5.2 Air Quality

The analysis in this section of the EIR addresses the potential impacts associated with air quality that may occur due to implementation of the proposed Collier Park Renovations Project. The following discussion includes information based on the Air Quality Analysis prepared by Atkins (2012), which is provided as Appendix B of this EIR.

5.2.1 Regulatory Framework

5.2.1.1 Federal

Clean Air Act

The federal Clean Air Act (CAA) of 1970 required the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS) with states retaining the option to adopt more stringent standards or to include other specific pollutants. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those sensitive receptors most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has established primary and secondary standards for the following six criteria air pollutants: ozone, sulfur dioxide, carbon monoxide, nitrogen dioxide, lead, and particulate matter. Particulate matter is grouped into two categories: respirable particulate matter equal to or smaller than 10 microns in diameter (PM_{10}) and fine particulate matter equal to or smaller than 2.5 microns in diameter ($PM_{2.5}$). Primary standards are designed to protect human health with an adequate margin of safety, while secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere. Areas that meet the ambient air quality standards are classified as “attainment” areas while areas that do not meet these standards are classified as “non-attainment” areas. Areas may also be designated “unclassified” because inadequate air quality data were available as a basis for a nonattainment or attainment designation.

Table 5.2-1 lists the NAAQS attainment status of San Diego Air Basin (SDAB) for the criteria pollutants. The SDAB, within which the proposed project is located, is currently in basic non-attainment of the federal standard for eight-hour ozone.

5.2.1.2 State

California Clean Air Act

The federal CAA allows states to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. The California CAA was adopted in 1988 and establishes the State’s air quality goals, planning mechanisms, regulatory strategies, and standards of progress. The California Air Resources Board (CARB), a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air

pollution control programs within California, including setting the California Ambient Air Quality Standards (CAAQS) and developing the California State Implementation Plan (SIP), discussed further below, for which it works closely with the federal government and the local air districts. The CARB reviews operations and programs of the local air districts, and requires each air district with jurisdiction over a non-attainment area to develop its own strategy for achieving the NAAQS and CAAQS. The CARB also establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment, and sets fuel specifications to further reduce vehicular emissions.

The CARB has established CAAQS for the six criteria air pollutants, as well as for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. In addition, the CARB has established a set of episode criteria for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter. Episode criteria refer to pollutant levels, ranging from Stage One to Stage Three, which represent periods of short-term exposure to air pollutants that actually threaten public health. Health effects are progressively more severe as pollutant levels increase from Stage One to Stage Three episode criteria.

Table 5.2-1 lists the CAAQS attainment status of the SDAB for the criteria pollutants. The SDAB is currently in nonattainment of the state standards for ozone, PM_{10}, and $PM_{2.5}$.

Table 5.2-1 San Diego Air Basin Attainment Status

Pollutant	Averaging Time	California Standards	Federal Standards
Ozone (O_3)	1 Hour	**Nonattainment**	No Federal Standard
	8 Hour		**Basic Nonattainment**
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	**Nonattainment**	No Federal Standard
	24 Hour		Unclassified[(1)]
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	**Nonattainment**	Attainment/Unclassifiable
	24 Hour	No State Standard	
Carbon Monoxide (CO)	8 Hour	Attainment	Maintenance Area[(2)]
	1 Hour		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	No State Standard	Attainment
	1 Hour	Attainment	No Federal Standard
Lead	Calendar Quarter	No State Standard	Attainment
	30 Day Average	Attainment	No Federal Standard
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	No State Standard	Attainment
	24 Hour	Attainment	Attainment
	1 Hour	Attainment	No Federal Standard
Sulfates	24 Hour	Attainment	No Federal Standard
Hydrogen Sulfide	1 Hour	Unclassified	No Federal Standard
Visibility Reducing Particulates	8 Hour (10:00 a.m. to 6:00 p.m., PST)	Unclassified	No Federal Standard

[(1)] Unclassified indicates data are not sufficient for determining attainment or nonattainment.
[(2)] Maintenance Area (defined by U.S. Department of Transportation) is any geographic region of the U.S. previously designated nonattainment pursuant to the federal CAA Amendments of 1990 and subsequently re-designated to attainment subject to the requirement to develop a maintenance plan under section 175A of the CAA, as amended.
Source: CARB 2011

California State Implementation Plan

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

The San Diego Air Pollution Control District (SDAPCD) is the agency responsible for preparing and implementing the portion of the California SIP applicable to the SDAB for attaining the NAAQS for eight-hour ozone. The Eight Hour Ozone Attainment Plan for San Diego County (SDAPCD 2007) identifies control measures to reduce emissions of ozone precursors and complies with the federal SIP requirements. This plan accommodates emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and the CARB, and the emissions and reduction strategies related to mobile sources are considered in the SIP. The SIP does not address impacts from sources of PM_{10} or $PM_{2.5}$, although it does include control measures (rules) to regulate stationary source emissions of those pollutants. These SIP-approved rules may be used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for ozone.

