3.2 Air Quality

This section considers the local and regional air quality implications of the Hillcrest Station Area Specific Plan. Greenhouse gases (GHG) are addressed in Section 3.5 Climate Change and Energy Use.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Air quality is affected by the rate, amount, and location of pollutant emissions, and the associated meteorological conditions that influence pollutant movement and dispersal. Atmospheric conditions, including wind speed, wind direction, and air temperature, in combination with local surface topography (i.e., geographic features such as mountains and valleys), determine the effect of air pollutant emissions on local air quality.

Climate and Meteorology

The Planning Area is in northeast Antioch. Antioch has a relatively low natural atmospheric potential for pollution given the persistent and strong winds typical of the area. These winds dilute pollutants and transport them away from the area, so that emissions released in Antioch may influence air quality in the Sacramento and San Joaquin Valleys. Antioch lies on the south side of Carquinez Strait, which is the only sea-level gap in the central and northern California coastal mountains, resulting in relatively strong and persistent winds flowing through the gap.

Prevailing winds are from the west in the Carquinez Straits, particularly during the summer. During summer and fall months, high pressure offshore, coupled with thermal low pressure in the Central Valley, caused by high inland temperatures, sets up a pressure pattern that draws marine air eastward through the Carquinez Straits almost every day. The wind is strongest in the afternoon because that is when the pressure gradient between the East Pacific high and the thermal low is greatest. Afternoon wind speeds of 15 to 20 mph are common throughout the straits region, accelerated by the venturi effect setup by the surrounding hills. Annual average wind speeds are 8.2 mph in Martinez (approximately 20 miles west of the Planning Area), and 9.5 to 10 mph further east.

Sometimes the pressure gradient reverses and flow from the east occurs. In the summer and fall months, this can cause elevated pollutant levels in the Bay Area. Typically for this to occur, high pressure systems centered over the Great Basin or the Pacific Northwest set up an east to west or northeast to southwest pressure gradient. These high pressure periods have low wind speeds and shallow mixing depths, thereby allowing the localized emissions to build up. Furthermore, the air mass from the east is warmer, thereby increasing photochemical activity, and contains more pollutants than the usual cool, clean marine air from the west. During the winter, easterly flow through the Strait is more common. Between storms, with the high pressure system no longer offshore, high pressure over inland areas causes easterly flow into the Bay Area through the Carquinez Strait.

Air temperatures near the Carquinez Strait do not appear to be noticeably affected by its proximity to water nor to the passage of oceanic air flows. Martinez and Antioch average daily maximum

temperatures are mid- to high-50's in the winter and high-80's in the summer, similar to Concord's temperatures. Average minimum temperatures are high-30's to low-40's in winter and mid-50's in summer.

There are many industrial facilities within the Strait region that have significant emissions, i.e. chemical plants and refineries. Although the pollution potential is usually moderated by high wind speeds, there have been infrequent upsets at the facilities that can lead to short term pollution episodes. Furthermore, because the winds in the Straits have a high persistence from the west, receptors to the east of these facilities could have a longer term exposure. (BAAQMD) Local air quality is affected by several major stationary pollutant sources that originate in Antioch and upwind in Pittsburg. Antioch's location downwind of the greater Bay Area also means that pollutants from other areas are transported to the City.

Existing Air Quality and Attainment Status

Criteria Air Pollutants: Bay Area Attainment Status

Ozone, carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), particulate matter (PM), and lead are the six criteria air pollutants. The major criteria pollutants of concern in the San Francisco Bay Area, such as ozone, carbon monoxide, and particulate matter (both PM-10 and PM-2.5), are monitored at a number of locations. As of January 2007, the Bay Area had nonattainment status for ozone (State and Federal standards) and particulate matter – PM-10 and PM-2.5 (State standards). The Bay Area does attain the state and federal CO standards; however, CO is a concern because it is the predominant pollutant from passenger vehicles. Sulfur dioxide is no longer considered a problem pollutant in California due to improved industrial sources controls, the substitution of natural gas for fuel oil, and lower sulfur content in fuels. The state has attained the sulfur dioxide standard for several years. (BAAQMD, 2008) Table 3.2-1 summarizes the Bay Area Attainment Status.

Criteria Air Pollutants: Local Air Quality

To measure and monitor the ambient concentrations of criteria pollutants in the Bay Area, the BAAQMD operates a regional network of monitoring stations. Pollutant monitoring results for the years 1996 to 2000 in Pittsburg and Concord indicate that air quality in the Contra Costa County area has generally been good. The monitoring station closest to the Planning Area is located at 10th Street in Pittsburg, approximately 3 miles west. The Concord Monitoring Station at 2975 Treat Boulevard is the closest one that monitors Fine Particulate (PM-2.5). Table 3.2-2 shows a five-year summary of monitoring data for ozone, carbon monoxide, PM-10, and PM-2.5, and compares these concentrations with state and national ambient air quality standards. (BAAQMD, 2008) The criteria pollutants listed in bold indicate non-compliance with adopted standards.

Table 3.2-1 Bay Area Attainment Status

Pollutant		*Attainment Status*	
		State Standards[1]	*Federal Standards*[2]
Ozone	8 hour	**Nonattainment** [3]	**Nonattainment** [4]
	1 hour	**Nonattainment**	No Federal Standard [5]
Carbon Monoxide	8 hour	Attainment	Attainment [6]
	1 hour	Attainment	Attainment
Nitrogen Dioxide	1 hour	Attainment	
	Annual Average [7]		Attainment
Sulfur Dioxide	24 hour	Attainment	Attainment
	1 hour	Attainment	
	Annual Average [7]		Attainment
PM-10	Annual Average [7]	**Nonattainment** [8]	
	24 hour	**Nonattainment**	Unclassified
PM-2.5	Annual Average [7]	**Nonattainment** [8]	Attainment
	24 hour		Unclassified [9]
Lead	Quarter		Attainment
	Month Average	Attainment	
Hydrogen Sulfide	1 hour	Unclassified	No Federal Standard
Sulfates	24 hour	Attainment	No Federal Standard
Visibility-Reducing Particles [10]	8 hour	Unclassified	No Federal Standard

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM-10, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM-10 annual standard), then some measurements may be excluded. In particular, measurements are excluded that ARB determines would occur less than once per year on the average. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the state standard.
2. National air quality standards are set by US EPA at levels determined to be protective of public health with an adequate margin of safety. National standards other than for ozone, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.075 ppm (75 ppb) or less. The 24-hour PM-10 standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m3. The 24-hour PM-2.5 standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m3.
3. The 8-hour CA ozone standard was approved by the Air Resources Board on April 28, 2005 and became effective on May 17, 2006.
4. In June 2004, the Bay Area was designated as a marginal nonattainment area of the national 8-hour ozone standard. US EPA lowered the national 8-hour ozone standard from 0.80 to 0.75 PPM (ie.e. 75 ppb) effective May 27, 2008. EPA will issue final designations based upon the new 0.75 ppm ozone standard by March 2010.
5. The national 1-hour ozone standard was revoked by U.S. EPA on June 15, 2005.
6. In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.
7. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM-10 is met if the 3-year average falls below the standard at every site. The annual PM-2.5 standard is met if the 3-year average of annual averages spatially-averaged across officially designed clusters of sites falls below the standard.
8. In June 2002, CARB established new annual standards for PM-2.5 and PM-10.
9. U.S EPA lowered the 24-hour PM-2.5 standard from 65 µg/m3 to 35 µg/m3 in 2006. EPA is required to designate the attainment status of BAAQMD for the new standard by December 2009.
10. Statewide VRP Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Source: BAAQMD, 2008

Ozone

In the Bay Area, on-road motor vehicles are the major sources of ozone precursors, followed by other mobile sources, and petroleum and solvent evaporation. Ozone levels have been trending down in the Bay Area in general, and specifically in Contra Costa County since 1988. Based on implementation of state and district programs and controls, this trend is expected to continue, though at a slower rate. (BAAQMD, 2005) As shown in Table 3.2-2, the downward trend is not consistently reflected at the Pittsburg monitoring station. While there was only one exceedance of the national ozone standards at the monitoring station over the last five years, there were numerous violations of the state ozone standards. Within the Planning Area, there are few sources of ozone since the internal road system is made up of a few dirt roads. However, traffic on Hillcrest Avenue and SR 4 contribute to the local air quality problems.

