4.2 AIR QUALITY

The following section describes the existing air quality setting in San Luis Obispo County and the potential short-term and long-term impacts associated with development of the proposed project. The air quality analysis is based on information provided by the County, San Luis Obispo County Parks (County Parks), San Luis Obispo County Air Pollution Control District (SLOAPCD), and Pinnacle Traffic Engineering/Rick Engineering (EIR transportation consultant). Short-term construction emissions would result from grading and construction operations, transport of materials, and construction-related vehicle emissions. Long-term operational emissions would result from vehicle emissions, and operation and maintenance of proposed structures and facilities. Modeled air quality emission levels are based upon vehicle data and project trip generation prepared for this project, as well as operational emissions associated with long-term use of the proposed project components. URBEMIS2007 (version 9.2.4) data sheets and other emission calculations are included in Appendix C.

4.2.1 Existing Conditions

San Luis Obispo County constitutes a land area of approximately 3,316 square miles with varied vegetation, topography, and climate. From a geographical and meteorological standpoint, the county can be divided into three general regions: the Coastal Plateau, the Upper Salinas River Valley, and the East County Plain. Air quality in each of these regions is characteristically different, although the physical features that divide them provide only limited barriers to the transport of pollutants between regions.

Motor vehicles are the primary source of air pollutant emissions and greenhouse gases (GHGs) (SLOAPCD 2009). Approximately 75% of the county population and a corresponding portion of the commercial and industrial facilities are located within the Coastal Plateau. Due to higher population density and closer spacing of urban areas, emissions of air pollutants per unit area are generally higher in this region than in other regions of the county. NCP is located within the Coastal Plateau.

4.2.1.1 San Luis Obispo County Air Quality Monitoring

The county's air quality is measured by multiple ambient air quality monitoring stations, including one within NCP. There are four SLOAPCD operated permanent stations, two state-operated permanent stations, two special stations, and one station operated by Tosco Oil Refinery for monitoring Sulfur Dioxide (SO_2) emissions. Air quality monitoring is rigorously controlled by Federal and State quality assurance and control procedures to ensure data validity. Gaseous pollutant levels are measured continuously and averaged each hour, 24 hours a day. Particulate pollutants are generally sampled by filter techniques for averaging periods of three to 24 hours. PM_{10} (inhalable particulate matter 10 microns or less in size) and $PM_{2.5}$ (inhalable particulate matter 2.5 microns or less in size) are sampled for 24 hours every sixth day on the same schedule nationwide.

4.2.1.2 San Luis Obispo County Existing Air Quality

The significance of a given pollutant can be evaluated by comparing its atmospheric concentration to State and Federal air quality standards. These standards represent allowable atmospheric contaminant concentrations at which the public health and welfare are protected, and include a factor of safety.

In San Luis Obispo County, ozone and fine particulate are the pollutants of main concern, since exceedances of state health-based standards for those are experienced in some areas of the county. Particulate matter is monitored in two ways: PM_{10} and $PM_{2.5.}$ The county is designated as a non-attainment area for the state PM_{10} standard.

In 2008, the state eight-hour ozone standard (0.070 parts per million [ppm]) was exceeded once at the Nipomo monitoring stations. The state 24-hour PM_{10} standard (50 micrograms per cubic meter of air [µg/m3]) was exceeded one day at the NCP monitoring station, and five days at the Nipomo Mesa 2 station. On October 9, 2008, the Nipomo stations recorded an exceedance of the state PM_{10} standard due to smoke from wildfires. In 2009, the state 24-hour PM_{10} standard was exceeded two days at the NCP station, and nine days at the Nipomo Mesa 2 station.

The South County Phase 1 Particulate Matter Study was initiated by the SLOAPCD from April 2004 through March 2005 to better delineate the nature and extent of the particulate problem observed on the Mesa. Comprehensive sampling of both fine ($PM_{2.5}$) and coarse (PM_{10}) particulate matter was conducted across the Mesa. The results of this study are available in the Nipomo Mesa Particulate Study (2007).

The Phase 2 Study was conducted to determine the cause of high levels of airborne particulate matter impacting air quality and public health on the Nipomo Mesa, and whether off-road vehicle activity on the Oceano Dunes is a contributing factor. The results of the study were presented to the SLOAPCD Board and their acceptance of the report and findings on March 24, 2010.

In March 2011, a pilot program was initiated at the Oceano Dunes including small-scale sand flux control measures, whose emission reduction effectiveness can be measured and documented to evaluate their viability as long-term strategies. Following the pilot program, a long-term PM reduction plan will be developed, which will be designed to meet the requirements of the APCD's fugitive dust regulation currently under development.

San Luis Obispo County Attainment Status

The following describes the criteria air pollutants and their 2010 attainment status in the South Central Coast Air Basin based on the California Air Resources Board's (ARB) Area Designations, Activities, and Maps (ARB 2009). Table 4.2-1 summarizes the attainment status in San Luis Obispo County for the major criteria pollutants.

