of heavy-duty trucks on the surrounding roadway network and delivery trucks would not idle on the Project site for extended periods of time. Based on the limited activity (i.e., typically no more than 5 to 6 heavy-duty diesel truck deliveries on an event

[44] *SCAQMD. Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions. December 2002.*

Table 16

PROJECT-RELATED OPERATIONAL EMISSIONS
(Pounds/Day)

Emission Source	CO	NO_X	PM_{10}	ROC	SO_X
Project Emissions					
On-Road Mobile Sources [a]	—	—	—	—	—
Stationary Sources [b]	1	7	<1	<1	1
Total Project Emissions	**1**	**7**	**<1**	**<1**	**1**
SCAQMD Significance Threshold	550	55	150	55	150
Over (Under)	**(549)**	**(48)**	**(149)**	**(54)**	**(149)**
Significant?	**No**	**No**	**No**	**No**	**No**

[a] *There is no increase in average daily trips as a result of the Project and, therefore, there are no Project-related mobile emissions.*

[b] *Based on electricity and natural gas consumption obtained from the SCAQMD's CEQA Air Quality Handbook (Appendix to Chapter 9).*

Source: PCR Services Corporation, 2004.

day) of the loading dock, the Project would not warrant the need for a health risk assessment, and potential air toxic impacts would be less than significant.

Typical sources of acutely and chronically hazardous toxic air contaminants include industrial manufacturing processes, automotive repair facilities, and dry cleaning facilities. The Project would not include any of these potential sources, although minimal emissions may result from the use of consumer products. As such, the Project would not release substantial amounts of toxic contaminants and a less than significant impact on human health would occur.

2.2.2.4 Odor Impacts

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project does not include any uses identified by the SCAQMD as being associated with odors. However, the expansion of the kitchen in the Conference Center could potentially create objectionable odors during operation of the Project. SCAQMD Rule 1138 limits emissions associated with restaurant operations. Via mandatory compliance with SCAQMD Rules, operation of the expanded kitchen would not create objectionable odors. Therefore, the Project would not create adverse odors as discussed above and would have no impact related to objectionable odors.

2.2.2.5 Consistency with Adopted Plans and Policies

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment.[45] With regard to air quality planning, SCAG has prepared the Regional Comprehensive Plan and Guide (RCPG), which includes Growth Management and Regional Mobility chapters that form the basis for the land use and transportation control portions of the AQMP, and are utilized in the preparation of the air quality forecasts and consistency analysis included in the AQMP. Both the RCPG and AQMP are based, in part, on projections originating with County and City General Plans. The current direction provided by SCAQMD staff is that a project that is consistent with the local General Plan is also considered consistent with applicable air quality related regional plans (e.g., AQMP).[46] This direction reflects the process whereby the growth forecast upon which the AQMP is based reflects input received from local jurisdictions based on their respective adopted General Plans. Since the Project is consistent with the land use designations of the City of Pasadena General Plan (discussed in Section IV.H. Land Use), the Project is also consistent with the region's AQMP. Therefore, the Project is not anticipated to conflict with or obstruct implementation of the AQMP. With regard to AQMP consistency, no further analysis is required or recommended.

3.0 MITIGATION MEASURES

In addition to the requirements of SCAQMD Rule 403 (Fugitive Dust), the following mitigation measures are provided in SCAQMD's *CEQA Air Quality Handbook*, Chapter 11. These measures set forth a program of air pollution control strategies designed to reduce the air quality impacts of standard construction activities. These measures are intended as best management practices to be implemented to the extent feasible.

3.1 Construction

AQ1. All equipment shall be properly tuned and maintained in accordance with manufacturer's specifications, to the extent feasible.

AQ2. General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in

[45] *SCAG serves as the federally designated metropolitan planning organization (MPO) for the southern California region.*

[46] *Steve Smith, Ph.D., SCAQMD CEQA Section Program Supervisor, Comments Regarding the Draft EIR for the Central Long Beach Redevelopment Project Readoption, November, 2000.*

loading and unloading queues would be kept with their engines off, when not in use, to reduce vehicle emissions. Construction emissions should be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts, to the extent feasible.

AQ3. Require the use of alternative clean fuels such as compressed natural gas-powered equipment instead of diesel-powered engines, or if diesel equipment has to be used, use particulate filters and low sulfur diesel fuel as defined in AQMD Rule 431.2, (i.e., diesel fuel with less than 15 ppm sulfur content), to the extent feasible.

AQ4. Use electricity from power poles rather than temporary diesel- or gasoline-powered generators, to the extent feasible.

