SECTION 4.2

Air Quality

4.2 AIR QUALITY

4.2.1 EXISTING CONDITIONS

Meteorological Setting

The Project site is located in the City of Goleta on the Santa Barbara coastal plain. Along the Pacific coastline, beneath the ridges and canyons of the Santa Ynez Mountains, the Goleta/Santa Barbara area enjoys a favorable Mediterranean climate year round. The climate in and around the City of Goleta, as well as most of southern California, is dominated by the strength and position of the semi-permanent high-pressure center over the Pacific Ocean near Hawaii, which creates cool summers, mild winters, and infrequent rainfall. The high-pressure center also drives the cool daytime sea breeze and maintains a comfortable humidity range and ample sunshine after the frequent morning clouds dissipate. Temperatures in the Goleta area average 59 degrees annually. The average high temperature is approximately 70 degrees F. Daily and seasonal changes in mean temperature are small because of the moderating effects of the nearby oceanic thermal reservoir. The average warmest month is August. The average coolest month is December.

In contrast to the relatively steady temperature regime, rainfall is highly variable. Measurable precipitation occurs primarily between early November and mid-April, but total amounts are generally small. Goleta averages approximately 17.54 inches of rain annually. February (average 4.09 inches) is the wettest month.

Goleta's wind pattern is generally light and variable. Winds in the Project vicinity display several characteristic regimes. During the day, especially in summer, winds are from the south in the morning and from the west in the afternoon. Daytime wind speeds average five to ten miles per hour. At night, especially in winter, the land becomes cooler than the ocean and an offshore wind of three to five miles per hour develops. Early morning winds are briefly from the southeast parallel to the coastline, before the daytime onshore flow becomes well established. The Santa Ana winds, which affect the southern California counties of Ventura, Los Angeles, and Orange generally leave the Santa Barbara/Goleta area virtually untouched; however, offshore Santa Ana conditions can cause significant warming trends in the Santa Barbara area.

The Santa Barbara area, however, does experience its own version of the Santa Ana condition when downslope winds pour across passes in the Santa Ynez range, descending onto the Santa Barbara littoral. These winds occur most frequently in the late spring to early summer and are strongest at sunset; hence their name: "Sundowners." Light sundowners create irregular rises in temperature near the coast, with gentle offshore breezes. Strong sundowners occur two to three times a year on average and can create sharp temperature rises and local gale force winds.[1]

The net effect of the wind pattern on air pollution is that locally generated emissions are carried offshore at night, and toward inland Santa Barbara County by day. Dispersion of pollutants is restricted when the wind velocity of nighttime breezes is low. The lack of development in inland Santa Barbara County, however, results in few air quality problems during nocturnal air

[1] Ryan, Gary. U.S. Weather Service, *Sundowner Winds, a Report on Significant Warming Events Occurring in Santa Barbara, California,* 1991 @ http://wildfirelessons.net/documents/SUNDOWNER_WINDS_S_CA.pdf, accessed 8/14/13.

stagnation. Daytime ventilation is usually much more vigorous. Both summer and winter air quality in the Project area is generally very good.

In addition to winds that control the rate and direction of pollution dispersal, southern California experiences strong temperature inversions that limit the vertical depth through which pollution can be mixed. In summer, coastal areas are characterized by a sharp discontinuity between the cool marine air at the surface and the warm, sinking air aloft within the high-pressure cell over the ocean to the west. However, because of Goleta's location relative to the ocean the incoming marine air during warm season onshore flow contains little air pollution and local air quality is not substantially affected by the regional subsidence inversions.

A second inversion type forms on clear, winter nights when cold air from the mountains sinks to the surface while the air aloft remains warm. This process forms radiation inversions. These inversions, in conjunction with calm winds, trap pollutants such as automobile exhaust near their source. During the long nocturnal drainage flow from land to sea, the exhaust pollutants continually accumulate within the shallow cool layer of air near the ground. Most areas of Santa Barbara County may experience stagnation of carbon monoxide (CO) and nitrogen oxides (NO_x) due to this winter radiation inversion condition.

Both types of inversions occur throughout the year to some extent, but the marine inversions are very dominant during the day in summer, and radiation inversions are much stronger on winter nights when nights are long and air is cool. The governing role of these inversions in atmospheric dispersion leads to substantially different air quality environments in summer and in winter.

In comparison to more densely populated coastal areas of the State, Santa Barbara County has comparatively smaller numbers of mobile sources of air pollution emissions and the local vehicle fleet continues to become cleaner each year due to the State's cleaner fuel requirements and its vehicle emission standards. For this reason, regardless of limited nocturnal mixing effects, localized Santa Barbara County air quality monitoring data since 1988 shows that CO levels have not exceeded health standards. However, monitoring data indicates that ozone levels have exceeded United States Environmental Protection Agency (USEPA) health standards several days each year, creating "hot spots" at monitoring stations throughout the County. NO_x is a precursor to the creation of ozone and is a contributor to these ozone exceedances. While the number of days per year of exceedance have substantially decreased ~~from~~ since 1989~~,~~ ~~to 2011~~ the County continues to exceed the State and federal 8-hour standards.

Existing Air Quality

The Project is located in the South Central Coast Air Basin (SCCAB), which includes Ventura, San Luis Obispo and Santa Barbara counties. The California Air Resources Board (CARB) and the Santa Barbara County Air Pollution Control District (SBCAPCD) operate ambient air monitoring stations that measure pollutant concentrations throughout the jurisdictional area of the SBCAPCD. The nearest monitoring stations to the Project site are the Goleta monitoring station, located at 380 North Fairview Avenue, which monitors ozone (O_3), CO, and NO_x, and the Santa Barbara station, located at 700 East Canon Perdido, which measures inhalable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$). In 2010, the SBCAPCD stopped monitoring particulates at Canon Perdido, and began monitoring this data at the Goleta Station. **Table 4.2-1** summarizes the last ~~seven~~ six years of published data from these monitoring stations.

The following conclusions regarding air quality in the City of Goleta can be drawn from these data:

1. Photochemical smog (ozone) levels infrequently exceed standards. The State 1-hour standard for ozone has not been exceeded in ~~seven~~ six years, the State and federal 8-hour standards were each exceeded once in 2009, and the State 8-hour ozone standard was exceeded once again in 2011. Attainment designations for federal clean air standards are typically based on no more than three violations in a three-year period. The Goleta area and the rest of Santa Barbara County, meet this criterion for the federal 8-hour ozone standard. On April 30, 2012, the County was designated as "unclassifiable/attainment (U/A)" for the federal 8-hour ozone standard. The County is considered to be in non-attainment for the State 8-hour standard because there is no allowance for the small number of days when State standards are exceeded.

2. Federal and State CO standards have not been exceeded in the last seven years. Maximum one- or 8-hour CO levels at the closest air monitoring station are currently less than 10 percent of the most stringent standards, due to the continued improvement in vehicular emissions due to the State's emission control standards. Data suggests that baseline CO levels in the Project area are generally healthful and can accommodate a quantifiable amount of additional traffic emissions before any adverse local air quality effects would occur.

3. PM_{10} levels occasionally exceed the State standard, but the federal particulate standard is very rarely exceeded. The State PM_{10} standard is exceeded on approximately ~~5~~ four percent of all days while the more lenient federal standard has not been exceeded in the past six years with the exception of a wildfire event. Santa Barbara County is classified as in non-attainment for the State 24-hour and annual PM_{10} standards, but classified as attainment for the federal PM_{10} standard.

4. A substantial fraction of PM_{10} is comprised of ultra-small diameter particulates capable of being inhaled into deep lung tissue ($PM_{2.5}$). Even with the revision of the national 24-hour $PM_{2.5}$ standard from 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$, the frequency of days exceeding the standard is minimal. $PM_{2.5}$ measurements have only exceeded federal standards once since 2005 near the project site. The County is classified U/A for the federal PM-2.5 standard.

More localized pollutants such as NO_x, lead, etc. tend to be low, although the Project site's proximity to the UPRR/U.S. 101 transportation corridor can result in the potential for localized effects. Overall, the South Coast area of the County has substantial excess dispersive capacity sufficient to accommodate localized vehicular air pollutants such as NO_x without any threat of violating the applicable standards on a regional basis.

Table 4.2-1
Project Area Air Quality Monitoring Summary ~~(2006 - 2011)~~ (2007 – 2012)
(Days Standards Were Exceeded and Maximum Observed Levels)

Pollutant/Standard	2007	2008	2009	2010	2011	2012
Ozone[1]						
1-Hour > 0.09 ppm (S)	0	0	0	0	0	0
8-Hour > 0.07 ppm (S)	0	0	1	0	1	0
8- Hour > 0.075 ppm (F)	0	0	1	0	0	0
Max. 1-Hour Conc. (ppm)	0.081	0.081	0.090	0.072	0.091	0.065
Max. 8-Hour Conc. (ppm)	0.066	0.066	0.078	0.065	0.075	0.056
Carbon Monoxide[1]						
1-Hour > 20. ppm (S)	0	0	0	0	0	0
1-Hour > 9. ppm (S, F)	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	2.2	1.4	1.6	xx	xx	Xx
Max. 8-Hour Conc. (ppm)	1.1	0.6	0.6	0.6	0.6	0.7
Nitrogen Dioxide[1]						
1-Hour > 0.18 ppm (S)	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.046	0.053	0.046	0.044	0.052	0.041
Inhalable Particulates (PM_{10})[2,3]						
24-Hour > 50 $\mu g/m^3$ (S)	25/353	44/347	8/351	0/xx[1]	2/xx[1]	0/xx[1]
24-Hour > 150 $\mu g/m^3$ (F)	0/147	0/348	0/351	0/xx[1]	0/xx[1]	0/xx[1]
Max. 24-Hr. Conc. ($\mu g/m^3$)	400*	109	126	45[1]	70[1]	48[1]
Ultra-Fine Particulates ($PM_{2.5}$)[2,3]						
24-Hour > 35 $\mu g/m^3$ (F)	0/60	1/59	0/50	0/xx[1]	0/xx[1]	0/xx[1]
Max. 24-Hr. Conc. ($\mu g/m^3$)	23.5	44.2	25.3	23.6[1]	18.4[1]	29.0[1]

Regulatory Framework

Federal

United States Environmental Protection Agency

The U.S. Environmental Protection Agency (U.S. EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards for atmospheric pollutants. The Agency regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives.