5.2.1.3 Regional

San Diego County Regional Air Quality Strategy

The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for San Diego County, including the City of La Mesa where the proposed project site is located. The SDAPCD regulates most air pollutant sources, except for motor vehicles, marine vessels, aircraft, and agricultural equipment, which are regulated by the USEPA or the CARB. State and local government projects, as well as projects proposed by the private sector, are subject to SDAPCD requirements if the sources are regulated by the SDAPCD. In addition, the SDAPCD, along with the CARB, maintains and operates ambient air quality monitoring stations at numerous locations throughout San Diego County that measure the criteria and toxic air pollutant levels in the ambient air.

The SDAPCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The San Diego County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004, and most recently in April 2009. The RAQS outlines the SDAPCD's plans and control measures designed to attain the more stringent CAAQS for ozone. The SDAPCD has also developed the SDAB's input to the California SIP, which is required under the federal CAA for pollutants that are designated as being in non-attainment of NAAQS for the basin.

The RAQS relies on information from the CARB and SANDAG regarding mobile and area source emissions and projected growth in the County. This information is used to project future emissions and develop appropriate strategies for the reduction of emissions through regulatory controls. The CARB mobile

source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and the County as part of the development of their respective general plans. As such, a project that proposes development that is consistent with the growth anticipated by the applicable general plan would be consistent with the RAQS. If a project proposes development which is less intensive than that anticipated in the growth projections, the project would likewise be consistent with the RAQS. If a project proposes development which is greater than that anticipated in the growth projections, the project could be in conflict with the RAQS and could have a potentially significant impact on air quality.

SDAPCD Rule 55, Fugitive Dust Control

In December 2005, the SDAPCD adopted the Measures to Reduce Particulate Matter in San Diego County. This report identifies fugitive dust as the major source of directly emitted particulate matter in the County, with mobile sources and residential wood combustion as minor contributors. Data on $PM_{2.5}$ source apportionment indicates that the main contributors to $PM_{2.5}$ in the County are combustion of organic carbon, and ammonium sulfate and ammonium nitrate from combustion sources. The main contributors to PM_{10} include resuspended soil and road dust from unpaved and paved roads, construction and demolition sites, and mineral extraction and processing. Based on the report's evaluation of control measures recommended by the CARB to reduce particulate matter emissions, the SDAPCD adopted Rule 55, Fugitive Dust Control, in June 2009. The SDAPCD requires that construction activities implement the measures listed in Rule 55 to minimize fugitive dust emissions. Rule 55 establishes the following standards for fugitive dust control:

1) Airborne Dust beyond the Property Line. No person shall engage in construction or demolition activity in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than three minutes in any 60 minute period.
2) Track-Out/Carry-Out. Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall be:
    a) Minimized by the use of any of the equally effective track-out/carry-out and erosion control measures that apply to the project or operation, including track-out grates or gravel beds at each egress point; wheel-washing at each egress during muddy conditions; soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and using secured tarps or cargo covering, watering, or treating of transported material for outbound transport trucks.
    b) Removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations.

5.2.1.4 Local

City of La Mesa General Plan

The Conservation and Open Space Element of the adopted La Mesa General Plan (City of La Mesa 1996) includes the following conservation policies and objectives related to air quality:

Conservation Policies

1) The City will maintain programs and procedures which prevent the introduction of commercial or industrial activities which could have a significant negative impact on air quality.
2) The City will support and encourage economical transportation alternatives which reduce auto emissions by reducing vehicle trip lengths and frequencies.
3) The City will encourage the use of transportation modes other than the automobile by implementing land use policies which result in a pattern of residential uses and employment opportunities in close proximity to commercial services, community facilities, employment centers and transit routes.
4) The City will support programs to reduce auto emissions by improving the flow of traffic and other transportation system management programs.
5) The City values trees for their role in processing carbon dioxide in the atmosphere, and will continue efforts to save existing trees and to require planting of new trees in conjunction with public and private developments.

Conservation Objectives

1) The Community Development Department will review the Zoning Ordinance to incorporate regional air quality standards and objectives where necessary for commercial and industrial uses.
2) The Community Development Department will review the Zoning Ordinance to consider what standards can be added to preserve and protect stands of mature trees within the City.
3) The Community Development Department and the Public Works Department shall review the current standards for street trees and landscaping in the public right-of-way to insure that the plant varieties and quantities specified are adequate.

5.2.2 Existing Conditions

5.2.2.1 Climate and Meteorology

Regional climate and local meteorological conditions influence ambient air quality. The climate of the SDAB is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. In La Mesa, the normal daily maximum temperature is 85 degrees Fahrenheit in August, and the normal daily minimum temperature is 44 degrees Fahrenheit in January (Western Regional Climate Center 2012). The normal precipitation in La Mesa is about 13 inches annually, occurring primarily from November through March.

The high pressure cell also creates two types of temperature inversions that may act to degrade local air quality. Subsidence inversions occur during the warmer months as descending air associated with the Pacific high pressure cell comes into contact with cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools through radiation and the air aloft

remains warm. The shallow inversion layer formed between these two air masses can also trap pollutants.

5.2.2.2 Air Quality Monitoring Data

The SDAPCD operates a network of ambient air monitoring stations throughout San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of criteria air pollutants and determine whether the ambient air quality meets the NAAQS and CAAQS. The nearest ambient air quality monitoring station to Collier Park is in the City of El Cajon on Redwood Avenue. Table 5.2-2 presents a summary of the ambient pollutant concentrations monitored at the El Cajon station during the last three years for which records are available (2009 through 2011), as well as the corresponding NAAQS and CAAQS.