Carbon Monoxide

The levels of carbon monoxide have been consistently low in the Pittsburg since 2003.

Particulate Matter

Levels of respirable particulate matter have been consistently high in Pittsburg since 2003. The main sources of PM are combustion of fossil fuels, wood burning, airborne dust entrained by motor vehicles and construction, and cooking. PM-2.5 results almost entirely from the combustion of fossil fuels and wood; 35 percent of the Bay Area's annual PM-2.5 emissions are from on-road vehicles, construction equipment, ships, planes, refineries and power plants. The Bay Area has seen significant reductions in PM-10 levels since 1990, with peak concentrations down approximately half and annual average values down by about one-third. BAAQMD estimates that PM-2.5 concentrations have been reduced by similar levels as PM-10. Based on implementation of district programs and controls in the Particulate Matter Implementation Schedule, this trend is expected to continue. Over the last five years, the state PM-10 standard was exceeded nine times at the Pittsburg monitoring station, although concentrations were not above the national standard. In the same five years, only one exceedance of the national PM-2.5 24-hour average standard occurred at the Concord (2975 Treat Boulevard) monitoring station. (BAAQMD, 2005) While there are no significant contributors of particulate matter in the Planning Area currently, off-road vehicle use may contribute to nuisance dust. The Planning Area is affected by pollutant concentrations in Pittsburg and other communities to the west due to prevailing winds from the west.

Table 3.2-2 Local Air Quality Data Summary (2003 – 2007)

Pollutant	*Standard*[2]	*2003*	*2004*	*2005*	*2006*	*2007*
Ozone[1]						
Highest 1-Hour Average (ppm)		0.094	0.090	0.094	**0.105**	0.100
Days over State Standard	0.090	0	0	0	**3**	1
Highest 8-Hour Average (ppm)		**0.080**	**0.081**	**0.078**	**0.093**	**0.074**
Days over State Standard	0.070	**9**	**2**	**2**	**10**	**2**
Days over National Standard	0.080	0	0	0	1	0
Carbon Monoxide						
Highest 8-Hour Average (ppm)		1.66	1.91	1.73	1.92	1.50
Days over State/National Standard	9.00	0	0	0	0	0
Respirable Particulate Matter (PM-10)						
Annual Average (State Standard)	20.0	NA	**21.7**	**20.1**	19.9	19.4
Highest 24-Hour Average (µg/m3)		59.1	64.0	57.0	**58.9**	**59.0**
Days over State Standard [3]	50.0	1	1	1	**2**	**4**
Days over National Standard [3]	150.0	0	0	0	0	0
Fine Particulate Matter (PM-2.5)						
Highest 24-Hour Average (µg/m3)	65/35	49.7	73.7	48.9	62.1	46.2
Days over National Standard 4	35.0	0	1	0	0	0
National Annual Average (µg/m3)	15.0	9.7	NA	9.1	9.3	8.4

11. NA = Not Available; ppm = parts per million; µg/m3 = micrograms per cubic meter.

1. Ozone, carbon monoxide, and PM-10 data is from Pittsburg – 10th Street station. PM-2.5 data is from Concord -2975 Treat Boulevard Station.

2. Generally, State standards and national standards are not to be exceeded more than once per year. Standards listed here are from 2007.

3. PM-10 is not measured every day of the year. It is measured once every 6 days. The data shown refers to the actual number of days measured over the standards.

4. U.S. EPA lowered the 24 hour PM-2.5 standard from 65 µg/m3 to 35 µg/m3. Though the current standard is 35 µg/m3, the estimated days over the national standard refers to days above the 65 ìg/m3 standard.

Source: BAAQMD, 2008.

Toxic Air Contaminants

The California Health and Safety Code defines toxic air contaminants (TACs) as air pollutants that may cause or contribute to an increase in mortality or in serious illness, or that may pose a present or potential hazard to human health. TACs are less pervasive in the urban atmosphere than criteria air pollutants, but are linked to short-term (acute) or long-term (chronic and/or carcinogenic) adverse human health effects. There are many different types of TACs with varying degrees of toxicity. Sources of TACs include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust – particularly diesel-powered vehicles.

BAAQMD and CARB operate a network of monitoring stations that measure ambient concentrations of certain TACs that are associated with strong health-related effects and are present in appreciable concentrations in the Bay Area. The monitoring station nearest the Planning Area is located on 10th Street in the City of Pittsburg, approximately 3 miles west northwest. Table 3.2-3 summarizes the concentrations of carcinogenic TACs for 2002, highlighting TAC levels that are higher in Pittsburg than in the Bay Area as a whole in bold. The Toxic Air Contaminants 2003 Annual Report did not provide the Bay Area cancer risk for all TACs listed. In the Planning Area, BAAQMD monitors the PG&E substation at 2111 Hillcrest Avenue and the former PG&E metering station near Oakley Road and Phillips Lane for TAC emissions. (BAAQMD, August 2007) In 2003, together these sites emitted 172 pounds of TACs, including benzene (4 percent), xylene (1 percent), toluene (7 percent), MTBE (87 percent), and ethylbenzene (1 percent). Neither site qualifies as a major source of hazardous air pollutants because they do not emit 10 tons or more per year of any individual hazardous air pollutants or 25 tons or more of any combination of hazardous air pollutants. There are currently no facilities in the Bay Area requiring public notification under the BAAQMD Air Toxics Hot Spots Program. (BAAQMD, August 2007)

There is growing evidence that exposure to emissions from diesel-fired engines may result in cancer risks that exceed those attributed to the measured TACs. Diesel particulate matter (DPM) emissions are estimated to be responsible for about 70 percent of the total ambient air toxics risk. Most of the DPM risks are from exposure to diesel truck exhaust near freeways. A 2005 report by CARB summarized traffic-related studies which found the additional non-cancer health risk attributable to proximity of a freeway with 100,000 vehicles per day was seen within 1,000 feet and was strongest within 300 feet. California freeway studies show about a 70 percent drop off in particulate pollution levels at 500 feet (CARB, April 2005). Currently, the main sources of DPM in the Planning Area are the freeways, SR 4 and 160, which surround two sides. The Union Pacific Railroad Mococo right-of-way also bisects the Planning Area. At this time, very few diesel trains operate on these tracks.

Table 3.2-3 Ambient Concentrations of Carcinogenic TACs (2003 Annual Mean)

Compound	Concentration (ppb)		Bay Area Cancer Risk (Chances in 1 million)
	Pittsburg	Bay Area	
Acetone	3.77	6.80	
Benzene	0.38	0.401	37.7
1,3-butadiene	0.11	0.12	36.0
Carbon tetrachloride	**0.11**	0.108	29.1
Chloroform	0.02	0.024	0.6
Ethylbenzene	**0.17**	0.135	
Ethylene dibromide	0.01	0.01	
Ethylene dichloride	0.05	0.05	
Methyl chloroform	0.03	0.084	
Methyl ethyl ketone	**0.78**	0.496	
Methylene chloride	**0.49**	0.356	1.3
M/P xylene	**0.71**	0.535	
MTBE	**0.80**	0.532	0.5
O-xylene	**0.24**	0.186	
Perchloroethylene	0.02	0.026	1.1
Toluene	**1.27**	1.062	
Trichloroethylene	**0.03**	0.029	0.2
Trichlorofluoromethane	**0.27**	0.266	
1,1,2-trichlorotrifluoroethane	0.07	0.084	
Vinyl chloride	0.15	0.15	

5. ppb = parts per billion. µg/m3 = micrograms per cubic meter. Units in **bold** show TAC levels greater in Pittsburg than the Bay Area as a whole.

Source: BAAQMD, Toxic Air Contaminants 2003 Annual Report, 2007.

