

## 4.3 AIR QUALITY

*Both long and short-term emissions resulting from project construction and operation would occur. Construction and grading equipment on the site would emit carbon monoxide and ozone precursors, such as nitrogen oxide and reactive organic compounds. In addition, grading and vehicle activity on the site would result in the release of dust and suspended particulates. Construction air quality impacts are considered significant but mitigable. Operation of the facility would increase the number of average daily trips to the area for automobiles and increase the combustion of natural gas and electricity in the area, all of which would generate regional air pollutants. This impact from the increase in operational emissions is considered significant and unavoidable. The addition of traffic to area intersections would increase congestion at the intersections and subsequently increase carbon monoxide concentrations. However, concentrations would not exceed the California one-hour standard and would therefore be less than significant. The project has also been determined to be potentially inconsistent with the 2001 CAP, which would be considered a significant but mitigable impact. The project may remove up to six existing on-site structures which, due to their age, could contain lead based paint and/or asbestos. Performance of asbestos and lead based paint inspections and any necessary associated remediation would reduce this impact to a less than significant level. The project would result in significant air quality impacts that cannot be fully mitigated.*

### 4.3.1 Setting

The physical and regulatory air quality setting of the City and County of San Luis Obispo is described in detail in the County's 2001 Clean Air Plan (CAP), which is herein incorporated by reference. The 2001 CAP is available for review at local libraries and at the San Luis Obispo County Air Pollution Control District, 2156 Sierra Way, Suite B, San Luis Obispo, California.

**a. Local Climate and Meteorology.** The climate of San Luis Obispo County can be generally characterized as Mediterranean, with warm, dry summers and cooler, relatively damp winters. Along the coast, mild temperatures are the rule throughout the year due to the moderating influence of the Pacific Ocean. This effect is diminished inland in proportion to distance from the ocean by major intervening terrain features, such as the coastal mountain ranges. As a result, inland areas are characterized by a considerably wider range of temperature conditions. Maximum summertime temperatures average about 70 degrees Fahrenheit near the coast, while inland valleys are often in the high 90s. Average minimum, winter temperatures range from the low 30s along the coast to the low 20s inland.

Regional meteorology is largely dominated by a persistent high-pressure area which commonly resides over the eastern Pacific Ocean. Seasonal variations in the strength and position of this pressure cell cause seasonal changes in the weather patterns of the area. The Pacific high remains generally fixed several hundred miles offshore from May through September. As the onshore breezes pass over the cool water of the ocean, fog and low clouds often form in the marine air layer along the coast. Surface heating in the interior valleys dissipates the marine layer as it moves inland.

From November through April the Pacific High tends to migrate southward, allowing northern storms to move across the County. About 90% of the total annual rainfall is received during this period. Winter conditions are usually mild, with intermittent periods of precipitation followed by mostly clear days. Rainfall amounts can vary considerably among different regions



in the County. In the Coastal Plain, annual rainfall averages 16 to 28 inches, while the Upper Salinas River Valley generally receives about 12 to 20 inches of rain. The Carrizo Plain is the driest area of the County with less than 12 inches of rain in a typical year.

Airflow in the County plays an important role in the movement and dispersion of pollutants. The speed and direction of local winds are controlled by the location and strength of the Pacific High pressure system and other global patterns, by topographical factors, and by circulation patterns resulting from temperature differences between land and sea. In the spring and summer months, when the Pacific high attains its greatest strength, onshore winds from the northwest generally prevail during the day. At night, as the sea breeze dies, weak drainage winds flow down the coastal mountains and valleys to form a light, easterly land breeze.

In the fall, onshore surface winds decline and the marine layer grows shallow, allowing an occasional reversal to a weak offshore flow. This, along with the daytime alternation of land-sea breeze circulation, can sometimes produce a sloshing effect. Under these conditions, pollutants may accumulate over the ocean for a period of one or more days and are subsequently carried back onshore with the return of the sea breeze. Strong inversions can form at this time, trapping pollutants near the surface.

This effect is intensified when the Pacific High weakens or moves inland to the east. This may produce a condition known as Santa Ana in which air, often pollutant-laden, is transported into the County from the east and southeast. This can occur over a period of several days until the high-pressure system returns to its normal location, breaking the pattern. The breakup of this condition may result in relatively stagnant conditions and a buildup of these pollutants offshore. The onset of the typical daytime sea breeze can bring these pollutants back onshore, where they combine with local emissions to cause high pollutant concentrations. Not all occurrences of the post Santa Ana condition lead to high ambient pollutant levels, but it does play an important role in the air pollution meteorology of the County.

**b. Local Regulatory Framework.** Both the federal and state governments have established ambient air quality standards for the protection of public health. The U.S. Environmental Protection Agency (EPA) is the federal agency designated to administer air quality regulation, while the California Air Resources Board (CARB) is the state equivalent in the California Environmental Protection Agency. Local control in air quality management is provided by the CARB through regional-level Air Pollution Control Districts (APCDs). The CARB has established air quality standards and is responsible for the control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The CARB has established 14 air basins statewide.