AQ5. Prohibit all vehicles from idling in excess of ten minutes, both on- and off site, to the extent feasible.

3.2 Operation

During the operational phase, the proposed Project would not result in any significant impacts to air quality and, therefore, no mitigation measures are recommended or required.

4.0 NET UNAVOIDABLE IMPACTS

4.1 Construction

Project construction would not result in regional emissions that exceed SCAQMD regional significance thresholds for CO, PM_{10}, and SO_X. Mitigation measures would reduce regional construction-related NO_X and ROC emissions from heavy-duty construction equipment by 5 percent as based on the calculations presented in Appendix D. NO_X daily emissions during the building construction and finishing phase of Phase I construction would be reduced from 103 pounds per day to 98 pounds per day, which is below the SCAQMD regional significance threshold of 100 pounds per day. As such, NO_X daily emissions after mitigation would be less than significant. However, the Project would still result in regional construction emissions that exceed SCAQMD thresholds of significance for ROC during the building construction and finishing phase of Phase II construction. Therefore, construction of the Project would result in a short-term significant and unavoidable impact on regional air quality.

4.2 Operation

During the operational phase, the Project would not result in regional emissions that exceed SCAQMD significance thresholds for CO, SO_X, NO_X, PM_{10}, and ROC. Therefore, operation of the Project following construction would not have a significant and unavoidable impact on regional air quality. No significant regional impacts to air quality would result from Project operations.

The Project would not result in an increase in average daily vehicle trips, peak hour trips, significantly impede traffic flow, nor move traffic closer to a receptor location. In addition, the Project would not increase the number of vehicles operating in cold start mode. As such, Project-related traffic would not have a potential to adversely effect local CO concentrations and impacts would be less than significant.

The Project would not result in increased toxic air emissions associated with the proposed modifications to the existing loading docks. In addition, the Project would not change the number of heavy-duty trucks on the surrounding roadway network. As such, the Project-related air toxic emissions would not result in a potential health risk impact.

The Project does not include any uses identified by the SCAQMD as being associated with odors. Therefore, the Project would not create adverse odors as discussed above and would have no impact related to objectionable odors.

Since the Project is a reconfiguration of space, and the size and type of events held at the new Conference Center would be the same as what is currently accommodated at the site, the Project is not anticipated to result in any increase in project-related trip generation. Therefore, the Project would not have a significant cumulative impact on regional air quality based on the SCAQMD's criteria. In addition, as shown in Table 17 on page 190, a localized CO impact analysis was conducted for cumulative traffic (i.e., related projects and ambient growth through 2007) in which no local CO violations would occur at any of the studied intersections. Therefore, the Project would not have a significant cumulative impact on localized air quality.

5.0 CUMULATIVE IMPACTS

The SCAQMD has set forth both a methodological framework as well as significance thresholds for the assessment of a project's cumulative air quality impacts. The SCAQMD's methodology differs from the cumulative impacts methodology employed elsewhere in this EIR, in which foreseeable future development within a given service boundary or geographical area is predicted and associated impacts measured. The SCAQMD's approach for assessing cumulative impacts is based on the SCAQMD's AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the Federal and State Clean Air Acts, taking

Table 17

CUMULATIVE TRAFFIC CARBON MONOXIDE SCREENING ANALYSIS

Intersection	CO Averaging Period [a]	2007 P.M. Peak Hour [b]
Fair Oaks Avenue and Green Street	8 hours	7.0
Arroyo Parkway and Del Mar Boulevard	8 hours	7.1
Arroyo Parkway and California Boulevard	8 hours	7.8
Marengo Avenue and Walnut Street	8 hours	7.2
Marengo Avenue and Colorado Boulevard	8 hours	6.9
Marengo Avenue and Del Mar Boulevard	8 hours	7.4
Marengo Avenue and California Boulevard	8 hours	7.1
Los Robles Avenue and Del Mar Boulevard	8 hours	7.9

ppm = parts per million

[a] *The most stringent Air Quality Standard for 8-hour average concentration is 9.0 ppm.*
[b] *Peak hour traffic levels based on the Traffic Study provided by Linscott Law & Greenspan, Engineers, July 2003.*

Source: PCR Services Corporation, August 2003.

into account SCAG's forecasted future regional growth and determining whether the project is consistent with the forecasted future regional growth. Therefore, if all cumulative projects are individually consistent with the growth assumptions upon which the SCAQMD's AQMP is based, then future development would not impede the attainment of ambient air quality standards and a significant cumulative air quality impact would not occur.