As shown below in Table 5.2-2, the one-hour ozone concentration exceeded the state standard two times in 2009, one time in 2010, and one time in 2011. The eight-hour ozone concentration exceeded both the state and federal standards in 2009, 2010, and 2011. The 24-hour PM_{10} concentration exceeded the state standard one time in 2009, but did not exceed the standard in 2010 or 2011. The federal standard for 24-hour PM_{10} was not exceeded during years 2009 through 2011. The 24-hour $PM_{2.5}$ concentration exceeded the federal standard one time in 2009 and one time in 2011, but did not exceed the standard in 2010. Neither the state nor federal standards for carbon monoxide, nitrogen dioxide, or sulfur dioxide were exceeded at any time during years 2009 through 2011. In fact, with one exception during October 2003, the SDAB has not violated the state or federal standards for carbon monoxide since 1990 (SDAPCD 2007). In addition, the federal annual average nitrogen dioxide standard has not been exceeded since 1978, and the state one-hour nitrogen dioxide standard has not been exceeded since 1988 (SDAPCD 2007).

5.2.2.3 Health Effects of Air Pollutants

Air quality laws and regulations generally divide air pollutants into two broad categories: criteria air pollutants and toxic air contaminants (TACs). Criteria air pollutants are a group of common air pollutants regulated by the federal and state governments by means of ambient air quality standards designed to prevent health effects and/or environmental effects of pollution. The criteria air pollutants pertinent to the project analysis are carbon monoxide, nitrogen oxides (NO_X), ozone, particulate matter, and sulfur dioxide. TACs are a category of air pollutants for which ambient air quality standards have not been established, but have been shown to have an impact on human health. The health effects of criteria air pollutants and TACs based on information published by the USEPA (2011) and CARB (2010) are described below.

Carbon Monoxide

Carbon monoxide is a colorless, odorless, poisonous gas produced by incomplete burning of carbon-based fuels, including gasoline, oil, and wood. Carbon monoxide is also produced from incomplete combustion of many natural and synthetic products. For example, cigarette smoke contains carbon monoxide. When carbon monoxide gets into the body, it combines with chemicals in the blood and prevents the blood from providing oxygen to cells, tissues, and organs. Because the body requires oxygen for energy, high-level exposures to carbon monoxide can cause serious health effects or even death.

Table 5.2-2 Air Quality Monitoring Data

Pollutant	Monitoring Station	2009	2010	2011
Ozone (O_3)				
Maximum 1-hour concentration (ppm)	El Cajon Redwood Avenue	0.098	0.102	0.105
Days above 1-hour state standard (>0.09 ppm)		2	1	1
Maximum 8-hour concentration (ppm)		0.083	0.078	0.087
Days above 8-hour state standard (>0.07 ppm)		5	6	1
Days above 8-hour federal standard (>0.075 ppm)		2	3	1
Carbon Monoxide (CO)				
Maximum 8-hour concentration (ppm)	El Cajon Redwood Avenue	--(1)	--(1)	1.46
Days above state or federal standard (>9.0 ppm)		--(1)	--(1)	0
Respirable Particulate Matter (PM_{10})				
Peak 24-hour concentration ($\mu g/m^3$)	El Cajon Redwood Avenue	57.0	42.0	41.9
Days above state standard (>50 $\mu g/m^3$)		1	0	0
Days above federal standard (>150 $\mu g/m^3$)		0	0	0
Fine Particulate Matter ($PM_{2.5}$)				
Peak 24-hour concentration ($\mu g/m^3$)	El Cajon Redwood Avenue	56.5	41.0	38.7
Days above federal standard (>35 $\mu g/m^3$)		1	0	1
Nitrogen Dioxide (NO_2)				
Peak 1-hour concentration (ppm)	El Cajon Redwood Avenue	0.054	0.058	0.049
Days above state 1-hour standard (0.18 ppm)		0	0	0
Sulfur Dioxide (SO_2)				
Maximum 24-hour concentration (ppm)	El Cajon Redwood Avenue	--(1)	--(1)	0.001
Days above 24-hour state standard (>0.04 ppm)		--(1)	--(1)	0
Days above 24-hour federal standard (>0.14 ppm)		--(1)	--(1)	0

ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter
(1) Insufficient data available to determine value.
Source: CARB 2012

Nitrogen Oxides

NO_X is a general term pertaining to a group of highly reactive gasses, including nitrogen dioxide and other oxides of nitrogen. NO_X is produced from burning fuels, including gasoline, diesel, and coal. NO_X reacts with ammonia, moisture, and other compounds to form small particles that can penetrate deeply into sensitive parts of the lungs, which can cause or worsen respiratory conditions and can aggravate existing heart disease. Ozone is formed when NO_X and volatile organic compounds (VOCs) react in the presence of heat and sunlight. NO_X is also a major component of acid rain.

