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## **3.3 AIR QUALITY**

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### INTRODUCTION

This section summarizes the existing air quality conditions in the project site and vicinity; identifies potential air quality impacts from project implementation; and presents feasible mitigation measures to reduce or eliminate air quality impacts. This section was prepared using information from the Monterey Bay Unified Air Pollution Control District (MBUAPCD), their respective air management plans and CEQA guidance documents.

#### 3.3.1 ENVIRONMENTAL SETTING

##### EXISTING SETTING

The proposed project is located in the North Central Coast Air Basin (NCCAB), which is under the jurisdiction of the MBUAPCD. Dispersion of air pollution in an area is determined by such natural factors as topography, meteorology, and climate, coupled with atmospheric stability. The factors affecting the dispersion of air pollution with respect to the NCCAB are discussed below.

##### TOPOGRAPHY

The NCCAB encompasses Santa Cruz, San Benito, and Monterey Counties. The NCCAB is generally bounded by the Diablo Range to the northeast, which together with the southern portion of the Santa Cruz Mountains forms the Santa Clara Valley which extends into the northeastern tip of the NCCAB. Farther south, the Santa Clara Valley transitions into the San Benito Valley, which runs northwest-southeast and has the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley that extends from Salinas at the northwestern end to King City at the southeastern end. The northwestern portion of the NCCAB is dominated by the Santa Cruz Mountains.

##### METEOROLOGY AND CLIMATE

The climate of the NCCAB is dominated by a semi-permanent high pressure cell over the Pacific Ocean. In the summer, the dominant high pressure cell results in persistent western and northwestern winds across the majority of coastal California. As air descends in the Pacific high pressure cell, a stable temperature inversion is formed. As temperatures increase, the warmer air aloft expands, forcing the coastal layer of air to move onshore producing a moderate sea breeze over the coastal plains and valleys. Temperature inversions inhibit vertical air movement and often result in increased transport of air pollutants to inland receptor areas.

In the winter, when the high-pressure cell is weakest and farthest south, the inversion associated with the Pacific high-pressure cell is typically absent in the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys in the NCCAB. The predominant offshore flow during this time of year tends to aid in pollutant dispersal producing relatively healthful to moderate air quality throughout the majority of the region. Conditions during this time are often characterized by afternoon and evening land breezes and occasional rainstorms. However, local inversions caused by the cooling of air close to the ground can form in some areas during the evening and early morning hours.

Winter daytime temperatures in the NCCAB typically average in the mid 50s during the day, with nighttime temperatures averaging in the low 40s. Summer daytime temperatures typically average in the 60s during the day, with nighttime temperatures averaging in the 50s.

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Precipitation varies within the region, but in general, annual rainfall is lowest in the coastal plain and inland valley, higher in the foothills, and highest in the mountains.

#### EXISTING AIR QUALITY CONDITIONS

Existing air quality concerns within the NCCAB are primarily related to increases of regional criteria air pollutants (i.e., ozone and particulate matter); exposure of sensitive receptors to toxic air contaminants and odors; as well as, increases in greenhouse gas emissions contributing to climate change. Existing air quality conditions and applicable regulatory background associated with these emissions of primary concern are discussed separately, in the following sections.

#### 3.3.2 REGULATORY SETTING

##### CRITERIA AIR POLLUTANTS

Pollutants subject to federal air quality standards are referred to as “criteria” pollutants because the United States Environmental Protection Agency (U.S. EPA) publishes criteria documents to justify the choice of standards. Criteria air pollutants include ozone (O<sub>3</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), and nitrogen dioxide (NO<sub>2</sub>), lead, and airborne particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). Criteria air pollutants, common sources, and associated effects are summarized in **Table 3.3-1**.

Sources of criteria air pollutants are regulated by several jurisdictions including the U.S. EPA, California Air Resources Board (CARB), and the MBUAPCD. Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation. Although U.S. EPA regulations may not be superseded, both state and local regulations may be more stringent.

One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed “sensitive receptors.” The term “sensitive receptors” refers to specific population groups, as well as the land uses where they would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses are residences, schools, playgrounds, childcare centers, retirement homes or convalescent homes, hospitals, and clinics.

The federal and state standards for the criteria pollutants, as well as other state regulated air pollutants, are shown in **Table 3.3-2**. The federal, state, and local regulatory environments pertaining to the control of these pollutants are discussed separately, as follows:

##### Federal Regulations

At the federal level, the U.S. EPA has been charged with implementing national air quality programs. The U.S. EPA’s air quality mandates are drawn primarily from the Federal Clean Air Act (FCAA), which was signed into law in 1970. Congress substantially amended the FCAA in 1977 and again in 1990. The FCAA required the U.S. EPA to establish National Ambient Air Quality Standards (NAAQS), and also set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions.

**TABLE 3.3-1  
CRITERIA AIR POLLUTANTS SUMMARY OF COMMON SOURCES AND EFFECTS**

<b>Pollutant</b>	<b>Major Man-Made Sources</b>	<b>Human Health &amp; Welfare Effects</b>
<p><i>Particulate Matter</i> (PM10 &amp; PM2.5) Airborne solid particle and liquid particles. Grouped into 2 categories: "Coarse Particles" (PM10) –from 2.5 to 10 microns in diameter. "Fine Particles" (PM2.5) –less than 2.5 microns in diameter.</p>	<p>Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.</p>	<p>Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).</p>
<p>Ozone (O3) (Smog) A colorless or bluish gas</p>	<p>Formed by a chemical reaction between volatile organic compounds (VOC) and nitrous oxides (NOx) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints and landfills.</p>	<p>Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles and dyes.</p>
<p>Sulfur Dioxide (SO2) A colorless, nonflammable gas</p>	<p>Formed when fuel containing sulfur, such as coal and oil, is burned; when gasoline is extracted from oil; or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, large ships, and fuel combustion in diesel engines.</p>	<p>Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel; damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.</p>
<p>Carbon Monoxide (CO) An odorless, colorless gas.</p>	<p>Formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.</p>	<p>Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.</p>
<p>Nitrogen Dioxide (NO2) A reddish-brown gas</p>	<p>Fuel combustion in motor vehicles and industrial sources. Motor vehicles; electric utilities, and other sources that burn fuel.</p>	<p>Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming, and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.</p>
<p>Lead Metallic element</p>	<p>Metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.</p>	<p>Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.</p>

Source: ARB, 2008

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**TABLE 3.3-2  
SUMMARY OF AMBIENT AIR QUALITY STANDARDS**

Pollutant	Averaging Time	California Standards <sup>(a)</sup>	National Standards <sup>(b)</sup>		
			Primary <sup>(c)</sup>	Secondary <sup>(d)</sup>	
Ozone (O <sub>3</sub> )	1-hour	0.09 ppm	--	Same as Primary	
	8-hour	0.070 ppm	0.075 ppm		
Particulate Matter (PM <sub>10</sub> )	AAM	20 µg/ m <sup>3</sup>	--		
	24-hour	50 µg/ m <sup>3</sup>	150 µg/ m <sup>3</sup>		
Fine Particulate Matter (PM <sub>2.5</sub> )	AAM	12 µg/ m <sup>3</sup>	15 µg/ m <sup>3</sup>		
	24-hour	No Standard	35 µg/ m <sup>3</sup>		
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm	None	
	8-hour	9 ppm	9 ppm		
	8-hour (Lake Tahoe)	6 ppm	–		
Nitrogen Dioxide (NO <sub>2</sub> )	AAM	0.030 ppm	0.053 ppm	Same as Primary	
	1-hour	0.18 ppm	–		
Sulfur Dioxide (SO <sub>2</sub> )	AAM	–	0.03 ppm	–	
	24-hour	0.04 ppm	0.14 ppm	–	
	3-hour	–	–	0.5 ppm	
	1-hour	0.25 ppm	–	–	
Lead	30-day Average	1.5 µg/ m <sup>3</sup>	–	–	
	Calendar Quarter	–	1.5 µg/ m <sup>3</sup>	Same as Primary	
	Rolling 3-Month Average	-	0.15 µg/ m <sup>3</sup>	Same as Primary	
Sulfates	24-hour	25 µg/ m <sup>3</sup>	No Federal Standards		
Hydrogen Sulfide	1-hour	0.03 ppm			
Vinyl Chloride	24-hour	0.01 ppm			
Visibility-Reducing Particulate Matter	8-hour	Extinction coefficient of 0.23 per kilometer —visibility of 10 miles or more (0.07—30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.			

- California standards for O<sub>3</sub>, CO (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, PM (PM<sub>10</sub> and PM<sub>2.5</sub>), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded.
- National standards (other than O<sub>3</sub>, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year.
- The levels of air quality necessary to protect the public health.
- The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

AAM = Annual Arithmetic Mean

Source: ARB, 2008a

## State Regulations

The California Clean Air Act (CCAA), 1988, requires that all air districts in the state endeavor to achieve and maintain California Ambient Air Quality Standards (CAAQS) for O<sub>3</sub>, CO, SO<sub>2</sub>, and nitrogen dioxide (NO<sub>2</sub>) by the earliest practical date. Plans for attaining CAAQS were to be submitted to CARB by June 30, 1991. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a 5-percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

## Local Regulations

### Monterey Bay Unified Air Pollution Control District

As required by the CCAA, the MBUAPCD adopted the *1991 Air Quality Management Plan* (AQMP) for the Monterey Bay Region. The 1991 AQMP addressed planning requirements to meet the ozone standard mandated by the CCAA and included measures to control emissions of VOC from stationary and mobile sources. Since the 1991 AQMP was adopted, control requirements have been reduced. The AQMP was most recently updated in 2008 (MBUAPCD, 2008a.)

In December 1995, the MBUAPCD also prepared the *1995 Report on Attainment of the California Fine Particulate Standard in the Monterey Bay Region*. This report was most recently updated in 2005. The updated report identifies implementation measures to achieve ambient air quality standards and to reduce public exposure to particulate matter (MBUAPCD, 2008a.)

In accordance with FCAA requirements, the MBUAPCD recently adopted the *2007 Federal Maintenance Plan for Maintaining the National Ozone Standard in the Monterey Bay Region*. The maintenance plan includes strategies for maintaining the NAAQS for ozone within the NCCAB. The FCAA requires that projects receiving federal funds demonstrate conformity to the local AQMP. Consistency guidelines for the AQMP extend these requirements to all regionally significant projects, regardless of whether federal funding is being sought. Emission forecasts contained in the AQMP are based, in part, on population forecasts adopted by the Association of Monterey Bay Area Governments (MBUAPCD, 2008a.)

### San Benito County General Plan Policies

The San Benito County General Plan Open Space and Conservation Element contains the following policy with regard to air quality:

#### **Policy 10      Air Quality**

The County recognizes air as a natural resource and will strive to maintain air quality through proper land use planning. It shall be the County's policy to utilize land use and transportation controls for the protection and enhancement of air quality. Finally, it will be County's policy to review public and private development proposals in light of possible recreational and open space potential.

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#### Actions:

1. The County, by resolution, will establish a policy of urban concentration for the protection of air quality. The resolution should specifically discourage the development of commercial and residential areas outside of urban centers, other than those defined in the Land Use Element, in order to reduce the impacts of air pollution caused by commuting and shopping.
2. Require convenient pedestrian and bicycle access to parks and community facilities and the development of on-site private recreation to serve the needs of unincorporated clusters of population.
3. Develop land use programs to reduce vehicle miles and trips, thereby reducing traffic congestion and protecting and enhancing air quality.
4. Allow clustering and encourage conservation easements to direct population growth from natural resources to areas where services are provided.

#### AMBIENT AIR QUALITY

Ambient air quality in the Hollister Valley portion of San Benito County can be inferred from ambient air quality measurements conducted by the MBUAPCD at its Hollister-Fairview Road air quality monitoring station, which monitors concentrations of ozone and airborne particulate matter. The nearest station that monitors ambient concentrations of NO<sub>2</sub> and CO is located in Salinas. **Table 3.3-3** summarizes the last 3 years of published data from these monitoring stations.

As depicted in **Table 3.3-3**, ambient air quality has exceeded both the state and federal ozone standards on one occasion during the past three years of available data. No other exceedances of state or federal AAQS for other pollutants have been measured at these stations during the past three years. Ozone concentrations within the basin are generally decreasing.

**TABLE 3.3-3**  
**SUMMARY OF AMBIENT AIR QUALITY DATA – HOLLISTER-FAIRVIEW ROAD STATION**

POLLUTANT STANDARDS	2006	2007	2008
Ozone (O <sub>3</sub> )			
Maximum concentration, 1-hr/8-hr period (ppm)	0.099/0.087	0.087/0.074	0.090/0.072
Number of days state standard exceeded	1	0	0
Number of days federal standard (1-hr/8-hr) exceeded	0/1	0/0	0/0
Carbon Monoxide (CO)			
Maximum concentration, 1-hr/8-hr period (ppm)	2.5/1.04	2.0/1.15	2.2/0.89
Number of days state (1-hr/8-hr) standard exceeded	0/0	0/0	0/0
Number of days federal (1-hr/8-hr) standard exceeded	0/0	0/0	0/0
Nitrogen Dioxide (NO <sub>2</sub> )			
Maximum 1-hour concentration (ppm)	0.067	0.050	0.049
Number of days state standard exceeded	0	0	0
Annual arithmetic mean (AAM)	0.007	0.007	0.007
AAM exceed federal standard?	0	0	0
Respirable Particulate Matter (PM <sub>10</sub> )			
Maximum 24-hour concentration (µg/m <sup>3</sup> )	45.0	40.0	39.0
Number of days state standard exceeded (measured/estimated)	0/0	0/0	0/0
Number of days federal standard exceeded	0	0	0
Fine Particulate Matter (PM <sub>2.5</sub> )			
Maximum 24-hour concentration (µg/m <sup>3</sup> )	N/A	20.9	22.7
Number of days federal standard exceeded *		0	0

AAM = Annual Arithmetic Mean; µg/m<sup>3</sup> = Micrograms per Cubic Meter; ppm = Parts per Million; N/A = Data Not Available  
 Ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> data obtained from the Hollister-Fairview Road Monitoring Station.