Based on the SCAQMD's methodology (presented in Chapter 9 of the *CEQA Air Quality Handbook*), a project would have a significant cumulative air quality impact if the ratio of daily project employee vehicle miles traveled to daily countywide vehicle miles traveled exceeds the ratio of daily project employees to daily countywide employees. However, since the Project is a reconfiguration of space and the size and type of events held at the new Conference Center would be the same as what is currently accommodated at the site, the Project is not anticipated to result in any increase in Project-related trip generation. Therefore, the Project employee-related rate of growth in vehicle miles traveled would not be anticipated to be greater than the Project-related rate of growth in employment and the Project would not have a significant cumulative impact on regional air quality based on the SCAQMD's criteria. In addition, as shown in Table 17, a localized CO impact analysis was conducted for cumulative traffic (i.e., related projects and ambient growth through 2007) in which no local CO violations would occur at any of the studied intersections. Therefore, the Project would not have a significant cumulative impact on localized air quality.

1.0 ENVIRONMENTAL SETTING

1.1 Noise Characteristics and Sound Measurement

Sound is energy transmitted through the air. Noise is generally defined as unwanted or excessive sound. Increasingly recognized as having the potential to cause physiological or psychological damage, noise can interfere with communication, work, rest, recreation, and sleep.

Sound can vary in intensity within the human range of hearing. Therefore, the logarithmic decibel (dB) scale has been established to quantify sound intensity. To better approximate the range of sensitivity of the human ear to various frequencies, the A-weighted decibel scale (dBA) was developed. This scale de-emphasizes low frequencies to which human hearing is less sensitive and focuses on mid- to high-range frequencies. Due to the physical characteristics of noise transmission and reception, an increase of 10 dBA is normally required to achieve a doubling of the "loudness," as perceived by the human ear. In addition, a 3-dBA increase is recognizable to most people. A change in noise levels will usually not be detectable unless the new noise source is at least as loud as the ambient conditions.

Sound levels decrease (or attenuate) as the distance from the noise source increases. For a single "point" source, such as a piece of mechanical equipment, the sound level normally attenuates by about 6 dBA for each doubling of distance. In comparison, sound generated by "linear" sources, such as vehicles traveling along a busy street, attenuates by about 3 dBA for each doubling of the distance. This attenuation rate is based upon "hard" reflective surfaces (e.g., pavement and concrete) and increases to 4.5 dBA for each doubling of the distance over "soft" surfaces (e.g., vegetative cover).

Various noise metrics have been developed to express the way in which noise levels are experienced by sensitive receptors. The most commonly used metric is the equivalent sound level (L_{eq}), which is the average sound exposure over a specified period of time. Examples of other noise metrics based on given periods of time include L_{max} (the maximum noise level), L_{min} (the minimum noise level), and L_{xx} (the noise level exceeded xx percent of the time). Noise metrics can be categorized as single event metrics and cumulative metrics. Single event metrics describe the noise from individual events, such as an individual aircraft flyover. Cumulative metrics describe the noise in terms of total noise exposure throughout an extended period of time, such as a full day.

Several methods have been devised to relate noise exposure over time to community response. The Day-Night Sound Level (L_{dn}), a cumulative metric, was developed by the U.S. Environmental Protection Agency as a descriptor of 24-hour sound levels. Under this index, noise generated between the hours of 10:00 P.M. and 7:00 A.M. are increased by 10 dBA (penalty) due to the heightened noise sensitivity during this time. The Community Noise Equivalent Level (CNEL) is similar to the L_{dn} in that it represents a 24-hour noise metric with a 10-dBA nighttime penalty. However, CNEL noise levels include an additional 5-dBA penalty for noise generated in the evening between 7:00 P.M. and 10:00 P.M. L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

1.2 Federal Standards and Regulations

There are no Federal noise standards that directly regulate environmental noise related to the construction or operation of the proposed Project. With regard to noise exposure and workers, the Office of Safety and Health Administration (OSHA) regulations safeguard the hearing of workers exposed to occupational noise.