Ozone

Ozone is a corrosive gas composed of three oxygen atoms linked together. Ozone exists in two layers of the atmosphere. It occurs naturally in the stratosphere (upper atmosphere) where it absorbs and provides a protective shield against the sun's damaging ultraviolet radiation. Ozone also exists in the troposphere (lower atmosphere), and even near ground level, where it can cause health effects in humans, including chest pain, coughing, throat irritation, congestion, and worsening of respiratory conditions such as bronchitis, emphysema, and asthma. Ozone is not emitted directly in the air, but at ground level is formed by chemical reactions of "precursor" pollutants—NO_X and VOCs—in the presence of heat and sunlight. Thus, ozone levels are typically higher during the spring and summer months.

Particulate Matter

Particulate matter includes dust, soot, and other tiny bits of solid materials that are released into and move around in the air. Particulates are produced by many sources, including burning of diesel fuels by trucks and buses, incineration of garbage, mixing and application of fertilizers and pesticides, road construction, industrial processes such as steel making, mining operations, agricultural burning (field and slash burning), and operation of fireplaces and woodstoves. Particulate pollution can cause eye, nose, and throat irritation and other health problems. Particulate matter is measured in microns, which are one-millionth of a meter in length (or one-thousandth of a millimeter). Small particles (less than 10 microns in diameter) pose the greatest problem because they can get deep into the lungs and cause serious health problems.

Sulfur Dioxide

Sulfur dioxide is a pungent, colorless gas formed primarily by the combustion of sulfur-containing fossil fuels, especially coal and oil. Some industrial processes, such as production of paper and smelting of metals, also produce sulfur dioxide. Short-term exposures to sulfur dioxide have been linked to an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. Sulfur dioxide emissions have not been a problem in the SDAB because of the low sulfur fuels used in the region (SDAPCD 2007).

Toxic Air Contaminants

TACs include more than 700 chemical compounds that have been determined to have potential adverse health effects. Examples of TACs include certain aromatic and chlorinated hydrocarbons, asbestos, and metals such as cadmium, nickel, chromium, and lead compounds. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as farms, landfills, construction sites, and residential areas. TACs can be carcinogenic (cancer-causing), or can cause other serious acute (short-term) and chronic (long-term) non-carcinogenic health effects. However, the emission of TACs should not automatically be equated with a significant health risk. Other factors such as the amount of the chemical, its toxicity, how it's released into the air, the weather, and the terrain can all influence whether emissions could be hazardous to human health.

5.2.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a significant impact to air quality would occur if implementation of the proposed project would:

- **Threshold 1:** Conflict with or obstruct implementation of the applicable air quality plan.
- **Threshold 2:** Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- **Threshold 3:** 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).
- **Threshold 4:** Expose sensitive receptors to substantial pollutant concentrations.
- **Threshold 5:** Create objectionable odors affecting a substantial number of people.

5.2.4 Impacts

5.2.4.1 Applicable Air Quality Plan

Threshold 1: Would the proposed project conflict with or obstruct implementation of the applicable air quality plan?

The applicable air quality plan for the proposed project is the San Diego County RAQS. As discussed in Section 5.2.1.3 above, a project that proposes development that is consistent with the growth anticipated by the applicable general plan would be consistent with the RAQS. The proposed project consists of park improvements that would enhance the ability to utilize Collier Park for its intended recreational use, thereby encouraging the continued use of the property as a neighborhood park, consistent with the adopted La Mesa General Plan (City of La Mesa 1996) land use designation. In addition, the proposed project is consistent with the recommendations in the La Mesa Parks Master Plan (City of La Mesa 2012), which include the provision of a running or walking trail; tennis courts; horseshoes, shuffle board, or bocce courts; and/or an amphitheater at Collier Park to enhance the City's recreational opportunities. Although increased park usage is anticipated as a result of the proposed park improvements, the proposed project would not directly or indirectly foster economic development or population growth (as further detailed in Section 7.2, Growth Inducement, of this EIR). Thus, the proposed project would not result in growth that exceeds the assumptions contained in the La Mesa General Plan, and would therefore be consistent with the RAQS. Furthermore, as discussed in Section 5.2.4.2 below, construction and operational air pollutant emissions would be below the recommended regional significance thresholds, such that the proposed project would not increase the frequency or severity of violations of existing air quality standards, contribute to new violations, or delay the timely attainment of air quality standards or interim reductions as specified in the RAQS. Therefore, the proposed project would not conflict with or obstruct implementation of the RAQS. Impacts would be less than significant.

5.2.4.2 Air Quality Standards

Threshold 2: Would the proposed project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

The SDAPCD does not provide quantitative thresholds for determining the significance of construction or mobile source-related projects. However, the SDAPCD does specify Air Quality Impact Analysis trigger levels for new or modified stationary sources (SDAPCD Rules 20.2 and 20.3). If these incremental levels are exceeded, an Air Quality Impact Analysis must be performed. Although these trigger levels do not generally apply to general land development projects, for comparative purposes these levels may be used to evaluate the increased emissions from these projects. The screening level thresholds can be used to demonstrate that a project's total emissions would not result in a significant impact to regional air quality. Because the Air Quality Impact Analysis screening thresholds do not include VOCs, the screening level for VOCs used in this analysis are from the South Coast Air Quality Management District (SCAQMD), which generally has stricter emissions thresholds than the SDAPCD. For $PM_{2.5}$, the 2005 USEPA Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards, which quantifies significant emissions as 10 tons per year, will be used as the screening level threshold. The trigger level thresholds, as listed in Table 5.2-3, are used in this analysis to determine whether the proposed project has the potential to violate regional air quality standards.