Sensitive Receptors

The location of land uses where sensitive receptors are present, such as day care centers, schools, nursing homes, and hospitals, should be carefully evaluated. State law restricts the siting of new schools within 500 feet of a freeway, urban roadways with 100,000 vehicles/day, or rural roadways with 50,000 vehicles with some exceptions. CARB has published advisory recommendations on siting new sensitive land uses, with the same guidelines as the State school limitation. (California Air Resources Board, April 2005) At this time there are no sensitive receptors in the Planning Area. There are residential neighborhoods and a number of schools within a half mile of the Planning Area.

Odors

Another air quality issue of concern in the Bay Area is nuisance impacts from odors. Objectionable odors may be associated with a variety of pollutants. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries and chemical plants. Odors rarely directly affect health, but they can be very unpleasant and lead to distress and

concern over possible health effects among the public, generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors. At this time there are no known sources of objectionable odors in the Planning Area.

REGULATORY SETTING

Regulation of air pollution is achieved through both national and State ambient air quality standards and emissions limits for individual sources of air pollutants. As required by the Federal Clean Air Act, US EPA has established National Ambient Air Quality Standards (national standards) to protect public health and welfare. California has adopted more stringent ambient air quality standards for most of the criteria air pollutants (referred to as State Ambient Air Quality Standards or State standards). In addition, California has established State ambient air quality standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

Definitions

Attainment Status

Under amendments to the Federal Clean Air Act, EPA has classified air basins or portions thereof, as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the national standards have been achieved. The California Clean Air Act, patterned after the Federal Clean Air Act, also designates areas as "attainment" or "nonattainment" for State standards. Thus, California has two sets of attainment/nonattainment designations: one with respect to national standards and one with respect to State standards

Criteria Air Pollutants

As required by the Federal Clean Air Act passed in 1977, EPA has identified six criteria air pollutants that are pervasive in urban environments and for which State and national health-based ambient air quality standards have been established. The EPA identifies these pollutants as criteria air pollutants because the agency has regulated them by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. Ozone (O3), carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), particulate matter (PM-10 and PM-2.5), and lead are the six criteria air pollutants.

- **Ozone (O3).** Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NOx). ROG and NOx are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NOx under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone. Ground level ozone in conjunction with suspended particulate matter in the atmosphere leads to hazy conditions generally termed as "smog."

- **Carbon Monoxide (CO).** Carbon monoxide, a colorless and odorless gas, is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High carbon monoxide concentrations develop primarily during winter when periods of light wind combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased carbon monoxide emission rates at low air temperatures. When inhaled at high concentrations, carbon monoxide combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease or anemia.
- **Nitrogen Dioxide (NO2).** Nitrogen dioxide is an air quality concern because it acts a respiratory irritant and is a precursor of ozone. Nitrogen dioxide is produced by fuel combustion in motor vehicles, industrial stationary sources, ships, aircraft, and rail transit.
- **Sulfur Dioxide (SO2).** Sulfur dioxide is a combustion product of sulfur or sulfur-containing fuels such as coal and oil, which are restricted in the San Joaquin Valley. Its health effects include breathing problems and may cause permanent damage to lungs. SO2 is an ingredient in acid rain, which can damage trees, lakes and property, and can also reduce visibility.
- **Particulate Matter.** PM-10 and PM-2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. (A micron is one-millionth of a meter). PM-10 and PM-2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles (PM-2.5) of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility.
- **Lead.** Leaded gasoline (which is being phased out), paint (houses, cars), and manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has a range of adverse neuron-toxic health effects for which children are at special risk. Some lead-containing chemicals cause cancer in animals.

Hazardous Air Pollutants

The federal Clean Air Act defines hazardous air pollutants as those which may reasonably be anticipated to result in increased deaths or serious illness and which are not already regulated.

Sensitive Receptors

Some receptors are considered more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions source, or duration of exposure to air pollutants. Land uses such as schools, children's day care centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress and other air quality-related health problems. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas

are considered more sensitive to air quality conditions than commercial and industrial areas, because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions.

Toxic Air Contaminants

The Health and Safety Code defines toxic air contaminants (TACs) as air pollutants that may cause or contribute to an increase in mortality or in serious illness, or that may pose a present or potential hazard to human health. TACs are less pervasive in the urban atmosphere than criteria air pollutants, but are linked to short-term (acute) or long-term (chronic and/or carcinogenic) adverse human health effects. There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust. The current list of toxic air contaminants includes approximately 200 compounds, including all of the toxics identified under federal law plus additional compounds, such as particulate emissions from diesel-fueled engines, which were added in 1998.

- **Diesel particulate matter (DPM)**. Diesel PM has been identified by The California Air Resources Board (CARB) as a toxic air contaminant and represents 70 percent of the known potential cancer risk from air toxics in California. Diesel PM is an important contributor to particulate matter air pollution. Particulate matter exposure is associated with premature mortality and health effects such as asthma exacerbation and hospitalization due to aggravating heart and lung disease.
- **Asbestos.** In 1986, CARB identified asbestos as a toxic air contaminant (TAC) based on its classification as a known cancer causing pollutant. In that process, CARB found that no threshold exposure level could be identified below which adverse health effects would not be expected. Asbestos occurs naturally in ultramafic rock (which includes serpentine). When this material is used in unpaved surfacing and disturbed by vehicles and other means, dust containing asbestos can be generated. Serpentine soils have been identified in Contra Costa County, but not within the Planning Area.

Vehicle Miles Traveled (VMT)

Vehicle miles traveled (VMT) is a term used throughout this EIR and refers to the number of vehicle miles traveled within a specified geographic area during a given period of time. One vehicle traveling one mile constitutes one vehicle mile, regardless of its size or the number of passengers. VMT is a common measure of roadway use and economic activity. The VMT per capita is the total VMT divided by the population of the geographic area; basically, it is a measure of the vehicle miles each person travels on average. Per capita VMT data correlate with various economic and lifestyle factors such as increased auto ownership, more women in the workforce, more teen driving, and land use patterns.

Federal Regulations

The U.S. Environmental Protection Agency (EPA) is responsible for implementing the programs established under the Federal Clean Air Act. The Clean Air Act establishes the framework for federal air pollution control, including direction for the EPA to develop national emission standards for hazardous air. Table 3.2-4 provides the 2008 Ambient Air Quality Standards for the State of California and federal standards. This table also summarizes the related health effects and principal sources of each pollutant. If an area does not meet the federal standard for a pollutant,

the state is required to prepare and adopt State Implementation Plans (SIPs) to show how the standards will be attained.

The federal Clean Air Act also outlines requirements for ensuring that federal transportation plans, programs, and projects conform to the SIP's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards. As such, Regional Transportation Plans (RTPs) and Transportation Improvement Programs (TIPs) that require federal funding or approval must be included in the SIP emissions budget.

National Emission Standards for Hazardous Air Pollutants developed by US EPA in accordance with Title III of the 1990 federal Clean Air Act Amendments regulate "major source" facilities that emit large quantities of toxic air contaminants. These rules require that emissions be reduced using the Maximum Achievable Control Technology (MACT).

State Regulations

In California, the California Air Resources Board (CARB) is responsible for establishing and reviewing California ambient air quality standards, developing and managing the California SIP, securing approval of this plan from US EPA, and identifying TACs. The California Clean Air Act of 1988 focuses on attainment of the state ambient air quality standards, which, for certain pollutants and averaging periods, are more stringent than the comparable federal standards. Local and regional air districts are required to prepare and adopt air quality attainment plans if the district violates the state standards.

The State of California's regulatory efforts regarding the identification and control of toxic air contaminants are embodied in AB 1807, the Tanner Bill (effective 1984). The California Air Resources Board (ARB) identifies the most important toxic pollutants by considering risk of harm to public health, amount or potential amount of emissions, manner of usage of the substance, its persistence in the atmosphere, and its concentration in the outdoor air. CARB also regulates mobile emissions sources in California, such as construction equipment, trucks, and automobiles, and oversees the activities of air quality management districts, which are organized at the county or regional level. All new diesel-powered engines and vehicles sold in California are required to meet both federal and state emissions certification requirements. The Air Toxics 'Hot Spots" Act (AB 2588) was enacted in 1987 with the objective of collecting information concerning industrial emissions of toxic air contaminants and making the information available to the public.