CO and NO<sub>2</sub> data obtained from the Salinas Monitoring Station; concentrations are not monitored at the Hollister-Fairview Road Monitoring Station.

Source: ARB 2008; EPA 2008

### Attainment Status for Criteria Air Pollutants

The attainment status of the NCCAB is summarized in **Table 3.3-4**. An attainment designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A nonattainment designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation(s) was caused by an exceptional event, as defined in the criteria. Unclassified designations indicate insufficient data is available to determine attainment status.

Under the Federal Clean Air Act, the NCCAB is currently designated attainment for the recently established eight-hour ozone federal AAQS. The NCCAB is designated either attainment or unclassified for the remaining federal AAQS. Under the California Clean Air Act, the basin is designated as a nonattainment transitional area for the state ozone AAQS. The NCCAB is also designated a nonattainment area for the state PM<sub>10</sub> AAQS.



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TABLE 3.3-4  
NCCAB ATTAINMENT STATUS DESIGNATIONS

Pollutant	National Designation	State Designation
Ozone, 1 hour	Not Applicable	Nonattainment/Transitional
Ozone, 8 hour	Unclassified/Attainment	Not Applicable
PM <sub>10</sub>	Unclassified	Nonattainment
PM <sub>2.5</sub>	Unclassified	Attainment
Carbon Monoxide	Unclassified/Attainment	Unclassified/Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified	Attainment
Sulfates	Not Applicable	Attainment
Lead	Not Applicable	Attainment
Hydrogen Sulfide	Not Applicable	Unclassified
Visibility Reducing Particles	Not Applicable	Unclassified

Sources: MBUAPCD, 2008a

#### TOXIC AIR CONTAMINANTS

Toxic air contaminants (TACs) are regulated through implementation of federal and state laws. Federal law uses the term “hazardous air pollutants” (HAPs) to refer to the same types of compounds considered as TACs under state law. Both terms encompass essentially the same compounds. For purposes of this report, the term “TACs” will be used when referring to these pollutants. It is important to note that TACs are not considered “criteria pollutants” in that the federal and California Clean Air Acts do not address them specifically through the setting of NAAQS or CAAQS. However, enforcement of the NAAQS and CAAQS for the control of criteria pollutants, such as ozone and PM, can result in reducing airborne emissions of TACs. For example, controls on volatile organic compound (VOC) emissions to attain the ozone standard can significantly reduce emissions of TACs from stationary sources. The following is a summary of the major current federal, state, and local regulations and programs for controlling TACs.

#### Federal Regulations

Title III of the CAA requires the U.S. EPA to promulgate National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for certain categories of sources that emit one or more pollutants identified as HAPs/TACs. Emission standards may differ between “major sources” and “area sources” of TACs. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (TPY) of any TAC or more than 25 TPY of any combination of TACs; all other sources are considered area sources. Promulgation of the emission standards involves two phases. In the first phase (1992–2000), the U.S. EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring Maximum Achievable Control Technology. For area sources, the standards may be different, based on generally available control technology. In

the second phase (2001–2008), the U.S. EPA is required to promulgate health risk-based emissions standards where such standards are deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards.

The 1990 amendments to the CAA required the U.S. EPA to promulgate vehicle or fuel standards containing reasonable requirements to control toxic emissions, applying at a minimum to benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 of the CAA also required the use of reformulated gasoline in selected U.S. cities (those with the most severe ozone nonattainment conditions) to further reduce mobile-source emissions, including toxics.

#### **State and Local Regulations**

The CARB works in partnership with the local air districts to enforce regulations that reduce TACs. It has authority for motor vehicles, fuels, and consumer products. The CARB identifies the TACs, researches prevention or reduction methods, adopts standards for control, and enforces the standards. The local air districts have the authority over stationary or industrial type sources. In accordance with MBUAPCD permitting requirements, projects that require air quality permits from the MBUAPCD are evaluated for TAC emissions. The MBUAPCD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. Health risk assessments are required for facilities that are categorized as having a potential significant risk under the Air Toxics “Hot Spot” Information and Assessment Act of 1987 (Health and Safety Code section 44300 *et seq.*).

The CARB identified particulate emissions from diesel-fueled engines (diesel PM or DPM) as a TAC in August 1998. DPM is currently CARB's primary TAC of concern for mobile sources, in part because, of all controlled TACs, diesel PM emissions are estimated to be responsible for approximately 70% of the total ambient TAC risk (ARB 2000). In 2000, the CARB developed and approved the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines. The CARB is now implementing an aggressive plan to require cleaner diesel fuel and cleaner diesel engines and vehicles and is currently developing regulations designed to reduce DPM emissions from diesel-fueled engines and vehicles. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce DPM emissions. These regulations required substantial reductions in DPM emissions beginning with the 2004 model year. Additional standards that are more stringent began to apply to engines starting in the 2007 model year. Off-road vehicles will be subject to standards that are more stringent during the upcoming years as well. Each of these sets of regulations will serve to reduce significantly DPM emissions and long-term human health risks attributable to diesel-fueled vehicles and equipment.

The California State Legislature has also examined TAC hazards and has adopted several bills to control TACs. Implementation of state-adopted legislation pertaining to the control of TACs is the responsibility of the CARB and local air pollution control districts. The most important legislation applicable to development projects are summarized below.

#### The Tanner Toxics Act

The Tanner Toxics Act established the California toxic air contaminant control program (Health and Safety Code Section 39650 *et seq.*) to identify and control TACs. Under the act, the CARB is required to identify a substance as a TAC based on the review of the scientific data and the

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recommendations by both the Office of Environmental and Health Hazard Assessment and the Scientific Review Panel. After designation, the CARB investigates appropriate measures to limit emissions of the TACs. These measures may include emission limitations, control technologies, operation and maintenance requirements, closed-system engineering, cost, or substitution of compounds. The CARB then prepares a report on the appropriate degree of regulation and adopts Air Toxics Control Measures. These control measures are the minimum regulations that must be imposed by each of the local air districts in the form of regulations. Districts must adopt rules that are at least as stringent as those of the State.

#### Air Toxics “Hot Spots” Information and Assessment Act

The Air Toxics “Hot Spots” Information and Assessment Act of 1987 (Health and Safety Code, Division 26, Part 6, commencing with Section 44300) is a state law enacted in 1987. The law requires certain facilities to submit information regarding emissions of more than 550 TACs to their local air pollution control districts. The act addresses public concerns that emissions from individual facilities might cause local concentration of air toxics “hot spots” at a level where individuals may be exposed to an excess risk of adverse health effects. The program requires facilities to notify all exposed persons if it is determined that there is a significant health risk. Chapter 6 of the act, entitled the Facility Toxic Air Contaminant Risk Reduction Audit and Plan (Health and Safety Code Division 26, Part 6, Chapter 6, commencing with Section 44390) requires local air districts to establish a program to reduce risks from existing facilities that are deemed to pose a significant health risk.

#### Toxic Emissions Near Schools Program

The Toxic Emissions Near Schools Program (Health and Safety Code Sections 42301.6–42301.9) address stationary sources of hazardous air pollutants near schools. Section 42301.6 requires public notice to the parents or guardians of children enrolled in any school located within one-quarter mile of the source and to each address within a 1,000-foot radius of a TAC source. Education Code Section 17213 and Public Resources Code Section 21151.8 of CEQA expand previous requirements to review sources of TACs near school sites. School districts must include in the school site acquisition analysis any emissions sources, including, but not limited to, freeways and other busy traffic corridors, large agricultural operations, and rail yards within one-quarter mile of a school site and the potential health risks of any of those sources to persons attending or working at the school.

#### Land Use Compatibility with TAC Emission Sources

The CARB published an informational guide entitled: “Air Quality and Land Use Handbook: A Community Health Perspective” (Handbook) in 2005. The purpose of this guide is to provide information to aid local jurisdictions in addressing issues and concerns related to the placement of sensitive land uses near major sources of air pollution. The Handbook includes recommended separation distances for various land uses that are based on relatively conservative estimations of emissions based on source-specific information. However, these recommendations are not site specific and should not be interpreted as defined “buffer zones.” It is also important to note that the recommendations of the Handbook are advisory and need to be balanced with other State and local policies (CARB, 2005). CARB-recommended separation distances for various sources of emissions are summarized in **Table 3.3-5**.

**TABLE 3.3-5  
ARB RECOMMENDATIONS ON SITING NEW SENSITIVE LAND USES  
NEAR AIR POLLUTANT SOURCES**

<b>Source Category</b>	<b>Advisory Recommendations</b>
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perc. dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

*\*Recommendations are advisory, are not site specific, and may not fully account for future reductions in emissions, including those resulting from compliance with existing/future regulatory requirements, such as reductions in diesel-exhaust emissions anticipated to occur with continued implementation of the CARB's Diesel Risk Reduction Plan.*

Source: CARB 2005

## ODORS

Although offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable stress among the public and often generating citizen complaints to local governments and the MBUAPCD. Common types of facilities that have been known to produce odors include wastewater treatment facilities, chemical manufacturing plants, feed lots/dairies, composting facilities, landfills, and transfer stations.

Because offensive odors rarely cause any physical harm and no requirements for their control are included in state or federal air quality regulations, the MBUAPCD has no rules or standards related to odor emissions other than its nuisance rule. Any actions related to odors are based on citizen complaints to local governments and the MBUAPCD.

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#### GREENHOUSE GAS EMISSIONS & CLIMATE CHANGE

The Earth's climate has been warming for the past century. It is believed that this warming trend is related to the release of certain greenhouse gas (GHG) emissions into the atmosphere. GHG emissions are naturally occurring gases such as water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O) that regulate the temperature on Earth by absorbing infrared energy that would otherwise escape from the Earth. As the infrared energy is absorbed, the air surrounding the Earth is heated. In addition to natural sources, human activities are exerting a major and growing influence on climate by changing the composition of the atmosphere and by modifying the land surface. Particularly, the increased consumption of fossil fuels (natural gas, coal, gasoline, etc.) has substantially increased atmospheric levels of GHGs. GHGs most typically associated with community development include emissions of CO<sub>2</sub> and, to a lesser extent, CH<sub>4</sub>. Global GHG emissions resulting from human activities, especially the consumption of fossil fuels, have grown since pre-industrial times with an increase of 70% between 1970 and 2004 (IPCC 2007).

An overall warming trend has been recorded since the late 19th century, with the most rapid warming occurring over the past two decades. The 10 warmest years of the last century all occurred within the last 15 years. It appears that the decade of the 1990s was the warmest in human history. Most of the warming in recent decades is likely the result of human activities that result in increased GHG emissions. There are uncertainties as to exactly what the climate changes will be in various local areas of the Earth, and what the effects of clouds will have in determining the rate at which the mean temperature will increase. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet, including: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, air pollution episodes, and the consequence of these effects on the economy (CARB 2008b).

Climate change has the potential to cause significant impacts as follows:

- Unpredictable weather: The years of 1995-2005 had the warmest global temperature ever recorded in instrumental history, measured since 1850 (Rosenzweig et al. 2007). Combined with longer summer seasons, the increased temperature will reduce soil moisture levels, which necessitates increased irrigation, increases the need for air conditioning use, increases the rate and spread of wildfires, and stresses the electrical infrastructure.
- Increased rate of wildfires: Wildfire risk is based on a combination of factors including precipitation, winds, temperature, and vegetation, all of which are susceptible to increased warming. Wildfires are likely to grow in number and size throughout the state as a result of increased temperatures induced by climate change. Even under the 'medium' warming scenario predicted by the Intergovernmental Panel on Climate Change (IPCC), wildfire risk will likely increase by 55% in California (California Climate Change Center 2006).
- Deteriorating public health: Heat waves are expected to have a major impact on public health as well as decreasing air quality and an increase in mosquito-breeding and mosquito-borne diseases. The elderly and young, and those vulnerable populations that do not have the resources to deal with the costs and adapt to the changes that are expected to impact the community will need assistance (California Climate Change Center 2006).
- A decreasing supply of fresh water: Warmer average global temperatures cause more rainfall than snowfall, making the winter snowfall season shorter and accelerating the rate at

which the snow packs melt in the spring. The change to a liquid-precipitation-centric system has the potential to reduce storage capacity, water quality, and the accessibility of water for emergencies. With rain and snow events becoming less predictable and more variable, this could increase the rate of flooding and decrease the ability to maintain fresh water for consumption (California Climate Change Center 2006).

- Increased residential electricity demands for cooling: Warming temperatures are predicted to cause significant increases in residential electricity demand for cooling in summer months, especially for residential developments built in warm, inland areas. Coupled with the negative impacts of increased temperatures on electrical infrastructure and of earlier spring snowmelt on hydropower production, climate change could have significant impacts on energy supply in California (California Climate Change Center 2005).