Table 4.2-1. San Luis Obispo County Attainment Status

Pollutant	Averaging Time	California Standards*		Federal Standards*	
		Concentration*	Attainment Status	Concentration	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Non-Attainment	--	Unclassified/ Attainment***
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No State Standard	Attainment	35 µg/m^3	Unclassified/ Attainment
	Annual Arithmetic Mean	12 µg/m^3		15.0 µg/m^3	
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Non-Attainment	150 µg/m^3	Unclassified/ Attainment
	Annual Arithmetic Mean	20 µg/m^3		--	
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Unclassified
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		--	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Attainment	0.053 ppm (100 µg/m^3)	Unclassified
	1 Hour	0.18 ppm (330 µg/m^3)		--	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	--	Attainment	0.030 ppm (80 µg/m^3)	Unclassified
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	
	3 Hour	--		0.5 ppm (1300 µg/m^3)**	
	1 Hour	0.25 ppm (655 µg/m^3)		--	
Lead*	30 Day Average	1.5 µg/m^3	Attainment	--	No Attainment Information
	Calendar Quarter	--		1.5 µg/m^3	
	Rolling 3-month Average*	--		0.15 µg/m^3	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70%. Method: Beta Attenuation and Transmittance through Filter Tape.	Attainment	No Federal Standards	
Sulfates	24 Hour	25 µg/m^3	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Attainment		
Vinyl Chloride*	24 Hour	0.01 ppm (26 µg/m^3)	No Attainment Information		

* For more information on standards visit: http://ww.arb.ca.gov.research/aaqs/aaqs2.pdf
** Secondary Standard
*** San Luis Obispo County ozone attainment status is pending EPA action on the new ozone standard.

Source: SLOAPCD 2011

4.2.2 Regulatory Setting

4.2.2.1 Federal Policies and Regulations

Air quality protection at the national level is provided through the Federal Clean Air Act Amendments (CAAA). The current version was signed into law on November 15, 1990. These amendments represent the fifth major effort by the U.S. Congress to improve air quality. The 1990 CAAA are generally less stringent than the California Clean Air Act (CCAA). However, unlike the California law, the CAAA set statutory deadlines for attaining federal standards. The 1990 CAAA added several new sections to the law, including requirements for the control of toxic air contaminants; reductions in pollutants responsible for acid deposition; development of a national strategy for stratospheric ozone and global climate protection; and requirements for a national permitting system for major pollution sources.

4.2.2.2 State Policies and Regulations

The CCAA was signed into law in September of 1988. It requires all areas of the State to achieve and maintain the California ambient air quality standards by the earliest practicable date. These standards are generally more stringent than the Federal standards; thus, emission controls to comply with the State law are more stringent than necessary for attainment of the Federal standards. The CAAA requires that all APCDs adopt and enforce regulations to achieve and maintain the State ambient air quality standards for the area under its jurisdiction. Pursuant to the requirements of the law, the SLOAPCD adopted a Clean Air Plan (CAP) for their jurisdiction.

4.2.2.3 Local Policies and Regulations

The Final 2001 San Luis Obispo County CAP is used by the SLOAPCD to address attainment of national and State fugitive dust (PM_{10}) and ozone standards for the entire county (SLOAPCD 2003). The CAP is a comprehensive planning document intended to provide guidance to the SLOAPCD and other local agencies, including the County, on how to attain and maintain the State standard for ozone and PM_{10}. The CAP presents a detailed description of the sources and pollutants which impact the jurisdiction, future air quality impacts to be expected under current growth trends, and an appropriate control strategy for reducing ozone precursor emissions, thereby improving air quality.

4.2.3 Thresholds of Significance

The significance of potential air quality impacts are based on thresholds identified by the County of San Luis Obispo in accordance with Appendix G of the CEQA *Guidelines* and standards established within the SLOAPCD CEQA Air Quality Handbook (2009). The specifics of these guidelines are defined below.

4.2.3.1 County of San Luis Obispo

The following thresholds are used to determine significance with respect to air quality. Air quality impacts would be considered significant if the proposed project would:

1. Violate any state or federal ambient air quality standard, or exceed air quality emission thresholds as established by the County Air Pollution Control District;

2. Expose any sensitive receptor to substantial air pollutant concentrations;

3. Create or subject individuals to objectionable odors; or,

4. Be inconsistent with the District's Clean Air Plan.

4.2.3.2 SLOAPCD CEQA Air Quality Handbook

According to the December 2009 CEQA Air Quality Handbook, project impacts may also be considered significant if one or more of the following special conditions apply:

- If the project has the ability to emit hazardous or toxic air pollutants in the close proximity of sensitive receptors, such that an increased cancer risk affects the population.
- If the project has the potential to emit diesel particulate matter in an area of human exposure, even if overall emissions are low.
- Remodeling or demolition operations where asbestos-containing materials will be encountered.
- If naturally occurring asbestos has been identified in the project area.
- If project has the ability to emit hazardous or toxic air pollutants in the close proximity of sensitive receptors, such as schools, churches, hospitals, etc.
- If the project results in a nuisance odor problem to sensitive receptors.

<u>Significance of Short-term Construction Emissions</u>

Heavy equipment and earth-moving operations can generate construction dust and combustion emissions. These may have substantial temporary impacts on local air quality. Fugitive dust emissions would result from land clearing, demolition, ground excavation, cut and fill operations, and equipment traffic. Combustion emissions, such as NO_X, and diesel particulate matter, are most significant when using large diesel fueled scrapers, loaders, dozers, haul trucks, compressors, generators, and other types of equipment. Because specific construction equipment information is often not available during the EIR process, the SLOAPCD has developed an alternative method for calculating construction emissions based on the amount of earthwork involved for a particular project. It may be necessary to calculate the project's construction impacts without knowing the exact fleet of construction equipment involved in the project. Table 4.2-2 contains screening construction emission rates based on the volume of soil moved and the area disturbed. This table should only be used when no other project information is available. Table 4.2-5 summarizes the level of emissions requiring mitigation.