Table 3.2-4 State and National Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	*Averaging Time*	*California Standard*	*National Primary Standard*	*Major Pollutant Sources*	*Pollutant Health and Atmospheric Effects*
Ozone	1 hour	0.09 ppm	---	On-road motor vehicles, other mobile sources, solvent extraction, combustion, industrial and commercial processes.	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.
	8 hour	0.07 ppm	0.08 ppm		
Carbon Monoxide	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.
	8 hour	9.0 ppm	9.0 ppm		
Nitrogen Dioxide	1 hour	0.18 ppm	---	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.	Irritating to eyes and respiratory tract. Colors atmosphere reddish brown.
	Annual Average	0.03 ppm	0.053 ppm		
Sulfur Dioxide	1 hour	0.25 ppm	---	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.	Irritates upper respiratory tract, injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron and steel. Limits visibility and reduces sunlight.
	24 hour	0.04 ppm	0.14 ppm		
	Annual Average	---	0.03 ppm		
Respirable Particulate Matter (PM-10)	24 hour	50 $\mu g/m^3$	150 $\mu g/m^3$	Dust- and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).	May irritate eyes and respiratory tract, decreases lung capacity and increases risk of cancer and mortality. Produces haze and limit visibility.
	Annual Average	20 $\mu g/m^3$	---		
Fine Particulate Matter (PM-2.5)	24 hour	---	35 $\mu g/m^3$	Fuel combustion in motor vehicles, equipment and industrial sources; residential and agricultural burning. Also formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.	Increases respiratory disease, lung damage, cancer and premature death. Reduces visibility and results in surface soiling.
	Annual Average	12 $\mu g/m^3$	15 $\mu g/m^3$		
Lead	Monthly Average	1.5 $\mu g/m^3$	---	Present source: lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurologic dysfunction.
	Quarterly	---	1.5 $\mu g/m^3$		

6. Note: ppm=parts per million; and μg/m3=micrograms per cubic meter

Source: California Air Resource Board, available at www.arb.ca.gov/research/aaqs/aaqs2.pdf, Published April 2008. Accessed June 2, 2008.

Regional Regulations

The Bay Area Air Quality Management District (BAAQMD) is the regional agency with regulatory authority over emission sources in the Bay Area, which includes all of San Francisco, San Mateo, Santa Clara, Alameda, Contra Costa, Marin, and Napa counties, and the southern half of Sonoma and southwestern half of Solano counties. An air quality management district is primarily responsible for regulating stationary emissions sources at facilities within its geographic areas and for preparing the air quality plans required under the Federal Clean Air Act and California Clean Air Act. BAAQMD also maintains the regional Toxics Emission Inventory.

Ozone

BAAQMD has prepared both federal and state air quality plans to bring the San Francisco Bay Area Air Basin (SFBAAB) into attainment with ozone standards. The 2001 Ozone Attainment Plan describes the Bay Area's strategy for compliance with the federal 1-hour ozone standard. Although the US EPA revoked the federal 1-hour ozone standard on June 15, 2005, the emission reduction commitments in the plan are still being carried out by the BAAQMD. The Bay Area 2005 Ozone Strategy is the current adopted plan describing the strategy for compliance with the state 1-hour ozone standard. This plan is the most current triennial update to the 1991 Clean Air Plan.

Carbon Monoxide

The 1996 Carbon Monoxide Redesignation Request and Maintenance Plan for Ten Federal Planning Areas was developed by the air districts with jurisdiction over ten planning areas (including the BAAQMD) to ensure continued attainment of the Federal carbon monoxide standard. In June 1998, the EPA approved this plan and designated the ten areas as attainment. The maintenance plan was revised most recently in 2004.

Particulate Matter

There is no plan for respirable particulate matter (PM-10) in place, even though the Bay Area does not attain the state standard. However there is a schedule for bringing the Bay Area into compliance, the Particulate Matter Implementation Schedule of 2005. In 2003, SB 656 mandated compliance with state PM standards in order to reduce public exposure to the health risks related to PM.

Toxic Air Contaminants

TACs do not have ambient standards below which no adverse health effects are assumed. Since 1987, BAAQMD has had a program to describe, control, and where possible, eliminate public exposure to airborne toxic compounds from stationary sources. The program elements include preconstruction review processes for new and modified TAC sources; the Air Toxics Hot Spots Program which identifies and monitors industrial and commercial facilities that emit TACs; implementation of control measures to reduce emissions from source categories of TACs; maintenance of the toxic air contaminant air emissions inventory; ambient TAC concentration monitoring; and the Community Air Risk Evaluation (CARE) Program which determines the impacts of TACs at a community level.

BAAQMD has established specific public notification measures for various levels of health risks associated with a facility's routine TAC emissions as determined in a Health Risk Assessment.

The "individual cancer risk" is the likelihood that a person exposed to concentrations of TACs from a facility over a 70-year lifetime will contract cancer, based on the use of standard risk assessment methodology established by the Air Toxics Hot Spots Program.

- Level 1 Risks: Between 10 and 100 in one million
- Level 2 Risks: Between 100 and 500 in one million
- Level 3 Risks: Greater than 500 in one million

BAAQMD Regulation 2, Rule 5 New Source Review of Toxic Air Contaminants implements state guidelines and control requirements for new and modified stationary sources. If the emissions from a stationary source exceed trigger levels, the source must use Best Available Control Technology (BACT) to minimize TAC emissions.

In addition, demolition of buildings constructed prior to 1980 often involved the use of hazardous materials such as asbestos in insulation, fire retardants, or building materials (floor tile, roofing, etc.) and lead-based paint. Airborne asbestos fibers and lead dust pose a serious health threat. The demolition, renovation and removal of asbestos-containing building materials would be subject to the requirements of BAAQMD Regulation 11, Rule 2.

Odors

All odor sources are subject to the requirements of the BAAQMD Regulation 7 – Odorous Substances, which establishes general limitations on odorous substances and specific emission limitations on certain odorous compounds, in addition to the requirements of local nuisance ordinances.

Local Regulations: Antioch General Plan

The City of Antioch 2003 General Plan includes the following policies related to improving local and regional air quality:

10.6.2 Resource Management: Air Quality Policies

a. Require development projects to minimize the generation of particulate emissions during construction through implementation of the dust abatement actions outlined in the CEQA Handbook of the Bay Area Air Quality Management District.

b. Require developers of large residential and non-residential projects to participate in programs and to take measures to improve traffic flow and/or reduce vehicle trips resulting in decreased vehicular emissions. Examples of such efforts may include, but are not limited to the following.

   - Development of mixed use projects, facilitating pedestrian and bicycle transportation and permitting consolidation of vehicular trips.
   - Installation of transit improvements and amenities, including dedicated bus turnouts and sufficient rights-of-way for transit movement, bus shelters, and pedestrian easy access to transit.

- Provision of bicycle and pedestrian facilities, including bicycle lanes and pedestrian walkways connecting residential areas with neighborhood commercial centers, recreational facilities, schools, and other public areas.
- Contributions for off-site mitigation for transit use.
- Provision of charging stations for electric vehicles within large employment-generating and retail developments.

c. Budget for purchase of clean fuel vehicles, including electrical and hybrid vehicles where appropriate, and, if feasible, purchasing natural gas vehicles as diesel powered vehicles are replaced.

d. Support and facilitate employer-based trip reduction programs by recognizing such programs in environmental mitigation measures for traffic and air quality impacts where their ongoing implementation can be ensured and their effectiveness can be monitored.

e. As part of the development review process for non-residential development, require the incorporation of best available technologies to mitigate air quality impacts.

f. Provide physical separations between (1) proposed new industries having the potential for emitting toxic air contaminants and (2) existing and proposed sensitive receptors (e.g., residential areas, schools, and hospitals).

g. Require new wood burning stoves and fireplaces to comply with EPA and BAAQMD approved standards.