#### **State Regulations**

##### Executive Order S-3-05 and Executive Order S-20-06

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80% below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006 (discussed further below). AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases" and to develop appropriate regulations and establish a mandatory reporting system to track and monitor global warming emissions levels. Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team (CARB 2008b).

##### Global Warming Solutions Act of 2006 (AB 32)

Assembly Bill 32 (AB32), formally called the California Global Warming Solutions Act of 2006 (Health and Safety Code, Division 25.5, commencing with Section 38500), creates a comprehensive, multi-year program to reduce greenhouse gas (GHG) emissions in California, with the overall goal of restoring emissions to 1990 levels (427 million metric tons of CO<sub>2</sub>) by the year 2020. However, AB 32 does not contain detailed control measures. AB 32 creates statewide GHG limits and then requires those limits to be met via sector-specific GHG emission reduction measures to be developed and implemented by CARB. In accordance with AB 32, CARB has been directed to develop and implement regulations to reduce statewide GHG emissions. AB 32 does not explicitly apply to emissions from land development. However, GHG emissions associated with land development projects can result in direct and indirect emissions within individual end-use sectors, including transportation and energy. As a result, GHG emissions associated with community development projects will ultimately factor into the emission-reduction considerations.

There are four major components of AB 32. First, AB 32 required CARB to prepare an emissions inventory by using the best available economic, scientific, and technological information on GHG emissions to determine the statewide GHG levels in 1990 and to approve a statewide GHG limit equivalent to that level to be achieved by 2020. The 2020 GHG emissions limit, which was approved by CARB in December 2007, requires an approximately 30 percent reduction from the "business-as-usual" projections.

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Second, AB 32 includes mandatory reporting requirements for major GHG sources.

Third, CARB was required to publish a list of discrete early action items to achieve the maximum technologically feasible and cost-effective reductions in GHG emissions.

Fourth, CARB also was required to adopt a Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions to meet AB 32's GHG-reduction goals. The foundation of the scoping plan is the imposition of GHG emission caps on most sectors of the California economy, so-called "capped sectors." Within the capped sectors, reductions will be achieved through direct emission reduction measures (e.g., improved building efficiency standards and vehicle efficiency measures) as well as potential monetary and non-monetary incentives resulting from a cap-and-trade program. The recommended measures in the Scoping Plan will be developed into regulations, to go into effect by January 1, 2012. GHG emissions reductions associated with these strategies are generally categorized into the following emission-reduction sectors, which are discussed in more detail, as follows:

#### Transportation Sector

The transportation sector is estimated to contribute 38 percent of California's total GHG emissions. As a result, emission reductions that target this sector are one of the key elements in the state's efforts of reducing GHG emissions. The state's multi-pronged attack on lower emissions from transportation focus on working with Congress to allow California to set its own vehicle efficiency and mileage standards, set lower levels of carbon in transportation fuels, transition the state from gasoline and diesel to cleaner-burning alternative and renewable fuels, and establishing low-carbon fuel standards. Additional action items have been included to reduce emissions from vehicle refrigerants, to improve vehicle mileage with implementation of a tire-inflation program, to reduce idling and auxiliary engine emissions (CARB 2008b, 2008c).

#### Electricity and Commercial/Residential Energy Sector

This sector is the next largest contributor with over 30 percent of the state's total GHG emissions. Increased energy efficiency and the promotion of renewable energy are considered an essential component of the State's efforts of achieving AB 32 requirements. Reductions in emissions associated with this sector will be achieved, in part, by establishing more energy-efficient building and appliance standards, implementation of traditional utility programs, and new strategies and technologies delivered through local governments, community organizations, and the private sector (CARB 2008b, 2008c).

As part of this effort, the California Energy Commission (CEC) has been focusing on increasing efficiency standards for both appliances and buildings. The most current California Energy Code (Title 24, Part 6), containing Building Energy Efficiency Standards, went into effect in late 2007. New standards rulemaking is in progress and includes new lighting standards, as well as standards pertaining to consumer electronics. Water efficiency and conservation standards are also anticipated to be included in future appliance standards. With implementation of future Title 24 standards, further reductions of GHG emissions are anticipated (CARB 2008b, 2008c).

#### Industrial Sector

This sector includes refineries, cement plants, oil and gas production, food processors, and other large industrial sources. This sector contributes almost 20 percent of the state's total GHG emissions, although this sector is not projected to expand significantly in the future.

#### Other Sectors (Recycling and Waste, High Global Warming Potential (GWP), Gases, Agriculture, Forest)

The above-referenced sectors contribute the remaining 32 percent of the state's total GHG emissions.

The evaluation of potential reductions of GHG emissions that can be achieved from these sectors is ongoing (CARB 2008b, 2008c).

#### Senate Bill 375

SB 375 (Steinberg), signed into law in September 2008, builds on the goals of AB 32 by attempting to control GHG emissions through limiting suburban sprawl. By September 2010, CARB will have assigned each region in California a target for reducing GHG emissions tied to land use. California Metropolitan Planning Organizations are required to address these targets in mandatory 'Sustainable Communities Strategies' (SCS) as part of the Regional Transportation Plan. The purpose of the SCS plans is to reduce GHG emissions associated with global climate change by improving the efficiency of land use and transportation patterns. In addition, SB 375 creates incentives for creating walkable, sustainable, transit-oriented communities, including funding conditions and certain exemptions from the California Environmental Quality Act. SB 375 attempts to tie together climate change, regional planning, transportation funding, and affordable housing.

#### Senate Bill 97

Senate Bill 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research to develop and propose "guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required [by CEQA], including, but not limited to, effects associated with transportation or energy consumption." (Public Resources Code Section 21083.05(a)).

On October 24, 2008, the CARB released its *Preliminary Draft Staff Proposal, Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act*. A key aspect of CARB's approach is to recognize that different GHG thresholds of significance may apply to projects in different sectors. The CARB also believes that different types of thresholds; quantitative, qualitative, and performance-based, can apply to different sectors under the premise that the sectors can and must be treated separately given the state of the science and data. A sector-specific approach is consistent with CARB's proposed Scoping Plan.

On December 30, 2009, the California Resources Agency adopted CEQA guidelines that address greenhouse gas emissions. The provisions became effective on March 18, 2010 and the guidelines have been transmitted to the Secretary of State for inclusion in the California Code of Regulations. OPR will periodically update the guidelines to incorporate new information or criteria that CARB may establish. (Public Resources Code Section 21083.05(b) and (c).)

Following is a summary of the newly adopted CEQA Guidelines, which set out a basic framework of analysis for assessing a project's contribution to GHG levels. They do not, however, dictate a specific metric lead agencies should use to determine whether a project's incremental GHG emissions are cumulatively considerable in light of past, present and



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reasonably foreseeable probable future projects. Rather, it is the regional air quality districts that have developed or will develop standards of significance.

- An EIR or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable. (See Adopted CEQA Guidelines Section 15064.4; Public Resources Code Sections 21083, 21083.05; Final Statement of Reasons for Regulatory Action (Final Statement), p. 55 (Dec. 2009).)
- In defining the scope of other projects necessary to carry out a cumulative impact analysis, an agency may use a summary of projections adopted in a local, regional, or statewide plan, or some related planning document, such as a general plan, regional transportation plan, or a plan for the reduction of greenhouse gases. (Adopted CEQA Guidelines Section 15130(b)(1)(B).)
- An analysis of GHG emissions may rely on either a qualitative or quantitative analysis. (Adopted CEQA Guidelines Section 15064.4(a)(1) and (2).) The California Resources Agency has, however, explained that emissions should be quantified where possible, and refers to some existing models that may prove adequate in carrying out such an analysis. (See *Final Statement*, pp.20-21.)
- The Guidelines make general suggestions regarding a method of assessing the significance of an impact, such as reviewing:
  - The extent to which a project increases or decreases GHG emission when compared to the existing environment. (Adopted Guidelines Section 15064.4(b).) “All project components, including construction and operation, equipment and energy use, and development phases must be considered.” (*Final Statement*, p. 24.)
  - Whether a project exceeds a threshold of significance (with the lead agency retaining the discretion to choose a threshold). (Adopted CEQA Guidelines Section 15064.4(h).)
  - The extent to which a project complies with regulations adopted to implement a statewide, regional or local plan for the reduction or mitigation of GHG emissions, such as those under SB375 and local climate action plans. (See, Adopted CEQA Guidelines Sections 15064.4(b), 15183.5(b)(1).)
- Provide that an agency must discuss the extent to which a project is inconsistent with general plans, specific plans, and regional plans, the latter of which may include plans for the reduction of GHG emissions, regional transportation plans or other, more wide-scale planning documents. (Adopted Guidelines Section 15125(d).) CEQA does not define what it means to “comply” with a plan, in the context of determining consistency, though the California Resources Agency has suggested compliance means the plan actually addresses the emissions that would result from the project, or the project furthers the objectives and policies of the plan and does not frustrate their attainment.
- Allow agencies, when adopting thresholds of significance, to consider those previously adopted or recommended by other agencies, or recommended by experts, provided that substantial evidence informs such thresholds. (Adopted Guidelines Section 15064.7(c).)

- Provide options for mitigation measures, including: (1) those incorporated into an existing plan or program, ordinance or regulation; (2) implementation of project features, design or other measures to reduce GHG emissions; (3) off-site measures, including measures that are not otherwise required, which presumably will form part of an AB32 cap-and-trade program; and (4) measures that sequester GHGs. (Adopted Guidelines Section 15126.4(c).)

### **3.3.3 IMPACTS AND MITIGATION MEASURES**

#### STANDARDS OF SIGNIFICANCE

For the purpose of this analysis, the following applicable thresholds of significance from the MBUAPCD's CEQA Air Quality Guidelines (MBUAPCD 2008b) and County CEQA Guidelines are used to determine if the proposed project would result in a significant air quality impact:

- Short-term Increases in Regional Criteria Pollutants. Construction impacts would be significant if the proposed project would emit greater than 82 pounds per day (lbs/day) of PM<sub>10</sub>, or will cause a violation of PM<sub>10</sub> National or State AAQS at nearby receptors. Construction projects using typical construction equipment that temporarily emit precursors of ozone (i.e., ROG or NO<sub>x</sub>), are accommodated in the emission inventories of State and federally-required air plans and would not have a significant impact on the attainment or maintenance of ozone AAQS. For this reason, the MBUAPCD has not established significance criteria for construction-generated precursors of ozone.
- Long-Term Increases in Regional Criteria Pollutants. Regional (operational) impacts would be significant if the project generates direct and indirect emissions of ROG or NO<sub>x</sub> that exceed 137 lbs/day. Emissions of PM<sub>10</sub> would be significant if the project would exceed 82 lbs/day or if the project would contribute to local PM<sub>10</sub> concentrations that exceed Ambient Air Quality Standards. Emissions of SO<sub>x</sub> would be significant if the project generates direct emissions of greater than 150 lbs/day;
- Increases in Local Mobile-Source CO Concentrations. Local mobile-source impacts would be significant if the project generates direct emissions of greater than 550 lbs/day of CO or if the project would contribute to local CO concentrations that exceed the State Ambient Air Quality Standard of 9.0 ppm for 8 hours or 20 ppm for 1 hour. (Indirect emissions are typically considered to include mobile sources that access the project site but generally emit off-site; direct emissions typically include sources that emitted on-site (e.g., stationary sources, on-site mobile equipment).
- Increases in Toxic Air Contaminants. TAC impacts would be significant if the project would expose the public to substantial levels of TACs so that the probability of contracting cancer for the Maximally Exposed Individual would exceed 10 in 1 million and/or so that ground-level concentrations of non-carcinogenic toxic air contaminants would result in a Hazard Index greater than 1 for the Maximally Exposed Individual.
- Increases in Odorous Emissions. Odor impacts would be significant if the project has the potential to frequently expose members of the public to objectionable odors.
- Conflict with or obstruct implementation of the applicable air quality plan;
- Expose sensitive receptors to substantial pollutant concentrations;

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- Generate emissions of greenhouse gases (GHGs) that could conflict with a statewide, regional or local plan for the reduction or mitigation of GHG emissions.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the NLCAB is nonattainment under an applicable federal or state ambient air quality standard.

#### METHODOLOGY

Short-term construction-generated emissions were estimated using the URBEMIS2007 (Version 9.2.4) computer program, as recommended by the MBUAPCD. The URBEMIS2007 program is designed to model emissions associated with land use development projects and allows for the input of project-specific information for this analysis. Project-specific construction information is not yet available. Therefore, modeling relied on the following assumptions: an average of approximately 25 acres of active daily disturbance, an approximate five-year development period, and default parameters contained in the URBEMIS model for San Benito County. Actual daily emissions would likely vary, depending on the specific construction activities conducted.

Regional area- and mobile-source emissions associated with proposed land uses were estimated using the URBEMIS2007 computer program. Emissions were calculated for both summer and winter conditions based on the default parameters contained in the model. Default trip generation rates contained in the model were revised to correspond with predicted trip generation rates identified in the traffic analysis prepared for this project. Operational emissions associated with the potential wastewater treatment plant were calculated using emission factors derived from the Tri-TAC Guidance Document on Control Technology for VOC Air Emissions from Publicly Owned Treatment Works (POTW). This document was produced by the cooperative effort of POTWs and air regulatory agencies in California, in cooperation with the Air Committee of Tri-TAC. Tri-TAC is a California technical advisory committee on POTW regulatory and policy issues. Tri-TAC is sponsored by the League of California Cities, California Association of Sanitation Agencies, and California Water Pollution Control Association. Emissions were calculated using flow-based emission factors for various treatment processes with containment control technologies (TriTAC 1994.)