Table 4.2-2. Screening Emission Rates for Construction Operations

Pollutant	Grams/Cubic Yard of Material Moved	Lbs/Cubic Yard of Material Moved
Diesel Particulate Matter (DPM)	2.2	0.0049
Reactive Organic Gases (ROG)	9.2	0.0203
Oxides of Nitrogen (NOx)	42.4	0.0935
Fugitive Dust (PM_{10})	0.75 tons/acre/month of construction activity (assuming 22 of operation per month)	

Source: County of San Luis Obispo, APCD CEQA Air Quality Handbook, 2009

Table 4.2-3. Thresholds of Significance for Construction Operations

Pollutant	Threshold		
	Daily (lbs)	Quarterly Tier 1 (tons)	Quarterly Tier 2 (tons)
ROG and NOx	137	2.5	6.3
DPM	7	0.13	0.32
Fugitive Particulate Matter	N/A	2.5	N/A
Greenhouse Gases	Not Yet Established		

1. Daily and quarterly emission thresholds are based on the California Health & Safety Code and the CARB Carl Moyer Guidelines.
2. Any project with a grading area greater than 4.0 acres of worked area can exceed the 2.5-ton PM10 quarterly threshold.

Source: County of San Luis Obispo, APCD CEQA Air Quality Handbook, 2009

Mitigation of construction activities is required when the emission thresholds are equaled or exceeded by fugitive and/or combustion emissions:

ROG and NOx Emissions

- **Daily:** For construction projects expected to be completed in less than one quarter (90 days), exceedance of the 137 pounds per day (lbs/day) threshold requires Standard Mitigation Measures;

- **Quarterly – Tier 1:** For construction projects lasting more than one quarter, exceedance of the 2.5 tons per quarter (ton/qtr) threshold requires Standard Mitigation Measures and Best Available Control Technology (BACT) for construction equipment. If implementation of the Standard Mitigation and BACT measures cannot bring the project below the threshold, off-site mitigation may be necessary; and,

- **Quarterly – Tier 2:** For construction projects lasting more than one quarter, exceedance of the 6.3 ton/qtr threshold requires Standard Mitigation Measures, BACT, implementation of a Construction Activity Management Plan (CAMP), and off-site mitigation.

Diesel Particulate Matter Emissions

- **Daily:** For construction projects expected to be completed in less than one quarter, exceedance of the 7 lbs/day threshold requires Standard Mitigation Measures;

- **Quarterly - Tier 1:** For construction projects lasting more than one quarter, exceedance of the 0.13 ton/qtr threshold requires Standard Mitigation Measures, BACT for construction equipment; and,

- **Quarterly - Tier 2:** For construction projects lasting more than one quarter, exceedance of the 0.32 ton/qtr threshold requires Standard Mitigation Measures, BACT, implementation of a CAMP, and off-site mitigation.

Fugitive Particulate Matter (PM10), Dust Emissions

- **Quarterly:** Exceedance of the 2.5 ton/qtr threshold requires Fugitive PM_{10} Mitigation Measures and may require the implementation of a CAMP.

Special Conditions for Construction Activity

In addition to the construction air quality thresholds defined above, there are a number of special conditions, local regulations or state and federal rules that apply to construction activities. These conditions must be addressed in proposed construction activity and are summarized below.

Sensitive Receptors

The proximity of sensitive individuals (receptors) to a construction site constitutes a special condition and may require a more comprehensive evaluation of toxic diesel PM impacts and if deemed necessary by the SLOAPCD, more aggressive implementation of mitigation measures than described below in the diesel idling section. Areas were sensitive receptors are most likely to spend time include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling unit(s). The types of construction projects that typically require a more comprehensive evaluation include large-scale, long-term projects that occur within 1,000 feet of a sensitive receptor location(s).

Permits

Portable equipment and engines 50 horsepower (hp) or greater, used during construction activities will require California statewide portable equipment registration (issued by the ARB) or an Air District permit.

Significance of Long-term Operational Emissions

To determine whether or not an analysis of long term operational emissions thresholds was necessary for the proposed project, Table 1-1 of the CEQA Air Quality handbook was consulted. Table 1-1 indicates projects (by type and size) that would typically exceed operational thresholds. Recreational projects identified in that table that most closely resemble the proposed project include “City Park.” Based on the Table 1-1 of the handbook, a

City Park of 696 acres would generate operational emissions that would be expected to exceed SLOAPCD ozone precursor significance thresholds (25 lbs/day).

The threshold criteria established by the SLOAPCD to determine the significance and appropriate mitigation level for long-term operational emissions (i.e., vehicular and area source emissions) from a project are presented in Table 4.2-3. Emissions that equal or exceed the designated threshold levels are considered potentially significant and should be mitigated. As shown in the table, the level of analysis and mitigation recommended follows a tiered approach based on the overall amount of emissions generated by the project. For projects requiring air quality mitigation, the SLOAPCD has developed a list of both standard and discretionary mitigation strategies tailored to the type of project being proposed: residential, commercial, or industrial.