3.4.5 Growth Management: Transportation Systems Management Policies

a. Continue to implement the City's TSM program to reduce trip generation and maximize the carrying capacity of the area's roadway system.

b. Work to establish rail transit service within Antioch.

c. Work with Tri-Delta Transit and other service providers to promote regional transit service. Refer proposed development projects to Tri-Delta Transit, and require the provision of bus turnouts and bus stops in locations requested by the agency, where appropriate.

d. Maintain a comprehensive system of bicycle lanes and routes as specified in the Circulation Element.

e. Synchronize traffic signals where feasible to improve the flow of through traffic.

3.6.2 Growth Management: Rate of Growth Policies

a. Limit the issuance of development allocations to a maximum annual average of 600, recognizing that the actual rate of growth will vary from year to year. Thus, unused development allocations may be reallocated in subsequent years, and development allocations may be moved forward from future years, provided that the annual average of 600 development allocations may not be exceeded during any given five-year period (i.e., no more than 3,000 development allocations may be issued for any given five-year period).

4.4.2 Land Use: Residential Land Uses

d. Design new residential development with identifiable neighborhood units, with neighborhood shopping facilities, parks and recreational facilities, and schools provided as an integral component of neighborhood design.

- *Streets*. Street design should route through traffic around, rather than through new neighborhoods. Neighborhood streets should be quiet, safe, and amenable to bicycle and pedestrian use. Within new subdivisions, single-family residences should be fronted on short local streets, which should, in turn, feed onto local collectors, and then onto master planned roadways.
- *Schools, Parks, and Recreation Areas.* Elementary schools, as well as parks and recreational areas should be contained as near the center of the neighborhood they are as is feasible.
- *Neighborhood Commercial Areas*. Neighborhood commercial centers should be located at the periphery of residential neighborhoods, and be designed such that residents can gain vehicular, bicycle, and pedestrian access to the centers directly from the neighborhood.
- *Connections*. Individual neighborhoods should be provided with pathways and open spaces connecting residences to school and recreational facilities, thereby facilitating pedestrian and bicycle access.

4.4.3 Land Use: Commercial Land Uses

a. Design commercial and office developments in such a manner as to complement and not conflict with adjacent residential uses, and provide these developments with safe and easy vehicular, pedestrian, and bicycle access.

b. Orient commercial development toward pedestrian use.

- Commercial buildings should provide a central place of main focus.
- Buildings should be designed and sited so as to present a human-scale environment, including identifiable pedestrian spaces, seating areas and courtyards.
- Uses within pedestrian spaces should contribute to a varied and lively streetscape.
- Buildings facing pedestrian ways and plazas should incorporate design features that provide visual interest at the street level.

c. Building setbacks along major streets should be varied to create plaza-like areas, which attract pedestrians whenever possible.

d. Provide for reciprocal access, where feasible, between commercial and office parcels along commercial corridors to minimize the number of drive entries, reduce traffic along commercial boulevards, and provide an orderly streetscape.

e. Design internal roadways so that direct access is available to all structures visible from a particular parking area entrance in order to eliminate unnecessary vehicle travel, and to improve emergency response.

7.4.2 Circulation: Non-Motorized Transportation

a. Design new residential neighborhoods to provide safe pedestrian and bicycle access to schools, parks and neighborhood commercial facilities.

b. Design intersections for the safe passage of pedestrians and bicycles through the intersection.

c. Provide street lighting that is attractive, functional, and appropriate to the character and scale of the neighborhood or area, and that contributes to vehicular, pedestrian, and bicycle safety.

d. Maintain roadway designs that maintain mobility and accessibility for bicyclists and pedestrians.

e. Integrate multi-use paths into creek corridors, railroad rights-of-way, utility corridors, and park facilities.

f. Provide, as appropriate, bicycle lanes (Class II) or parallel bicycle/pedestrian paths (Class I) along all arterial streets and high volume collector streets, as well as along major access routes to schools and parks.

g. Design new roadway bridges to meet Caltrans standards for bridges involving State highways, including bicycle lanes on all new bridges along Circulation Element roadways. Where provision of bicycle lanes is not feasible, undertake measures to provide alternative routes and to prohibit bicycle riding on bridge walkways.

h. Require the provision of bicycle parking and other support facilities (e.g., racks or lockers) as part of new office and retail developments and public facilities.

i. Where shopping facilities are located adjacent to residential areas, provide direct access between residential and commercial uses without requiring pedestrians and bicyclists to travel completely around the commercial development.

j. Permit the sharing or parallel development of pedestrian walkways with bicycle paths, where this can be safely accomplished, in order to maximize the use of public rights-of-way.

k. Orient site design in non-residential areas to allow for safe and convenient pedestrian access from sidewalks, transit and bus stops, and other pedestrian facilities, in addition to access through required parking facilities.

l. Require the construction of attractive walkways in new residential, commercial, office, and industrial developments, including provision of shading for pedestrian paths.

m. Maximize visibility and access for pedestrians, and encourage the removal of barriers for safe and convenient movement of pedestrians.

n. Ensure that the site design of new developments provides for pedestrian access to existing and future transit routes and transit centers.

o. Pave walks and pedestrian pathways with a hard, all-weather surface that is easy to walk on. Walks and curbs should accommodate pedestrians with disabilities. Walks within open space areas should have specially paved surfaces that blend with the surrounding environment.

p. In general, design walks to provide a direct route for short to medium distance pedestrian trips, and to facilitate the movement of large numbers of pedestrians. Meandering sidewalks are appropriate in areas where the natural topography or low-density land uses lend themselves to informal landscapes.

7.5.2 Circulation: Transit

a. Facilitate development of rail transit centers within the SR 4 Industrial Frontage Focus Area and the East Lone Tree Focus Area by:

   - permitting higher residential densities and mixed-use development adjacent to the rail transit station;
   - working with Caltrans and the Contra Costa County Transportation Commission to provide freeway interchanges capable of serving these transit centers; and
   - working with BART, Amtrak, Tri-Delta Transit, and other transit providers toward the development and implementation of a transit oasis system within areas surrounding area transit centers, including establishment of a system of priority transit lanes or dedicated travel lanes in addition to those needed for vehicular travel to facilitate movement by transit oasis vehicles in areas surrounding the transit center.

b. Permit higher residential densities and mixed-use development adjacent to the downtown Amtrak stop and other rail transit station(s).

c. Approval of higher densities and mixed-use transit-oriented development shall be commensurate with the level of transit service being provided and conditioned upon the availability of adequate public services and facilities pursuant to the performance standards set forth in the Growth Management Element. Approval of such higher densities and mixed-use transit-oriented development shall be approved in anticipation of future transit service only when there is reasonable assurance that transit services will be available within one to two years of initial occupancy of transit-oriented development.

d. Design transit stations to provide safe and convenient vehicular, bicycle, and pedestrian access.

e. Cooperate with Caltrans, Tri-Delta Transit, BART, and other transit providers to establish park-and-ride lots at convenient locations.

f. Pursue cooperation between local and regional transit providers to coordinate multi-modal transit connections (e.g., timed transfers connecting different transit routes and future rail service, bicycle parking at transit centers, and transit stops at park-and-ride lots).

g. Preserve options for future transit use when designing roadway and highway improvements.

h. Include Tri-Delta Transit in the review of new development projects, and require new development to provide transit improvements in proportion to traffic demands created by the project. Transit improvements may include direct and paved access to transit stops, provision of bus turnout areas and bus shelters, and roadway geometric designs to accommodate bus traffic.

i. Encourage ridership on public transit through use of City information sources (e.g., City web site, and mail-outs) to provide information on transit services.

j. Require community care facilities and large age-restricted developments (50 units or more, but excluding facilities designed for “active” adults) to provide transportation services for the convenience of residents.

Antioch Municipal Code

The goals and objectives of the City of Antioch Transportation Systems Management Plan, as adopted in December 1997, are defined in Chapter 15 of the Municipal Code.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

The CEQA Guidelines state that where available significance criteria established by the appropriate regional Air Quality Management District may be used to evaluate the potential air quality impacts of a plan or project. Based on the BAAQMD CEQA Guidelines published in 1999, the proposed Specific Plan would have a significant adverse impact on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan; or
- Create objectionable odors affecting a substantial number of people.