The U.S. EPA has set primary and secondary ambient air quality standards for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates (PM<sub>10</sub>) and lead. In addition, the State of California has established health-based ambient air quality standards for these and other pollutants, which are more stringent than the federal standards. Table 4.3-1 shows the federal and state primary standards for the major pollutants. The U.S. EPA recently announced changes to the National Ambient Air Quality Standards for ozone and particulate matter. The federal ozone standard was lowered to 0.08 parts per million (ppm) and the averaging period was changed from one-hour to an eight-hour running average. A new



**Table 4.3-1 Federal and State Ambient Air Quality Standards**

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone	8-Hour	0.08 PPM	---
	1-Hour	0.12 PPM	0.09 PPM
Carbon Monoxide	8-Hour	9.0 PPM	9.0 PPM
	1-Hour	35.0 PPM	20.0 PPM
Nitrogen Dioxide	Annual	0.05 PPM	---
	1-Hour	---	0.25 PPM
Sulfur Dioxide	Annual	0.03 PPM	---
	24-Hour	0.14 PPM	0.04 PPM
	1-Hour	---	0.25 PPM
PM <sub>10</sub>	Annual	50 ug/m <sup>3</sup>	30 ug/m <sup>3</sup>
	24-Hour	150 ug/m <sup>3</sup>	50 ug/m <sup>3</sup>
PM <sub>2.5</sub>	Annual	15 ug/m <sup>3</sup>	--
	24-Hour	65 ug/m <sup>3</sup>	--
Lead	30-Day Average	---	1.5 ug/m <sup>3</sup>
	3-Month Average	1.5 ug/m <sup>3</sup>	---

ppm = parts per million

ug/m<sup>3</sup> = micrograms per cubic meter. Source: California Air Resources Board

particulate matter standard for 2.5 micron particulates (PM<sub>2.5</sub>) was created in addition to the standard for 10 micron particulates (PM<sub>10</sub>).

The local air quality management agency is required to monitor air pollutant levels to assure that air quality standards are met, and if they are not met, to develop strategies to meet these standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in "attainment" or as in "nonattainment." The City of San Luis Obispo falls within the jurisdiction of the County of San Luis Obispo APCD. Federal air quality standards within the jurisdiction of the San Luis Obispo APCD have been attained, while the County is in non-attainment for the state standards for ozone and PM<sub>10</sub>. **The San Luis Obispo County area was designated as attainment for the state standard for ozone in January 2004.** In addition, though the San Luis Obispo Air Basin is in attainment for the state and federal carbon monoxide standards, carbon monoxide can potentially be a problem at heavily congested intersections.

**c. Current Ambient Air Quality.** The nearest air monitoring station to the project site is at 1160 Marsh Street in the City of San Luis Obispo, about two miles from the project site. This station measures ozone, CO, NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub>. Table 4.3-2 summarizes the available annual air quality data for the local airshed. As described therein, this monitoring station has not recorded exceedances of State or federal standards for CO, NO<sub>x</sub>, SO<sub>x</sub>, or PM<sub>10</sub> over the years 2000-2002, inclusive.



**Table 4.3-2 Ambient Air Quality Data at the Marsh Street Monitoring Station (located approximately 2 miles from the site)**

<b>Pollutant</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>
Ozone, ppm – Worst Hour	0.08	0.08	0.7
Number of days of State exceedances (>0.09 ppm)	0	0	0
Number of days of Federal exceedances (>0.12 ppm)	0	0	0
Particulate Matter <10 microns, $\mu\text{g}/\text{m}^3$ Worst 24 Hours	44	39	44
Number of samples of State exceedances (>50 $\mu\text{g}/\text{m}^3$ )	0	0	0
Number of samples of Federal exceedances (>150 $\mu\text{g}/\text{m}^3$ )	0	0	0
Annual Geometric Mean (State standard = 30 $\mu\text{g}/\text{m}^3$ )	17	17	15
Annual Arithmetic Mean (Federal standard = 50 $\mu\text{g}/\text{m}^3$ )	19	18	17
Carbon Monoxide (ppm), Highest 8-Hour Average	2.25	2.01	1.65
Number of days of State exceedances (>9.0 ppm)	0	0	0
Number of days of Federal exceedances (>9.0 ppm)	0	0	0
Nitrogen Dioxide (ppm), Worst Hour	0.05	0.05	0.06
Number of days of State exceedances (>0.25 ppm)	0	0	0

Source: CARB, 2000 - 2002.

As noted above, San Luis Obispo County is in nonattainment regarding ozone and PM<sub>10</sub>, **but has recently achieve attainment status regarding the state standard for ozone.** Ozone is a secondary pollutant that is not produced directly by a source, but rather is formed by a reaction between nitrogen oxides (NO<sub>x</sub>) and reactive organic gases (ROG) in the presence of sunlight. Reductions in ozone concentrations are dependent on reducing the amount of these precursors. In San Luis Obispo County the major sources of ROG are motor vehicles, organic solvents, the petroleum industry, and pesticides; and the major sources of NO<sub>x</sub> are motor vehicles, public utility power generation, and fuel combustion by various industrial sources.