As part of its enforcement responsibilities, the U.S. EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means that will be employed to attain the national standards. The SIP must integrate federal, State, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the time frame identified in the SIP.

Clean Air Act

The original federal Clean Air Act (CWA) was adopted in 1963 and established funding for the study and cleanup of air pollution. However, there was no comprehensive federal response to address air pollution until Congress passed a much stronger Clean Air Act in 1970. In 1990, Congress dramatically revised and expanded the Clean Air Act, giving the U.S. EPA broader

authority to implement and enforce regulations intended to reduce air pollutant emissions. The key elements of the Clean Air Act include a focus on: (1) reducing outdoor, or ambient, concentrations of air pollutants that cause smog, haze, acid rain, and other air quality problems; (2) reducing emissions of toxic air pollutants that are known to, or are suspected of, causing cancer or other serious health effects; and (3) phasing out production and use of chemicals that destroy stratospheric ozone.

National Ambient Air Quality Standards (NAAQS)

Federal and State ambient air quality standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, called "sensitive receptors." Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone (the primary ingredient in photochemical smog) may lead to adverse respiratory health even at concentrations close to the ambient standard.

National AAQS (NAAQS) were established in 1971 for six pollution species with states retaining the option to add other pollutants, require more stringent compliance, or to include different exposure periods. The initial attainment deadline of 1977 was extended several times in air quality problem areas like southern California.

The federal Clean Air Act Amendments (CAAA) of 1990 requires the U.S. Environmental Protection Agency (EPA) to review all NAAQS in light of currently known health effects. EPA was charged with modifying existing standards or promulgating new ones where appropriate. The EPA subsequently developed standards for chronic ozone exposure (2008), lead (2010), sulfur dioxide (2008), carbon monoxide (2011), nitrogen dioxide (2010), and for particulate matter (including very small diameter particulate matter called $PM_{2.5)}$ (2012).[2]

State

California Air Resources Board (CARB)

The CARB is the clean air agency in the government of California. It was established in 1967 when then-governor Ronald Reagan signed the *Mulford-Carrell Act*, combining the Bureau of Air Sanitation and the Motor Vehicle Pollution Control Board. CARB is a department within the cabinet-level California Environmental Protection Agency (Cal EPA). California is the only state that is permitted to have such a regulatory agency, since it is the only state that had one before the passage of the federal Clean Air Act. Other states are permitted to either follow the CARB standard or use the federal standards, but may not set their own.

The stated goals of CARB include attaining and maintaining healthy air quality; protecting the public from exposure to toxic air contaminants; and providing innovative approaches for complying with air pollution rules and regulations.

[2] National Ambient Air Quality Standards (NAAQS) accessed 8/14/13 at http://www.epa.gov/air/criteria.html.

California Ambient Air Quality Standards (Cal AAQS)

Because California established AAQS several years before the federal action, and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is a considerable difference between State and federal clean air standards. The standards currently in effect in California are shown in **Table 4.2-2**. Sources and health effects of criteria air pollutants are summarized in **Table 4.2-3**.

Evaluation of the most current data on the health effects of inhalation of fine particulate matter prompted the California Air Resources Board to recommend adoption of a State $PM_{2.5}$ standard that is more stringent than the federal standard. This standard was adopted in 2002. The State $PM_{2.5}$ standard does not have specific attainment planning requirements, but only requires continued progress towards attainment.

Similarly, CARB extensively evaluated health effects of ozone exposure. A new State standard for an 8-hour ozone exposure was adopted in 2005. The California 8-hour ozone standard of 0.07 ppm is more stringent than the federal 8-hour standard of 0.075 ppm. The State standard, however, does not have a specific attainment deadline. California air quality jurisdictions are required to make steady progress towards attaining state standards, but there are no hard deadlines or any consequences of non-attainment. During the same re-evaluation process, CARB adopted an annual State standard for nitrogen dioxide ($NO_{2)}$ that is more stringent than the corresponding federal standard, and strengthened the State's one-hour NO_2 standard.

As part of EPA's 2002 consent decree on clean air standards, a further review of airborne particulate matter (PM) and human health was initiated. A substantial modification of federal clean air standards for PM was adopted in 2006 in which standards for $PM_{2.5}$ were strengthened, a new class of PM in the 2.5 to 10 micron size was created, some PM_{10} standards were revoked, and a distinction between rural and urban air quality was adopted.

In response to continuing evidence that ozone exposure at levels just meeting the 2008 federal clean air standards is demonstrably unhealthful, U.S. EPA has proposed a further strengthening of the 8-hour standard, but that action has been placed on indefinite hold.

Based upon ~~SCCAB~~ recent air quality monitoring data, the SCCAB ~~South Coast Central Basin~~ is currently shown as U/A (Unclassifiable/Attainment) as of 2013 and will likely be designated as in "attainment" for the federal one-hour NO_2 standard.

State Implementation Plan (SIP)

In 1979, the EPA required each state to prepare a State Implementation Plan (SIP), which describes how the state will achieve compliance with the NAAQS. A SIP is a compilation of goals, strategies, schedules, and enforcement actions that will lead the State (including the South Central Coast Air Basin) into compliance with all federal air quality standards. Every change in a compliance schedule or plan must be incorporated into the SIP. The Clean Air Act Amendments of 1990 established new deadlines for achievement of the NAAQS depending on the severity of nonattainment. Santa Barbara County is considered in attainment for the federal 8-hour ozone standard. The U.S. EPA officially revoked the federal 1- hour ozone standard on June 15, 2005. The Santa Barbara County Attainment/Nonattainment Classification Summary 2013 shows the County as "unclassified" (U) under California standards for $PM_{2.5.}$ ~~There is not~~

~~yet enough data to determine the attainment status for the federal standard for particulate matter less than 2.5 microns in diameter ($PM_{2.5}$).~~

Table 4.2-2

Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	**Averaging Time**	**California Standards** [1]		**National Standards** [2]		
		Concentration [3]	**Method** [4]	**Primary** [3,5]	**Secondary** [3,6]	**Method** [7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM10)[8]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[8]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[9]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[10]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[10]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[10]	—	
Lead[11,12]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[13]	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[11]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page …

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (6/4/13)**

Table 4.2-3
Source and Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter.	• Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions.	• Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	• Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	• Contaminated soil.	• Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Particulate Matter (PM_{10})	• Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions.	• Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter ($PM_{2.5}$)	• Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics.	• Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2009.

Regional

Santa Barbara County Air Pollution Control District

The Santa Barbara County Air Pollution Control District (SBCAPCD) is a local government agency that works to protect the people and the environment of Santa Barbara County from the effects of air pollution. Its jurisdiction covers the entire County including the incorporated cities of Buellton, Carpenteria, Goleta, Guadalupe, Lompoc, Santa Barbara, Santa Maria, and Solvang. The SBCAPCD Rules and Regulations establish emission limitations and control requirements for various sources, based upon their source type and magnitude of emissions.

Santa Barbara County Air Pollution Control District (SBCAPCD) *Rule 303—Nuisance* states that a person shall not discharge air contaminants from any source that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or that endanger the comfort, repose, health, or safety of any such persons or their business or property. The SBCAPCD considers emissions of air pollution to be a significant nuisance if five or more complaints are received from different individuals/households within 24 hours or 10 such complaints are received within 10 days.

Local

City of Goleta General Plan

The Conservation and Transportation Elements of the GP/CLUP contain policies that protect air quality resources or minimize the risk to humans and environmental from toxic air contaminants. The following GP/CLUP policies are relevant to air quality.

Conservation Element

The Conservation Element of the GP/CLUP identifies policies designed to preserve and protect environmental resources such as air quality to the maximum extent feasible while allowing reasonable development in conformance with the provisions of the Land Use Element. Specific air quality related policies in the Conservation Element include measures to minimize emissions from new developments and transportation sources. These measures protect air quality through activity/use restrictions, emission reduction measures (especially related to new development), and transportation management measures. To prevent degradation of air quality, the Conservation Element mandates that the City will promote clean air initiatives by coordinating with the SBCAPCD and requiring specific emission control measures for new development and City facilities.

CE 12.1 Land Use Compatibility

The designation of land uses on the Land Use Plan Map (Figure 2-1) and the review of new development shall ensure that siting of any new sensitive receptors provides for adequate buffers from existing sources of emissions of air pollutants or odors. *Sensitive receptors* are a facility or land use that includes members of the population sensitive to the effects of air pollutants. Sensitive receptors may include children, the elderly, and people with illnesses. If a development that is a sensitive receptor is proposed within 500 feet of U.S. Highway 101 (U.S.-101), an analysis of mobile source emissions and associated health risks shall be required. Such developments shall be required to provide an adequate setback from the highway and, if necessary, identify design mitigation measures to reduce health risks to acceptable levels.