The CALINE4 computer program was used for the evaluation of the project's contribution to localized concentrations of mobile-source carbon monoxide (CO). Modeling was conducted for primarily affected roadway intersections projected to operate at unacceptable levels of service (i.e., LOS E, or worse). Modeling was conducted based on peak-hour vehicle generation rates obtained from the traffic analysis prepared for this project. Exposure to localized concentrations of odors and TACs were qualitatively assessed.

Estimated greenhouse gas emissions attributable to the proposed project were calculated using the URBEMIS2007 computer program and emission factors obtained from the CEC and CARB. Long-term increases in vehicle miles traveled (VMT) used in the calculation of GHG emissions were based on trip generation rates obtained from the traffic analysis prepared for the proposed project. Estimated increases in emissions associated with natural gas consumption and electricity use; as well as emissions associated with area sources (e.g., wood-burning fireplaces, landscape maintenance, etc.) were also included in the analysis. Long-term operational emissions of CH<sub>4</sub> and N<sub>2</sub>O were calculated using emission factors and usage rates derived from the CARB, the California Air Pollution Control Officer's Association, the California Climate Action Registry General Reporting Protocol, and the CEC. Emissions were converted to CO<sub>2</sub> equivalents (i.e., CO<sub>2</sub>e), expressed in metric tons/year.

## PROJECT IMPACTS AND MITIGATION MEASURES

**Short-Term Construction Generated Emissions of Airborne Particulate Matter**

**Impact 3.3-1** Short-term construction-generated emissions could exceed MBUAPCD significance thresholds, and could be inconsistent with the AQMP. As a result, this impact is considered **potentially significant**.

Construction-generated emissions are short-term and of temporary duration, lasting only as long as construction activities occur, but possess the potential to represent a significant air quality impact. The construction and development of the proposed residential, commercial and community facilities uses would result in the temporary generation of emissions resulting from site grading and excavation, road paving, the application of architectural coatings, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities. For instance, the MBUAPCD has determined that construction activities that involve minimal earth moving over an area of 8.1 acres, or more, could result in potentially significant temporary air quality impacts, if not mitigated. Construction activities that require more extensive site preparation (e.g., grading and excavation) may result in significant unmitigated impacts if the area of disturbance were to exceed 2.2 acres per day (MBUAPCD 2008b).

Estimated daily increases in emissions associated with the proposed project were estimated using the URBEMIS2007 (version 9.2.4) computer program based on default assumptions contained in the model for San Benito County. The URBEMIS output data is attached as **Appendix C**. Specific construction requirements and schedules are not yet available for the proposed project. According to the project description, construction of the proposed project would occur in multiple phases over approximately ten to twelve years. For purposes of this analysis, emissions were calculated assuming that approximately 25 acres of the project area would be disturbed on any given day and that development of the proposed land uses would occur over an approximate five-year period, a more conservative timeframe that allows for the potential for accelerated development. Predicted daily emissions of PM<sub>10</sub> are summarized in **Table 3.3-6**. Based on the modeling conducted and assuming that demolition and site preparation (grading) activities were to occur simultaneously on any given day, development of the proposed project would result in maximum uncontrolled emissions of approximately 513 lbs/day of PM<sub>10</sub>. Subsequent building construction and asphalt paving phases would be anticipated to generate approximately 4 lbs/day of PM<sub>10</sub>, each. As indicated in **Table 3.3-6**, uncontrolled emissions of PM<sub>10</sub> associated with initial site preparation and demolition activities could exceed the MBUAPCD's emissions threshold of 82 lbs/day.

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**TABLE 3.3-6  
CONSTRUCTION-GENERATED EMISSIONS WITHOUT MITIGATION**

Source	Estimated PM <sub>10</sub> Emissions (lbs/day) <sup>(1)</sup>
Demolition <sup>1</sup> :	8.07
Site Preparation <sup>2</sup> :	504.48
Building Construction <sup>3</sup> :	4.08
Asphalt Paving <sup>4</sup> :	4.27
<i>Maximum Daily Emissions:</i>	512.55
<i>MBUAPCD Thresholds (lbs/day)</i>	82

*Emissions were estimated using the URBEMIS2007 computer program based on default model settings for San Benito County.*

- 1. Demolition assumes 12,500 cubic feet demolished, 174 miles onroad truck travel, 3 excavators and 2 dozers.*
- 2. Site preparation (grading) assumes a maximum of 25 acres of disturbance on any given day, 20 lbs per acre, 1 excavator, 1 grader, 1 dozer, 2 scrapers, 3 tractors/loaders/backhoes, 1 water truck.*
- 3. Building Construction assumes an approximate five-year total construction period, 1 crane, 3 forklifts, 1 generator set, 3 tractors/loaders/backhoes, 1 welder. Includes emissions associated with application of architectural coatings.*
- 4. Asphalt Paving assumes 92.4 acres paved, 1 paver, 2 paving equipment, 2 rollers.*
- 5. Maximum daily emissions assumes that demolition and site preparation activities could occur simultaneously.*

The Santana Ranch Specific Plan contains the following policies addressing short-term air quality, within Section 5.3, Resource Management Policies:

#### Soils and Grading Protection Policies

- Soil exposed during grading which will be left exposed and is not under active construction during the rainy season shall be promptly replanted with native compatible drought-tolerant vegetation.

#### Air Quality Protection Policies

- Short-term air quality impacts associated with construction activities shall be reduced through compliance with requirements of grading permits, all applicable project conditions of approval and mitigation measures, and applicable enforcement measures adopted by the Monterey Bay Air Pollution Control District.

In addition to the above policies, project short-term construction emissions can be reduced through implementation of the following mitigation measure:

- MM 3.3-1** All demolition and construction-related activities associated with future development located within the project site shall implement best-available control measures for the control of construction-related emissions, as recommended by the MBUAPCD at the time of development.

The specific measures to be implemented may vary depending on site/project-specific conditions and will be based on the recommendations of the MBUAPCD to reflect project-specific conditions at that time. The following mitigation measures are currently recommended by the MBUAPCD for the control of short-term construction-generated emissions:

- Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil and wind exposure.
- Prohibit all grading activities during periods of high wind (over 15 mph).
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days).
- Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydroseed areas.
- Haul trucks shall maintain at least 2'0" of freeboard.
- Cover all trucks hauling soil, sand, and other loose materials.
- Plant tree windbreaks on the windward perimeter of construction projects if adjacent to open land.
- Plant vegetative ground cover in disturbed areas as quickly as possible.
- Cover inactive storage piles.
- Install wheel washers at the entrance to construction sites for all existing trucks.
- Pave all roads on construction sites.
- Sweep streets, if visible soil material is carried out from the construction site.
- Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Monterey Bay Unified Air Pollution Control District shall be visible to ensure compliance with Rule 402 (Nuisance).
- Limit the area under construction at any one time.

Based on modeling conducted for this project, implementation of MBUAPCD-recommended mitigation measures would reduce fugitive dust emissions associated with individual construction activities by as much as approximately 84 percent, depending on the activities conducted and mitigation measures employed. With implementation of the MBUAPCD-recommended measures, maximum construction-generated emissions would be reduced to approximately 41 lbs/day, and would therefore not exceed the MBUAPCD's significance threshold of 82 lbs/day.

Implementation of the above mitigation measure would require future development to comply with MBUAPCD-recommended best-available control measures for the control of construction and demolition-related emissions. With compliance with MBUAPCD-recommended mitigation measures, and implementation of the above Specific Plan policies, short-term air quality impacts resulting from the project would not exceed air district thresholds of significance and would therefore be **less than significant**.

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#### Long-term Emissions of Criteria Air Pollutants

**Impact 3.3-2** Long-term operational emissions would exceed MBUAPCD significance thresholds, which is considered a **significant impact**.

Regional area- and mobile-source emissions associated with the proposed land uses were estimated using the CARB-approved URBEMIS2007 (version 9.2.4) computer program, based on model default settings and vehicle trip characteristics for San Benito County. Vehicle trip generation rates for proposed land uses were based on data obtained from the transportation analysis prepared for this project (HTC, 2008). In accordance with MBUAPCD recommendations, long-term operational emissions attributable to the proposed project were quantified assuming full buildout for both summer and winter conditions.

Implementation of the proposed project would include construction of residential and commercial uses, along with associated park, recreational and public facilities uses. Although it is anticipated the project will connect to the City of Hollister Domestic Water Treatment Plant, there is potential for the project to be served by an on-site wastewater treatment plant (WWTP), as an alternative wastewater treatment method. The potential WWTP would be located on an approximately 26-acre site at the northeastern boundary of the Plan Area, approximately 500 yards south of Mansfield Road. As currently proposed, the WWTP would conceptually consist of an enclosed sequencing batch reactor (SBR). The SBR process is an activated sludge process in which the sewage is introduced into a reaction tank (or SBR tank), one batch at a time. Wastewater treatment is achieved by a timed sequence of operations, which generally consists of filling, reaction (aeration), settling, decanting, idling, and sludge wasting. All treatment would occur within the enclosed SBR tank and clarified effluent would be used for common area irrigation within the Plan Area, or discharged to the Hollister Reclaimed Water Project. Solid waste would be disposed of offsite at the Hollister Domestic Water Treatment Plant.

An activated carbon control unit would also be installed to reduce emissions (RJA 2008, PERC 2006). Emissions associated with the proposed WWTP were calculated based on emission factors obtained from the TRI-TAC Guidance Document on Control Technology for VOC Air Emissions from Publicly Operated Treatment Works. Mobile source emissions were calculated using the URBEMIS2007 computer program, based on default model parameters for San Benito County and assuming an average of one employee vehicle trip and two delivery/waste haul truck trips per day. Operational emissions are summarized in **Table 3.3-7**.

**TABLE 3.3-7  
OPERATIONAL PROJECT EMISSIONS AT BUILDOUT WITHOUT MITIGATION**

Source	Estimated Emissions (lbs/day)				
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>
<b>Summer Conditions</b>					
Motor Vehicles	105.00	200.09	1,013.33	1.05	182.65
Natural Gas Use	1.14	14.86	6.81	0.00	0.03
Hearth	No Summer Emissions				
Landscape Maintenance	9.06	0.59	51.84	0.00	0.14
Consumer Products	53.42	--	--	--	--
Architectural Coatings	9.45	--	--	--	--
Wastewater Treatment Plant (SBR) <sup>3</sup>	0.09	0.21	0.59	0.00	0.04
<i>Total Emissions (Summer):</i>	<i>178.16</i>	<i>215.75</i>	<i>1,072.57</i>	<i>1.05</i>	<i>182.86</i>
<i>MBUAPCD THRESHOLDS:</i>	<i>137</i>	<i>137</i>	<i>550<sup>(2)</sup></i>	<i>150<sup>(2)</sup></i>	<i>82</i>
Exceeds Threshold?	Yes	Yes	No	No	Yes
<b>Winter Conditions</b>					
Motor Vehicles	116.56	231.65	1,150.39	1.05	182.65
Natural Gas Use	1.14	14.86	6.81	0.00	0.03
Hearth	184.89	20.33	841.24	2.58	134.26
Landscape Maintenance	No Winter Emissions				
Consumer Products	53.42	--	--	--	--
Architectural Coatings	9.45	--	--	--	--
Wastewater Treatment Plant (SBR) <sup>2</sup>	0.09	0.23	0.72	0.00	0.04
<i>Total Emissions (Winter):</i>	<i>365.55</i>	<i>267.07</i>	<i>1,999.16</i>	<i>3.63</i>	<i>316.98</i>
<i>MBUAPCD THRESHOLDS:</i>	<i>137</i>	<i>137</i>	<i>550<sup>(1)</sup></i>	<i>150<sup>(1)</sup></i>	<i>82</i>
Exceeds Threshold?	Yes	Yes	Yes	No	Yes

Emissions were estimated using the URBEMIS2007 (v9.2.4) computer program, based on default model settings for San Benito County and trip generation rates obtained from the traffic analysis prepared for this project (HTC 2008).

1. Applies to direct source (onsite) emissions only; excludes offsite motor vehicle emissions.
2. Includes evaporative and mobile-source emissions. Emissions were calculated based on a flow rate of 0.6 mgd; assumes treatment process would be enclosed. Mobile source emissions assume one employee maintenance trip and two haul truck trips per day for the material delivery and waste solids transport.



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As depicted in **Table 3.3-7**, predicted total operational emissions during the summer months would be approximately 178 lbs/day of ROG, 216 lbs/day NO<sub>x</sub>, 1,073 lbs/day of CO, 1 lbs/day SO<sub>x</sub>, and 183 lbs/day of PM<sub>10</sub>. During the winter months, operational emissions would increase to approximately 366 lbs/day of ROG, 267 lbs/day NO<sub>x</sub>, 1,999 lbs/day of CO, 4 lbs/day SO<sub>x</sub>, and 317 lbs/day of PM<sub>10</sub>. Based on the modeling conducted, predicted long-term direct and indirect operational emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> would exceed MBUAPCD significance thresholds. Direct emissions of CO during the winter months, which would be primarily associated with the use of wood-burning hearth devices, would also be estimated to exceed MBUAPCD significance threshold of 550 lbs/day. Long-term operational emissions of SO<sub>x</sub> from direct sources (i.e., 2.58 lbs/day) would not exceed MBUAPCD significance threshold of 150 lbs/day. Because project-generated emissions would exceed applicable MBUAPCD's significance thresholds, this impact would be considered **significant**.