Atmospheric particulate matter is comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes and mists. The particulates of primary concern are fine particulate matter less than ten microns in diameter (PM<sub>10</sub>). These small particles have the greatest likelihood of being inhaled deep into the lungs. Major man-made sources of PM<sub>10</sub> are agricultural operations, industrial processes, combustion of fossil fuels, construction and demolition operations, and entrainment of road dust into the atmosphere. Natural sources include wind blown dust, wildfire smoke, and sea spray salt.

### 4.3.2 Environmental Impact Analysis

**a. Methodology and Significance Thresholds.** This analysis of air quality issues follows the guidance and methodologies recommended in the APCD's *CEQA Air Quality Handbook* (April 2003). Construction exhaust emissions were taken from the EPA's *Compilation of Air Pollutant Emission Factors*, (AP-42, Volume II, 1985) and the South Coast Air Quality Management District's *CEQA Air Quality Handbook* (1993). The URBEMIS 2001 for Windows computer modeling program, which was developed by the California Air Resources Board, was utilized in estimating composite mobile emission factors and is based on the number and length of vehicle trips to and from the proposed project.

A project may have a significant adverse air quality impact if the project individually or cumulatively does the following:

- *Interferes with progress towards the attainment of the ozone standard by releasing emissions which equal or exceed the established long term quantitative thresholds for pollutants;*



- *Causes an exceedance of a state or federal ambient air quality standard for any criteria pollutant (as determined by modeling); or*
- *Is inconsistent with the emissions reduction projections contained in the 2001 CAP.*

Short-term construction emission thresholds for San Luis Obispo County have been set by the APCD on a quarterly basis as follows:

- *2.5 tons per quarter of ROG*
- *2.5 tons per quarter of NO<sub>x</sub>*
- *2.5 tons per quarter of PM<sub>10</sub>*

The APCD has adopted a tiered system for assessing the significance of a project’s air quality impact, as shown below. When project emissions of ROG, SO<sub>x</sub>, SO<sub>2</sub>, and PM<sub>10</sub> are under 10 pounds per day and CO emissions are less than 50 pounds per day impacts are considered less than significant. If emissions of any of ROG, SO<sub>x</sub>, SO<sub>2</sub>, or PM<sub>10</sub> are from 10 to 24 pounds per day, impacts are considered potentially significant and on-site mitigation is recommended. If emissions of ROG, NO<sub>x</sub>, SO<sub>2</sub>, or PM<sub>10</sub> cannot be reduced to less than 25 pounds per day or CO emissions cannot be reduced to less than 550 pounds per day, additional measures may be required. If CO emissions exceed 550 pounds per day, CO concentrations should be modeled to determine whether or not the project would cause an exceedance of the federal or state standard. Table 4.3-3 illustrates the tiers for determining the significance of a project’s impacts on air quality.

**Table 4.3-3 Significance Thresholds for Operational Emissions**

<b>Pollutant</b>		<b>Tier 1</b>	<b>Tier 2</b>	<b>Tier 3</b>
ROG, NO <sub>x</sub> , SO <sub>2</sub> , PM <sub>10</sub>	< 10 lbs/day	10 lbs/day	25 lbs/day	25 tons/year
Carbon Monoxide	< 550 lbs/day		550 lbs/day	
Significance	Insignificant	Potentially Significant	Significant	Significant
Environmental Document	Negative Declaration (ND)	Mitigated ND	Mitigated ND or EIR	EIR

Pursuant to the State CEQA Guidelines, air quality impacts related to the proposed project would be considered significant if the project would:

- *Conflict with or obstruct implementation of the applicable Clean Air Plan;*
- *Violate any stationary source air quality standard or contribute to an existing or projected air quality violation;*
- *Result in a net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);*
- *Create or contribute to a non-stationary source "hot spot" (primarily carbon monoxide);*
- *Expose sensitive receptors to substantial pollutant concentrations; and/or*
- *Create objectionable odors affecting a substantial number of people.*



**b. Project Impacts and Mitigation Measures.**

**Impact AQ-1** The proposed project would generate temporary emissions during grading activities and during Phase 2 demolition. Grading could also potentially release naturally occurring asbestos, which would be considered a health hazard. Because these emissions would exceed the recommended significance thresholds, this is considered a Class II, *significant but mitigable impact*.

Construction of the proposed project would occur in two phases. The first phase would be constructed upon approval of the project and would include construction of the commercial portion of the project and the Prado Road interchange. The grading phase of development uses the largest amount of heavy duty construction equipment, which is the primary source of emissions during construction. It is assumed that each phase of the project would have separate grading work completed at the time of construction. During the first phase of construction, it is estimated that earth moving would involve the use of two bulldozers, four scrapers, two rollers, one motor grader, one off-highway truck, and one miscellaneous piece of equipment.

The second phase would include the office/business park project component, which would be constructed at an undetermined future date. The second phase would include the demolition of up to seven on-site farm support structures in the northwest portion of the site. During the second phase of construction, it is estimated that earth moving would involve the use of two bulldozers, two scrapers, one roller, one motor grader, one off-highway truck, and one miscellaneous piece of equipment. Table 4.3-4 summarizes the construction emissions for all phases of development. For construction air emissions modeling purposes, project construction emissions are divided into three phases: demolition, site grading, and building construction.