CE 12.2 Control of Emissions from New Development

The following shall apply to reduction of air emissions from new development:

a. The City shall refer any development proposal that has the potential to increase emissions of air pollutants to the Santa Barbara County Air Pollution Control District for comments and recommended conditions prior to final action by the City.
b. All new commercial and industrial sources shall be required to use the best- available air pollution control technology. Emissions control equipment shall be properly maintained to ensure efficient and effective operation.
c. Wood-burning fireplace installations in new residential development shall be limited to low-emitting state- and U.S. Environmental Protection Agency (EPA)- certified fireplace inserts and woodstoves, pellet stoves, or natural gas fireplaces. In locations near monarch butterfly ESHAs, fireplaces shall be limited to natural gas.
d. Adequate buffers between new sources and sensitive receptors shall be required.
e. The applicant shall obtain any permit required by the Santa Barbara County Air Pollution Control District prior to issuance of final development clearance by the City.

CE 12.3 Control of Emissions During Grading and Construction

Construction site emissions shall be controlled using the following measures:

a. Watering active construction areas to reduce windborne emissions.
b. Covering trucks hauling soil, sand, and other loose materials.
c. Paving or applying nontoxic solid stabilizers on unpaved access roads and temporary parking areas.
d. Hydroseeding inactive construction areas.
e. Enclosing or covering open material stockpiles.
f. Revegetating graded areas immediately upon completion of work.

CE 12.4 Minimizing Air Pollution from Transportation Sources

The following measures are designed to reduce air pollution from transportation sources:

a. Hollister Corridor Mixed Use. The Land Use Plan for the Hollister Corridor is designed to:
    1) Provide new housing near existing workplaces and commercial services to encourage short trips by foot and bicycle.
    2) Provide new housing near existing bus routes with convenient and high frequency service.
    3) Provide new housing near the US-101 ramps so as to minimize the length of auto trips on streets within the community.
    4) Provide new housing at locations near the existing Amtrak line, which could be considered for commuter rail service in the future.

b. Other Land Use Policies: The following land use policies are designed to reduce demand for auto travel and promote less polluting modes such as bus transit, walking, and bicycling:
    1) Clustering of moderate density housing and incorporation of residential apartments on upper floors of buildings, particularly in Goleta Old Town.
    2) Integration of new housing into existing neighborhood commercial centers.
    3) Emphasis on moderate density residential development rather than low- density sprawl.
    4) Integrating pedestrian, bicycle, and transit facilities into new development.

5) Establishment of a fixed urban boundary to reduce sprawl outward from the existing urbanized area.

Transportation Element

The Transportation Element, also known in State law as the Circulation Element, guides the continued development and improvement of the transportation system to support land uses planned in the Land Use Element. Adherence to the requirements of the State Implementation Plan and the provisions of the Clean Air Plan along with implementation of the following GP/CLUP policies would reduce air quality impacts.

- Policy TE 1: Integrated Multi-Modal Transportation System
- Policy TE 2: Transportation Demand Management
- Policy TE 7: Public Transit – Bus Transportation
- Policy TE 8: Rail Transportation
- Policy TE 10: Pedestrian Circulation
- Policy TE 11: Bikeway Plan
- Policy TE 12: Transportation Systems Management
- Policy TE 13: Mitigating Traffic Impacts of Development
- Policy TE 14: Financing Transportation Improvements
- Policy TE 15: Regional Transportation

4.2.2 Thresholds of Significance

City of Goleta Thresholds

According to the City of Goleta's *Environmental Thresholds and Guidelines Manual*, a significant adverse air quality impact may occur when a project individually or cumulatively:

- Interferes with progress towards the attainment of the ozone standard by releasing emissions that equal or exceed the established long-term quantitative thresholds for NO_x and ROG.
- Equals or exceeds the State or federal ambient air quality standard for any criteria pollutant (as determined by modeling).

A project is deemed to have a significant impact on regional air quality if emissions (specified in pounds of pollution emitted per day) of specific pollutants exceed the significance threshold of 25 pounds for ROG and NOx emissions established by SBCAPCD and codified in the *Environmental Review Guidelines for the Santa Barbara County Air Pollution Control District*. ~~in the 2010 CAP~~. ~~Furthermore, per the Manual~~ Additionally, if the Project's total emissions of these ozone precursors exceed the significance threshold the Project's cumulative impacts would also be considered significant. Long-term impacts are also considered potentially significant if the growth in project-generated traffic would create CO "hot spots" (i.e., concentrations that exceed State or federal standards). Such hot spots typically occur at severely congested intersections where a level of service (LOS) E or F is projected.

Cumulative air quality impacts and consistency with the policies and measures in the Air Quality Supplement of the Comprehensive Plan, other general plans, and the Air Quality Attainment Plan (AQAP) must be determined for all projects, whether or not the project exceeds the AQAP standards.

The City thresholds also state that toxic or hazardous air pollutants in amounts that may increase cancer risks for the affected population should be analyzed as applicable.

CEQA Thresholds

Per Appendix G of the CEQA Guidelines, a project would pose a significant air quality impact if any of the following were to occur as a result of the project:

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

APCD Operation Impacts Thresholds

The following significance thresholds have been established by the Santa Barbara County APCD[3]. ~~While the~~Since the City of Goleta's thresholds are dependent on adopted APCD thresholds~~ has not yet adopted any new threshold criteria~~, these APCD thresholds are considered appropriate for use as a guideline for the impact analysis in the City of Goleta. On this basis, the Project would result in a significant impact, either individually or cumulatively, if it would:

- Emit 240 pounds per day or more of ROG and NO_x from all sources;
- Emit 25 pounds per day or more of unmitigated ROG from motor vehicle trips only;
- Emit 25 pounds per day or more of unmitigated NO_x from motor vehicle trips only;
- Emit 80 pounds per day or more of PM_{10};
- Cause or contribute to a violation of any California or National Ambient Air Quality standard (except ozone);
- Exceed the SBCAPCD health risk public notification thresholds adopted by the SBCAPCD Board (10 excess cancer cases in a million for cancer risk and a Hazard Index of more than 1.0 for non-cancer risk); or
- Be inconsistent with federal or State air quality plans for Santa Barbara County.

The cumulative contribution of Project emissions to regional levels should be compared with existing programs and plans, including the most recent Clean Air Plan (2010). If the Project's emissions of the ozone precursors (NO_x or ROG) from traffic sources exceed the operational thresholds then the Project's cumulative impacts are considered considerable and, therefore, significant.

[3] ~~SPCAPCD~~SBCAPCD, Scope and Content of Air Quality Sections in Environmental Documents, ~~2010~~adopted 2011.

If the Project does not exceed the significance thresholds for ozone precursor emissions or localized pollutant impacts, and if emissions have been taken into account in the 2010 CAP growth projections, the Project's contribution to regional cumulative impacts would be considered to be less than cumulatively considerable and, therefore, less than significant. The proposed Project is accounted for in the 2010 CAP growth projections (see below).[4]

APCD Construction Impacts Thresholds

There are no quantitative thresholds of significance for short-term construction emissions because they have already been accounted for in the 2010 CAP. However, because the region does not meet the State standards for ozone and PM_{10}, the City of Goleta requires implementation of standard emission and dust control techniques for all construction, as outlined in GP/CLUP Policy CE 12.3 and listed as mitigation measures in the GP/CLUP FEIR (Air Quality), to ensure that these emissions remain less than significant.

Santa Barbara County Association of Governments (SBCAG)

Like the rest of the State, the Santa Barbara County Association of Governments is in the process of updating its Regional Transportation Plan. The Sustainable Communities and Climate Protection Act of 2008 (SB 375) requires the addition of a Sustainable Communities Strategy as part of this update with the goal of reducing GHG emissions through the integration of land use and housing policies with transportation planning. In pursuit of this goal, the Draft RTP/SCS (August 2013) projects future development within the County on the basis of a *preferred scenario*, in which a larger share of housing growth is targeted to the South County area, where Goleta is located, in order to reduce average commuting time, overall congestion, and the need to meet AB 375 emission targets on a regional basis. While not addressing air quality *per se*, the result of implementing many of the policies under consideration as part of the DRAFT RTP/SCS would result in a reduction of regional air pollution. Many of the underlying assumptions and policies incorporated into the SBCAG pending RTP/SCS plan are consistent with the development, housing, and transportation planning of the City of Goleta as reflected in the proposed Project. Specifically, the proposed Project would increase the availability of housing (including housing for low and moderate income families) in close proximity to public transit and employment opportunities and would support a multi-modal approach to transportation. While the RTP/SCS does not impose requirements on local government, it does evidence a planning trend that is reflected in the City's GP/CLUP and in the proposed Project. Moreover, it contains population projections that may be referenced in this analysis.

4.2.3 Project Impacts

Construction Period Impacts

Impact AQ 1: Would construction of the project generate air pollutant emissions, including dust and equipment exhaust emissions that could interfere with progress towards attainment of the ozone standard or equal or exceed the State or federal ambient air quality standard or (Appendix G) violate any air quality standard or contribute to an existing or projected air quality violation or expose sensitive receptors to substantial concentrations of air pollutants?

[4] A Draft 2013 CAP is currently pending but has not yet been adopted. The 2010 CAP was adopted by the APCD Board on January 10, 2011 and is the currently referenced CAP.