METHODOLOGY AND ASSUMPTIONS

The methodology recommended by the BAAQMD CEQA Guidelines has been used in evaluating impacts of the proposed Specific Plan. For local plans, the BAAQMD recommends that the analysis focus on evaluating the consistency of the proposed Plan with the adopted Clean Air Plan. In this case, the most recent CAP is the *Bay Area 2005 Ozone Strategy*. The BAAQMD CEQA Guidelines do not require preparing pollutant estimates. The focus is entirely on whether the plan is consistent with regional air quality planning. According to BAAQMD, the proposed Specific Plan should demonstrate that the:

- Population growth for the City of Antioch does not exceed the values included in the *Bay Area 2005 Ozone Strategy*; and,
- Rate of increase in vehicle miles traveled (VMT) for the City of Antioch is equal to or lower than the rate of increase in population; and,
- Proposed Specific Plan is consistent with the Transportation Control Measures included in the *Bay Area 2005 Ozone Strategy.*

For local plans to have a less than significant impact with respect to potential odors and toxic air contaminants, buffer zones should be established around existing and proposed land uses that would emit these air pollutants. Potential air quality impacts on sensitive receptors will need to be evaluated at the project level when individual projects are proposed. (BAAQMD, 1999)

Population estimates in the proposed Specific Plan are based on the average household size by housing type as reported in the 2000 Census Block Groups. Single-household units are assumed to have the same household size as the rest of the City of Antioch, which is 3.18 persons per unit. Population estimates for multi-family units are based on an average of the Antioch multi-family household size (2.42) and the average household size around three Contra Costa BART Stations – Concord, Pleasant Hill, and Walnut Creek (1.57). Multi-family households in the Planning Area are assumed to have 2.0 persons each.

SUMMARY OF IMPACTS

Consistency with Bay Area 2005 Ozone Strategy

The air quality in the Bay Area does not meet state and federal standards. The adopted Clean Air Plan, the *Bay Area 2005 Ozone Strategy*, is the plan that is intended to guide the region towards meeting the standards. Therefore, local plans should be consistent with the adopted CAP. While the regional and local population growth assumptions are likely to be consistent with the assumptions in the CAP, regional and local VMT is still growing faster than population due to employment growth. Therefore, the region's total growth is inconsistent with the adopted CAP, which is considered a significant cumulative impact.

The development projected in the Planning Area will be consistent with regional growth projected because the plan is intended to redistribute City growth rather than induce additional growth. The proposed Specific Plan establishes a framework for transit-oriented development that includes both residential and employment uses. The integration of the land use and circulation plans contribute to a daily VMT per capita that is 7 percent less in the Planning Area than in the City of Antioch in 2035. Finally, the proposed Specific Plan policies incorporate the recommended transportation control measures. Therefore, the project's contribution to the impact is less than considerable.

Toxic Air Contaminants and Odors

Existing and future diesel-fueled mobile sources and stationary sources would generate TACs, particularly diesel particulate matter, which could pose a health risk in the Planning Area and downwind. However, the implementation of the proposed Specific Plan policies which require landscape buffers between sources and new development and limit the location of sensitive receptors near TAC sources reduce this impact to less than significant. There are no know existing or anticipated future sources of objectionable odors to be evaluated.

Construction

Construction activities pursuant to development under the Specific Plan would potentially increase local particulate concentrations primarily due to fugitive dust sources, and increase other criteria pollutant emissions primarily from equipment exhaust. However, the implementation of BAAQMD's required dust-control measures and the Antioch General Plan policies reduce this impact to less than significant, and this impact is not analyzed further.

Sensitive Receptors

This EIR does not evaluate the impact of air quality on sensitive receptors as it is a programmatic review of a plan, and the specific land uses are not yet known. Analysis based on project-specific development will need to be completed when permit applications are submitted for sensitive receptor uses within 300 feet of SR 4, SR 160, or the Union Pacific Railroad tracks. The Specific Plan policies place major limitations on the location of residential uses near rail lines and freeways, and establish requirements for air ventilations systems if necessary to comply with air quality standards. The proposed Specific Plan also requires project sponsors to inform future and/or existing sensitive receptors (such as hospitals, schools, residential uses, and nursing homes) of any potential health impacts resulting from nearby sources of dust, odors, or toxic air contaminants, and where mitigation cannot reduce these impacts.

IMPACTS AND MITIGATION MEASURES

3.2-1 New development under the proposed Specific Plan could be inconsistent with the assumptions in the *Bay Area 2005 Ozone Strategy*. *(Cumulatively Significant, Project Contribution Less than Considerable)*

In order to be consistent with the adopted Clean Air Plan (CAP), the *Bay Area 2055 Ozone Strategy*, the proposed Plan must demonstrate that the cumulative population growth for the City of Antioch with the projected development in the Planning Area does not exceed the values included in the CAP; and that the rate of increase in vehicles miles traveled (VMT) for the City of Antioch does not exceed the population growth rate. In addition, proposed Plans must demonstrate consistency with the Transportation Control Measures included in the *Bay Area 2055 Ozone Strategy.* Plans that cannot demonstrate consistency with these assumptions are considered to have a significant impact on air quality because they may contribute to delaying attainment of state and federal air quality standards.

Cumulative Population

The Association of Bay Area Governments (ABAG) is responsible for making long-term, realistic forecasts of population, households, and employment which are based on historic trends, as well as emerging trends in markets, demographics, and local policies (ABAG, 2007). Regional and local jurisdictions and agencies use ABAG projections to guide planning efforts. The regional population projections in the *Bay Area 2005 Ozone Strategy* are based on ABAG Projections 2002. These projections indicated that the City of Antioch would have approximately 117,500 residents in 2025. The current ABAG 2007 Projections indicate that in 2025 the population could be 119,600, which is 2,100 more residents that assumed in 2002. This alone would suggest that regional growth is inconsistent with the population assumptions in the adopted CAP.

Table 3.2-5 City of Antioch Projected Population Growth

	ABAG 2002		*ABAG 2007*	
Year	*Population*	*Percent Growth*	*Population*	*Percent Growth*
2005	94,000	4%	101,500	12%
2010	101,700	8%	106,000	4%
2015	107,900	6%	110,400	4%
2020	114,600	6%	115,000	4%
2025	117,500	3%	119,600	4%
2030			124,000	4%
2035			128,400	4%
2005-2025 Annual Growth Rate	1.1%		0.82%	

Source: ABAG Projections, 2002 and 2007

However, it is likely that citywide growth will be consistent with the growth projected in the *Bay Area Ozone Strategy 2005*, because there has been a substantial downturn in the economy. The City's historical growth rate indicates that the economic slowdown began to be seen in 2004, as shown in Table 3.2-6. Antioch has a high foreclosure rate, and thus the market for new units will remain very weak until those foreclosed units are absorbed by the market.

Table 3.2-6 Antioch Historical Growth

Year	*Population*	*Percent Growth*
1990	62,195	
1991	64,157	3.2%
1992	66,914	4.3%
1993	70,185	4.9%
1994	73,291	4.4%
1995	75,805	3.4%
1996	77,925	2.8%
1997	80,662	3.5%
1998	83,550	3.6%
1999	86,408	3.4%
2000	90,532	4.8%
2001	93,222	3.0%
2002	96,770	3.8%
2003	99,244	2.6%
2004	100,892	1.7%
2005	100,714	-0.2%
2006	100,163	-0.5%
2007	99,684	-0.5%
2008	100,361	0.7%

Source: California Department of Finance, 2008.

Based on the 2005-2025 projected annual growth rate of 0.82 percent (ABAG Projections 2007), and the California Department of Finance current population estimate as of the year 2008, the 2025 population would be projected to be 115,383. This calculation is based on the starting population of 100,361 in 2008, and an annual growth rate of 0.82 percent until 2025. The ABAG Projections 2002 estimate of 2025 population contained in the *Bay Area 2005 Ozone Strategy* is 117,500. The revised population estimate of 115, 383 is 2,117 fewer people than the ABAG 2002 projections for 2025. Therefore the population assumptions would be consistent with the assumptions used in the *Bay Area 2005 Ozone Strategy*.