As shown in Table 4.3-4, emission of PM<sub>10</sub> and NO<sub>x</sub> would exceed APCD thresholds during construction of the first and second phases of the project. Given that San Luis Obispo County violates the state standard for ozone and PM<sub>10</sub> and that grading activities would be expected to exceed APCD thresholds, dust and ozone precursor emissions are considered to be potentially significant.

In addition, due to the age of the on-site structures that would be demolished (i.e., constructed before 1978), these structures could potentially contain asbestos-containing materials (ACMs) and/or lead-based paint (LBP). This may pose a potential health risk to people if not properly handled and disposed. This health risk would be considered a potentially significant impact unless mitigation is incorporated. Additionally, grading activities may uncover naturally occurring asbestos. Measures must be taken to assure proper handling if asbestos is present.

**Table 4.3-4 Emissions During Development (lbs/day)**

Emission Source	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>
<b>Development Year 2004</b>					
Phase 1 – Demolition	15.69	130.89	114.62	0.16	8.83
Phase 2 – Site Grading	87.19	755.02	587.79	0.01	139.27
Phase 3 – Building Construction	124.75	1,033.89	862.01	0.00	49.62
<b>Year 2004 Maximum lbs/day</b>	<b>124.75</b>	<b>1,033.89</b>	<b>862.01</b>	<b>0.16</b>	<b>152.31</b>
APCD Thresholds <sup>a</sup>	185	185	--	--	<sup>b</sup>
Threshold Exceeded?	No	Yes	--	--	Yes
<b>Development Year 2005</b>					
Phase 1 – Demolition	0.0	0.0	0.0	0.0	0.0
Phase 2 – Site Grading	0.0	0.0	0.0	0.0	0.0
Phase 3 – Building Construction	1,754.85	1,624.28	1,643.63	0.99	72.08
<b>Year 2005 Maximum lbs/day</b>	<b>1,754.85</b>	<b>1,624.28</b>	<b>1,643.63</b>	<b>0.99</b>	<b>72.08</b>
APCD Thresholds <sup>a</sup>	185	185	--	--	<sup>b</sup>
Threshold Exceeded?	Yes	Yes	--	--	Yes

<sup>a</sup> APCD CEQA Air Quality Handbook.

<sup>b</sup> Any project with a grading area greater than 4.0 acres of continuously worked area will exceed the APCD PM10 threshold.

See Appendix C for calculations

**Mitigation Measures.** The APCD requires the following mitigation measures when construction/ demolition emissions of NO<sub>x</sub> are greater than 185 lbs/ day and when PM<sub>10</sub> emissions associated with grading exceed 4.0 acres of continuously worked area.

**AQ-1(a)** The applicant shall implement the following Best Available Control Technology (CBACT) for diesel-fueled construction equipment, where feasible:

- *Maintain all construction equipment in proper tune according to manufacturer's specifications;*
- *Fuel all off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);*
- *Maximize to the extent feasible, the use of diesel construction equipment meeting the ARB's 1996 or newer certification standard for off-road heavy-duty diesel engines;*
- *Install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other District approved emission reduction retrofit devices (the number of catalysts or filters required and the equipment on which they should be installed shall be determined in consultation with APCD);*
- *Electrify equipment where feasible;*
- *Develop and implement a Diesel Emission Control Plan (DECP) that describes the diesel emission controls to be used during construction and*



*specifies the use of DOCs and CDPFs, in consultation with APCD prior to the start of construction;*

- *Substitute gasoline powered for diesel powered equipment, where feasible;*
- *Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane, or biodiesel; and*
- *Use equipment that has Caterpillar pre-chamber diesel engines.*

If any of the above CBACT's is considered infeasible, the applicant shall notify the Community Development Department, by letter, and clearly state why any of the measures of are considered infeasible. The Community Development Department, in consultation with the San Luis Obispo County APCD would then make a final determination as to whether the measure is infeasible.

- AQ-1(b)** The applicant shall design a comprehensive construction activity management plan designed to minimize the amount of large construction vehicles operating during any given time period.
- AQ-1(c)** Construction truck trips shall be scheduled, to the extent feasible, to occur during non-peak hours.
- AQ-1(d)** The amount of disturbed area shall be minimized and on-site vehicle speeds shall be reduced to 15 mph or less.
- AQ-1(e)** Water trucks or sprinkler systems shall be used in sufficient quantities during construction to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (nonpotable) water should be used.
- AQ-1(f)** If stockpiling of fill material is involved, soil that is stockpiled for more than two days shall be covered, kept moist, or treated with soil binders daily to prevent dust generation.
- AQ-1(g)** Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
- AQ-1(h)** 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).
- AQ-1(i)** Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site.
- AQ-1(j)** Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.