Significance Before Mitigation: Potentially Significant

Temporary construction-generated emissions would occur during the approximately 3.5 year construction phase of the proposed Project. These emissions include on-site generation of dust, equipment exhaust from demolition, grading, and construction activities, and off-site emissions from construction employee commuting and/or trucks delivering building materials or exporting unused excavated soils.

Construction activity emissions are difficult to quantify since the exact type and amount of equipment that would be used or the acreage that may be disturbed on any given day in the future is not known with ~~any reasonable~~ certainty. The emphasis on assessing construction activity emission impacts in environmental documents has been to minimize the emissions as fully as possible through incorporation of comprehensive mitigation measures even if the exact amount of emissions cannot be precisely quantified. The City's GP/CLUP FEIR includes mitigation measures, which when implemented would reduce construction-related air quality impacts related to General Plan build out to a less than significant level. These are included in the mitigation measures for this Project. In addition, APCD Rule 345, *Control of Fugitive Dust from Construction and Demolition Activities*, established limits on the generation of visible fugitive dust emissions at demolition and construction sites. The rule includes measures for minimizing fugitive dust from on-site activities and from trucks moving on- and off-site. Implementation of the applicable measures of APCD Rule 345 are assumed where these measures exceed those required by the City's GP/CLUP FEIR and are noted under "Mitigation Measures" where required, as "Project Requirements."

Dust is the primary air quality concern during the construction phase. Because dust is not amenable to control through collection and discharge through a controlled source, dust kicked up by construction called "fugitive emissions." Emission rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance, or excavation, etc.). These parameters are not known with any reasonable certainty before project development and may change from day to day.

Because of the inherent uncertainty in the predictive factors used for estimating fugitive dust generation, regulatory agencies typically use one universal "default" factor based on the area disturbed, assuming that all other input parameters into emission rate prediction fall into mid-range average values.

Current research in particulate exposure health effects suggests that the most adverse effect derives from ultra-small diameter (2.5 microns or smaller) particulate matter known as $PM_{2.5}$. This ultra-small particulate matter is composed of a mixture of particles directly emitted into the air and particles formed in the air from the chemical transformation of gaseous pollutants such as sulfates, nitrates, or organic material. Currently, SBCAPCD guidelines do not list a threshold for $PM_{2.5}$ from construction activities.

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. Exhaust emissions would be generated by the operation of vehicles and equipment on the construction site. The majority of construction equipment and vehicles would be diesel powered, which tends to be more efficient than gasoline-powered equipment, producing lower carbon monoxide and hydrocarbon emissions than gasoline-powered equipment. However, diesel-powered equipment produces greater amounts of NO_x, SOx, and particulates per hour of activity. The toxicity of diesel exhaust is evaluated based on a 24 hours per day, 365 days per

year, 70-year lifetime exposure. Public exposure to heavy equipment operating during the Project's construction phase will be an extremely small fraction of the above dosage assumption. Therefore, construction of the Project is not expected to result in a significant public health risk to sensitive receptors associated with project-related heavy equipment operations exhaust (**Class II**).

Construction activity air quality impacts primarily occur in close proximity to the surface disturbance area. There may, however, be some spillover into the surrounding community. That spillover may occur as vehicles drop or carry out dirt or silt is washed into public streets. Spillover may also occur through traffic congestion effects due to the addition of construction vehicles (trucks and contractor employee commuting) to existing ambient traffic volume. Emissions controls require implementation of good housekeeping procedures and a construction traffic management plan that will maintain such spillover effects at a less-than-significant level.

The CalEEMod 2013.2.2 computer model was used to calculate emissions from the ~~prototype~~ default construction equipment fleet for a project of this size. ~~and grading information listed in **Table 4.2-4**~~. Dust control measures are required for all construction activities as standard conditions on grading permits. The non-attainment status of Santa Barbara County for PM_{10} requires that all reasonably available mitigation measures should be implemented during grading and construction activities. Recommended PM_{10} mitigation measures are included in the mitigation section, below.

Table 4.2-4
Project Equipment Fleet

Site Preparation 30 days	3 Dozers
	~~3~~ 4 Tractor/Loader/Backhoes
Grading 75 days (5,500 CY Import)	1 Grader
	2 Scrapers
	2 Excavators
	1 Dozer
	2 Tractor/Loader/Backhoes
Construction 740 days	3 Forklifts
	3 Tractor/Loader/Backhoes
	1 Crane
	1 Generator Set
	1 Welder
Paving 55 days	2 Paving Equipment
	2 Pavers
	2 Rollers

~~Grading quantities are as follows:~~

- ~~On-site cut 75,000 cubic yards (cy)~~
- ~~On-site fill 63,000 cy~~
- ~~Off-site export 12,000 cy, assumed 30 miles transport (round trip); however, the Cabrillo Business Park may be a possible disposal location with much shorter travel distances.~~

Utilizing the prototype equipment fleet and earthworks, listed in **Table 4.2-4**, the following maximal daily emissions were calculated by CalEEMod and are shown in **Table 4.2-5**.

~~**Table 4.2-5**~~
~~**Construction Activity Emissions (pounds/day)**~~

~~Activity~~	~~ROG~~	~~NO_x~~	~~CO~~	~~SO_2~~	~~PM_{10}~~	~~$PM_{2.5}$~~	~~CO_2e~~
~~**2012**~~							
~~No Mitigation~~	~~14.0~~	~~115.4~~	~~67.5~~	~~0.1~~	~~49.2~~	~~14.2~~	~~12,611.7~~
~~With Mitigation~~	~~9.3~~	~~61.8~~	~~69.1~~	~~0.1~~	~~42.4~~	~~6.4~~	~~12,611.7~~
~~**2013**~~							
~~No Mitigation~~	~~8.4~~	~~43.0~~	~~58.7~~	~~0.1~~	~~7.5~~	~~2.7~~	~~7,945.0~~
~~With Mitigation~~	~~7.3~~	~~31.8~~	~~60.7~~	~~0.1~~	~~7.2~~	~~2.4~~	~~7,945.0~~
~~**2014**~~							
~~No Mitigation~~	~~7.7~~	~~39.7~~	~~55.2~~	~~0.1~~	~~7.2~~	~~2.5~~	~~7,887.3~~
~~With Mitigation~~	~~6.9~~	~~30.6~~	~~57.4~~	~~0.1~~	~~7.1~~	~~2.3~~	~~7,887.3~~
~~**2015**~~							
~~No Mitigation~~	~~290.6~~	~~36.1~~	~~52.4~~	~~0.1~~	~~7.0~~	~~2.6~~	~~7,840.0~~
~~With Mitigation~~	~~290.6~~	~~30.2~~	~~54.7~~	~~0.1~~	~~7.0~~	~~2.6~~	~~7,840.0~~
~~Source: CalEEMod Output in Appendix A.~~							

Table 4.2-5
Construction Activity Emissions (pounds/day)

Activity	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2e
2015							
No Mitigation	35.8	83.0	66.4	0.0	21.3	12.8	8,610.5
With Mitigation	35.8	83.0	66.4	0.0	10.3	6.8	8,610.5
2016							
No Mitigation	35.0	40.3	60.7	0.1	7.2	3.5	8,403.5
With Mitigation	35.0	40.3	60.7	0.1	7.2	3.5	8,403.5
2017							
No Mitigation	34.3	37.0	55.6	0.1	7.0	3.3	8,191.9
With Mitigation	34.3	37.0	55.6	0.1	7.0	3.3	8,191.9
2018							
No Mitigation	34.3	37.0	55.6	0.1	6.7	3.3	8,191.9
With Mitigation	34.3	37.0	55.6	0.1	6.7	3.3	8,191.9
Source: CalEEMod Output in Appendix A.							

Threshold guidelines for all emissions from construction equipment are established by the SBCAPCD on a tons per year basis. The total timeframe for the construction period was determined by CalEEMod to be approximately 3.5 years. With this schedule, CalEEMod was run to determine annual emissions from construction activities. The results are as shown below in **Table 4.2-6**. As shown on this table, peak annual construction activity emissions would be below SBCAPCD threshold guidelines of 25 tons per year for ROG and NO_x. Because of the area's non-attainment status for PM_{10}, SBCAPCD requires fugitive dust control mitigation measures for any project involving earth-moving activities (See Rule 345). The FEIR for the GP/CLUP includes mitigation measures for construction phase impacts, including dust control, all of which are incorporated by reference into this EIR. With ~~these~~ implementation of these ~~mitigations~~ Mitigation Measures and Project Requirements for dust control, the Project would result in a less than ~~not result in a~~ significant impact (**Class II**).