Articles 4 and 5 of the Santana Ranch Specific Plan contain a number of policies addressing operational emissions with which the developer must comply, including:

#### **Energy Conservation Policies (Article 5)**

- Electrical energy efficient measures shall be incorporated into development of the Santana Ranch Project. Residential energy conservation will be promoted by requiring that development adhere to California Energy Commission Title 24 requirements. It is anticipated that implementing energy conservation measures for the Project as contemplated herein will reduce heating and air conditioning as well as water heating energy use.
- The Project's dwelling units shall be designed, where feasible, to incorporate solar energy as a means of heating, cooling and providing domestic water heating; this is described more fully in Article 7, Section 7.1. of the Specific Plan. A key component in the Project's design is to ensure that dwellings are properly oriented to take advantage of solar heating and cooling. In general, this is achieved by designing residential streets on an east-west axis and/or applying roof designs that expose areas of roof and walls towards the sun. The Project achieves this design because the primary collector streets are oriented north-south so that the interior residential streets connected to them will generally tend to be oriented east-west. The orientation of streets to facilitate solar heating and cooling is addressed in Article 7, Section 7.1.
- Trees shall be planted and maintained to ensure that, within 15 years of planting, at least 50% of the parking areas within the Plan Area are shaded at mid-day during the summer season in order to reduce solar gain.
- All development within the Plan Area shall implement the alternative transportation programs and policies set forth in Article 4 (Circulation Element) of this Specific Plan.

#### **Transportation System Management (Article 4)**

- A designated park-and-ride parking area shall be located in the Neighborhood Commercial center;
- An information board shall be located in the Neighborhood Commercial center for the purpose of distributing information on rideshare and other public transit information distribution programs that may be offered by San Benito County Local Transportation Authority (LTA).

#### Circulation-Bikeways and Pedestrian Parkways

- A minimum of one local residential street connection shall be provided between each adjacent Neighborhood shown in Article 2, Figure 2-1 (Land Use Map) to ensure convenient and direct pedestrian connectivity between all residential Neighborhoods.
- All bike trails shall be constructed according to standards set forth in the "Bikeway Planning and Design" section of the California Department of Transportation Highway Design Manual.
- Pedestrian openings at Hillcrest Road, Sunnyslope Road and at the Neighborhood Commercial center shall be provided.
- A pedestrian connection shall be provided through the Community Park and adjacent residential use to the north end of the Neighborhood Commercial use. A distinct, paved point of entry from the bike trail and bike parking area shall be provided near the north end of the Commercial use site.
- The bike/pedestrian way along Fairview Road shall be designed to connect to regional bikeways identified in the City of Hollister Parks and Recreation Master Plan, the Hollister Bike Plan, and the San Benito County Bike and Pedestrian Master Plan. The County Parks Master Plan is currently in the process of being updated.

#### Circulation-Street System Design and Layout

- Residential streets shall provide connectivity by providing convenient walking routes to the Neighborhood Commercial uses, the school and the Parks.
- Where cul-de-sac bulbs are located within 80 feet of an adjacent street, the cul-de-sac should provide a pedestrian connection from the cul-de-sac head to an adjacent street, where practical.

#### Circulation-Public Transit

- Bus turnouts shall be located near the northeast corner of Fairview Road and Sunnyslope Road, Fairview Road and Hillcrest Road, and other locations within the Plan Area as approved by the San Benito County Public Works Director and after consultation with COG.

Implementation of these Specific Plan policies would help to reduce long-term operational emissions of the proposed project, and are generally consistent with the approach recommended by the MBUAPCD.

The following mitigation measure would ensure that operational emissions are reduced to the extent feasible.

- MM 3.3-2** Prior to issuance of the first building permit for each phase of the project, the developer shall comply with the Specific Plan policies referenced in Section 3.3, Air Quality, under the analysis of this impact, and, in addition, shall comply with the following mitigation measures:

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- Proposed commercial uses shall provide preferential carpool/vanpool parking spaces
- Proposed commercial uses shall provide bicycle parking facilities
- Transit-stop improvements (i.e., benches, lighting) shall be provided at transit stop locations. An information board in the Commercial center or at the bus stop will be provided to distribute information on ride sharing and other public transit services that may be offered by San Benito County Local Transportation Authority (LTA).
- Non-wood-burning fireplaces shall be a standard feature throughout the project.
- Roof systems shall include radiant barrier sheathing to reflect radiant heat from the sun. This system lowers attic temperatures, improves energy efficiency, and reduces cooling energy costs. More roof vents than required by Title 24 will be installed to allow for natural air flow to keep the roof deck cool and dry without using the energy needed to run an attic vent fan.
- The project will meet or exceed California's Title 24 requirements.
- Orient homes to allow for passive solar design to the extent feasible.
- Provide a minimum of one exterior electrical outlet at rear, side, and front yard locations to promote/allow the use of electric landscape maintenance equipment.

Implementation of the above referenced mitigation measure coupled with implementation of the above-identified Specific Plan policies would reduce project-generated emissions of criteria air pollutants to the extent feasible; however, MBUAPCD significance thresholds for ROG, NO<sub>x</sub>, CO and PM<sub>10</sub> would still be exceeded. As a result, this impact would be considered **significant and unavoidable**.

#### Contribution to Local Mobile-Source CO Concentrations

**Impact 3.3-3** Localized mobile-source emissions of carbon monoxide would not exceed applicable ambient air quality standards. As a result, this impact is considered **less than significant**.

Localized mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed, and delay. Transport of CO is extremely limited because it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain meteorological conditions, CO concentrations near roadways and/or intersections may reach unhealthy levels. For this reason, modeling of CO concentrations is typically recommended for sensitive land uses located near signalized roadway intersections that are projected to operate at unacceptable levels of service (i.e., LOS E or F). Unsignalized intersections projected to operate at unacceptable levels of service do not typically have sufficient traffic volumes, such that projected unacceptable levels of service at these intersections would not typically result in localized concentrations of CO that would exceed applicable standards.

Buildout of the proposed project would result in unacceptable levels of service at existing nearby intersections, including the intersections of Highway 25 and Wright Road, Memorial Drive and Hillcrest Road, and Valley View Road and Sunnyslope Road. Localized CO concentrations at these intersections were modeled using the Caltrans-approved Caline4 computer model. Predicted maximum 1-hour and 8-hour CO concentrations were calculated for winter operating

conditions based on the highest corresponding background CO concentrations measured at the nearest monitoring station during the last three years of available data (2.5 ppm and 1.2 ppm, respectively) and assuming worst-case wind conditions. For modeling purposes, 1-hour and 8-hour receptors were located at three and seven meters from the roadway edge, respectively. The predicted 1-hour and 8-hour CO concentrations are summarized in **Table 3.3-8**.

Based on the modeling conducted, predicted maximum 1-hour and 8-hour CO concentrations would not exceed the more stringent CAAQS. Because traffic volumes and traffic flow conditions at other intersections and during other periods of the day would be anticipated to be less than those used for this modeling, predicted CO concentrations at other locations would, likewise, not be anticipated to exceed applicable air quality standards. As a result, the project's contribution to localized concentrations of mobile-source CO would be considered **less than significant**.

**TABLE 3.3-8  
PREDICTED LOCAL MOBILE-SOURCE CARBON MONOXIDE CONCENTRATIONS**

Intersection	Background Plus Project		Cumulative Plus Project	
	1-Hour	8-Hour	1-Hour	8-Hour
Highway 25 and Wright Road	6.7	4.1	3.5	2.7
Memorial Drive and Hillcrest Road	5.3	3.5	2.2	2.0
Valley View Road and Sunnyslope Road	6.7	4.1	3.2	2.4
<i>California Ambient Air Quality Standards:</i>	20.0	9.0	20.0	9.0

*Predicted concentrations (in ppm) were calculated using the Caline4 computer program. To ensure a conservative analysis, background concentrations were based on the highest measured value obtained from the nearest ambient air quality monitoring station for the last three years of available data (i.e., 2.5 and 1.2 ppm, respectively). 8-hour concentrations assume a persistence factor of 0.7.*

**Impact 3.3-4** Perceptible increases in odors could result in increased nuisance to nearby proposed residential land uses. As a result, this impact is considered **potentially significant**.

The occurrence and severity of odor impacts depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact.

The proposed project includes development of residential, neighborhood commercial, mixed uses, parks and recreational facilities, and other public facilities uses. Such land uses are typically not considered major odor-generating sources. However, some commercial uses, such as fast-food establishments and charbroiling restaurants, would be considered minor sources of odor nuisance, if located immediately adjacent to residential dwellings.

The proposed project also includes the potential development of a wastewater treatment plant (WWTP). The plant would only be developed if the project is unable to secure a connection to the recently-completed City of Hollister Domestic Wastewater Treatment Plant. Connection to the city plant would result in a lesser environmental impact than construction and operation of

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an on-site treatment plant. For full discussion on wastewater treatment options for the project, please refer to **Section 3.14, Wet and Dry Utilities**.

If ultimately developed, the WWTP would be situated adjacent to the northeastern boundary of the project site. As currently proposed, the potential WWTP would conceptually consist of an enclosed sequencing batch reactor (SBR). The SBR process is an activated sludge process in which the sewage is introduced into a reaction tank (or SBR tank), one batch at a time. Wastewater treatment is achieved by a timed sequence of operations, which generally consists of filling, reaction (aeration), settling, decanting, idling, and sludge wasting. All treatment would occur within the enclosed SBR tank and effluent would be stored for later irrigation use in an open storage pond. Solid waste would be disposed of offsite at the Hollister Domestic Water Treatment Plant. An activated carbon odor control unit would also be installed to eliminate odors (RJA 2008, PERC, 2006).

The nearest sensitive land uses would consist of proposed residential dwellings. The nearest residential dwelling units would be located approximately 250 feet west of the proposed WWTP building. The enclosed SBR process and use of odor control devices, such as the proposed carbon filtration system, would essentially eliminate odors associated with the proposed WWTP (RJA 2008, PERC, 2006).

To ensure that potential odor impacts associated with proximity of potentially odor-generating uses to the proposed residential areas are minimized, the following mitigation measures are included:

**MM 3.3-4** Odor impacts to sensitive receptors shall be minimized as follows:

- 1) Proposed Commercial Land Uses
  - a) As part of the tentative map application process, or the process that covers any commercial uses, the applicant in consultation with the County Planning and Public Works Departments shall demonstrate that any proposed commercial/convenience land uses that have the potential to emit objectionable odorous emissions are located as far away as feasible from existing and proposed receptors.
  - b) If an odor-emitting facility is to occupy space in the project, odor control devices shall be installed, in accordance with MBUAPCD recommendations, to reduce the exposure of receptors to objectionable odorous emissions.
- 2) Potential Wastewater Treatment Plant
  - a) If the on-site WWTP is ultimately required to serve the project, proposed wastewater treatment processes shall be enclosed and ducted to an odor control device, such as an activated carbon filter or bio-filtration system;
  - b) The site plan shall be designed to maximize buffer distance between the proposed WWTP and nearby residential dwelling units, to the extent feasible; and
  - c) The developer of the WWTP shall be required to obtain all necessary permits, including those from the RWQCB and MBUAPCD, to operate the WWTP, which will include a series of operational conditions and regulations. Periodic inspections by the Board to ensure permit compliance and adequate maintenance for the facility would help ensure that odor impacts associated with improper facility maintenance would be minimized.

Implementation of the above mitigation measures will reduce impacts to a **less than significant** level.

### **Consistency with the Applicable Air Quality Plan**

According to the Association of Monterey Bay Area Governments (AMBAG), consistency of housing projects with the 2008 Air Quality Management Plan for the Monterey Bay Region (AQMP) is analyzed by comparing the total potential population growth accommodated by the project with the forecast growth for the County. The 2008 Population, Housing Unit, and Employment Forecasts adopted by the AMBAG Board of Directors on June 11, 2008 has been incorporated into the 2008 AQMP. Therefore, project consistency with the Population, Housing Unit and Employment Forecast also indicates project consistency with the AQMP. AMBAG has determined that the project is consistent with the forecast, and is therefore consistent with the AQMP (AMBAG, 1/28/2010).

### **Long-term Exposure of Sensitive Receptors to Toxic Air Contaminants**

**Impact 3.3-5** Proposed land uses would not be exposed to localized concentrations of toxic air contaminants that would be anticipated to exceed applicable thresholds. As a result, this impact is considered **less than significant**.

Construction of the proposed project would result in temporary emissions of diesel-exhaust particulates (diesel PM) associated with the operation of off-road construction equipment. Diesel PM was identified as a toxic air contaminant (TAC) by the CARB in 1998. The exposure of sensitive receptors to TACs could occur during both the construction and operational phases of the proposed project. Short-term construction and long-term operational emissions of TACs are discussed separately, as follows:

#### **Short-Term (Construction) Emissions**

Health-related risks in connection with emissions of diesel PM are primarily associated with long-term exposure and the related risk of contracting cancer. For residential land uses, calculations of the cancer risk associated with exposure to TACs are typically made based on a 70-year period of exposure. However, the use of diesel-powered construction equipment associated with the proposed project would be temporary and episodic and would occur over a relatively large area. Furthermore, in July 2007 CARB adopted a regulation aimed at reducing diesel-PM generated by off-road equipment. This regulation, which is applicable to the project, requires the installation of diesel-PM control devices, such as particulate filters, for new equipment and encourages the replacement of older engines with newer emission controlled models, which will help reduce diesel-PM. For these reasons, diesel PM generated by project construction, in and of itself, would not be expected to create conditions where the probability of contracting cancer is greater than 10 in one million for nearby sensitive receptors.