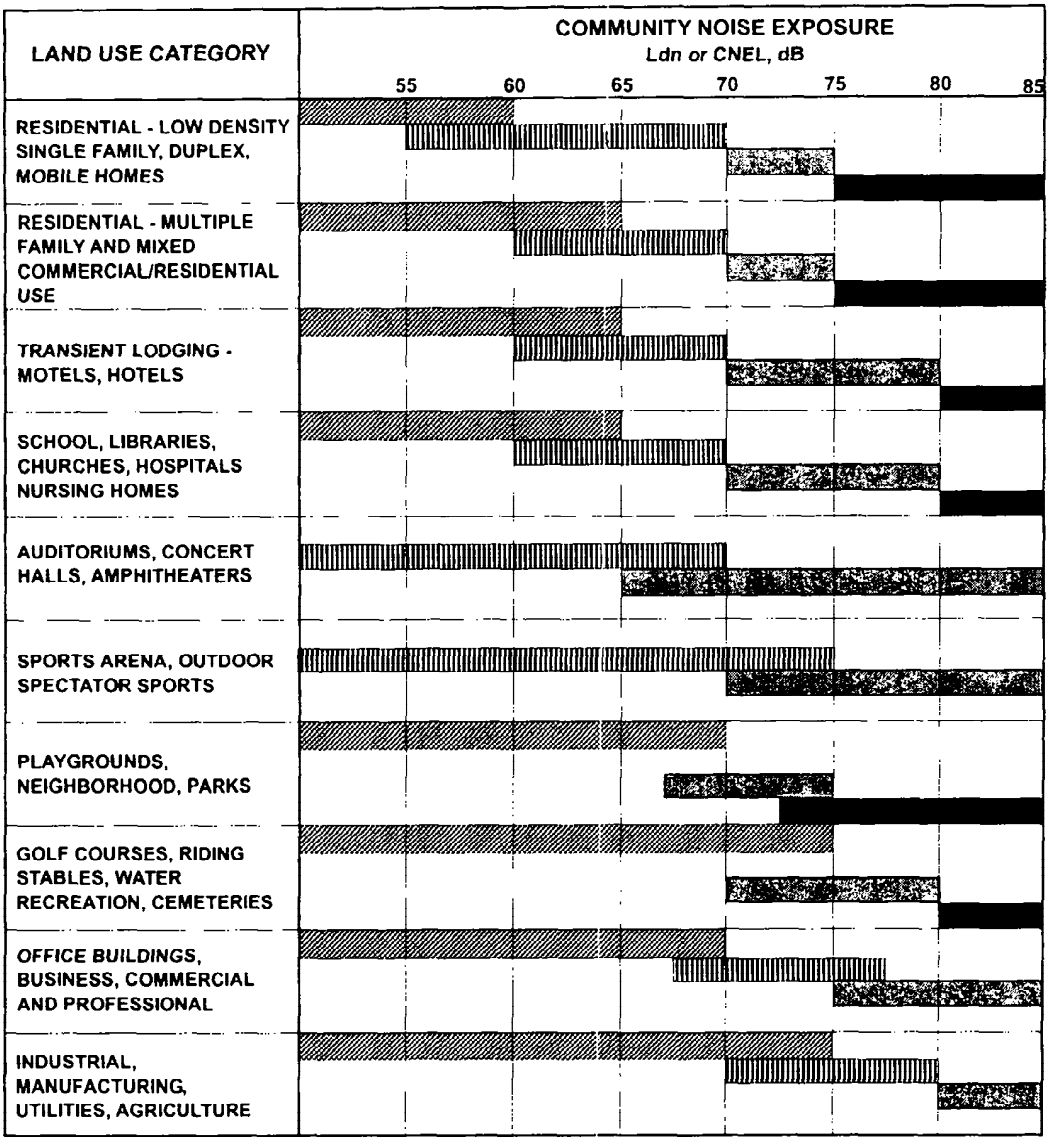
1.3 State of California Standards and Regulations

The California Department of Health Services (CDHS) has studied the correlation of noise levels and their effects on various land uses. As a result, the CDHS has established four categories for judging the severity of noise intrusion on specified land uses. According to the CDHS, an exterior noise level up to 60 dBA CNEL is "normally acceptable" for low-density residential uses, without special noise insulation requirements. A noise level between 60 CNEL and 70 CNEL is considered "conditionally acceptable" for low-density residential uses, while a noise level of 75 dBA CNEL or more is identified as "clearly unacceptable" for all residential uses. The City of Pasadena has adopted a modified version of the State's Noise/Land Use Compatibility Matrix as shown in Figure 18 on page 193.

1.4 Local Standards and Regulations

1.4.1 City of Pasadena General Plan Noise Element

California requires each local government entity to perform noise studies and prepare a Noise Element as part of their General Plan. California Administrative Code, Title 4, has guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. As such, the City of Pasadena General Plan Noise Element provides planning guidance related to noise. It identifies goals, objectives, and an implementation program to ensure that Pasadena residents will be protected from noise that may be detrimental to their



CLEARLY ACCEPTABLE
Specified land use is satisfactory. Based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

NORMALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

CONDITIONALLY ACCEPTABLE
New construction or development should generally be discouraged, If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

NORMALLY UNACCEPTABLE
New construction or development should generally not be undertaken.