Table 4.2-4. Thresholds of Significance for Operational Emissions

Pollutant	Threshold[1]	
	Daily	Annual
Ozone Precursors (ROG+NOx)[2]	25 lbs/day	25 tons/year
Diesel Particulate Matter (DPM)[2]	1.25 lbs/day	n/a
Fugitive Particulate Matter (PM_{10}), Dust	25 lbs/day	25 tons/year
CO	550 lbs/day	n/a
Greenhouse Gases (CO_2, CH_4)	Not Yet Established	

1. Daily and annual emission thresholds are based on the California Health & Safety Code Division 26, Part 3, Chapter 10, §40918, and the CARB Carl Moyer Guidelines for DPM.
2. URBEMIS – use winter operational emission data to compare to operational thresholds.

Source: County of San Luis Obispo, APCD CEQA Air Quality Handbook, 2009

Ozone Precursor Emissions

- If the project's ozone precursor emissions are below the APCD's **25 lbs/day** (combined ROG+NOx emissions) no ozone mitigation measures are necessary. The Lead Agency will prepare the appropriate, required environmental document(s).

- Projects that emit **25 lbs/day** or more of ozone precursors (ROG+NOx combined) have the potential to cause significant air quality impacts, and should be submitted to the SLOAPCD for review. On-site mitigation measures, following the guidelines in §3.7 of the SLOAPCD CEQA Air Quality Handbook 2009 (*Operational Emission*), are recommended to reduce air quality impacts to a level of insignificance.

  If all feasible mitigation measures are incorporated into the project and emissions can be reduced to less than 25 lbs/day, then the Lead Agency will prepare the appropriate, required environmental document(s).

  If all feasible mitigation measures are incorporated into the project and emissions are still greater than 25 lbs/day, then an EIR should be prepared. Additional mitigation

measures, including off-site mitigation, may be required depending on the level and scope of air quality impacts identified in the EIR.

- Projects which emit **25 tons/year** or more of ozone precursor (ROG+NOx combined), require the preparation of an EIR. Depending upon the level and scope of air quality impacts identified in the EIR, mitigation measures, including off-site mitigation, may be required to reduce the overall air quality impacts of the project to a level of insignificance.

Diesel Particulate Matter Emissions

Diesel particulate matter (DPM) is seldom emitted from individual projects in quantities, which lead to local or regional air quality attainment violations. DPM is, however, a toxic air contaminant and carcinogen, and exposure DPM may lead to increased cancer risk and respiratory problems. Certain industrial and commercial projects may emit substantial quantities of DPM through the use of stationary and mobile on-site diesel-powered equipment as well diesel trucks and other vehicles that serve the project.

Projects that emit more than **1.25 lbs/day** of DPM need to implement on-site Best Available Control Technology measures. If sensitive receptors are within 1,000 feet of the project site, a Health Risk Assessment (HRA) may also be required. Sections 3.5.1 and 3.6.4 of the SLOAPCD CEQA Air Quality Handbook 2009 provide more background on HRAs in conjunction with CEQA review. Guidance on the preparation of a HRA may be found in the CAPCOA report *Health Risk Assessment for Proposed Land Use Projects* which can be downloaded from the CAPCOA website at www.capcoa.org.

Fugitive Particulate Matter (Dust) Emissions

Projects which emit more than **25 lbs/day** or **25 tons/year** of fugitive particulate matter need to implement permanent dust control measures to mitigate the emissions below these thresholds or provide suitable off-site mitigation approved by the APCD. Operational fugitive dust emissions from a proposed project are calculated using the URBEMIS model discussed in §3.6.1 of the SLOAPCD CEQA Air Quality Handbook 2009. Typical sources of operational emissions included the following:

- **Paved roadways:** Vehicular traffic on paved roads that are used to accesses large residential, commercial, or industrial projects can generate significant dust emissions.

- **Off and/or on-site unpaved roads or surfaces:** Even at low traffic volume, vehicular traffic on unpaved roads or surfaces that are used to accesses residential, commercial, or industrial operations or that accesses special events, etc. can generate significant dust emissions.

- **Industrial and/or commercial operations:** Certain industrial operations can generate significant dust emissions associated with vehicular access, commercial or industrial activities.

Any of the above referenced land uses or activities can result in dust emissions that exceed the SLOAPCD significance thresholds, cause violations of an air quality standard, or create a nuisance impact in violation of SLOAPCD Rule 402 *Nuisance*. In all cases where such impacts are predicted, appropriate fugitive dust mitigation measures shall be implemented.

Carbon Monoxide Emissions

Carbon monoxide (CO) is a colorless, odorless, tasteless gas emitted during combustion of carbon-based fuels. While few land use projects result in high emissions of CO, this pollutant is of particular concern when emitted into partially or completely enclosed spaces such as parking structures and garages. Projects that emit more than 550 lbs/day of carbon monoxide (CO) and occur in a confined or semi-confined space (e.g., parking garage or enclosed indoor stadium) must be modeled to determine their significance. In confined or semi-confined spaces where vehicle activity occurs, CO modeling is required. If modeling shows the potential to violate the State CO air quality standard, mitigation or project redesign is required to reduce CO concentrations to a level below the health-based standard.

Guidelines for Applying ROG, NO_x and PM_{10} Mitigation Measures

In general, projects that do not exceed the 25 lbs/day ROG+NOx threshold do not require mitigation. For projects that exceed this threshold, the SLOAPCD has developed a list of mitigation strategies for residential, commercial, and industrial projects. The project proponent may suggest alternate mitigation measures if the APCD suggested measures are not feasible. Project mitigation recommendations are summarized in Table 4.2-4.