- AQ-1(k)** 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.
- AQ-1(l)** Mitigation Measures AQ-1(a) through AQ-1(k) shall be included on all Grading and Construction Plan notes, as well as on all bid requests. A contact name and phone number at the San Luis Obispo APCD shall also be provided on these documents so that contractors may consult with APCD staff on the type of construction equipment and emissions controls to be used.
- AQ-1(m)** The project contractor/builder shall designate a person or person to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust off-site. 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 Community Development Department and APCD prior to land use clearance for map recordation and land use clearance for finish grading of structures.
- AQ-1(n)** A geological analysis shall be conducted prior to construction to determine the presence of serpentine rock. If naturally occurring asbestos is found on the project site, the applicant shall prepare an Asbestos Dust Control Plan and an Asbestos Health and Safety Program, which shall be approved by the APCD prior to commencement of construction activities.
- AQ-1(o)** Prior to demolition work, areas of the on-site structures shall be sampled as part of an asbestos survey in compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP). If asbestos is found in any building, asbestos-related work, including demolition, involving 100 square feet or more of asbestos containing materials (ACMs) shall be performed by a licensed asbestos abatement contractor under the supervision of a certified asbestos consultant and asbestos shall be removed and disposed of in compliance with applicable State laws.
- AQ-1(p)** If during demolition of an on-site building, paint is separated from the building material (e.g. chemically or physically), the paint waste will be evaluated independently from the building material by a qualified hazardous materials inspector to determine its proper management. All hazardous materials shall be handled and disposed in accordance with local, state and federal regulations. According to the Department of Toxic Substances Control (DTSC), if paint is not removed from the building material during demolition (and is not chipping or peeling), the material can be disposed of as construction debris (a non-hazardous waste). The landfill operator will be contacted prior to disposal of building material debris to determine any specific requirements the landfill may have regarding the disposal of lead-based paint materials. The disposal of demolition debris shall comply with any such requirements.



Significance after Mitigation. The above mitigation measures would reduce the amount of dust and PM<sub>10</sub> generated by construction to a less than significant level.

**Impact AQ-2** The proposed project would result in the emission of air pollutants, including the ozone precursors ROG and NO<sub>x</sub>, and PM<sub>10</sub> primarily from mobile emissions and entrained road dust. Because emissions would exceed the APCD significance thresholds, the project’s operational impact is considered Class I, *significant and unavoidable*.

Long term emissions associated with the proposed project, as presented in Table 4.3-5, are those associated with vehicle trips and stationary sources (electricity and natural gas) upon full buildout of the project. URBEMIS 2002 for Windows was used to calculate mobile and stationary emissions associated with the proposed project, based on the number of vehicle trips associated with each land use type included in the project and the vehicle miles traveled for each particular type of trip taken. As included in Appendix C, assumptions used in the mobile emissions analysis were taken from the APCD Guidelines. The APCD CEQA Air Quality Handbook requires an additional calculation of long-term PM<sub>10</sub> emissions be prepared to account for PM10 emissions from re-entrained road dust as vehicles travel on roadway surfaces, which is not captured in the URBEMIS 2002 model. Entrained road dust PM<sub>10</sub> emissions were calculated based on APCD emissions factors where average daily trips (ADT) exceed 5,000, and heavy duty trucks travel, on paved roads. Since the proposed project would generate 20,956 ADT (refer to Section 4.10, *Traffic and Circulation*), with average trip lengths of approximately 7.5 miles, the project would result in long-term entrained road dust PM<sub>10</sub> emissions of 698.68 lbs/day.

**Table 4.3-5 Operational Emissions (lbs/day)**

Emission Source	ROG	NO <sub>x</sub>	CO	PM <sub>10</sub>
Mobile Emissions	175.68	233.50	2,264.18	173.35
Area Emissions	0.84	8.20	5.03	0.02
Entrained Road Dust	--	--	--	628.68
<b>Total</b>	<b>176.52</b>	<b>241.70</b>	<b>2,269.21</b>	<b>802.05</b>
<b>APCD Thresholds</b>				
<i>Tier 2</i>	25	25	550 <sup>1</sup>	25
<i>Combined Emissions Exceed Thresholds?</i>	Yes	Yes	Yes	Yes

<sup>1</sup> Exceedance requires modeling to determine significance. See Appendix C for calculations.

Overall emissions would exceed San Luis Obispo County APCD thresholds for all criteria pollutants. Operational impacts are therefore considered significant. It should be noted, however, that the emission estimates provided assume that all vehicle trips associated with the proposed project would be new to the region. In reality, many of the trips associated with the commercial component may be diverted trips from other existing destinations in the San Luis Obispo County area. In some cases, the presence of these new facilities may actually shorten trip lengths for area residents, thereby offsetting a portion of the increase in emissions associated with the proposed project.

Mitigation Measures. The proposed project includes a number of features designed to provide transportation alternatives that minimize air emissions. These include the provision of



pedestrian links between existing commercial development and the proposed project, street furniture, and the use of pedestrian-friendly differentiated pavements within the parking lot area. Also, the construction of transit stops and bicycle paths along the planned Dalidio Drive should encourage people to walk, bicycle, or ride the bus to the site, rather than drive, decreasing automobile related emissions to some extent. The project also provides a mix of uses that makes recreational and shopping opportunities available within walking/bicycling distance for area residents. However, project mobile emissions would remain significant despite the inclusion of these features.