* Please note that these guidelines are general and may not apply to specific sites.

Source: City of Pasadena Revised Noise Element of the General Plan
California General Plan Guidelines, 1998, as modified by the City of Pasadena, 2002

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Figure 18
City of Pasadena Revised Noise Elements Land Use Compatibility

physical and mental health and general welfare. The noise element has established an acceptable limit of noise exposure for various land use categories; shown earlier in the City's Noise/Land Use Compatibility Matrix (Figure 18 on page 193).

1.4.2 City of Pasadena Noise Ordinance

Chapter 9, Title 36, of the Pasadena Municipal Code establishes noise standards to limit noise affecting various land uses in the City. These standards apply to noise generated by on-site equipment (e.g., any machinery, equipment, pump, fan air conditioning apparatus or similar mechanical devise) and on-site motor driven vehicles (e.g., parking facilities)." The presumed exterior noise levels, specified in Municipal Code Section 9.36.030, are presented in Table 18 on page 195. The Municipal Code divides the City into Noise Districts. The areas north, east and west of the Project area are in Noise District III and the area south of the Project area is located in Noise District II.

Municipal Code Section 9.36.110 and 9.36.120 limit when and where construction activity can occur. Additionally, construction activity is unlawful if the operation of any powered construction equipment exceeds a noise level in excess of 85 dBA when measured within a radius distance of 100 feet from such equipment.

Municipal Code Section 9.36.230 states "It is unlawful for any person to create, cause, make or continue to make or permit to be made or continued any noise or sound which exceeds the ambient noise level at the property line of any property by more than 5 decibels." The Section further states, "it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary or unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area."

1.5 Existing Conditions

1.5.1 Receptor Locations

Some land uses are considered more sensitive to intrusive noise than others, due to the types of activities typically involved at the receptor location. Specifically, residences, schools, libraries, religious institutions, hospitals and nursing homes are generally more sensitive to noise than are commercial and industrial land uses. The area surrounding the Project site is zoned and surrounded by both residential and commercial uses. As shown in Figure 19 on page 196, the nearest residential receptor locations include the following:

Table 18

CITY OF PASADENA EXTERIOR PRESUMED AMBIENT NOISE LEVELS[a]

District	Daytime Maximum 6:00 A.M. to 11:00 P.M.	Nighttime Maximum 11:00 P.M. to 6:00 A.M.
I	50	40
II	55	45
III	60	50

[a] *To determine whether offensive noises would be in compliance with the Municipal Code the presumed ambient noise levels would be adjusted depending on the specific type or character of the noise source as follows: (1) add 5 dBA for any steady audible tone or repeated impulsive noise; (2) subtract 5 dBA for noise occurring more that 5 but less than 15 minutes; (3) subtract 10 dBA for noise occurring more than 1 but less than 5 minutes per hour; and (4) subtract 20 dBA for noise occurring less than one minute.*

Source: City of Pasadena Municipal Code.

- Paseo Colorado Urban Village. This is a mixed-use development with residential units above ground-floor and second-story retail and restaurants and is located approximately 75 feet north of the Project site across Green Street.
- Residential units east of Euclid Avenue. These residential units, interspersed among commercial uses, are approximately 75 feet east of the Project site.
- Multi-family residential at Marengo Avenue and Cordova Street. These residential units are approximately 200 feet southeast of the Project site.
- Concord-Pasadena Senior housing and Arpeggio Apartments. These residential units are approximately 130 feet south of the Project site.
- Civic Auditorium. This entertainment venue is located on the same parcel as the Project site.
- Sheraton Hotel. This 317-room hotel is located on the same block and immediately south of the Project site.

1.5.2 Existing Noise Environment

The noise environment in the Project area is dominated by traffic noise from nearby roadways. The heaviest traveled roadways in the vicinity of the Project site include Green Street, Cordova Street, Euclid Avenue, and Marengo Avenue that border the Project site to the north, south, east, and west, respectively. Secondary noise sources in the area include commercial activities (e.g., delivery and garbage trucks), and residential use activities (e.g., passenger vehicles, pets, and landscape maintenance). In addition, the Project site is located approximately 0.5 mile south of the Foothill Freeway (I-210) and 0.5 mile southwest of the