Table 4.2-5. SLOAPCD Mitigation Threshold Guide

Combined ROG+NO_x or PM_{10} Emissions (lbs/day)	Mitigation Measures Recommended	
	Residential, Commercial or Industrial	Off-Site Mitigation
< 25	None	None
25 – 29	8	*
30 – 34	14	*
35 – 50	18	*
≥ 50	All Feasible	*
≥ 25 ton/yr	All Feasible	Yes

* Will be dependent on the effectiveness of the mitigation measures, location of project and high vehicle dependent development. Examples of projects potentially subject to off-site mitigation include: rural subdivisions, drive-through applications, commercial development located far from urban core.

Source: County of San Luis Obispo, APCD CEQA Air Quality Handbook, 2009

The recommended standard air quality mitigation measures have been separated according to land use (i.e., residential, commercial and industrial), measure type (i.e., site design, energy efficiency and transportation) and pollutant reduced (i.e., ozone, particulate, diesel PM, and GHGs). Any project generating 25 lbs/day or more of ROG+NO_x or PM_{10} should select the applicable number of mitigation measure as outlined above from Table 4.2-4 to reduce the air quality impacts from the project below the significance thresholds. Consult Table 3-5 of the SLOAPCD CEQA Air Quality Handbook (2009) for a list of applicable mitigation measures.

4.2.4 Impact Assessment and Methodology

Through the scoping process, the SLOAPCD has recommended that a quantified air quality assessment be prepared for the proposed project. Long-term operational emissions were calculated by use of the URBEMIS air quality modeling program. Due to the programmatic nature of the project, and lack of grading plans and predicted construction schedule(s) for project actions, short-term construction impacts are qualitatively assessed.

The project components were also reviewed to identify whether or not SLOAPCD regulations regarding issues such as developmental burning and disturbance of naturally-occurring asbestos, among others, are relevant. Finally, the proposed project was evaluated for consistency with the County's CAP.

4.2.5 Project-specific Impacts and Mitigation Measures

4.2.5.1 Violate Air Quality Standard or Exceed Emission Thresholds

Short-term Construction Emissions

During construction, the proposed project will generate air pollutants. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. The use of asphalt, concrete, and other chemicals during construction activities would emit organic gases and other potentially harmful compounds. However, the largest percentage of pollutants would be combustion emissions and windblown dust generated during excavation, grading, hauling, and various other activities. The impacts of these activities would vary each day as construction progresses. Dust and odors could potentially cause occasional annoyance and complaints from nearby residences. Total Suspended Particulate matter (TSP) will be the major air pollutant generated. Of particular concern will be PM_{10}, which is about 65% of TSP, and is considered a health hazard that can lead to respiratory ailments, especially in the young and the elderly, who are more prone to respiratory ailments.

Combustion Emissions (ROG and NOx) and Dust (PM10)

Implementation of the Master Plan would require grading and construction activities, which would result in the generation of air emissions. Vegetation removal and ground disturbance generates fugitive dust (PM_{10}). Operation of heavy construction equipment and transfer trucks, and potentially portable energy sources result in the emission of ROG, NOx, and diesel particulate matter.

Master Plan actions that would result in large areas of disturbance include the sports fields (10 acres), parking areas (4 acres), drainage basins (3 acres), trails and walkways (3 acres), and the community center (1 acre).

A screening analysis for the 10 acres of sports fields was conducted to identify if this project component would generate emissions exceeding SLOAPCD thresholds. Construction emissions were calculated using URBEMIS 2007 Version 9.2.4, pursuant to the SLOAPCD CEQA Handbook (2009). Construction emissions (winter) would be as follows (unmitigated):

Table 4.2-6. Estimated Construction Emissions – Sports Fields

	ROG	NOx	CO	PM_{10}	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)	CO_2
Winter (lbs/day)	26.54	67.88	29.92	50.02	3.17	2.91	4,036.64
Threshold (lbs/day)*	137		n/a	n/a	7		N/a
Mitigation Required	No		n/a	n/a	No		n/a

*Source: County of San Luis Obispo, APCD CEQA Air Quality Handbook, 2009

As shown in Table 4.2-6, construction of the sports fields alone would not generate emissions exceeding SLOAPCD thresholds. Although implementation of the Master Plan would occur in phases, a screening analysis of the project as a whole was conducted to determine the maximum level of emissions generated during construction (refer to Table 4.2-7).

Table 4.2-7. Estimated Construction Emissions – Master Plan

	ROG	NOx	CO	PM_{10}	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)	CO_2
Winter (lbs/day)	13.48	76.96	49.52	120.05	4.92	4.52	6,766.52
Threshold (lbs/day)*	137		n/a	n/a	7		N/a
Mitigation Required	No		n/a	n/a	Yes		n/a

*Source: County of San Luis Obispo, APCD CEQA Air Quality Handbook, 2009

Based on the approximate area of disturbance, for each of these major actions, and consideration of the entire disturbance area (24 acres), grading and construction activities would not exceed SLOAPCD thresholds for ROG or NOx. The SLOAPCD has determined that any grading of 4 acres or more can exceed the 2.5 ton/qtr threshold for PM_{10}. San Luis Obispo County is currently in non-attainment for PM_{10} dust. Construction of the project under worst-case conditions would exceed the identified threshold for diesel exhaust particulates (refer to 4.2.5.3 below). In addition, sensitive receptors are present in the immediate area, including park users, residents, and occupants of the pre-school and library. Therefore, the generation of PM_{10} would result in a *potentially significant impact, which can be mitigated to less than significant* by implementation of standard dust control measures.