To further reduce emissions associated with the proposed project, the following are recommended:

- AQ-2(a)** Increase building energy efficiency ratings by at least 10% above what is required by Title 24 requirements. Potential energy consumption reduction measures include, but are not limited to, increasing attic, wall, or floor insulation, the use of photovoltaic roof tiles, installation of energy efficient windows, **installation of energy efficient interior lighting, use of high efficiency heating and cooling, use roofing material with a solar reference value that meets the EPA/DOE Energy Star rating, installation of low energy parking lot lights**, and the use of R-45 insulation in the roof/attic space of all on-site structures.
- AQ-2(b)** Shade trees shall be planted to shade on-site structures to the greatest extent possible in summer, decreasing indoor temperatures, and reducing energy demand for air conditioning. **Shade trees shall also be planted throughout the parking lots to reduce evaporative emissions from parked vehicles.** The landscape plan shall be submitted to the San Luis Obispo APCD for review and comment. The City's Architectural Review Commission (ARC) shall review project landscaping plans for consistency with this mitigation measure.
- AQ-2(c)** The applicant shall implement all of the following mitigation measures in consultation with SLOAPCD:
- *Financial contribution and/or an agreement between the applicant and SLO APCD to provide a park-and-ride lot that could serve the project area.*
  - *Financial contribution to a bus pass subsidy program as a means of reducing vehicle trips elsewhere in the community;*
  - *Financial contribution to a vehicle-purchase/pollution offset program designed to remove vehicle that do not meet state emission requirements from area roadways;*
  - *Financial contribution to a bus retrofit program designed to convert area buses to operation by natural gas;*
  - *Financial contribution to a bus purchase program designed to increase availability of alternative transportation modes to area residents;*



- *Financial contribution to a low-emission vehicle purchase subsidy program; and*
- *Participate in the Flash Pass Program established by APCD and SLO Transit for all employers of the project.*

Refer to Mitigation Measures AQ-4(a) and (b) for a discussion of transportation demand management mitigation measures applied to the proposed project.

Significance after Mitigation. Emission reductions associated with these recommended mitigation measures, in combination with the project features described above, are expected to be less than 5% of the project's daily emissions of PM<sub>10</sub>, ROC and NO<sub>x</sub>. No other mitigation measures available appear sufficient or feasible to further reduce project emissions to a level below the thresholds. Therefore, because emissions would be expected to remain well above San Luis Obispo APCD thresholds, the residual impact to regional air quality is considered significant and unavoidable.

**Impact AQ-3 CO generated by vehicles traveling along roadways near the site would increase local ambient CO concentrations. However, CO concentrations would remain below state and federal standards. Impacts are therefore considered Class III, less than significant.**

Areas with high vehicle density, such as congested intersections, have the potential to result in high levels of CO, known as CO hot spots. Such hot spots are defined as locations where the ambient CO concentrations exceed the State (20 ppm) or Federal (35 ppm) ambient air quality standard. The CALINE4 air pollutant dispersion computer model developed by Caltrans (1989) was used to analyze the presence of potential hot spots. Land uses typically considered sensitive receptors are schools, hospitals, and senior centers. There are four intersections in the project vicinity that have sensitive receptors located nearby that would experience LOS F: the Los Osos Valley Road/Madonna Road, Los Osos Valley Road/Higuera Street, Higuera Street/Tank Farm Road intersections, and Madonna Road/Oceanaire Road intersections. CALINE4 modeling was conducted for the closest sensitive receptor for each of these intersections.

CALINE4 modeling was conducted to include wintertime meteorological conditions and traffic emissions along roadways in the site vicinity. The model assumed stability Class F and a temperature of 40 degrees Fahrenheit (4.4 C). The CALINE4 model inputs and outputs are included in Appendix C. Table 4.3-6 shows the CO concentration at the four intersections for each scenario where the intersection would operate at LOS D or lower. For the Madonna Road/Los Osos Valley Road and Prado Road/Higuera Street intersections this includes Existing + Project, Ten-Year + Project, and Buildout + Project traffic conditions. The South Higuera Street/Tank Farm Road would be expected to operate at LOS D or lower in the Existing + Project scenario. The Madonna Road/Oceanaire Road intersection would be expected to operate at LOS D or lower in the Buildout + Project scenario.

The highest P.M. peak hour CO concentration at the intersection of Los Osos Valley Road and Madonna Road would occur under the Buildout + Project Scenario at the area planned for future office/business park development, and is projected to be 11.4 ppm. The highest P.M. peak hour CO concentration at the intersection of Prado Road and Higuera would also occur



under the Buildout + Project scenario and is projected to be 9.3 ppm. The P.M. peak hour CO concentration at the intersection of South Higuera Street/Tank Farm Road under Existing + Project conditions is project to be 8.2 ppm. The P.M. peak hour CO concentration at the intersection of Madonna Road/Oceanaire Road under Buildout + Project conditions is project to be 10.1 ppm. These modeled concentrations include the second highest annual maximum at the nearest monitoring station, per the guidelines contained in Section 2200 of the *Air Quality Technical Analysis Notes* (Caltrans, June 1988). These concentrations are substantially less than both the one-hour state standard of 20 ppm and the one-hour federal standard of 35 ppm. Therefore, the proposed project would have a less than significant impact on CO concentrations.