Table 5.2-3 SDAPCD Air Pollutant Thresholds

Pollutant	Emissions Threshold (Pounds Per Day)
Carbon monoxide (CO)	550
Nitrogen Oxides (NO_X)	250
Respirable Particulate Matter (PM_{10})	100
Fine Particulate Matter ($PM_{2.5}$)	55[(1)]
Oxides of Sulfur (SO_X)	250
Lead (Pb)	3.2
Volatile Organic Compounds (VOCs)	75[(2)]

[(1)] Based on USEPA Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards published September 2005.
[(2)] Based on VOC threshold from the SCAQMD.
Source: SDAPCD Rule 20.2, Table 20.2-1.

Construction Impacts

Construction of the proposed project would result in temporary increases in air pollutant emissions. These emissions would be generated primarily from construction equipment exhaust, earth disturbance, construction worker vehicle trips, and heavy duty truck trips. Air pollutant emissions were estimated using the worst-case activity data and the emission factors included in the CalEEMod model (Version 2011.1.1), which takes into account the hours of operation, load factor, and the emission factors for each piece of equipment. For detailed model assumptions and output, please refer to Attachment A of the Air Quality Analysis (Atkins 2012).

The proposed project would be completed in phases, generally corresponding to the four project areas described in Chapter 4, Project Description, of this EIR: Panhandle, Spring House, History Hill, and Collier Club House. Each phase of construction is anticipated to occur over a six to 14 month period. The Panhandle area would be constructed first and would be completed prior to the construction of the other three phases. The remaining areas may be constructed in any order and may be constructed concurrently. Dates of construction are currently unknown. It is assumed that construction of the Panhandle area would begin in 2013, and construction of the other phases would begin as early as 2014. Construction equipment required for the proposed project would include a front end loader, backhoe, graders, and dozers.

Grading of the entire site would require approximately 34,100 cubic yards of cut and approximately 14,800 cubic yards of fill. Two options for site grading are being considered. The first grading option would balance the cut/fill on-site. Under this option, the History Hill and Collier Club House areas would be graded to reduce the steepness of the slopes within each area, and the cut materials from these areas would be used to fill the natural bowl in the Panhandle area. The second grading option would not balance the cut/fill on-site. This option would result in the import of material to the Panhandle area, and the export of a greater amount of material from the History Hill and Collier Club House areas, and would allow grading of the park site to occur in phases. This analysis assumes the second grading option because it would require more truck trips for hauling and is the worst-case scenario in terms of air pollutant emissions. For detailed construction assumptions specific to each of the four project phases, please refer to the Construction Impacts section of the Air Quality Analysis (Atkins 2012), provided as Appendix B.

The maximum daily emissions generated during construction of each of the four project phases are presented in Table 5.2-4 through Table 5.2-7. As shown in Table 5.2-4 through Table 5.2-7, all emissions from individual project phases are below the recommended regional significance thresholds. However, simultaneous construction activities may occur. The worst-case construction scenario assumes that the most intense construction activities associated with the Spring House, History Hill, and Collier Club House phases would occur concurrently. The worst-case construction scenario emissions are presented in Table 5.2-8. As shown in Table 5.2-8, all emissions from the worst-case construction scenario are below the recommended regional significance thresholds. Therefore, impacts related to criteria air pollutant emissions would be less than significant during construction.

Table 5.2-4 Construction Daily Maximum Air Pollutant Emissions—Panhandle Phase

Construction Phase	Maximum Daily Emissions (pounds/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Demolition and Grading	9	76	44	0	31	7
Utilities and Foundation Installation	4	25	17	0	2	2
Restroom Construction, Park Features, Hardscape and Landscape Installation	13	58	36	0	3	4
SDAPCD Threshold	**75**	**250**	**550**	**250**	**100**	**55**
Impact?	No	No	No	No	No	No

Source: CalEEMod Version 2011.1.1 (For model output, please refer to Attachment A of the Air Quality Analysis [Atkins 2012].)

Table 5.2-5 Construction Daily Maximum Air Pollutant Emissions—Spring House Phase

Construction Phase	Maximum Daily Emissions (pounds/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Demolition	2	11	8	0	1	1
Interpretive Center Construction	3	15	11	0	1	1
Hardscape and Landscape Installation	2	13	9	0	1	1
SDAPCD Threshold	**75**	**250**	**550**	**250**	**100**	**55**
Impact?	No	No	No	No	No	No

Source: CalEEMod Version 2011.1.1 (For model output, please refer to Attachment A of the Air Quality Analysis [Atkins 2012].)