AQ Impact 1 **Earth moving activities for development of the proposed project components would result in the generation of PM_{10} (fugitive dust), resulting in a direct short-term impact.**

AQ/mm-1 *Prior to initiation of construction, the General Services Agency shall ensure that all required PM_{10} measures are shown on applicable grading or construction plans. In addition, the General Services Agency shall designate personnel to insure compliance and monitor the effectiveness of the required dust control measures (as conditions dictate, monitor duties*

may be necessary on weekends and holidays to insure compliance); the name and telephone number of the designated monitor(s) shall be provided to the SLOAPCD prior to construction. PM_{10} measures shall include:

a. *Reduce the amount of the disturbed area where possible;*

b. *Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 miles per hour (mph). Reclaimed (nonpotable) water should be used whenever possible;*

c. *All dirt stock-pile areas should be sprayed daily as needed;*

d. *Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities;*

e. *Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established;*

f. *All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SLOAPCD;*

g. *All roadways, parking areas, and pathways to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used;*

h. *Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;*

i. *All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code §23114.*

j. *Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site;*

k. *Sweep streets at the end of each day if visible soil material is carried on to adjacent paved roads. Water sweepers with reclaimed water should be used where feasible;*

l. *The General Services Agency shall designate a person or persons to monitor the fugitive dust emission and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emission below 20% opacity, and to*

prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the SLOAPCD Compliance Division prior to the start of any grading, earthwork, or demolition.

Residual Impact

Implementation of this measure would reduce impacts associated with PM_{10} (fugitive dust) to a *less than significant* level (Class II).

Long-term Operational Emissions

The proposed uses identified in the Master Plan would result in both stationary and mobile sources of air pollution, which together constitute project-related operational emissions. The stationary source emissions from these land uses would come from the consumption of natural gas, emissions from landscaping, and electricity. Mobile sources of air pollution are primarily the result of an increase in vehicle trips. Motor vehicles are a primary source of long-term emissions from many recreational land uses such as the proposed project. Recreational land uses often do not emit significant amounts of air pollutants directly, but cause or attract motor vehicle trips that do produce emissions. Such land uses are referred to as indirect sources.

Based on the Traffic Impact Analysis prepared for the EIR (Pinnacle Traffic Engineering 2010), given the project's description and intended use, it is appropriate to manually assign trip generation rates for each proposed use identified in the Master Plan.

Emission Quantification

Operational emissions for the proposed project have been quantified using the URBEMIS version 9.2.4 modeling program per SLOAPCD guidelines. The guidelines state that the thresholds be compared to the winter emission totals for "area" and "operational vehicle emissions" for impact determination; however, summer emissions are applied because the park will experience greater levels of use during the summer months. Table 4.2-8 provides daily and annual emission estimates using the URBEMIS modeling program. The URBEMIS results have been summarized for the various project components; daily and annual emission estimates were then compared to APCD thresholds to determine exceedance of APCD thresholds.

Table 4.2-8. Estimated Operational + Area Source Emissions

Component	Pollutants						
	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ranger's Residence	0.07	0.09	0.80	0.00	0.11	0.02	58.40
Pre-school	0.54	0.52	4.54	0.00	0.50	0.10	275.43
Library	2.80	3.09	26.46	0.02	3.28	0.64	1,759.32
City park (trails, open space, ampth.)	0.18	0.18	1.51	0.00	0.20	0.04	107.07
Community Recreation Center	3.92	4.26	36.46	0.02	4.61	0.89	2,461.21

Component	Pollutants						
	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Swimming pool / skate park	0.77	0.82	6.98	0.00	0.88	0.17	470.92
Multi-use sports fields (soccer)	2.26	3.00	25.24	0.02	3.52	0.68	1,849.31
Tennis courts	1.08	1.40	11.79	0.01	1.64	0.32	863.86
Basketball courts	2.09	2.80	23.59	0.02	3.29	0.63	1,728.41
Handball courts	0.43	0.56	4.72	0.00	0.66	0.13	345.68
Baseball / softball fields	0.65	0.84	7.08	0.00	0.99	0.19	518.52
Area Source Emissions	2.90	0.00	0.00	0.00	0.00	0.00	0.00
Daily Total Project (Lbs/day)	**17.69**	**17.56**	**149.17**	**0.09**	**19.68**	**3.81**	**10,438.13**
APCD Daily Threshold	ROG+NOx: 25 lbs		550 Lbs	NA	25 Lbs	NA	NA
Exceed Daily Threshold?	YES		NO	NA	NO	NA	NA
Annual Emissions (tons)	**3.41**	**3.51**	**29.06**	**0.00**	**3.59**	**0.69**	**1,872.24**
APCD Annual Threshold	ROG+NOx: 25 tons		NA	NA	25 tons	NA	NA
Exceed Annual Threshold?	NO		NA	NA	NO	NA	NA

Since the proposed project would exceed the daily ROG+NOx combined threshold under "worse-case scenario" conditions (i.e., all facilities in operation and generating trips), mitigation measures must be implemented to offset project generated impacts. Based on the SLOAPCD CEQA Air Quality Handbook (December 2009), the amount of onsite standard plus discretionary measures required are based on by how much the project exceeds the identified threshold. Following the guidelines in §3.7 of the Handbook (*Operational Emission Mitigation*), the proposed project would fall within the 35-50 lbs/day range (ROG+NOx), requiring 18 standard onsite mitigation measures to reduce air quality impacts to a level of insignificance. Many of the measures listed in the Handbook are incorporated by nature into the Master Plan, including the following:

- Provide a pedestrian-friendly and interconnected streetscape to make walking more convenient, comfortable, and safe (including appropriate signalization and signage);
- Provide good access to/from the development for pedestrians, bicyclists, and transit users.
- Provide shade tree planting in parking lots to reduce evaporative emissions from parked vehicles.
- Pave and maintain the roads and parking areas.