#### **Long-Term (Operational) Emissions**

Long-term increases in health risks can result from either the operation of new stationary sources of TACs in the vicinity of existing sensitive receptors, or by introducing new sensitive receptors to existing sources of TACs. Major stationary sources of TACs have not been identified within the vicinity of the project site. However, commercial uses such as gasoline dispensing facilities and dry cleaning establishments, are permitted uses within the Specific Plan, which could generate emissions of TACs. Such sources of TACs would be subject to MBUAPCD rules and regulations, including MBUAPCD Regulation II (Permits), Regulation IV (Prohibitions), and Regulation X (Toxic

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Air Contaminants). In addition, all stationary sources with the potential to emit TACs are required to obtain permits from the MBUAPCD, which will only be granted if these operations are constructed and operated in accordance with applicable regulations. As part of MBUAPCD's permitting requirements, sources having the potential to emit TACs would be required to implement measures designed to ensure that potential health risks to nearby receptors would not exceed established standards.

#### Conclusion

Short-term and long-term emissions of TACs associated with the proposed project would not be considered significant and compliance with applicable regulatory standards would be required as part of the permitting process for the development and operation of any stationary sources with the potential to emit TACs, such as those included in the proposed project. Therefore, impacts related to short-term and long-term TAC emissions would be **less than significant**.

#### CUMULATIVE IMPACTS AND MITIGATION MEASURES

##### **Cumulative Setting**

The geographic extent of the cumulative setting consists of the project site, San Benito County, the City of Hollister, as well as consideration of regional activities and attributes (e.g., regional traffic volumes and patterns) that could adversely affect the NCCAB. Traffic volumes and patterns used in the analysis of cumulative impacts include consideration of past, present and reasonably foreseeable probable future land use development. The area cumulatively affected by the individual project impacts varies depending on the issue being evaluated. For example, localized CO concentrations would be limited to local roadways and intersections; while project-generated emissions of ozone-precursor pollutants would contribute cumulatively to the entire air basin.

#### IMPACTS AND MITIGATION MEASURES

##### **Cumulative Contribution to Regional Air Quality Conditions**

**Impact 3.3-6** Increased emissions associated with proposed development could conflict with regional air quality plans and contribute, on a cumulative basis, to the region's nonattainment status. As a result, this impact is considered **potentially significant**.

As discussed earlier in this section, the basin is designated as a nonattainment area for the state ozone and PM<sub>10</sub> ambient air quality standards. As a result, project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO<sub>x</sub>) or PM<sub>10</sub> that would exceed MBUAPCD significance thresholds, would also be considered to have a significant incremental contribution to cumulative air quality conditions. In addition, a project that would result in a change in land use and corresponding increases in VMT may result in an increase in VMT that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

As discussed in **Impacts 3.3-1** and **3.3-2**, the proposed project's predicted short-term construction-generated emissions of particulate matter, as well as long-term operational emissions, would exceed MBUAPCD significance thresholds. In addition, as discussed earlier in this section, implementation of the proposed project would result in a change in land use and

an anticipated increase in VMT. Based on the modeling conducted, the proposed project would result in an estimated 13,170 trips/day. Project-generated increases in VMT could conflict with emissions inventories contained in regional air quality attainment plans and could contribute, on a cumulative basis, to the region's non-attainment status. As a result, the project's contribution to cumulative impacts to regional air quality conditions would be considered **potentially significant**.

**MM 3.3-6** Implement Mitigation Measures **MM 3.3-1** and **MM 3.3-2**.

Implementation of **MM 3.3-1** and **MM 3.3-2** would reduce short-term and long-term increases in emissions attributable to the proposed project. However, as previously discussed, long-term operational increases in emissions would still be anticipated to exceed MBUAPCD's significance thresholds. As a result, this impact would be considered **significant and unavoidable**.

### Cumulative Local Air Quality Impacts

**Impact 3.3-7** Implementation of the proposed project would not be anticipated to contribute to localized concentrations of CO that would exceed applicable ambient air quality standards. Therefore, the proposed project's cumulative contribution to local air quality conditions would be considered **less than significant**.

As previously discussed, no major stationary sources of localized air pollutants, including odors and TACs, have been identified in the project site. As a result, implementation of the proposed project would not result in a significant incremental contribution to cumulative TAC or odor concentrations in the area. Implementation of the proposed project would, however, result in an increase in vehicle use along area roadways that could contribute to localized mobile-source pollutant concentrations. The primary criteria air pollutant of local concern is CO. The project's contribution to localized CO concentrations was analyzed in **Impact 3-3**. The modeling of localized CO concentrations takes into account background emissions associated with past, present and reasonably foreseeable probable future development. Based on the modeling conducted, implementation of the proposed project would not be anticipated to significantly contribute to cumulative localized concentrations of CO that would exceed applicable ambient air quality standards. Therefore, the proposed project's incremental contribution to cumulative local air quality conditions would be considered **less than significant**.

### Increases of Greenhouse Gas Emissions

**Impact 3.3-8** Project-generated emissions of greenhouse gas (GHG) emissions could conflict with regulations or requirements adopted to implement a statewide, regional or local plan for the reduction or mitigation of greenhouse gas emissions. Due to design features incorporated into the project, this impact is considered to be **less than significant**.

As set forth in the proposed CEQA Guidelines section 15064.4, the determination of the significance of greenhouse gas emissions calls for careful judgment by the lead agency consistent with the provisions in CEQA Guidelines section 15064. A lead agency should make a good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. The following discussion focuses on the proposed project's contribution to global climate change by quantifying GHG emissions and qualitatively discussing the project's emission-reduction measures and consistency with the State's goals and strategies for reducing GHG emissions.



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#### Project-Generated Emissions

Greenhouse gas (GHG) emissions generated by the proposed project were calculated using the URBEMIS2007 computer program, based on default parameters (i.e., emission factors, vehicle fleet, and trip distribution data) contained in the model. Short-term construction generated emissions were calculated assuming an overall construction period of approximately five years (a conservative estimate, based on previous discussion), consistent with the assumptions used for the calculation of emissions otherwise contained herein. Estimated long-term increases in vehicle miles traveled used in the calculation of GHG emissions were based on trip generation rates obtained from the traffic analysis prepared for the proposed project. Estimated increases in emissions associated with natural gas consumption and electricity use; as well as emissions associated with area sources (e.g., wood-burning fireplaces, landscape maintenance, etc.) were also included in the analysis. Emissions of CH<sub>4</sub> and N<sub>2</sub>O were calculated using emission factors and usage rates derived from the Air Resources Board, the California Air Pollution Control Officer's Association, the California Climate Action Registry General Reporting Protocol, and the California Energy Commission. Emissions were converted to CO<sub>2</sub> equivalents (i.e., CO<sub>2</sub>e), expressed in metric tons/year. Calculation tables are attached within **Appendix C**.

#### Construction-Generated GHG Emissions

During construction of the project, GHGs would be emitted from the operation of construction equipment and from worker and building supply vendor vehicles. Maximum project construction-generated emissions of CO<sub>2</sub>e by construction phase are shown in **Table 3.3-9**. Maximum annual construction-generated emissions, assuming that multiple construction phases could potentially occur during any given year, are summarized in **Table 3.3-10**. Emissions of nitrous oxide and methane are negligible in comparison and were not estimated.

As depicted in Table 3.3-9, maximum construction emissions would occur during the building phase. Emissions generated during the various construction phases would vary, depending primarily on the type and number of pieces of off-road equipment used and number of employee and material delivery vehicle trips to and from the project site. As depicted in Table 3.3-10, maximum annual emissions would total approximately 2,718 tons/year of CO<sub>2</sub>e. The highest annual emissions would likely occur during the initial year of construction when multiple construction phases (i.e, demolition, grading, and building construction) would occur within a single one-year period.

**TABLE 3.3-9**  
**SHORT-TERM GREENHOUSE GAS EMISSIONS BY CONSTRUCTION PHASE**

Construction Phase	GHG Emissions (Metric Tons/year CO <sub>2</sub> e)
Demolition	11
Grading	78
Asphalt Paving	25
Building Construction	2,636
Architectural Coatings	8

*Emissions were calculated using the URBEMIS2007 computer program, based on default assumptions contained in the model. Assumes a 60-month overall construction period.*

**TABLE 3.3-10**  
**SHORT-TERM GREENHOUSE GAS EMISSIONS BY CONSTRUCTION YEAR**

Construction Phase	GHG Emissions (Metric Tons/year CO <sub>2</sub> e)
Year 1	2,718
Year 2	2,644
Year 3	2,633
Year 4	2,642
Year 5	1,701

*Emissions were calculated using the URBEMIS2007 computer program, based on default assumptions contained in the model. Assumes a 60-month overall construction period.*

### Operational GHG Emissions

Long-term operational emissions of GHGs attributable to the proposed project are summarized in **Table 3.3-11**. Based on the modeling conducted, GHG emissions generated by the proposed project would total approximately 26,421 tons per year of CO<sub>2</sub>e, a majority of which (19,278 tons/year), would be attributable to mobile sources.

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**TABLE 3.3-11  
LONG-TERM OPERATIONAL GREENHOUSE GAS EMISSIONS**

<b>Source</b>	<b>GHG Emissions (Metric Tons/Year CO<sub>2</sub>e)</b>
Mobile	19,278
Natural Gas Use	2,190
Electricity Use	4,139
Hearth Use	807
Landscape Maintenance	7
Total	26,421
Percent of Statewide Inventory	0.002

*Based on URBEMIS2007 emissions modeling and trip-generation rates obtained from the traffic analysis prepared for this project.*

It is expected that implementation of the air quality management plan required by Mitigation Measure **MM 3.3-2** to reduce criteria air pollutants would also have the effect of reducing GHG emissions by two to three percent, resulting in total long-term operational GHG emissions of 25,628 metric tons per year of CO<sub>2</sub>e.

#### CONSISTENCY WITH CALIFORNIA EMISSIONS REDUCTION STRATEGIES

##### **California Attorney General's GHG-Reduction Measures**

In September 2008 (revised January 6, 2010) the California Attorney General issued a paper for use by local agencies in carrying out their duties under CEQA as they relate to global warming and climate change. Included were examples of various measures that may reduce GHG emissions of individual projects. As noted in the paper, each of the measures should not be considered in isolation, but as part of a larger set of measures, that together, would help reduce GHG emissions and the effects of global warming/climate change. **Table 3.3-12** lists the measures identified by the California Attorney General's Office that are applicable to the proposed project and indicates whether, and how, the project would conform to these measures. As depicted in **Table 3.3-12**, the proposed project would be consistent with the measures identified by the California Attorney General's Office (CAG 2008, as revised in 2010).

**TABLE 3.3-12  
OFFICE OF THE CALIFORNIA ATTORNEY GENERAL  
METHODS TO OFFSET OR REDUCE GLOBAL WARMING IMPACTS  
APPLICABLE TO THE PROPOSED PROJECT**

Emission-Reduction Method	Project Consistency
<b>Energy Efficiency &amp; Renewable Energy</b>	
Incorporate green building practices and design elements.	The project will incorporate a number of specific building, siting and design features that will be consistent with these recommended CAG measures. These include:
Meet recognized green building and energy efficiency benchmarks.	Energy Conservation Policies (Article 5):
Install energy efficient lighting, heating and cooling systems, appliances, equipment, and control systems.	1. Electrical energy efficient measures shall be incorporated into development of the Santana Ranch Project. Residential energy conservation will be promoted by requiring that development adhere to California Energy Commission Title 24 requirements. It is anticipated that implementing energy conservation measures for the Project as contemplated herein will reduce heating and air conditioning as well as water heating energy use.
Use passive solar design; e.g., orient buildings and incorporate landscaping to maximize passive solar heat during cool seasons, minimize solar heat gain during hot seasons, and enhance natural ventilation. Design buildings to take advantage of sunlight.	2. The Project’s dwelling units shall be designed, where feasible, to incorporate solar energy as a means of heating, cooling and providing domestic water heating; this is described more fully in Article 7, Section 7.1. of the Specific Plan. A key component in the Project’s design is to ensure that dwellings are properly oriented to take advantage of solar heating and cooling. In general, this is achieved by designing residential streets on an east-west axis and/or applying roof designs that expose areas of roof and walls towards the sun. The Project achieves this design because the primary collector streets are oriented north-south so that the interior residential streets connected to them will generally tend to be oriented east-west. The orientation of streets to facilitate solar heating and cooling is addressed in Article 7, Section 7.1.
Reduce unnecessary outdoor lighting.	The Commercial Design Guidelines within the Specific Plan (Section 7.4) require buildings to incorporate passive solar design elements where feasible, and that the south and west sides of buildings should be shaded with overhangs, arcades, trellises or landscaping, as appropriate.
Install solar panels on unused roof and ground space and over carports and parking areas.	The Green Building Guidelines within the Specific Plan (Section 7.5) include the following: <ul style="list-style-type: none"> <li>• Plumbing: Hot water pipes should be installed to allow for efficient hot water distribution. High efficiency toilets and fixtures should be installed in all structures.</li> <li>• Heating, Air Conditioning &amp; Ventilation: Effective exhaust systems [should be included] in kitchens and bathrooms; fire alarms and energy efficient windows should be considered.</li> <li>• Appliances: Energy efficient appliances such as dishwashers, washing machines, and refrigerators should be installed, as should built-in recycling and compost bins.</li> </ul> The project is also subject to Title 19.31 of the County Code, “Development Lighting Regulations.” The purpose of this chapter is to encourage lighting practices and systems, which will minimize light pollution, glare, and light trespass and curtail the degradation of the nighttime visual environment. Minimal outdoor lighting will also result in less energy usage from unnecessary outdoor lighting. The project will be required to submit a project lighting plan to the Planning and Building