~~**Table 4.2-6**~~
~~**Construction Activity Emissions (tons/year)**~~

~~Activity~~	~~ROG~~	~~NO_x~~	~~CO~~	~~SO_2~~	~~PM_{10}~~	~~$PM_{2.5}$~~	~~CO_2e~~
~~**2012**~~							
~~No Mitigation~~	~~1.4~~	~~9.2~~	~~8.3~~	~~0.0~~	~~2.6~~	~~0.8~~	~~1,098.7~~
~~With Mitigation~~	~~1.1~~	~~5.5~~	~~8.4~~	~~0.0~~	~~2.1~~	~~0.5~~	~~1,098.7~~
~~**2013**~~							
~~No Mitigation~~	~~1.1~~	~~5.6~~	~~7.8~~	~~0.0~~	~~0.9~~	~~0.4~~	~~928.0~~
~~With Mitigation~~	~~1.0~~	~~4.2~~	~~8.1~~	~~0.0~~	~~0.9~~	~~0.3~~	~~928.0~~
~~**2014**~~							
~~No Mitigation~~	~~1.0~~	~~5.2~~	~~7.4~~	~~0.0~~	~~0.9~~	~~0.3~~	~~921.3~~
~~With Mitigation~~	~~0.9~~	~~4.0~~	~~7.6~~	~~0.0~~	~~0.9~~	~~0.3~~	~~921.3~~
~~**2015**~~							
~~No Mitigation~~	~~8.4~~	~~2.0~~	~~2.4~~	~~0.0~~	~~0.3~~	~~0.2~~	~~315.3~~
~~With Mitigation~~	~~8.4~~	~~1.8~~	~~2.5~~	~~0.0~~	~~0.3~~	~~0.2~~	~~315.3~~
~~APCD Guideline~~	~~25~~	~~25~~	-	-	-	-	-
~~Source: CalEEMod Model, Output in Appendix A.~~							

Table 4.2-6
Construction Activity Emissions (tons/year)

Activity	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2e
2015							
No Mitigation	2.3	6.3	6.4	0.0	1.9	0.7	722.0
With Mitigation	2.3	6.3	6.5	0.0	0.8	0.5	722.0
2016							
No Mitigation	4.6	5.3	8.3	0.0	0.9	0.5	983.5
With Mitigation	4.6	5.3	8.3	0.0	0.9	0.5	983.5
2017							
No Mitigation	4.5	4.9	7.6	0.0	0.9	0.4	955.2
With Mitigation	4.5	4.9	7.6	0.0	0.9	0.4	955.2
2018							
No Mitigation	1.9	2.4	3.5	0.0	0.4	0.2	464.3
With Mitigation	1.9	2.4	3.5	0.0	0.4	0.2	464.3
APCD Guideline	25	25	-	-	-	-	-
Source: CalEEMod Model, Output in Appendix D.							

Operational Impacts – Mobile and Area Source Emissions

Impact AQ 2: Would operation of the project generate mobile and stationary source air pollutant emissions that could interfere with progress towards attainment of the ozone standard or equal or exceed the State or federal ambient air quality standard or (Appendix G) violate any air quality standard or contribute to an existing or projected air quality violation or expose sensitive receptors to substantial concentrations of air pollutants?

Significance Before Mitigation: Potentially Significant

Long-term Project emissions are primarily associated with traffic generated by the Project's 465 residential units. Emissions generated by the existing business park uses in lots 1 and 3 are considered a part of the existing ambient traffic condition and have already been considered in

the Existing Without Project scenario. They were also the subject of a separate CEQA review and mitigation at the time of development and do not need to be reevaluated in this EIR. The traffic memorandum generated for the rezoning and lot line revisions impacting the business park site indicated that one only additional daily trip would be added as a result of the proposed revisions, which is a de minimis change. As discussed in Section 4.13 *Transportation and Traffic*, the Project is predicted to generate 2,903 new trip-ends per day. Operational mobile and area source emissions for the Project were calculated using CalEEMod 2013.2.2. The model was run using the trip generation factors specified in the Project's traffic study (Appendix) and was used to calculate area source emissions from the residential activities combined with vehicular operational emissions for the increase of daily trips to/from the site. The results are shown below:

~~Table 4.2-7~~
~~Project Operations - Mobile and Area Source Emissions~~

	~~Emissions (lbs./day)~~						
~~Year 2014~~	~~ROG~~	~~NO_x~~	~~CO~~	~~SO_2~~	~~PM_{10}~~	~~$PM_{2.5}$~~	~~CO_2e~~
~~Area Sources~~	~~16.6~~	~~0.5~~	~~39.8~~	~~0.0~~	~~0.2~~	~~0.2~~	~~71.5~~
~~Mobile Sources~~	~~17.5~~	~~**32.8**~~	~~176.1~~	~~0.2~~	~~27.5~~	~~1.9~~	~~20.218.2~~
~~Energy Sources~~	~~0.4~~	~~3.0~~	~~1.2~~	~~0.0~~	~~0.2~~	~~0.2~~	~~3,848.8~~
~~**Total**~~	~~34.4~~	~~36.3~~	~~217.1~~	~~0.2~~	~~27.9~~	~~2.3~~	~~24,138.5~~
~~APCD Threshold~~	~~25~~[a]	~~25~~[a]	~~N/A~~	~~N/A~~	~~80~~		
~~**Bold numbers** indicate an exceedance of the threshold.~~ ~~[a] Transportation (mobile) sources only~~ ~~CalEEMod Air Quality Model; Output in Appendix A.~~							

Table 4.2-7
Project Operations - Mobile and Area Source Emissions

	Emissions (lbs./day)						
Year 2018	**ROG**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
Area Sources	22.6	0.4	38.6	0.0	0.2	0.2	70.5
Mobile Sources	9.8	24.3	107.3	0.2	17.2	4.8	1,8585.1
Energy Sources	0.2	1.8	0.8	0.0	0.1	0.1	2,286.7
Total	32.6	26.5	146.7	0.2	17.6	5.1	20,942.3
APCD Threshold Mobile Sources	25	25	N/A	N/A	NA	N/A	N/A
APCD Threshold All Operational Sources	240	240	N/A	N/A	80	N/A	N/A
CalEEMod Air Quality Model; Output in Appendix D.							

The Project's emissions would not exceed significance thresholds ~~levels for NOx~~ based on an assumed full build out and occupancy date of ~~2015~~2018. ~~This is the figure used in **Table 4.2-8**. Were the Project to reach this level of development by the projected 2015 date, operational air quality impacts would be considered potentially significant. However, given that the Project's construction will not start before the beginning of 2014 and will continue for at least 3.5 years, full build out and full occupancy would not occur until 2018. By that date, the Project's NOx emissions would be reduced due to a cleaner future vehicle fleet and implementation of appropriate Project mitigation measures to below the significance threshold and, consequently, impacts would be less than significant (**Class II**).~~ Operational impacts are less than significant (**Class III**).

~~Table 4.2-8~~
~~Projected Operations - Mobile and Area Source Emissions~~

~~Year~~	~~NOx Emfac (gram/mile)~~	~~NOx Emissions (pound/day)~~
~~2015~~	~~0.152~~	~~32.8~~
~~2016~~	~~0.135~~	~~29.1~~
~~2017~~	~~0.121~~	~~26.1~~
~~**2018**~~	~~**0.109**~~	~~**23.5**~~
~~2019~~	~~0.100~~	~~21.6~~
~~2020~~	~~0.094~~	~~20.3~~

Micro-scale Impact Analysis

Micro-scale air quality impacts have traditionally been analyzed in environmental documents where the air basin was a non-attainment area for CO. City environmental review guidelines conclude that any project generating less than 800 peak hour trips would not likely create a CO hot spot. The Project would generate 267 AM peak hour trips and 320 PM peak hour trips. Therefore, the Project is not expected to generate a CO hot spot.

To verify this conclusion, a CO screening analysis was performed at all intersections within the Project area for which the Project traffic report provided data. One-hour CO concentrations were calculated on the sidewalks adjacent to these intersections. The significance of localized project impacts depends on whether the project would cause substantial concentrations of CO. A project is considered to have significant impact if project-related mobile-source emissions result in an exceedance of the California one-hour and eight-hour CO standards, which are:

1-hour = 20 ppm
8-hour = 9 ppm

Calculations were made for existing traffic and future time frames for the morning and evening peak hours. Combining future project build-out traffic with existing conditions represents a worst-case analysis. The results of the micro-scale impact analysis are shown in ~~**Tables 4.2-9, 4.2-10, and 4.2-11**~~**Tables 4.2-8, 4.2-9, and 4.2-10**.

~~**Table 4.2-9**~~ **Table 4.2-8**
AM One-Hour CO Concentrations (ppm)*

Intersection		Existing	Existing + Project	Build-Out	Build-Out + Project
Hollister Ave/	Storke Rd	2.8	2.8	2.2	2.2
	Los Carneros Rd	2.2	2.2	2.0	2.0
	Fairview Ave	2.5	2.5	2.0	2.0
Calle Real/	Los Carneros Rd	1.7	1.8	1.7	1.8
	Fairview Ave	2.5	2.5	2.0	2.0
*including 1.6 ppm background concentration					

~~Table 4.2-10~~ Table 4.2-9
PM One-Hour CO Concentrations (ppm)*

Intersection		Existing	Existing + Project	Build-Out	Build-Out + Project
Hollister Ave/	Storke Rd	3.1	3.2	2.4	2.4
	Los Carneros Rd	2.4	2.5	2.2	2.2
	Fairview Ave	2.5	2.5	2.0	2.0
Calle Real/	Los Carneros Rd	2.1	2.1	1.9	1.9
	Fairview Ave	2.8	2.8	2.1	2.1
*Including 1.6 ppm background concentration					

~~Table 4.2-11~~ Table 4.2-10
8-Hour CO Concentrations (ppm) *

Intersection		Existing	Existing + Project	Build-Out	Build-Out + Project
Hollister Ave/	Storke Rd	1.5	1.5	1.1	1.1
	Los Carneros Rd	1.1	1.2	1.0	1.0
	Fairview Ave	1.2	1.2	0.9	0.9
Calle Real/	Los Carneros Rd	0.9	0.9	0.8	0.9
	Fairview Ave	1.3	1.3	1.0	1.0
*Including 0.7 ppm background concentration					

The existing peak one-hour local CO background level most recently available in the Project vicinity is 1.6 ppm. With Project implementation in the existing time frame, inclusive of the local concentration, maximum one-hour concentration is estimated to be 3.2 ppm, which is well below the one-hour standard of 20 ppm. The maximum ambient 8-hour CO concentration in ~~2010~~ 2012 was ~~0.6~~ 0.7 ppm. Based on the maximum with project eight-hour CO concentration of ~~1.4~~ 1.5 ppm (inclusive of the background concentration) relative to the nine-ppm significance threshold, micro-scale air quality impacts would be less than significant (**Class III**).