**Table 4.3-6 One-Hour CO Concentrations at Sensitive Receptors Near the Project Site**

Intersection	Distance to Receptor (ft)*	CO Concentration (ppm)	State Std (ppm)
<i>Prado Road/ S. Higuera Street</i>			
Existing + Project	74 <sup>1</sup>	8.4	20
Ten-Yr + Project	74	8.6	20
Buildout + Project	74	9.3	20
<i>Madonna Road/Los Osos Valley Road</i>			
Existing + Project	85 <sup>2</sup>	10.2	20
	123 <sup>3</sup>	8.0	20
	211 <sup>4</sup>	7.7	20
Ten-Year + Project	85	10.2	20
	123	8.8	20
	211	8.4	20
Buildout + Project	85	11.3	20
	123	9.2	20
	211	8.8	20
<i>S. Higuera Street/Tank Farm Road</i>			
Existing + Project	90 <sup>5</sup>	8.2	20
<i>Madonna Road/Oceanaire Road</i>			
Buildout + Project	70 <sup>6</sup>	10.3	20

\*From center of the intersection  
<sup>1</sup>Receptor 1 = Enclosed patio in northeast corner of the intersection  
<sup>2</sup>Receptor 2 = Future residences on southwest corner of intersection  
<sup>3</sup>Receptor 3 = Fire Station at 1395 Madonna Road  
<sup>4</sup>Receptor 4 = Nearest residence located at 1605 Peseira  
<sup>5</sup>Receptor 5 = Nearest residence  
<sup>6</sup>Receptor 6 = Nearest residence  
 See Appendix C for calculations  
 LOVR = Los Osos Valley Road

Mitigation Measures. None required.

Significance after Mitigation. Impacts would be less than significant.

**Impact AQ-4** The proposed project would be considered potentially inconsistent with the San Luis Obispo APCD’s 2001 Clean Air Plan. This would be a Class II, significant but mitigable impact.

According to the APCD Guidelines, a significant impact finding should be made if: (1) a project would be inconsistent with the population projections used in developing the CAP; (2) a project would cause a rate of increase in vehicle trips and miles traveled that exceeds the rate of population growth for the same area; and/or (3) a project does not incorporate all applicable



land use and transportation control measures from the CAP to the maximum extent feasible. The consistency of the proposed project with each of these thresholds is discussed in the paragraphs below.

*Population Projection Consistency.* The 2001 CAP population statistics and projections are based on California Department of Finance (DOF) population estimates for January 1, 1999, local evaluation of historical growth rates, nation, state, and local economic forecasts, and the availability of resources to support additional growth. The proposed project would not include residential land uses, and would remove the residential land use designation from a portion of the site. Therefore, the project would reduce population compared to that anticipated in the CAP emissions inventory. Therefore, the population projections of the proposed project would be consistent with those of the CAP.

*Implementation of Transportation Control Measures (TCMs) and Land Use Planning Strategies (LUPS).* The following TCMs and LUPS would apply to the proposed project: T-1C (Voluntary Commute Options Program); T-2B (Regional Public Transit Improvements); T-3 (Bicycling and Bikeway Enhancements); L-1 (Planning Compact Communities); L-2 (Providing for Mixed Land Use); and L-3 (Balancing Jobs and Housing). The project proponent has not specified any voluntary commute options (e.g., employee ridesharing incentives, etc.) at this time, and would therefore be inconsistent with TCM T-1C. The project would implement TCM T-2B by accommodating bus transit stop locations along Dalidio Drive. The project would implement TCM T-3 by providing Class II bicycle lanes for both directions along Dalidio Drive, as well as on the interchange overpass, including the overpass bridge. Although the project involves an annexation request, the site is located within the Urban Reserve Area of the City of San Luis Obispo, and is located immediately adjacent to existing urban development. Therefore, the project would be considered “infill” development and would be consistent with LUPS L-1 (Planning Compact Communities). The project does not include a mixed use component, in response to previous Airport Land Use Commission (ALUC) concerns regarding the location of the site in proximity to San Luis Obispo Airport. According to the San Luis Obispo Council of Governments “1995 Jobs Housing Balance Study” (Adopted October 1995), the Central County planning area, which includes the City of San Luis Obispo, is relatively jobs rich in relation to the housing stock. The 1995 study recommends that the City should encourage more housing opportunities to reduce commute vehicle miles traveled. Due to a low residential growth rate in the City since 1995, the jobs-housing imbalance in the City has likely worsened. The project would create about 1,666 new jobs (using a factor of 500 building square feet per worker for commercial and office/business park uses), but would not increase housing units in the City. Therefore, the project would contribute to the City’s jobs-housing imbalance and would not implement TCM L-3.

*Vehicle Trip Rate of Increase and Miles Traveled.* The CAP assumes a population growth rate of approximately 25% between the years 2000 and 2015 in the County. The proposed development would generate approximately 26,556 trips per day. This increase in trips would represent a moderate percentage of total trips on roadways in the project vicinity. The project would provide a land use that would be considered a destination for substantial vehicles. However, the proposed commercial and office uses would be located adjacent to existing urban development, and would therefore be considered “infill” development. Projects within urban areas tend to generate fewer, and shorter trips compared with similar development outside urban areas. Therefore, the project would not be expected to substantially increase trip lengths



and vehicle miles traveled in the vicinity. The rate of increase in vehicle trips and miles traveled would not be expected to exceed the rate of population growth for the same area.