Table 5.2-6 Construction Daily Maximum Air Pollutant Emissions—History Hill Phase

Construction Phase	Maximum Daily Emissions (pounds/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Grading	5	38	23	0	24	5
Hardscape and Walkway Construction	5	33	22	0	3	2
Park Features and Landscape Installation	4	25	18	0	2	2
SDAPCD Threshold	**75**	**250**	**550**	**250**	**100**	**55**
Impact?	No	No	No	No	No	No

Source: CalEEMod Version 2011.1.1 (For model output, please refer to Attachment A of the Air Quality Analysis [Atkins 2012].)

Table 5.2-7 Estimated Construction Maximum Air Pollutant Emissions—Collier Club House Phase

Construction Phase	Maximum Daily Emissions (pounds/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Grading	6	48	28	0	58	6
Utilities and Retaining Wall Installation	7	56	33	0	3	3
Club House Construction, Irrigation and Hardscape Installation	10	62	40	0	5	4
Park Feature and Landscape Installation	3	20	15	0	2	2
SDAPCD Threshold	**75**	**250**	**550**	**250**	**100**	**55**
Impact?	No	No	No	No	No	No

Source: CalEEMod Version 2011.1.1 (For model output, please refer to Attachment A of the Air Quality Analysis [Atkins 2012].)

Table 5.2-8 Estimated Construction Maximum Air Pollutant Emissions—Concurrent Construction Phases

Construction Phase	Maximum Daily Emissions (pounds/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Spring House Interpretive Center Construction	3	15	11	0	1	1
History Hill Grading	5	38	23	0	24	5
Collier Club House Grading	6	48	28	0	58	6
Total Emissions	***14***	***101***	***62***	***0***	***83***	***12***
SDAPCD Threshold	**75**	**250**	**550**	**250**	**100**	**55**
Impact?	No	No	No	No	No	No

Source: CalEEMod Version 2011.1.1 (For model output, please refer to Attachment A of the Air Quality Analysis [Atkins 2012].)

Operational Impacts

Operation of the proposed project would result in criteria air pollutant emissions from vehicle trips associated with visitors to the park, and area sources such as operation of landscape equipment, application of architectural coatings, and use of other consumer products during maintenance of park facilities. Vehicular emissions are based on the worst-case trip generation of approximately 851 daily vehicle trips identified in the Traffic Impact Analysis prepared for the proposed project (Chen Ryan Associates 2012). The maximum daily emissions at buildout of the proposed project are presented in Table 5.2-9. As shown in this table, total emissions from the operation of all phases of the proposed project are below the recommended regional significance thresholds. Therefore, impacts related to criteria air pollutant emissions would be less than significant during operation.

Table 5.2-9 Operational Daily Maximum Air Pollutant Emissions

Source	Maximum Daily Emissions (pounds/day)[(1)]					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Vehicular Emissions	5	10	48	0	6	<1
Area Source Emissions	<1	0	<1	0	0	0
Total Operational Emissions	***6***	***10***	***49***	***0***	***6***	***<1***
SDAPCD Threshold	**75**	**250**	**550**	**250**	**100**	**55**
Impact?	No	No	No	No	No	No

[(1)] Maximum daily emissions for project buildout (includes Panhandle, Spring House, History Hill, and Collier Club House areas).
Source: CalEEMod Version 2011.1.1 (For model output, please refer to Attachment A of the Air Quality Analysis [Atkins 2012].)

5.2.4.3 Cumulatively Considerable Emissions

Threshold 3: Would the 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)?

The geographic context for the analysis of cumulative impacts relative to criteria air pollutants is the SDAB. The SDAB is currently in basic non-attainment status for the federal standard (NAAQS) for ozone. The SDAB is also a non-attainment area for the state standards (CAAQS) for ozone, $PM_{10,}$ and $PM_{2.5}$. Therefore, a significant baseline cumulative impact to air quality for ozone precursors (NO_X and VOCs), PM_{10}, and $PM_{2.5}$ currently exists. Consequently, the greatest concern involving criteria pollutants is whether a project would result in a cumulatively considerable net increase of PM_{10}, $PM_{2.5}$, or exceed screening-level criteria thresholds of ozone precursors (NO_X and VOCs).

Construction Impacts

A localized pollutant concentration analysis is applicable to the analysis of the cumulative impacts of construction emissions because such emissions are temporary. Construction emissions disperse or settle out following construction and would not contribute to long-term concentrations of air pollutants in the SDAB. However, short-term concentrations of air pollutants would present a localized health concern if multiple construction projects occur concurrently and the combined construction emissions exceed the significance thresholds. Thus, construction projects that are not concurrent would not contribute to the same short-term cumulative impact.

Neither the City of La Mesa nor the SDAPCD has adopted specific emission thresholds by which to evaluate the significance of cumulative air quality impacts of projects within its jurisdiction. In addition, the SDAPCD has not established screening thresholds for localized impacts. In lieu of any set quantitative air quality significance thresholds for localized impacts, the 2009 Localized Significance Thresholds established by the SCAQMD are used to determine potential construction cumulative impacts. Based on the SCAQMD's Localized Significance Thresholds, NO_X concentration decreases approximately 95 percent by 2,600 feet from the source, PM_{10} concentration decreases approximately 95 percent by 1,200 feet from the source, and $PM_{2.5}$ concentration decreases approximately 95 percent by 1,300 feet from the source. The SCAQMD has not established a threshold for VOCs; however, VOCs disperse quickly (California Indoor Air Quality 2011), so it is assumed that VOC pollutant concentrations would decrease by 95 percent beyond 2,600 feet from the source, similar to NO_X. Therefore, cumulative projects located over 1,200 feet from the project site are excluded from the cumulative PM_{10} analysis, cumulative projects located over 1,300 feet from the project site are excluded from the cumulative $PM_{2.5}$ analysis, and cumulative projects located over 2,600 feet from the project site are excluded from the cumulative NO_X and VOC analysis. The cumulative projects located within these screening distances are listed in Table 5.2-10.