- Construct bikeways and pedestrian walkways.
- Encourage pedestrian and bicycle travel to adjacent land uses.
- Provide onsite housing for employees (ranger residence).
- Develop recreational facility within one-quarter mile from site (adjacent residential area, school).

AQ Impact 2 **Operational and area source emissions resulting from operation of the project at build-out would exceed the SLOAPCD daily ROG and NOx combined threshold under worst-case conditions, resulting in a potentially significant impact.**

AQ/mm-2 *Prior to construction of the community center, ranger residence, restrooms, and swimming pool, the following measures (or similar measures meeting the intent of energy efficiency) shall be incorporated into the building and landscaping plans to the maximum extent feasible:*

a. *Plan for a transit stop and associated amenities (i.e., covered turnout, direct pedestrian access, covered bench, smart signage, route information displays, and lighting);*

b. *Incorporate outdoor electrical outlets to encourage the use of electric appliances and tools.*

c. *Trusses for south-facing portions of roofs shall be designed to handle dead weight loads of standard solar photovoltaic panels. Roof design shall include sufficient south-facing roof surface, based on structures size and use, to accommodate adequate solar panels. For south-facing roof pitches, the closest standard roof pitch to the ideal average solar exposure shall be used.*

d. *Increase the building energy rating by 20% above Title 24 (2011) requirements. Measures used to reach the 20% rating cannot be double counted.*

e. *Plant drought tolerant, native deciduous shade trees along southern exposures of buildings to reduce energy use to cool buildings in summer and allow for solar warming in the winter. Maintain trees for the life of the project.*

f. *Utilize green building materials that are resource efficient, recycled, sustainable, and available locally if feasible.*

g. *Install high efficiency heating and cooling systems.*

h. *Orient building to be aligned north/south to reduce energy used to cool buildings in the summer.*

i. *Design building to include roof overhangs that are sufficient to block the high summer sun, but not the lower winter sun, from penetrating south facing windows.*

j. *Utilize high efficiency gas or solar water heaters, and energy efficient appliances.*

k. *Utilize double paned windows.*

l. *Utilize low energy exterior lighting.*

m. *Utilize low energy efficient interior lighting.*

n. *Utilize low energy traffic signals (i.e., light emitting diode).*

o. *Install door sweeps and weather stripping if more efficient doors and windows are not available.*

p. *Install energy-reducing programmable thermostats.*

q. *Use roofing material with a solar reflectance values meeting the U.S. Environmental Protection Agency (EPA)/Department of Energy (DOE) Energy Star® rating to reduce summer cooling needs.*

r. *Use native plants that do not require supplemental watering once established and are low ROG emitting.*

s. *Provide and require the use of battery powered or electric landscape and turf maintenance equipment.*

t. *Use clean engine technologies (e.g., alternative fuel, electrification) engines that are not subject to regulations.*

u. *Provide valet bicycle parking at community event centers, as feasible.*

Residual Impacts

Proposed grading, construction, and operational activities would generate air emissions, potentially exceeding identified thresholds. Implementation of identified mitigation would not eliminate air emissions; however, the concentration of pollutants would be reduced to below identified thresholds. Therefore, residual impacts will be *less than significant* (Class II).

4.2.5.2 Expose Sensitive Receptors to Substantial Pollutant Concentrations

Combustion Emissions Diesel Particulate Matter

During construction activities, idling heavy equipment emits DPM, which the SLOAPCD considers toxic, and a potential public health risk. Due to the estimated area of disturbance for both major actions and the total area, grading and construction activities would not exceed DPM emission thresholds identified by the SLOAPCD. However, several sensitive receptors are present in the immediate vicinity, including visitors within the park itself, the day care center, school, and residences. Therefore, the short-term generation of DPM would result in a

potentially significant impact, which can be mitigated to less than significant by implementation of standard measures. The project would not result in the use, storage, or generation of toxic air pollutants such that an increased cancer risk would affect identified sensitive receptors or the population.

AQ Impact 3 **Grading and construction activities for development of the proposed project components would result in the emission of diesel particulate matter, potentially affecting sensitive receptors, and resulting in an indirect short-term impact.**

AQ/mm-3 *Prior to initiation of construction, the General Services Agency shall ensure that all idling restrictions are shown on applicable grading and construction plans:*

a. *Staging and queuing areas shall not be located within 1,000 feet of offsite sensitive receptors;*

b. *Diesel idling within 1,000 feet of sensitive receptors is not permitted (i.e., the operators shall turn the equipment off when there is a break in the work that the equipment is accomplishing);*

c. *Use of alternative fueled equipment is recommended whenever possible; and,*

d. *Signs that specify the no idling requirements must be posted and enforced at the construction site.*

Residual Impact

Implementation of identified mitigation would not eliminate diesel particulate emissions; however, direct effects to sensitive receptors would be avoided. Therefore, residual impacts will be *less than significant* (Class II).