Operational Impacts - Health Risk from Exposure to Toxic Air Contaminants Generated by Mobile and Stationary Sources

Impact AQ 3: Would residents of the Project in the vicinity of the U.S. Highway 101/UPRR transportation corridor be exposed to diesel particulate matter emitted by trains and trucks or (Appendix G) expose sensitive receptors to substantial concentrations of air pollutants?

Significance Before Mitigation: Potentially Significant

Diesel Particulate Matter

A health risk screening assessment (HRA) was prepared for the Project site by SAIC in December 2002 and was cited in the EIR for the 2007 Village at Los Carneros Project (FEIR November 2007). The health risk screening assessment concluded that the passage of 16 trains per day created an excess individual cancer risk of 0.64 in a million from diesel particulate matter (DPM). An increase in that risk to less than 250,001 in a million is considered a negligible

change in risk levels. An increase in ten in a million to 250,010 in a million is considered significant under State programs such as Proposition 65 and/or AB 2588 ("toxic hot spots" law). The individual cancer risk for all people in Goleta is approximately 250,000 in a million (one in four people will develop life-threatening cancers in their lifetime). A risk increase that is between one in a million to ten in a million is an intermediate area not considered significant, but where all reasonably available mitigation should be implemented.

DPM emissions are also generated by truck traffic on U.S. 101. The freeway currently carries 2,430 trucks with three or more axles (presumed all diesel) west of Los Carneros Road.[5] In response to evidence that there are observed adverse health effects in pollution-sensitive populations living within 500 feet of freeways, the California ARB concluded that residences, schools, day care centers, playgrounds and medical facilities should not be sited within 500 feet of a freeway.[6] The SCBAPCD has stated that this policy applies to U.S. 101 in Goleta.[7]

The closest residences in the Project are located along the northwestern perimeter and would be located approximately 222 feet from the U.S. 101 centerline. The closest residential building is located approximately 27 feet from the Project site's north property line at the edge of the UPRR ROW. The APCD's rationale for applying the CARB policy to US 101 was that adverse health effects were observed at traffic volumes as low as 41,000 average daily trips (ADT) and that US 101 at Los Carneros Road was estimated to carry 65,800 ADT in 2006 based on Santa Barbara County Association of Governments (SBCAG) data. Caltrans records for 2011 show that the US 101 traffic volume adjacent to the Project site was 32,400 ADT; however, traffic on U.S. 101 was reduced in the course of the recession.[8] Available Caltrans data for the years 1992 to 2011 show the volumes ranging from a low of 31,000 (1992) to a high of 40,000 (2002). Increases in that volume are anticipated given the growth expected in the North County and the concentration of employment opportunities in the South County area. Accordingly, it is reasonable to expect that traffic volumes on U.S. 101 will increase beyond 2002 levels by 2018.

EMFAC2011 was used to calculate average on-road Diesel Particulate Matter (DPM) emissions. EMFAC2011 data only projects to 2035 and assumes trucks will get cleaner in the future consistent with California and federal clean fuel and clean vehicle standards. The model predicts trucks emit 0.25 grams/mile/truck of DPM currently but in 2035 emissions these emissions are expected to decrease to 0.0.045 grams/mile/truck. U.S. Highway 101 near the Project site is projected to carry approximately 2,400 diesel trucks per day for the next 70 years (the diesel exposure risk window).

The U.S. EPA has mandated that all railroad engines meet a DPM emission standard of 0.02 gram per brake horsepower-hour (BHP-HR) beginning in 2015. Phase-in of new engines and retrofits of existing engines is currently in progress. By Project completion in 2018 it is assumed most engines will meet the 0.02-gram-per BHP-HR standard and so this emission standard was presumed to govern the on-site railroad DPM exposure for the next 70 years. The track adjacent to the Project site currently carries 10 passenger trains and 1 freight train per day; freight trains are pulled by 2 engines and passenger trains are generally pulled by 1 engine for an estimated total of 12 engines per day passing by the Project site.

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[5] Caltrans, *Annual Average Daily Truck Traffic on the California State Highway System*, 2009, page 180.
[6] California Air Resources Board (CARB), *Air Quality and Land Use: A Community Health Perspective*, April 2005.
[7] Santa Barbara County APCD, *Public Health and High Traffic Roadways*, 2008.
[8] http://traffic-counts.dot.ca.gov/.

The USEPA AERSCREEN computer model used to calculate maximum DPM exposure. The model produces estimates of "worst-case" 1-hour concentrations without the need for hourly meteorological data, and also includes conversion factors to estimate "worst-case" 3-hour, 8-hour, 24-hour, and annual concentrations. AERSCREEN is intended to produce concentration estimates that are equal to or greater than the estimates produced by AERMOD.

A screening source distance of 1,000 feet was modeled, assuming a receiver would be maximally exposed to DPM for 500 feet in each direction. The AERSCREEN output (included in the Appendix) shows a maximal 1-hour concentration of 0.14 $\mu g/m^3$. Using CAPCOA provided conversion factors, the 1-hour concentration is converted to an annual exposure of 0.014 $\mu g/m^3$ and then the individual excess cancer risk was then calculated. The AERSCREEN model predicts that the point of maximum ground level plume impact will be at 492 feet (150 meters). The point of maximum impact for upstairs bedrooms would be somewhat closer to the tracks.

For a resident remaining outside on the balcony for 24-hours per day for 350 days per year for the next 70 years, the increased individual cancer risk is calculated as follows:

Risk = 0.014 x 300 in a million = 4.2 in a million

The SBAPCD significance threshold for cancer risk is 10 in a million. The worst-case 4.2 in a million is considered less-than-significant.

The SCAPCD Chronic Hazard Index (CHI) threshold is 1.0 $\mu g/m^3$. The calculated hazard index for this project is 0.003 $\mu g/m^3$. Diesel risk exposure is considered therefore, to be less than significant.

The primary outdoor recreation area would be located at the center of the residential portion of the Project and is separated from the combined UPRR/US 101 corridor by intervening structures. Additionally, prevailing daytime onshore winds tend to blow from the site toward the freeway and away from residential uses and outdoor recreation areas. Thus, although freeway and railroad proximity may be causes for concern, the calculated risks from DPM exposure are within generally acceptable levels. Although a risk increase that is between one in a million to ten in a million is not considered significant, it still warrants implementation of all reasonably available mitigation. The available avoidance measures for this Project (observing a 500-foot building setback from the edge of the UPRR/U.S. 101 ROW) is not considered feasible as it would significantly reduce the ability to develop housing on this site, in an area of the County where new housing is badly needed based on all regional research and projections. Accordingly, the most reasonably feasible Mitigation Measure available is requiring the installation of upgraded air filtration systems in all residential units with windows or air conditioning system intakes located within 500 feet of the most southerly edge of the UPRR and U.S. 101 corridor ROW (i.e., from the north property line). With this Mitigation the health risk posed by the Project's proximity to the UPRR/U.S. 101 transportation corridor would be reduced to a less than significant level (**Class II**).

Toxic Air Contaminants (TAC) From Stationary Sources

There are no major stationary sources of toxic air contaminants in the Goleta area. With emissions reductions systems in place at the Venoco Ellwood on-shore facility, there are no facilities that create a public health risk that requires public notification. Any quantifiable stationary source health risks generally occur within facility boundaries. Toxic Air Contaminants

(TACs) do exist at industrial operations or commercial facilities such as gasoline stations or dry cleaners. The airborne release of ~~such~~ TAC emissions from such facilities are sufficiently small enough ~~however,~~ that none of them are on facility priority lists that must conduct HRAs to quantify any off-site risk.

In consultation with the Santa Barbara County Fire Protection District Hazardous Materials Unit, a data base search was conducted to determine the types of chemicals that are used and the types of waste generated within a 2,000-foot radius of the project site. The resulting list of the locations of these chemicals and their quantities is provided in Appendix E. A review of the listed chemicals from the identified sites revealed that several are listed in the 2010 Office of Environmental Health Hazard Assessment "Toxicity Criteria Database" and are therefore considered to be air toxics.

The Bay Area AQMD has developed a screening table for all chemicals in the OEHHA database that could pose a public health risk if given quantities were released over an extended period of time. The maximum amount stored at any point in time was compared to these chronic release trigger levels as a frame of reference. The storage quantities versus the level of possible concern ("Chronic Trigger") are summarized in **Table 4.2-~~12~~11**.

~~Table 4.2-12~~ Table 4.2-11
TAC Storage Inventory Near Project Site (pounds)

Facility/Address Chemical	Max Stored*	Chronic Trigger
Allergan (71 S. Los Carneros)		
Xylene	400	27,000
Raytheon (44 Castilian)		
Caustic Soda	80	190
Hydrochronic Acid	10	350
Hydrofluoric Acid	**700**	540
Transphorm (115 Castilian)		
Ammonia	700	7,700
Chlorine	**100**	7.7
Isopropanol	400	27,000
Caustic Soda	**900**	190
Dupont Displays (6780 Cortona)		
Caustic Soda	**200**	190
Medtronic (125 Cremona)		
Alcohol	1,800	27,000
Xylene	400	27,000
Karl Storz (175 Cremona)		
Ethylene Glycol	900	15,000
*Liquid or gaseous materials converted to pounds		

Storage levels of several materials exceed the trigger levels that would require a health risk screening analysis for new sources seeking air permits. However, all the storage quantities except chlorine are liquids with very low vapor pressures. A spill or leak of those materials would remain liquid within the facility and would not affect off-site uses. Chlorine leaks or spills are of greater concern.