*Conclusion.* The project would be consistent with the CAP population projections, and would not increase the rate of vehicle miles traveled more than the rate of population growth in the area. Although the project would implement most feasible TCMs and LUPS, the project would not implement TCM T1-C (Voluntary Commute Options) or TCM T-2B (Regional Public Transit Improvements). For this reason, the project would be potentially inconsistent with the CAP, which would be considered a Class II, *Significant but Mitigable*, impact.

Mitigation Measures. The incorporation of the following mitigation measures are recommended to increase consistency with the CAP.

- AQ-4(a)** The applicant shall develop and operate an employer-based Transportation Management Program per Clean Air Plan TCM T-1C, which incorporates the following provisions:
- a. Bicycle racks and/or bicycle lockers at a ratio of 1 bicycle parking space for every 10 car parking spaces shall be installed for customers and employees, **or at a ratio otherwise acceptable the SLOAPCD to be determined prior to occupancy clearance;** and
  - b. Carpool, vanpool and transit information shall be posted in employee break/lunch areas.
- AQ-4(b)** To reduce overall project trip generation and associated air contaminant emissions, project tenants ~~should~~ **will** be required to establish and maintain employee trip reduction programs that ~~could~~ **will** include, but are not limited to, the following elements:
- Free or subsidized employee passes for SLO Transit;
  - ~~Senior Citizen subsidized patron passes for SLO Transit;~~
  - Vanpool services provided by Ride-On Transit;
  - Cash incentives for using alternative travel modes;
  - On-site rideshare matching services;
  - On-site shower facilities for bicycle users;
  - **Encourage Guaranteed Ride Home services for employees who use alternative transportation;**
  - **A minimum of 25 parking spaces to be shared use as a public Park and Ride lot;**
  - Posted information on alternative travel modes; and
  - Preferential parking for employee carpools/vanpools (where feasible)
- AQ-4(c)** The applicant shall prepare a Pedestrian Circulation Plan for review and approval by the City. The plan shall include methods to improve safe pedestrian circulation patterns within the commercial portion of the project, and between the commercial portion of the project and other nearby



commercial uses, as well as other adjacent land uses. This mitigation measure is intended to complement and coordinate with Mitigation Measure LU-1(b).

Significance After Mitigation. The implementation of the above mitigation measure would reduce impacts to a less than significant level.

**Impact AQ-5 The second phase of the project may require the demolition of up to seven existing farm support structures that could result in the release of lead based paint or asbestos containing materials. This impact would be considered Class II, significant but mitigable.**

The project site currently contains seven structures associated with the historic Dalidio farming operations. These existing on-site structures include: a farm house, farm support housing, a shed, a barn, a shop, and a storage building. Due to their age (i.e., constructed before 1978), the existing on-site structures could potentially contain asbestos-containing materials (ACMs) and/or lead-based paint (LBP). As a result, the demolition of these structures may pose a potential health risk to people if not properly handled and disposed. This health risk would be considered a potentially significant impact unless mitigation is incorporated.

Mitigation Measures. The following mitigation measures are required.

**AQ-5(a)** Prior to the initiation of demolition work, areas of the on-site structures proposed for removal shall be sampled as part of an asbestos survey in compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP). If asbestos is found in any building, asbestos-related work, including demolition, involving 100 square feet or more of asbestos containing materials (ACMs) shall be performed by a licensed asbestos abatement contractor under the supervision of a certified asbestos consultant and asbestos shall be removed and disposed of in compliance with applicable State laws. Regardless of whether asbestos is identified in the building, prior to demolition of the existing structure the APCD shall be notified and an APCD Asbestos Demolition and Renovation Compliance Checklist shall be submitted to both APCD and the City of San Luis Obispo.

**AQ-5(b)** If during demolition of the on-site structures, paint is separated from the building material (e.g. chemically or physically), the paint waste shall be evaluated independently from the building material by a qualified hazardous materials inspector to determine its proper management. All hazardous materials shall be handled and disposed in accordance with local, state and federal regulations. According to the Department of Toxic Substances Control (DTSC), if paint is not removed from the building material during demolition (and is not chipping or peeling), the material can be disposed of as construction debris (a non-hazardous waste). The landfill operator will be contacted prior to disposal of building material debris to determine any specific requirements the landfill may have regarding the disposal of lead-based paint materials. The disposal of demolition debris shall comply with any such requirements.





Significance After Mitigation. The implementation of the above mitigation measures would reduce impacts to a less than significant level.

**c. Cumulative Impacts.** San Luis Obispo County air basin is currently in non-attainment for state ~~standards for ozone and PM<sub>10</sub>~~, **but has recently achieve attainment status regarding the state standard for ozone.** The proposed project, in combination with pending development elsewhere in the City of San Luis Obispo planning area, could contribute to the cumulative degradation of regional air quality. Increases in automobile traffic, resulting from General Plan buildout would cause increases in ozone precursor and PM<sub>10</sub> emissions. In addition, cumulative construction-related emissions would contribute to the cumulative exceedance of the state ~~and federal ozone PM<sub>10</sub>~~ standard. Because the proposed project would incrementally add to the exceedance of ~~these standards~~ **this standard**, cumulative impacts would be significant and unavoidable.

Significance after Mitigation. Cumulative air quality impacts would remain significant and unavoidable.