Asbestos Containing Material

The EPA considers asbestos to be a hazardous air pollutant. Proper handling of asbestos containing material (ACM) is necessary to avoid or minimize public exposure. Demolition and remodeling activities associated with the proposed project, including removal and relocation of park amenities and infrastructure, may result in the exposure of persons to asbestos containing material, resulting in a *potentially significant impact, which can be mitigated to less than significant* by implementation of standard measures.

AQ Impact 4 **Demolition and remodeling activities associated with construction of proposed project elements may result in the exposure of ACM, resulting in an indirect short-term impact.**

AQ/mm-4 *Prior to removal or demolition of any buildings or utility pipes, the General Services Agency shall provide evidence they have contacted SLOAPCD to determine: a) what regulatory jurisdictions apply to the proposed demolition, such as the National Emission Standard for Hazardous Air Pollutants (NESHAP; 40 Code of Federal Regulations [CFR] 61, Subpart M – Asbestos); b) District notification requirements; c) the need for an asbestos*

survey conducted by Certified Asbestos Inspector; and d) applicable removal and disposal requirements of the asbestos-containing material.

Residual Impact

Exposure of ACM may occur during project construction. Implementation of identified mitigation would contain and remove hazardous air pollutants, and reduce impacts associated with ACM to a *less than significant* level (Class II).

Naturally-Occurring Asbestos Exposure

The project site has been identified by the SLOAPCD as an area that has the potential to contain naturally occurring asbestos. Construction and development of the project could result in an exposure of naturally occurring asbestos due to earthwork, resulting in a *potentially significant impact, which can be mitigated to less than significant* by implementation of standard measures.

AQ Impact 5 **Earth moving activities for development of the proposed project components would result in grading activities that may expose naturally occurring asbestos, resulting in an indirect short-term impact.**

AQ/mm-5 *Prior to initiation of construction, the General Services Agency shall:*

a. Conduct a geologic analysis to ensure the presence/absence of serpentine rock onsite. The geologic analysis shall identify if naturally occurring asbestos is contained within the serpentine rock onsite; and, if found, the applicant must comply with all requirements outlined in the Asbestos Airborne Toxic Control Measures (ATCM). In addition, the applicants shall work with the SLOAPCD to prepare a SLOAPCD-approved Asbestos Health and Safety Program and an Asbestos Dust Control Plan prior to development plan approval.

Residual Impact

Exposure of naturally-occurring asbestos may occur during project construction. Implementation of identified mitigation would contain and remove hazardous air pollutants, and reduce impacts associated with naturally-occurring asbestos to a *less than significant* level (Class II).

4.2.5.3 Create or Subject Individuals to Objectionable Odors

The proposed project does not include any elements what would generate objectionable odors. Use and operation of additional restrooms, standard landscaping and turf management, and use of picnic areas would generate odors typical of existing conditions. This impact is considered *less than significant* (Class III) and no mitigation is required.

4.2.5.4 Consistency with SLOAPCD Clean Air Plan

In the CEQA Air Quality Handbook, the SLOAPCD recommends evaluating consistency with the CAP by evaluating the following questions:

Are the population projections used in the plan or project equal to or less than those used in the most recent CAP for the same area?

The proposed project is a recreational facility intended to serve the existing and future populations. The proposed project would not have a direct or indirect effect on local or regional populations. This question is not relevant to the proposed project.

Is the rate of increase in vehicle trips and miles traveled less than or equal to the rate of population growth for the same area?

The proposed project may attract some vehicle trips that would have previously gone to another recreational facility but would also generate additional trips. Trips would not increase at a rate faster than the rate of population growth.

Have all applicable land use and transportation control measures and strategies from the CAP been included in the plan or project to the maximum extent feasible?

The project consists of improvements to an existing park, which would provide recreational opportunities and alternative transportation linkage within an urban area. The project incorporates applicable CAP control measures and strategies by locating improvements within the existing park, in close proximity to residential and commercial areas. The NCP Master Plan promotes walking and bicycling by improving safe access into the park, and providing path linkages to bike paths and sidewalks.

Therefore, the project would not conflict with or obstruct implementation of the Clean Air Plan. The impact would be *less than significant* (Class III).

4.2.6 Cumulative Impacts

The cumulative study area for air quality impacts is the South Central Coast Air Basin (SCCAB). The project would contribute criteria pollutants to the SCCAB during project construction and long-term operational use, including ozone precursors and particulate matter. A number of large development projects are currently under review by the County, including mixed use, residential, and commercial projects in the immediate area. These projects may be under construction simultaneously with certain elements of the project, and in the long-term, would be generating similar air emissions due to increased traffic trips and energy use.

Depending on construction schedules and actual implementation of projects in the area, generation of fugitive dust and pollutant emissions during construction could result in substantial short-term increases in air pollutants. This would be a contribution to short-term cumulative air quality impacts. Analysis conducted specifically for this project concluded that the build-out of the Master Plan would contribute to cumulative long-term operational air quality impacts because it is projected to exceed the daily ROG+NO_x threshold. However, with implementation of mitigation measures, the project's contribution to cumulative air quality impacts would be *less than significant*, and no additional mitigation is necessary.

In addition, the project would provide additional recreational facilities within one to five miles of proposed residential developments within Nipomo, and would be accessible via alternative transportation, including pedestrian walkways and bicycle paths, which may reduce cumulative air emissions in the area.