The federal Occupational Safety and Health Administration (OSHA) recommends an evacuation zone of 50 feet for any leaks from a single compressed chlorine gas cylinder. The distance between Transphorm and the nearest proposed Project homes is greater than 100 feet. Further, the compressed chlorine gas cylinders are stored in an enclosed area, which provides secondary containment. For these reasons, the storage of a single chlorine cylinder at the given setback distance poses a less than significant health risk to future Project residents (**Class III**).

Consistency with Air Quality Planning

Impact AQ 4: Would the Project's population exceed the growth forecast used in preparing the Clean Air Plan, interfering with progress towards the attainment of the ozone standard by releasing emissions that equal or exceed the established long-term quantitative thresholds for NO_x and ROC or (Appendix G) conflict with or obstruct implementation of the applicable air quality plan;

Significance Before Mitigation: Less than Significant

The Project would be consistent with air quality planning in that it is located in close proximity to existing infrastructure and transportation corridors. Further, the incorporation of a bicycle path through the site that connects to offsite bike trails, together with the ability to access public transit on nearby Hollister Avenue, allow for implementation of a multi-modal transportation system to serve area residents. Local planning considerations that contribute to the Project's consistency with current air quality planning principles aimed at reducing vehicle trip length and generation include the Project's proximity to employment opportunities, commercial and retail services, schools, recreation, and the University of California Santa Barbara (UCSB) main campus. The entire Central Hollister Residential Area was planned to accomplish just such an integration of use, which is carried forward into regional planning and incorporated into the SBCAG 2040 RTP/SCS update.

Consistency with the CAP, the County's plan to achieve attainment with the ozone standard, is based on consistency with growth forecasts used in developing the CAP. The current CAP (2010)[9] used forecast data from the 2007 Regional Growth Forecast prepared by SBCAG. This forecast is based on development anticipated by general plans, in this case the City of Goleta General Plan/Coastal Land Use Plan. The City of Goleta General Plan designates the undeveloped 27.90–acre portion of the Project site for development of 15 to 20 residential units per acre (Residential Medium Density, R-MD) and a 15.23-acre portion is zoned as Planned Development of 275 units (PRD 275 units). Assuming 20 residential units per acre for the R-MD portion and the 275 units in the PRD zoned area, the site would generate approximately 3,541 trips per day.[10] As indicated in Section 4.13 *Transportation and Traffic*, the Project would not reach this number of units or trips but would rather generate approximately 2,902 trips per day.

In addition, with air emissions (primarily NO_x), the assessment of consistency is often based on whether or not the Project would result in a total population that would exceed the forecast

[9] The 2013 CAP is pending adoption and will be based on the growth projections in the 2040 RTP/SCS.

[10] Assuming Low-Rise Condominiums (ITE Land Use Code 230), the trip generation rate for the 15.23-acre R-MD area is 5.81 trips/unit. 305 units (20 units/acre) would generate 1,770 trips. Per the November 2007 Village at Los Carneros Final Environmental Impact Report, the PRD area would generate approximately 1,771 trips per day. Total trips would be 3,541.

population.[11] The City's current population is approximately 29,962,[12] which is higher than projected in 2007. The most current regional projections developed by SBCAG anticipate a population of 29,954 by 2020, which, according to the State Department of Finance population projections for 2013 has already been surpassed, and 33,920 by 2035.[13] The Project at full build out would provide housing for approximately 1,209 residents, many of who are already living in the community.[14] In the worst case scenario, assuming that all Project units are occupied by persons who are not currently residents of the City, the population plus project total would be 30,463 in 2020 (the forecasted Project completion date). While this would be less than the 2020 forecast population for the City of 34,500 as per the 2007 Regional Growth Forecast, it is slightly more than the currently projected 2020 population. The current CAP is based on the older population projects. A new CAP, which reflects these new SBCAG projections, is being prepared by SBCAPCD but has not yet been adopted. Therefore, as of the date of this EIR the Project must establish consistency with the 2010 CAP and on that basis would not result in an inconsistency based on assumed local population growth trends and the impact would be less than significant (**Class III**).

4.2.4 Cumulative Impacts

The significance thresholds used for this analysis on a Project level (25 lbs. per day of NO_x or ROG from transportation sources only) are also intended to address cumulative air quality impacts. The Project's operational emissions would not exceed these thresholds for projected 2018 build-out. Therefore, the Project-level impacts identified above associated with operational mobile and area source emissions are considered less than significant. The cumulative impact of projected growth based on the build out of the General Plan was determined to be significant and unavoidable in the near term. However, the Project's contribution to cumulative air quality impacts would be less than cumulatively considerable and therefore less than significant (**Class III)**.

4.2.5 Mitigation Measures and Project Requirements

Impact AQ 1: Construction of the Project would generate air pollutant emissions, including dust and equipment exhaust emissions.

AQ 1-1: Dust generated by construction and/or demolition activities must be kept to a minimum.

Plan Requirements: The following dust control measures must be shown on all building and grading plans and the Permittee must ensure that these measures are implemented by the contractor/builder:

During clearing, grading, earth-moving, excavation, and/or transportation of cut or fill materials, excessive fugitive dust emissions must be controlled by regular

[11] *Scope and Content of Air Quality Sections in Environmental Documents* (December, 2011).
[12] U.S. Census Bureau, State Department of Finance, California Population Growth as of January 1, 2013 at http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/documents/E-1_2013_Press_Release.pdf, accessed 8/15/13.
[13] SBCAG Regional Growth Forecast 2010 – 2040, adopted December 12, 2012, at http://www.sbcag.org/PDFs/publications/Final%202040%20Regional%20Growth%20Forecast.pdf, accessed 8/15/13.
[14] 465 units x 2.6 people/unit average household size per U.S. Census.

watering or other dust-preventive measures using the following procedures, as specified by the SBAPCD:

Truck Hauling.

No person, including facility or site owner or operator of source, ~~shall~~ may load or allow the loading of bulk materials or soil onto outbound trucks unless at least one of the following dust prevention techniques is utilized:

a. Use properly secured tarps or cargo covering that covers the entire surface area of the load or use a container-type enclosure.

b. Maintain a minimum of 6 inches of freeboard below the rim of the truck bed where the load touches the sides of the cargo area and ensure that the peak of the load does not extend above any part of the upper edge of the cargo area.

c. Water or otherwise treat the bulk material to minimize loss of material to wind or spillage.

d. Other effective dust prevention control measures approved in writing by the Control Officer.

Track-Out/Carry-Out.

Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out ~~shall~~ must be controlled as outlined below:

a. Visible roadway dust ~~shall~~ must be minimized by the use of any of the following track-out/ carry-out and erosion control measures that apply to the project or operations: track-out grates of gravel beds at each egress point, wheel-washing at each egress point during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and

b. Visible roadway dust ~~shall~~ must be removed at the conclusion of each work day when bulk material removal ceases, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry-out, only a PM10-Efficient Street Sweeper shall be used. The use of blowers for removal of track-out/carry-out is prohibited.

On-Site Measures

a. During construction, water trucks or sprinkler systems must be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever wind exceeds 15 miles per hour. Reclaimed water should be used whenever possible.

~~b~~. Minimize amount of disturbed area and reduce on-site vehicle speeds to 15 miles per hour or less (the site must post signs with the speed limit).

c. Soil stockpiled for more than two days must be covered, kept moist, or treated with soil binders to prevent dust generation.

~~Trucks transporting soil material to and from the site must be covered with a secured tarp from the point of origin.~~

d. Gravel pads and steel shaker plates must be installed at all access points to prevent the tracking of mud onto public roads.

e. After clearing, grading, earth moving, and/or excavation is complete, the disturbed area must be treated by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed in a manner that prevents dust generation.

~~Street surrounding the Project site must be vacuum cleaned once per day for the duration of the construction phase.~~

f. The contractor or builder must designate a person or persons to monitor the dust control program and to order increased watering, as needed, to prevent transport of dust offsite. Their duties include monitoring on holidays and over weekend periods when work may not be in progress. The name and phone number of such person(s) must be provided to the SBCAPCD and the Director of Planning and Environmental Review ~~Services~~, or designee, before land clearance begins and be prominently posted on the site in three locations along the project's perimeter and maintained in a legible manner throughout the construction phase.

g. Before land clearance, the Applicant must include these dust control requirements as a note on a separate informational sheet to be recorded with the subdivision map. All requirements must be shown on grading and building plans.

Requirements and Timing: All dust control requirements must be referenced in all plans submitted for any ~~LUP,~~ building or grading permit and reviewed and approved by the Planning and Environmental Review Director, or designee, before the City issues ~~any LUP building, or~~ grading permit(s). Such requirements must be adhered to throughout all grading and construction periods.

Monitoring: The Planning and Environmental Review Director, or designee, must ensure mitigation measures are included on plans and must periodically inspect the Project site to verify compliance. SBAPCD inspectors will respond to nuisance complaints.

AQ 1-2: Grading and construction contracts must specify that contractors adhere to requirements that reduce emissions of ozone precursors and particulate emissions from diesel exhaust.