Project Population

The proposed Specific Plan is not considered growth-inducing. Based on case studies from around the country, the implementation of rail transit generally affects the timing, location, and density of how development is accommodated in the station area, but it does not affect the underlying market demand and regional growth projections (City of Seattle Strategic Planning Office, 1999). The proposed Plan will facilitate development in the area only if the residential market improves and the other significant regional accessibility improvements are built. Therefore, the projected development in the Planning Area is a redistribution of growth, and is not in addition to growth already estimated under regional ABAG projections.

Cumulative VMT

The Contra Costa Transportation Authority (CCTA) Decennial Countywide Travel Demand Model was used to derive citywide VMT characteristics for year 2007 and 2035, including projected development within the Planning Area. In total, the City of Antioch generated 2,583,803 VMT, or 20.5 VMT per capita. For this study, per capita population refers to population plus employment. In 2035, the total VMT is expected to be 4,056,209, indicating an annual growth rate of 1.7 percent. The growth rate in daily VMT is almost double the expected population growth rate. Therefore, the City of Antioch continues to be inconsistent with the assumptions in the *Bay Area 2005 Ozone Strategy.*

Table 3.2-7 Antioch Population and VMT Growth Projections (2007 to 2035)

	2007	*2035*	*Percent Change*	*Annual Growth Rate*
Total Population	100,150	128,400	27%	0.9%
Daily VMT	2,583,803	4,056,209	57%	1.7%
Daily VMT per Capita	20.5	23.6	15%	0.5%

Source: California Department of Finance, 2007; ABAG, 2007; Fehr & Peers, 2008.

The primary reason that VMT is expected to grow faster than population is due to the high rate of employment growth in the City of Antioch. Between 2005 and 2035, ABAG projects that employment will increase from 20,510 to 40,800. This is almost double, and represents an annual growth rate of 2.4 percent. Employees tend to travel more than residents, which leads to higher total VMT.

Project VMT

At buildout, the travel demand model indicates that the VMT per capita within the Planning Area will be 21.9, which is 7 percent less than the citywide VMT per capita. (See Section 3.3: Circulation and Traffic Impacts Analysis.) The proposed Specific Plan supports a new employment center with about 5,600 jobs near eBART and Tri Delta Transit bus service. The large number of employees in the area contributes to a higher daily VMT per capita than if the area was a suburban residential or business park area. Because of the proximity to transit options, employees will have more opportunity to use transit or other alternative modes of travel. In addition, the Planning Area will contain a mix of commercial retail and services which will reduce the number of trips residents and employees need to make by personal vehicle. Trip-chaining, increased opportunities for walking and bicycling, and access to transit will reduce daily VMT for residents. Therefore, the projected development under Hillcrest Station Area Specific Plan's contribution to the cumulatively significant inconsistency with the adopted CAP is not cumulatively considerable.

Transportation Control Measures

The 1988 California Clean Air Act, Section 40919(d) requires regions to implement "transportation control measures to substantially reduce the rate of increase in passenger vehicle trips and miles traveled." Consistent with this requirement, a primary goal of the *Bay Area 2005 Ozone Strategy* is to reduce the number of trips and vehicle miles Bay Area residents travel in single-occupant vehicles through the implementation of nineteen Transportation Control

Measures (TCMs). Local governments should implement the following TCMs through local plans to be considered in conformance with the *2005 Ozone Strategy*:

- Support Voluntary Employer-Based Trip Reduction Programs
- Improve Bicycle Access and Facilities
- Improve Arterial Traffic Management
- Implement Local Clean Air Plans, Policies and Programs
- Conduct Demonstration Projects
- Increase Pedestrian Travel
- Promote Traffic Calming Measures (BAAQMD, 2006)

The Antioch General Plan contains several policies, many of which are listed in this section under Local Regulations, that support employer-based trip-reduction programs, improve pedestrian and bicycle access and facilities, improve arterial traffic management, and promote traffic calming measures. Development in the Planning Area would be subject to the policies contained in the General Plan that are consistent with the TCMs in the *2005 Ozone Strategy*.

Transit-oriented development (TOD) as is proposed under the Specific Plan is entirely consistent with the TCM measures in the *Bay Area 2005 Ozone Strategy*. The measures call for compact development around transit stations, which reduces the total vehicle miles traveled compared to existing development patterns typical in Antioch. The proposed Specific Plan policies listed below also incorporate many of the recommended TCMs.

Summary of Consistency with the Bay Area 2005 Ozone Strategy

The air quality in the Bay Area does not meet state and federal standards. The adopted Clean Air Plan, the *Bay Area 2005 Ozone Strategy*, is the plan that is intended to guide the region towards meeting the standards. Therefore, local plans should be consistent with the adopted CAP. While the regional and local population growth assumptions are likely to be consistent with the assumptions in the CAP, regional and local VMT is still growing faster than population due to employment growth. Therefore, the region's total growth is inconsistent with the adopted CAP, which is considered a significant cumulative impact.

The development projected in the Planning Area will be consistent with regional growth projected because the plan is intended to redistribute City growth rather than induce additional growth. The proposed Specific Plan establishes a framework for transit-oriented development that includes both residential and employment uses. The integration of the land use and circulation plans contribute to a daily VMT per capita that is 7 percent less in the Planning Area than in the City of Antioch in 2035. Finally, the proposed Specific Plan policies incorporate the recommended transportation control measures. Therefore, the project's contribution to the impact is less than considerable.

Specific Plan Policies that Reduce the Potential Impact

In addition to General Plan policies listed in the Regulatory Setting above, implementation of the Specific Plan policies listed below would ensure that the project does not contribute significantly to the regional growth that is inconsistent with the *Bay Area 2005 Ozone Strategy*.

Policies that Contribute to Reducing VMT: Connected Streets

C-1 Create a connected street network of arterials and collectors that connects with existing local and regional roadways, and provides circulation throughout the Station Area.

C-2 Create a connected network of local streets appropriate for a mixed use, pedestrian-oriented environment that extends throughout the Hillcrest Station Area. The network should establish:

- Blocks that are two to four acres in size to facilitate direct and easy pedestrian access between different land uses and destinations; and,
- Maximum block lengths of approximately 450 feet, or 600 feet where a mid-block pedestrian connection is provided (measured on the longest side of the block).

C-6 Minimize cul-de-sacs to the maximum extent possible. Where cul-de-sacs are necessary due to barriers such as freeways and detention basins:

- Provide at least one pedestrian and bicycle path at the circular end in order to connect to other streets and trails, to allow emergency vehicle access when warranted and to minimize response times for emergency access; and,
- Consider designing cul-de-sacs with a planted cul-de-sac island to limit the amount of pavement and increase stormwater management opportunities.

C-8 All applications for master plans, subdivisions, and development projects shall indicate how streets are connected to existing local and regional roadways, and how a connected network of streets is created throughout the Hillcrest Station Area.

Policies that Contribute to Reducing VMT: Mixed Uses

LU-3 Create a Transit Village in the western portion of the Hillcrest Station Area north of the Union Pacific Railroad right-of-way, with direct pedestrian, bicycle, bus transit, and automobile connections to the eBART station in the median of SR 4.

LU-8 Develop a Town Center in the eastern portion of the Hillcrest Station Area that incorporates retail, entertainment, hospitality, and residential uses in a "lifestyle center" or other pedestrian-oriented format.

LU-14 Allow compatible retail, restaurant, personal service, and other commercial uses within the Office TOD district. These uses must be on the ground floor and publicly accessible.

LU-16 Up to 100 square feet of compatible retail, restaurant, personal service, office, and other commercial uses per residential unit is allowed within the Residential TOD district. These uses must be on the ground floor or second floor, and must be publicly accessible.

LU-4 Locate high-density residential development within a half-mile walk from the eBART station.