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Emission-Reduction Method	Project Consistency
	Inspection Department demonstrating conformance with the lighting regulations.
<b>Water Conservation and Efficiency</b>	
Incorporate water-reducing features into building and landscape design.	<p>Water shortage conditions often exist within parts of California, including the County of San Benito. The County has responded with a plan that provides guidelines for water conservation (San Benito County Water Conservation Plan, adopted by the Board of Supervisors in July, 1992, Resolution 92-82). This Water Conservation Plan places limits on certain water uses, and enforces the use of water saving devices and conservation measures. It also requires a maximum allowable water budget for irrigation of new landscape. The formula to be used for calculating the water budget is based upon the area's average year climate and the size of the landscaped area. The landscape water use set forth in this Specific Plan will also conform to Title 23 of the California Code of Regulations.</p> <p>The proposed Specific Plan includes numerous water conservation policies, including the following:</p> <p>Water Conservation Policies (Article 5):</p> <p>The Santana Ranch Project shall adhere to the following water conservation policies:</p> <ol style="list-style-type: none"> <li>1. The Santana Ranch Project, including, without limitation, plant material, irrigation system design, and landscape applications within the Plan Area, shall comply with the applicable provisions of the County's water conservation plan (as it may be amended), as described more fully in Article 7, Section 7.2. of the Specific Plan.</li> <li>2. Water conservation shall be encouraged through the installation of low-flow toilets, shower heads, and faucets in all residential units in the Project.</li> <li>3. Dual-distribution water systems with reclaimed water and non-potable water from SBCWD shall be used for landscape irrigation in the parks and landscape corridors along the collector and arterial streets.</li> <li>4. Landscape irrigation shall incorporate water conserving techniques such as, for example, low precipitation sprays heads and drip irrigation.</li> <li>5. Runoff prevention measures for landscape irrigation shall be implemented in Project development. Native drought-tolerant landscaping materials shall be used in Project development to the extent feasible.</li> <li>6. In compliance with the County Water Conservation Plan (San Benito County Water Conservation Plan, adopted by the Board of Supervisors in July, 1992, Resolution 92-82), the maximum allowable water budget shall be calculated for landscape irrigation in the following areas: <ul style="list-style-type: none"> <li>• Parks</li> <li>• Landscape corridors along the collector and arterial streets</li> <li>• Developer-installed landscaping in residential projects</li> </ul> </li> </ol>
Create water-efficient landscapes.	
Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls and use water-efficient irrigation methods.	
Make effective use of graywater.	
Implement low-impact development practices that maintain the existing hydrology of the site to manage stormwater and protect the environment.	
Devise a comprehensive water conservation strategy appropriate for the project and location.	
Design buildings to be water-efficient. Install water-efficient fixtures and appliances.	

Emission-Reduction Method	Project Consistency
	<p>The Green Building Guidelines within the Specific Plan (Section 7.5) include the following:</p> <ol style="list-style-type: none"> <li>1. Water Efficiency: <ul style="list-style-type: none"> <li>• Use innovative wastewater technologies and water efficient landscape.</li> <li>• Limit the use of potable water for landscape and irrigation</li> <li>• Maximize water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems</li> </ul> </li> </ol>
<b>Solid Waste Measures</b>	
<p>Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).</p>	<p>Reuse and recycling of construction waste will be implemented to the maximum extent feasible consistent with the County’s recycling program intended to reduce the volume of refuse deposited in the landfill.</p> <p>The Green Building Guidelines within the Specific Plan (Section 7.5) include the following:</p> <ol style="list-style-type: none"> <li>1. Residential: <ul style="list-style-type: none"> <li>• Site: Development within the Plan Area should consider the use of recycled material, such as Class 2 aggregate, where feasible</li> </ul> </li> <li>2. Commercial: <ul style="list-style-type: none"> <li>• Materials and Resources: Reduce the amount of waste in landfills by redirecting the construction waste for recycling, where feasible</li> </ul> </li> </ol>
<p>Integrate reuse and recycling into residential, industrial, institutional, and commercial projects.</p>	<p>The project would be required to incorporate exterior storage areas for recyclables to the extent required by local ordinance.</p> <p>The Green Building Guidelines within the Specific Plan (Section 7.5) include the following:</p>
<p>Provide easy and convenient recycling opportunities for residents, the public, and tenant businesses.</p>	<ol style="list-style-type: none"> <li>1. Residential: <ul style="list-style-type: none"> <li>• Appliances: ... built-in recycling and compost bins [should be installed]</li> </ul> </li> </ol>
<p>Provide education and publicity about reducing waste and available recycling services.</p>	<ol style="list-style-type: none"> <li>2. Commercial: <ul style="list-style-type: none"> <li>• Materials and Resources: <ul style="list-style-type: none"> <li>– Collect, store and reuse of recyclable material</li> <li>– Use local/regional materials, where feasible</li> <li>– Facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills</li> </ul> </li> <li>• Indoor Environmental Quality: <ul style="list-style-type: none"> <li>– Actively participate in local recycling programs</li> <li>– Take steps to conserve natural resources, prevent pollution, and reduce waste</li> <li>– Offer and encourage the use of reusable shopping bags and beverage containers</li> </ul> </li> </ul> </li> </ol>
<b>Land Use Measures</b>	
<p>Ensure consistency with “smart growth” principles - mixed-use, infill, and higher density projects that provide alternatives to individual vehicle travel and promote efficient delivery of services and goods.</p>	<p>The project includes a mix of residential and neighborhood commercial development. A majority of proposed development would be located within ½ mile of commercial service areas, and connected to the various destinations within the Project, including the Neighborhood Commercial center and school, by a network of landscaped parkways with sidewalks and bicycle paths. As stated in Section 4.3 of the Specific Plan, the Project parkway network shall provide convenient routes to the school, Parks and</p>

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Emission-Reduction Method	Project Consistency
	<p>Neighborhood Commercial center. The parkways shall include landscape corridors, trails, sidewalks and/or bike lanes along proposed streets, a bike lane and Class I trail along Fairview Road, and paved Class I trail through the linear parkway.</p> <p>The parkways shall form a series of “pedestrian loops” that, together with the minor residential streets, will provide residents and visitors with varied routes for exercise or casual walks through Neighborhoods and to all amenities within the Plan Area (see Figure 4-3 Conceptual Parkway Master Plan). The pedestrian and bicycle routes shall provide connectivity between park amenities and the passive and active recreation areas. Shaded rest areas, benches and drinking fountains shall be located along the pathways to provide opportunities for rest and relaxation.</p> <p>A pedestrian and bicycle path from the Community Park and around the adjacent Neighborhood shall provide a portal from the Park and school to the northeast corner of the Commercial site. A bike parking area shall be located at the north end of the Neighborhood Commercial center.</p> <p>The project is therefore consistent with smart growth principles promoting safe and convenient alternative transportation between residential areas and nearby commercial and institutional uses.</p> <p>The project is also designed to incorporate a number of housing styles, including higher density apartments and townhomes located within close proximity to neighborhood commercial uses. Mixed residential and commercial uses are permitted within the RM (Residential Multiple) district of the Specific Plan. Mixed Use Design Guidelines are included in Article 7 providing specific guidance on effective and efficient integration of commercial and residential uses within this district to ensure a high-quality, mutually-supportive environment. The project will therefore be consistent with smart growth principles promoting mixed uses as a way of reducing dependence on automobile travel.</p>
<p>Incorporate public transit into the project’s design.</p>	<p>The proposed Specific Plan includes design features and policies that would promote public transit use, including:</p> <p>4.5. Public Transit</p> <p>The potential to bring public transit into the Plan Area is enhanced by the proposed location of the Neighborhood Commercial Center and by providing convenient pedestrian routes to likely bus stops. The street system design supports the provision of a looped bus route through the Plan Area.</p> <p>In order to facilitate future bus service, turnouts shall be provided on Fairview Road at the intersections with Sunnyslope Road and Hillcrest Road as shown in Figure 4-4 Circulation Master Plan. Additional bus turnouts may be located within the Plan Area along the collector streets at the direction of the Public Works Director.</p> <p>4.6. Transportation System Management</p> <p>The Project shall implement the following transportation system management:</p> <ul style="list-style-type: none"> <li>• A designated park-and-ride parking area shall be located in the Neighborhood Commercial center.</li> <li>• An information board shall be located in the Neighborhood Commercial center for the purpose of distributing information on rideshare and other public transit information distribution programs that may be offered by San Benito County Local Transportation Authority (LTA).</li> </ul>

Emission-Reduction Method	Project Consistency
<p>Preserve and create open space and parks. Preserve existing trees, and plant replacement trees at a set ratio.</p>	<p>The proposed project includes a comprehensive network of park and open space areas that are interconnected with pedestrian and bicycle paths.</p>
<p>Include pedestrian and bicycle facilities within projects and ensure that existing non-motorized routes are maintained and enhanced.</p>	<p>The proposed project includes pedestrian sidewalks and bicycle paths that link to adjacent land uses, external networks, and nearby transit facilities. All bike trails are proposed to be constructed according to standards set forth in the “Bikeway Planning and Design” section of the California Department of Transportation Highway Design Manual.</p>
<b>Transportation and Motor Vehicles</b>	
<p>Incorporate bicycle lanes, routes and facilities into street systems, new subdivisions, and large developments.</p>	<p>The proposed Specific Plan contains the following design features and policies addressing bicycle lanes:</p> <p><b>4.3. Bikeways/Pedestrian Parkways</b></p> <p>The Project parkway network shall provide convenient routes to the school, Parks and Neighborhood Commercial center. The parkways shall include landscape corridors, trails, sidewalks and/or bike lanes along proposed streets, a bike lane and Class I trail along Fairview Road, and paved Class I trail through the linear parkway.</p> <p>The parkways shall form a series of “pedestrian loops” that, together with the minor residential streets, will provide residents and visitors with varied routes for exercise or casual walks through Neighborhoods and to all amenities within the Plan Area (see Figure 4-3 Conceptual Parkway Master Plan). The pedestrian and bicycle routes shall provide connectivity between park amenities and the passive and active recreation areas. Shaded rest areas, benches and drinking fountains shall be located along the pathways to provide opportunities for rest and relaxation.</p> <p>A pedestrian and bicycle path from the Community Park and around the adjacent Neighborhood shall provide a portal from the Park and school to the northeast corner of the Commercial site. A bike parking area shall be located at the north end of the Neighborhood Commercial center.</p> <p>The Class I bikeway along Fairview Road shall be designed to link with the county-wide bike trails system and shall adhere to the following.</p> <ol style="list-style-type: none"> <li>1. Minor collector streets shall incorporate 5 foot wide Class II bike lanes, 5 foot wide sidewalks, 10 foot wide planter strip, and/or 8 foot to 12 foot wide Class I trail.</li> <li>2. Major collector streets shall incorporate 5 foot wide Class II bike lane, 5 foot wide sidewalk, 10 foot wide planter strip, and/or 8 foot to 12 foot wide Class I trail.</li> <li>3. An 8 foot to 12 foot wide paved Class I trail shall be provided through the Linear Park.</li> <li>4. Pedestrian and bicycle connectivity shall link to the various Neighborhoods, especially at the termini of cul-de-sacs, bulb-outs, etc.</li> </ol>
<p>Create a ride-sharing program. Promote existing ride-sharing programs, e.g., by designating a certain percentage of parking spaces for ride-sharing vehicles, designating adequate passenger loading and unloading for ride-sharing vehicles, and providing a web site or message board for coordinating rides.</p>	<p>The proposed Specific Plan contains the following design features and policies addressing ride-sharing:</p> <p><b>4.6. Transportation System Management</b></p> <p>Transportation System Management (TSM) measures that encourage ride-sharing and travel at times outside of the normal peak travel periods can help reduce traffic impacts on local streets. Ridesharing, flexible work hours, and other traditional TSM measures are usually most effective in reducing home-to-work trips and are more feasible and successful with large employment activities.</p>



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Emission-Reduction Method	Project Consistency
	<p>The Project shall implement the following transportation system management:</p> <ul style="list-style-type: none"> <li>• A designated park-and-ride parking area shall be located in the Neighborhood Commercial center.</li> <li>• An information board shall be located in the Neighborhood Commercial center for the purpose of distributing information on ride-share and other public transit information distribution programs that may be offered by San Benito County Local Transportation Authority (LTA).</li> </ul>
<p>Enforce and follow limits [for] idling time for commercial vehicles, including delivery and construction vehicles.</p>	<p>Commercial-use trucks would be required to comply with ARB rules and regulations pertaining to the unnecessary idling of heavy-duty trucks.</p>
<p>Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles.</p>	<p>Implementation of electric vehicle charging infrastructure is not specifically proposed at this time, but could potentially be installed if adequate demand is determined to exist for such facilities.</p>

Source: CAG, 2010.