~~Plan Requirements and Timing:~~ The following apply:

a. All portable diesel-powered construction equipment rated at 50 brake-horsepower or greater must be registered with the California portable equipment registration program or obtain a SBAPCD permit. Construction engines with PERP certificates are exempt from APCD permit, provided they will be on-site for less than 12 months.

b. Fleet owners of mobile construction equipment are subject to the California Air Resources Board (CARB) Regulation for In-use Off-road Diesel Vehicles (13 California Code of Regulations §2449).

c. All commercial diesel vehicles are subject to limitations on idling time (13 California Code of Regulations §2485). Idling of heavy-duty diesel construction equipment and trucks during loading and unloading is limited to five minutes. Electric auxiliary power units should be used.

d. Diesel construction equipment meeting the CARB Tier 2 or higher emission standards for off-road heavy-duty diesel engines must be used. If such equipment is not commercially available, equipment meeting CARB Tier 1 or higher emission standards must be used.

e. Where it is possible to do so, diesel-powered equipment must be replaced by electric equipment.

f. Diesel construction equipment must be equipped with selective catalytic reduction systems, diesel oxidation catalysts, and diesel particulate filters as certified and/or verified by CARB or the EPA if available.

g. Catalytic converters must be installed on gasoline-powered equipment if feasible.

h. All construction equipment must be maintained in tune per the manufacturer's specifications.

i. The engine size of construction equipment must be the minimum practical size.

j. The number of construction equipment operating simultaneously must be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.

k. Construction worker trips must be minimized by promoting carpooling and by providing lunch onsite.

l. Coatings (e.g., paints) must be labeled as "low-VOC" or "zero-VOC" in accordance with EPA rules for interior and exterior surfaces.

m. A construction traffic management plan must be prepared by the applicant and submitted to the City's Traffic Engineer, or designee, and the Director of Planning and Environmental ~~Services~~ Review, or designee, for review and approval before the City issues any grading permit.

n. If contaminated soils are found at the Project site, the APCD must be contacted to determine if Authority to Construct and/or Permit to Operate permits will be required.

o. Asphalt paving activities ~~shall~~ must comply with APCD Rule 329, Cutback and Emulsified Asphalt Paving Materials.

Requirements and Timing: All requirements must be included on all ~~LUP,~~ grading and construction plans and must be reviewed and approved by the Planning and Environmental Review Director, or designee, before the City issues any ~~LUP, building, or~~ grading permit(s). Such requirements must be adhered to throughout all grading and construction periods.

Monitoring: The Planning and Environmental Review Director, or designee, must ensure all the aforementioned mitigation measures are printed on all plans and must periodically inspect the project site to verify compliance. SBAPCD inspectors will respond to nuisance complaints.

AQ 1-3: Diesel fuel emissions must be limited.

~~**Plan Requirements:**~~ The following limitations on diesel-fueled vehicles in excess of 10,000 pounds must apply during all construction and subsequent operational activities:

a. Diesel-fueled vehicles exceeding 10,000 pounds cannot idle in one location for more than five (5) minutes at a time.
b. Diesel-fueled vehicles exceeding 10,000 pounds cannot use diesel-fueled auxiliary power units for more than five (5) minutes to power heater, air conditioner, or other ancillary equipment on any such vehicle.
c. The Permittee must designate one or more locations as deemed appropriate, for the permanent posting of a notice(s) to all drivers of diesel-fueled vehicles exceeding 10,000 pounds of these limitations on vehicle idling in all areas of the property that may be frequented by such vehicles. Such signs must be maintained in their approved location(s) as long as diesel-fueled vehicles exceeding 10,000 pounds are being used.

Requirements and Timing: All such requirements must be included on all ~~LUP~~, grading and construction plans and must be reviewed and approved by the Planning and Environmental Review Director, or designee, before the City issues any ~~LUP, building, or~~ grading permit(s). The Permittee must adhere to these requirements throughout all grading and construction periods. The location and information provided on the sign(s) must be reviewed and approved by the Planning and Environmental ~~Services~~ Review Director, or designee, before the City issues any ~~LUP, building, or~~ grading permit(s).

Monitoring: The Planning and Environmental ~~Services~~ Review Director, or designee must ensure these mitigation measures are printed on all plans and must periodically inspect the site to verify compliance. SBAPCD inspectors will respond to nuisance complaints.

Impact AQ 2: During its operations, the project would generate mobile and area source air pollutant emissions.

AQ 2-1: The Permittee must prepare an Alternative Transportation/Transportation Demand Management Program to help reduce ROG and NO_x emissions associated with Project generated vehicular trips. The Alternative Transportation/Transportation Demand Management Program must include, without limitation, the following elements: (1) Facilities for the recharging of electric vehicles must be provided pursuant to mitigation measures 2-1 f and g; and (2) Vehicles owned by or leased by the HOA and/or other management entity(s) must adhere to mitigation measure 2-1h. In addition, the following mitigation measures apply:

Mobile Air Pollutant Emissions

a. The ~~Applicant~~ Permittee must contact the Metropolitan Transit District (MTD) to identify appropriate Transportation Demand Management (TDM) programs that are available to serve all residents and employees of the Project. Notice of all available TDM programs must be given to all new Project employees when they are hired. Notice of all available TDM programs must be posted in a prominent location inside the community recreation center and maintained there for the life of the Project. Notice of all available TDM programs must also be provided to all Project residents upon initial occupancy.

b. Notice of MTD bus routes and schedules must be posted and maintained up-to-date in a central location(s).

c. All employees must be advised of any ride sharing program or similar successor program administered by the Santa Barbara Association of Governments. The Permittee must request that all employees register semi-annually in the ride sharing program and must make an effort to encourage participation in the program.

d. Secure bicycle storage must be provided onsite throughout all of the multi-family residential buildings.

f. All individual garages must be provided with plug-in systems for recharging electric vehicle and electrical panels must be sized for this use.

g. In apartment buildings and in parking structures serving condominium buildings a minimum of ¼ of all parking spaces must be equipped with electric vehicle recharging stations.

h. All vehicles owned by the HOA or by professional management for the purpose of providing access or maintenance shall be electric vehicles.

Area Source Diesel Emissions (Project Operations)

i. ~~Prior to~~ Before occupancy, APCD permits must be obtained for all equipment that requires an APCD permit. APCD Authority to Construct permits are required for diesel engines rated at 50 BHP and greater (e.g., firewater pumps and emergency standby generators) and boilers/large water heaters, whose combined heat input rating exceeds 2.0 BTUs per hour

j. Small boilers and water heating units rated between 75,000 and 2.0 million BTU/hour must comply with the emission limits and certification requirements of APCD Rule 360. Combinations of units totaling 2.0 million BTU/hour or greater are required to obtain a District permit prior to installation.

Requirements and Timing: An Alternative Transportation/TDM Program including, without limitation, the above conditions must be prepared by the Permittee for review and approval by the Planning and Environmental Review Director, or designee, before the City issues any ~~LUP~~ grading permit for the Project.

Monitoring: Before the City issues a certificate of occupancy, the Planning and Environmental Review Director, or designee, must verify compliance with these mitigation measures.

See additional Greenhouse Gas Emissions Mitigation Measures

Impact AQ-3: Residents of the Project in the vicinity of the U.S. 101/UPRR transportation corridor would be exposed to diesel particulate matter emitted by trains and trucks.

AQ 3-1: Ventilation systems rated at MERV13 or better for enhanced particulate removal efficiency must be provided on all residential units and common indoor facilities at the Project site with windows or air conditioning intake located within 500 feet of the north property line (i.e., the outside edge of the UPRR/U.S. 101 transportation corridor ROW) regardless of the presence of intervening structures. The residents of these units must also be provided with information regarding filter maintenance/replacement. For apartment units the building owners have the financial responsibility for the maintenance of these units. For condominium ownership units the HOA has the financial responsibility for the maintenance of these units.

Plan Requirements and Timing: The ventilation systems must be shown on all applicable building plans with cut sheets and specifications provided when plans are submitted to the City for plan check before the City issues any ~~LUP or~~ building permits for any residential or common building.

Monitoring: The Planning and Environmental ~~Services~~ Review Director, or designee, must ensure that all of the these requirements are met and reflected on all applicable plans before the City issues ~~any LUP or~~ building permits and verify compliance with installation before the City issues a certificate of occupancy for each residential and common building covered by this requirement.

AQ 3-2: The Permittee must provide a U.S. 101/UPRR rail line real estate disclosure to potential buyers and occupants within the Project site informing them of the site's proximity to U.S. 101 and to the Union Pacific Railroad and that there is the potential for exposure to diesel particulate matter emitted by trains and trucks.

Plan Requirements and Timing: The Permittee must provide a draft copy of the real estate disclosure, including the information on the U.S. 101 and rail line and associated potential exposure to diesel particulate matter emitted by trains and trucks to the Director of Planning and Environmental Review ~~Services~~, or designee, and the City Attorney for review and approval. This disclosure must be accompanied by a plan for keeping the notification documents updated and distributed by facility property management to tenants upon signing of lease agreements and to future owners upon sale of the units. The disclosure must be included in the Project CC&Rs, which must be reviewed and approved by the City Attorney before recordation of the final map.

Monitoring: The Director of Planning and Environmental ~~Services~~ Review must verify compliance with this requirement before final map recordation.

4.2.5 Residual Impacts

With Mitigation Measures and Project Requirements the residual impacts of the Project on air quality would be less than significant in both the Project and cumulative conditions (**Class II**).