Table 5.2-10 Cumulative Projects Relevant to Air Quality Analysis

Project Description	Location	Approximate Distance to Project Site	Applicable Pollutants
Palm Spring Liquor Project (4,000-square-foot addition to existing 2,400-square-foot store)	4301 Palm Avenue, La Mesa	1,300 feet	$PM_{2.5}$, NO_X, VOC
Downtown Village Streetscape Improvement Project (replacement and refurbishment of existing pedestrian infrastructure, installation of new amenities, and enhancement of pedestrian linkages)	Downtown Village, La Mesa	2,400 feet	NO_X, VOC

Source: City of La Mesa 2012

As shown in Table 5.2-10, the nearest cumulative project to the project site is the Palm Spring Liquor Project, which is located approximately 1,300 feet south of Collier Park. The Palm Spring Liquor Project is outside of the screening distance for PM_{10}, but is within the screening distances for $PM_{2.5}$, NO_X, and VOCs. Worst-case construction emissions for the proposed project would occur if the Spring House, History Hill, and Collier Club House phases would be constructed concurrently, as shown in Table 5.2-8. Based on the SCAQMD's Localized Significance Thresholds, emissions of NO_X and VOCs from the construction of the proposed project would be reduced by approximately 33 percent halfway between the project site and the Palm Spring Liquor Project, to a maximum of 68 pounds per day for NO_X and nine pounds per day for VOCs. $PM_{2.5}$ emissions from construction of the proposed project would be reduced by approximately 79 percent halfway between the project site and the Palm Spring Liquor Project, to a maximum of three pounds per day. At this distance, construction emissions from the proposed project would be less than 30 percent of the maximum daily emissions threshold for any pollutant. Construction of the Palm Spring Liquor Project would be expected to result in substantially fewer emissions compared to the proposed project because it would not require site grading or materials hauling. Emissions from construction of the Palm Spring Liquor Project would also be reduced by similar proportions due to the distance from the project site. Thus, combined construction emissions from the proposed project and the Palm Spring Liquor Project would not exceed the significance thresholds and would not result in a cumulative impact.

The other cumulative project that could be constructed concurrently with the proposed project is the Downtown Village Streetscape Improvement Project, which is located farther away than the Palm Spring Liquor Project and consists of minor construction activities. Since the Downtown Village Streetscape Improvement Project would require only minor grading, if any, and limited construction, it would be expected to result in substantially fewer construction emissions compared to the proposed project. Thus, combined construction emissions from the proposed project and the Downtown Village Streetscape Improvement Project would not exceed the significance thresholds and would not result in a cumulative impact. Therefore, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact during construction.

Operational Impacts

Similar to cumulative construction impacts, neither the City of La Mesa nor the SDAPCD has adopted specific emission thresholds by which to evaluate the significance of cumulative operational air quality impacts of projects within its jurisdiction. In addition, the SDAPCD has not established screening thresholds for localized impacts. Therefore, the 2007 Guidelines for Determining Significance—Air Quality developed by the County of San Diego was used to determine potential operational cumulative impacts. According to the County's Guidelines for Determining Significance—Air Quality, a project would

result in a significant cumulatively considerable contribution to air quality impacts during operation if the project does not conform to the RAQS, has a significant direct impact to air quality, or would cause a road intersection to operate at or below Level of Service (LOS) E.

As discussed in Section 5.2.4.1 above, the proposed project would not conflict with or obstruct implementation of the RAQS. In addition, as discussed in Section 5.2.4.2 above, operation of the proposed project would not result in a significant direct air quality impact. Buildout of the Collier Park Renovations project would create the opportunity for events to be held at the proposed History Hill amphitheater and Collier Club House outdoor event area, which would generate new vehicle trips to the park. The worst-case trip generation would be approximately 851 daily vehicle trips, including 315 peak-hour trips, assuming normal park use in addition to simultaneous events at the proposed amphitheater and outdoor event (Chen Ryan Associates 2012). Even under the worst-case scenario, the proposed project would not cause a road intersection to operate at or below LOS E (as further detailed in Section 5.10, Transportation and Traffic, of this EIR) Events would generally occur at various times throughout the day such that the worst-case trip generation is unlikely to occur. An average of 17 events per month is anticipated, such that vehicle trips for events would not occur every day. Furthermore, proposed park improvements include new sidewalks and walkways that would encourage residents to a walk to the park rather than drive. Therefore, the proposed project would not result in a cumulatively considerable contribution to a significant air quality impact during operation.

5.2.4.4 Sensitive Receptors

Threshold 4: Would the project expose sensitive receptors to substantial pollutant concentrations?