### CALIFORNIA CLIMATE CHANGE SCOPING PLAN

In December 2008, CARB approved the Scoping Plan, which includes a comprehensive set of recommended measures designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify the State's energy sources, save energy, create new jobs, and enhance public health. The measures in the Scoping Plan will be developed into regulations, to go into effect by January 1, 2012. The Scoping Plan expands upon the Early Action Measures and are summarized in **Table 3.3-13**. It is important to note that these strategies are generally sector-based, addressing a wide range of sources. In addition, applicable regulations and guidance related to the implementation of many of these strategies are currently being developed and not yet available (CARB 2008(b)). Of the measures currently recommended, measures applicable to the proposed project would be predominantly associated with energy and water conservation. These include the following:

**TABLE 3.3-13**  
**STATE OF CALIFORNIA**  
**RECOMMENDED ACTIONS OF CLIMATE CHANGE SCOPING PLAN**

Strategy		Project Consistency
CR-1	Energy Efficiency; Increased Energy Efficiency (Commercial & Residential)	The project will incorporate a number of specific building, siting and design features that will be consistent with these recommended Climate Change Scoping Plan actions. These include:
CR-2	Electricity and Natural Gas: Solar Water Heating (Commercial & Residential)	Energy Conservation Policies (Article 5.3 of the Specific Plan): 1. Electrical energy efficient measures shall be incorporated into development of the Santana Ranch Project. Residential energy conservation will be promoted by requiring that development adhere to California Energy Commission Title 24 requirements. It is anticipated that implementing energy conservation measures for the Project as contemplated herein will reduce heating and air conditioning as well as water heating energy use.
GB-1	Green Buildings	The Commercial Design Guidelines within Article 7, section 7.4 of the Specific Plan require that buildings incorporate passive solar design elements where feasible, and that the south and west sides of buildings should be shaded with overhangs, arcades, trellises or landscaping, as

Strategy		Project Consistency
		<p>appropriate.</p> <p>The following green building guidelines are also included within the proposed Specific Plan:</p> <p><b>7.5. GREEN BUILDING GUIDELINES</b></p> <p>This Specific Plan is including green building design guidelines, which are meant to function as guiding framework for development of the Project, to the extent feasible. Builders of individual areas within the Plan Area are strongly encouraged to work with County staff in developing and implementing these, and other, feasible guidelines for sustainable development. LEED certification for commercial development and use of the Build it Green point rating system are encouraged within the Project, as feasible.</p> <p><b>Residential</b></p> <ul style="list-style-type: none"> <li>• Subdivision Layout and Orientation: Developers of residential neighborhoods shall provide street trees and landscaping to reduce the heating of asphalt in substantial compliance with the Master Landscape Plan. Homes shall be oriented, to the extent feasible, on an east-west axis to allow for passive solar design.</li> <li>• Heating, Air Conditioning &amp; Ventilation: Effective exhaust systems in kitchens and bathrooms; fire alarms; and energy efficient windows should be considered.</li> <li>• Finishes: Paint, wood finishes, and construction adhesives with low VOC rating should be considered.</li> <li>• Appliances: Energy efficient appliances such as dishwashers, washing machines, and refrigerators should be installed, as should built-in recycling and compost bins.</li> </ul> <p><b>Commercial</b></p> <ol style="list-style-type: none"> <li>1. Energy and Atmosphere: <ul style="list-style-type: none"> <li>• Optimize energy performance, and renewable energy.</li> <li>• Encourage the use of renewable energy technologies including, but not limited to, solar panels and solar water heaters.</li> </ul> </li> <li>2. Materials and Resources: <ul style="list-style-type: none"> <li>• Collect, store and reuse of recyclable material.</li> <li>• Use local/regional materials, where feasible.</li> <li>• Reduce the amount of waste in landfills by redirecting the construction waste for recycling, where feasible</li> <li>• Facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills.</li> </ul> </li> <li>3. Indoor Environmental Quality: <ul style="list-style-type: none"> <li>• Use low-emitting paints, carpets, and adhesives.</li> <li>• Construct spaces with access to daylight and views.</li> <li>• Use efficient lighting systems to save energy.</li> </ul> </li> </ol>
W-1	Water: Water Use Efficiency	<p>The proposed Specific Plan includes numerous water conservation policies, including the following:</p> <p>Water Conservation Policies (Article 5, Section 5.3):</p> <p>Water shortage conditions often exist within parts of California, including</p>
W-2	Water: Water Recycling	
W-3	Water: Water System Energy Efficiency	

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Strategy		Project Consistency
W-4	Water: Reuse Urban Runoff	<p>the County of San Benito. The County has responded with a plan that provides guidelines for water conservation (San Benito County Water Conservation Plan, adopted by the Board of Supervisors in July, 1992, Resolution 92-82). This Water Conservation Plan places limits on certain water uses, and enforces the use of water saving devices and conservation measures. It also requires a maximum allowable water budget for irrigation of new landscape. The formula to be used for calculating the water budget is based upon the area's average year climate and the size of the landscaped area. The landscape water use set forth in this Specific Plan will also conform to Title 23 of the California Code of Regulations.</p> <p>The Santana Ranch Project shall adhere to the following water conservation policies:</p> <ol style="list-style-type: none"> <li>1. The Santana Ranch Project, including, without limitation, plant material, irrigation system design, and landscape applications within the Plan Area, shall comply with the applicable provisions of the County's water conservation plan (as it may be amended), as described more fully in Article 7, Section 7.2. of the Specific Plan.</li> <li>2. Water conservation shall be encouraged through the installation of low-flow toilets, shower heads, and faucets in all residential units in the Project.</li> <li>3. Dual-distribution water systems with reclaimed water and non-potable water from SBCWD shall be used for landscape irrigation in the parks and landscape corridors along the collector and arterial streets.</li> <li>4. Landscape irrigation shall incorporate water conserving techniques such as, for example, low precipitation sprays heads and drip irrigation.</li> <li>5. Runoff prevention measures for landscape irrigation shall be implemented in Project development. Native drought-tolerant landscaping materials shall be used in Project development to the extent feasible.</li> <li>6. In compliance with the County Water Conservation Plan (San Benito County Water Conservation Plan, adopted by the Board of Supervisors in July, 1992, Resolution 92-82), the maximum allowable water budget shall be calculated for landscape irrigation in the following areas: <ul style="list-style-type: none"> <li>• Parks</li> <li>• Landscape corridors along the collector and arterial streets</li> <li>• Developer-installed landscaping in residential projects</li> </ul> </li> </ol> <p>Green Building Guidelines (Article 7, Section 7.5):</p> <ol style="list-style-type: none"> <li>1. Water Efficiency: <ul style="list-style-type: none"> <li>• Use innovative wastewater technologies and water efficient landscape.</li> <li>• Limit the use of potable water for landscape and irrigation</li> <li>• Maximize water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems</li> </ul> </li> </ol>

Source: CARB 2008(c)

### **Consistency Findings**

For the above discussed reasons, and as described more fully in **Section 3.14, Wet and Dry Utilities**, the proposed project would be consistent with the GHG emission-reduction strategies currently identified per AB32, as well as the GHG-reduction measures recommended by the State Attorney General's office and recommended actions identified in the Climate Change Scoping Plan. Therefore, implementation of the proposed project would not be anticipated to conflict or impede the State's objectives of reducing GHG emissions.

### **Contribution to Global Warming**

Emissions of GHGs and their contribution to global climate change are inherently a cumulative impact and, therefore, should be evaluated in this context. For instance, based on the modeling conducted for this project, long-term operation of the proposed project would generate a total of approximately 26,421 tons/year of CO<sub>2</sub>e. For comparison purposes only, this would equate to approximately 0.002 percent of the statewide GHG emissions inventory. Although when evaluated in this context project-generated emissions would likely be considered nominal, the cumulative contribution from multiple such projects could conceivably result in a substantial overall contribution to the GHG inventory. However, to date, neither San Benito County nor the MBUAPCD, have identified a significance threshold for GHG emissions.

Although a project may result in increased GHG emissions, it is important to note that increased emissions would not necessarily result in an adverse effect with regard to climate change. Although emissions of GHGs can be quantified, it is typically not possible to determine the extent to which project-generated GHGs would contribute to global climate change or the physical effects often associated with global climate change (e.g., loss of snow pack, sea-level rise, severe weather events, etc.). In addition, to account accurately for GHGs attributable to the proposed project, it would be necessary to differentiate between new sources that otherwise would not exist but for the project, and existing sources that have simply relocated to the project area. Finally, the effectiveness of potential mitigation measures in reducing a project's contribution to global climate change can also not be accurately quantified at this time.

Nonetheless, given the project's design, building and siting features as discussed in the above analysis, this impact would be considered **less than significant**.

### 3.3 AIR QUALITY

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#### REFERENCES/DOCUMENTATION

- Association of Monterey Bay Area Governments. Letter of consistency with AQMP, January 28, 2010.
- California Air Pollution Control Officers Association (CAPCOA). January 2008. *CEQA & Climate Change*.
- California Air Resources Board (CARB). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (2000)*
- California Air Resources Board (CARB). 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*.
- California Air Resources Board (CARB). 2007. July 26, 2007. *News Release: ARB Adopts Landmark Rule to Reduce Toxic Emissions from Off-road Equipment. Release 07-26*.
- California Air Resources Board (CARB). 2008a. website url: <http://www.arb.ca.gov>.
- California Air Resources Board (CARB). Accessed: August 27, 2008b. *ARB's Climate Change Program*. Website url: <http://www.arb.ca.gov/cc/cc.htm>.
- California Air Resources Board (CARB). Accessed: August 27, 2008c. *Early Action Items*. Website url: <http://www.arb.ca.gov/cc/ccea/ccea.htm>.
- California Air Resources Board (CARB). December 2008c. *Climate Change Scoping Plan*. Available at Website url: <http://www.arb.ca.gov/cc/scopingplan/document/scopingplan/document.htm>.
- California Climate Change Center. 2005. *Climate Change Impacts on High Elevation Hydropower Generation in California's Sierra Nevada: A Case Study in the Upper American River*.  
<http://calclimate.berkeley.edu/9%20Climate%20change%20impacts%20on%20high%20elevation%20hydropower.pdf>
- California Climate Change Center. 2006. *Our Changing Climate: Assessing the Risks to California*. <http://www.energy.ca.gov/2006publications/CEC-500-2006-077/CEC-500-2006-077.PDF>.
- California Department of Transportation (Caltrans) December 1997. *Transportation Project-Level Carbon Monoxide Protocol*.
- California Energy Commission (CEC). December 16, 2008. *Energy Management Opportunities at Wastewater Facilities*. Innovative Energy Management Workshop-Sacramento.
- California Energy Commission (CEC). Accessed July 4, 2009. *California End-Use Survey*. url: <http://capabilities.itron.com/CeusWeb/Chart.aspx>.
- California Office of the Attorney General (CAG). Edmund G. Brown Jr., Attorney General. September 26, 2008. *The California Environmental Quality Act, Addressing Global Warming Impacts at the Local Agency Level*.

- Climate Action Team (CAT). March 2009. *Draft 2009 Biennial Report to the Governor and Legislature*.
- Governor's Office of Planning and Research, State of California. *Guidelines for Implementation of the California Environmental Quality Act, as amended*. 2009.
- Hexagon Transportation Consultants (HTC), Inc., August 8, 2008. *Santana Ranch Specific Plan, Transportation Impact Analysis*.
- Intergovernmental Panel on Climate Change (IPCC). Accessed June 2007. *National Greenhouse Gas Inventories Programm*. <http://www.ipcc-nggip.iges.or.jp/>.
- Monterey Bay Unified Air Pollution Control District (MBUAPCD). 2008a. url: <http://www.mbuapcd.org>.
- Monterey Bay Unified Air Pollution Control District (MBUAPCD). February 2008b. *CEQA Air Quality Guidelines*
- Pacific Environmental Resources Corp. (PERC). July 13, 2006. *N.E. Fairview Water Reclamation Facility, Conceptual Design Report Proposal*.
- Pacific Gas & Electric (PG&E). June 2003. *Municipal Wastewater Treatment Plant Energy Baseline Study*. PG&E New Construction Energy Management Program.
- Rosenzweig, C., G. Casassa, D.J. Karoly, A. Imeson, C. Liu, A. Menzel, S. Rawlins, T.L. Root, B. Seguin, P. Tryjanowski. 2007. *Assessment of observed changes and responses in natural and managed systems. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 79-131.
- Ruggeri-Jensen-Azar & Associates (RJA). November 6, 2009. *Draft Santana Ranch Specific Plan*.
- Ruggeri-Jensen-Azar & Associates (RJA). October 2008. *Engineering Report for Development of Santana Ranch*.
- Sacramento Air Quality Management District (SMAQMD). 2007. *Recommended Guidance for Land Use Emission Reductions*. 2007 Update.
- Tri-TAC. 1994. *Guidance Document on Control Technology for VOC Air Emissions from Publicly Owned Treatment Works (POTWs)*.
- United States Environmental Protection Agency (USEPA). Accessed: September 2, 2008. <http://www.epa.gov/air/data/monvals.html?st~CA~California>