Air quality regulators typically define sensitive receptors as schools (preschool–12th grade), hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely affected by changes in air quality. The following four schools are located in the vicinity of the project site:

- Grey Rabbit Preschool located at 4542 Palm Avenue, which is approximately 600 feet northwest of Collier Park.
- Liberty Charter High School located at 4207 Spring Gardens Road, which is approximately 800 feet southeast of Collier Park.
- Gateway Community Day School located at 8691 Echo Drive, which is approximately 1,000 feet southeast of Collier Park.
- Learning Choice Academy located at 4215 Spring Street, which is approximately 1,000 feet south of Collier Park.

Other potential sensitive receptors include residents of the apartment complexes and single-family homes surrounding the park.

The two primary air pollutants of concern regarding health effects to sensitive receptors for land development projects are carbon monoxide and diesel-fired particulates (i.e., particulate matter generated by diesel engine combustion). Carbon monoxide emissions are primarily associated with mobile sources (i.e., vehicles). Areas with high vehicle density, such as congested intersections and parking garages, have the potential to create carbon monoxide “hotspots” or pockets where the carbon monoxide concentration exceeds the NAAQS and/or CAAQS. Carbon monoxide hotspots typically only

occur at signalized intersections that operate at or below LOS E with peak-hour traffic exceeding 3,000 trips (County of San Diego 2007). As discussed in Section 5.2.4.3 above, buildout of the Collier Park renovations would not generate a substantial number of new vehicle trips, such that the proposed project would not cause a road intersection to operate at or below LOS E (as further detailed in Section 5.10, Transportation and Traffic, of this EIR). Since carbon monoxide hotspots would not occur, the proposed project would not expose sensitive receptors to substantial concentrations of carbon monoxide.

Diesel-fired particulates are the primary TACs of concern for typical land use projects that do not propose stationary sources of emissions regulated by the SDAPCD (County of San Diego 2007). Emissions of diesel particulate matter associated with the proposed project would result primarily from diesel equipment operating during construction. However, as discussed in Section 5.2.4.2 above, particulate matter (PM_{10} and $PM_{2.5}$) emissions would not exceed the significance thresholds during construction. In addition, as discussed in Section 5.2.4.3 above, PM_{10} concentrations decreases approximately 95 percent by 1,200 feet and $PM_{2.5}$ concentration decreases approximately 95 percent by 1,300 feet. Since particulate matter emissions would be below the significance thresholds and would further disperse or settle out as distance from the project site increases, the proposed project would not expose sensitive receptors to substantial concentrations of diesel particulate matter. Furthermore, the proposed project consists of park improvements and would not include any TAC-emitting land uses that could have adverse health effects on sensitive receptors. Therefore, impacts to sensitive receptors would be less than significant.

5.2.4.5 Objectionable Odors

Threshold 5: Would the project create objectionable odors affecting a substantial number of people?

According to the Air Quality and Land Use Handbook (CARB 2005), the most common sources of odor complaints received by local air districts include the following land uses: sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, autobody shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations. The proposed project consists of park improvements and would not include any of the odor generating land uses identified by the CARB's Handbook. However, construction of the proposed project could temporarily create minor amounts of odors associated with diesel equipment exhaust. Diesel equipment would not be operated continuously throughout the day and exhaust odors would dissipate rapidly. Thus, potential receptors would be limited to pedestrians passing by and residents adjacent to the active construction site, and their exposure to exhaust odors would be short-term. Therefore, the proposed project would not create objectionable odors affecting a substantial number of people. Impacts would be less than significant.

5.2.5 Mitigation Measures

5.2.5.1 Applicable Air Quality Plan

No significant impacts related to the applicable air quality plan would result from implementation of the proposed project. Therefore, no mitigation measures are required.

5.2.5.2 Air Quality Standards

No significant impacts related to the air quality standards would result from implementation of the proposed project. Therefore, no mitigation measures are required.

5.2.5.3 Cumulatively Considerable Emissions

No significant impacts related to cumulatively considerable emissions would result from implementation of the proposed project. Therefore, no mitigation measures are required.

5.2.5.4 Sensitive Receptors

No significant impacts related to sensitive receptors would result from implementation of the proposed project. Therefore, no mitigation measures are required.

5.2.5.5 Objectionable Odors

No significant impacts related to objectionable odors would result from implementation of the proposed project. Therefore, no mitigation measures are required.

5.2.6 Significance Determination

The significance of air quality impacts before and after mitigation is summarized in Table 5.2-11. Implementation of the proposed project would not result in any significant impacts related to the applicable air quality plan, air quality standards, cumulatively considerable emissions, sensitive receptors, or objectionable odors. Therefore, impacts associated with air quality would be less than significant without mitigation.

Table 5.2-11 Summary of Significance of Air Quality Impacts

Issue	Significance before Mitigation	Mitigation	Significance after Mitigation
Applicable Air Quality Plan	Less than Significant	None	Less than Significant
Air Quality Standards	Less than Significant	None	Less than Significant
Cumulatively Considerable Emissions	Less than Significant	None	Less than Significant
Sensitive Receptors	Less than Significant	None	Less than Significant
Objectionable Odors	Less than Significant	None	Less than Significant

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