- A range of housing types may be included in a development project, some of which may be as low as 10 units per acre provided the total project meets the minimum density standard.
- Residential units should be at least 300 feet away from rail and freeway rights-of-way, or incorporate construction measures that mitigate noise and air emission impacts.

Policies that Contribute to Reducing VMT: Support Alternative Modes

LU-24 Locate eBART parking so that it is accessible to passengers arriving by car, bus, bicycle, or on foot.

LU-27 Provide public bus facilities near each eBART station.

C-3 Design streets so that they incorporate medians, landscaping, sidewalks, street trees, travel lanes, bike lanes, and on-street parking, such that they:

- Are consistent with the desired pedestrian-oriented character and safety; and,
- Meet the needs of all users including drivers, pedestrians, persons with disabilities, bicyclists, and transit users.

C-36 Develop a multi-modal transit center at the median eBART station that provides access to eBART, buses, taxies, and shuttles. Design the transit facilities to include:

- Bus transit center and approximately 8-12 bus bays (moved from the Hillcrest Park-and-Ride lot to the eBART Station parking area);
- Kiss-and-ride limited term parking area;
- Disabled parking;
- Shuttle pick up and drop off area; and,
- Safe and attractive pedestrian and bike crossings to the station.

C-38 Design arterials and arterial intersections, particularly near pedestrian-oriented streets, to accommodate transit services, including bus stops, pull-outs, and shelters.

C-39 Prioritize pedestrian and bicyclist safety at intersections and street crossings with measures such as:

- Contrasting and/or textured paving crosswalks;
- In-ground, blinking crosswalk lights; and,
- Pedestrian refuges and bulb-outs.

C-41 Require development projects to provide walking and biking routes directly to major destinations such as parks, pedestrian centers, and eBART stations.

C-42 Adopt minimum bicycle parking requirements for residential and commercial projects. Bicycle parking should be designed with the following criteria:

- Short-term parking should be visible from the main entrance of buildings.
- Long-term parking should be provided in secure, well-lighted areas.

C-46 Sidewalks should have at least a five-foot wide clear path of travel.

C-47 Provide bike routes throughout the Station Area, as illustrated in Figure 3-5.

- Class 1: Continuous multi-purpose trail along East Antioch Creek and the detention basins
- Class 2: Slatten Ranch Road, Phillips Lane, and Viera Avenue

C-48 Allow bicycle circulation on all local streets, to the extent feasible.

C-49 Design and implement a multi-use trail loop around the wetlands and East Antioch Creek. This loop should include at least two pedestrian crossings across the creek.

C-50 Provide multi-use trails that connect from East Antioch Creek to existing neighborhood parks north of the Station Area.

Transportation Demand Management

C-22 Apply a Transportation Demand Management (TDM) program that reduces single-occupant vehicle trips to development exceeding 25,000 square feet of non-residential space. Components of TDM programs could include:

- Contributions to urban design projects, such as:
  - Bicycle parking, both short- and long-term, located in appropriate places; and,
  - Direct routes to transit (station, shuttle, or bus) and other key destinations that are well-lit and designed for pedestrian comfort.
- Employer-based programs, such as:
  - Carpool and vanpool ride-matching services;
  - Designated employer TDM contact;
  - Guaranteed ride home for transit users and car/vanpoolers;
  - Transit subsidies for employees;
  - Flexible work schedules, shortened work weeks, or options to telecommute;
  - Information campaigns using brochures, boards/kiosks, or other communication outlets; and,
  - Employer provided showers and lockers.
- Meeting or exceeding project design standards, such as:
  - Free and preferential parking for carpools, vanpools, low-emission vehicles, and car-share vehicles;
  - Passenger loading zones; and,
  - Bicycle- and pedestrian- friendly site planning and building design.

Mitigation Measures

No mitigation measures are required.

3.2-2 Implementation of the proposed Specific Plan would expose residents and employees to toxic air contaminants and odors. *(Less than Significant)*

New development will occur near existing and new sources of toxic air contaminants (TACs) under the proposed Specific Plan. The anticipated TAC sources include SR 4 and SR 160, Union Pacific freight trains, eBART DMU vehicles, the PG&E substation, and the former PG&E metering station that has soil contamination.

Diesel Particulate Matter

In 2035, local highways, SR 4 and SR 160, are anticipated to carry more than three times the number of cars and trucks they carried in 2006. The estimated number of trucks will increase from approximately 970 to 3,065, if the truck percentage of the traffic volume remains constant at 5 percent. In the worst case scenario, the total traffic volume on SR 4 will be 90,000 cars per day, according the travel demand model prepare for this EIR. As such, this highway is not classified as a high traffic freeway subject to CARB recommendations on siting new sensitive land uses.

Table 3.2-8 Freeway Traffic Volumes

	Eastbound AM Peak Hour		*Westbound AM Peak Hour*		*Eastbound PM Peak Hour*		*Westbound PM Peak Hour*	
Freeway Segment	*Existing*	*2035*	*Existing*	*2035*	*Existing*	*2035*	*Existing*	*2035*
SR 4, West of Hillcrest Avenue	2040	3,770	2,390	6,450	3,720	7,370	2,880	5,560
SR 4, East of Hillcrest Avenue	1050	3,780	1,340	5,290	2,140	5,410	1,670	5,070
SR 4 (Bypass), West of Laurel Rd		2,120		4,960		5,140		2,830
SR 160, North of East 18th St	416	510	392	1,180	552	1,230	745	620

Source: Fehr & Peers, 2008

Currently, very few freight trains run on the Union Pacific Mococo Railroad right-of-way. However, Union Pacific has announced plans to increase the number of trains on the Mococo Line running through the Planning Area from as many as 10-15 trains per day initially and as many as 25-40 trains per day in the long term. As part of the worst case scenario, this EIR assumes that there will be 40 trains per 24-hour period in 2035. This will be a new source of TACs in the Planning Area.

BART prepared a risk assessment of the proposed DMU technology and alignment to evaluate cancer probability from exposure to diesel-powered vehicles in the project corridor. The results indicate that increased exposure due to the DMU vehicles is below the threshold limits and not a significant contributor of diesel particulate matter to individuals living near the project corridor. The maximum modeled cancer risk from exposure to DMU particulate matter emissions is 3 in one million at the maximally exposed individual (MEI). The cancer risk at the MEI is below the

significance threshold of 10 in one million. This modeled impact is based on 27,840 DMU trips per year, two DMU engines per trip for the year 2015, and three DMU engines per trip for the year 2030. The MEI is the location of highest modeled impact at a residence and assumes an individual would be present at this location for 70 years. The location of the MEI is at a residence along Belle Drive in the City of Pittsburg.

In addition, it was found that the maintenance facilities, used for routine vehicle fueling, washing, and mechanical maintenance, would not generate a substantial amount of pollutant emissions. Diesel back-up generators would not be present at the maintenance facilities associated with the BART's proposed project. (San Francisco Bay Area Rapid Transit District, 2008)

In order to reduce the impact of diesel particulate matter on residents in the Planning Area, the proposed Specific Plan limits the development of residential units within 300 feet of the highways and railroad right-of-way. The urban design policies require that a minimum 25-foot landscaped buffer be provided next to highways and the railroad.

Stationary Sources

The existing PG&E substation and former metering station located near the intersection of Phillips Lane and Oakley Road are currently monitored for TAC emissions. The urban design policies of the proposed Specific Plan require a minimum 25-foot landscaped buffer to be provided around the PG&E substation. The former metering station is to be evaluated for human health risks prior to the siting of any sensitive receptors near the parcel.

Any new stationary sources that are constructed as part of development, such as dry cleaners and gas stations, are required by the General Plan to incorporate best available technologies (BACT) to mitigate air quality impacts. In addition all new sources must meet the performance standards defined in BAAQMD Regulation 10. Residential wood burning is also a potential source of TACs in the Planning Area. However, General Plan Policy 10.6.2.g requires that all new wood burning stoves and fireplaces comply with EPA and BAAQMD approved standards. Specific Plan policies also require that project sponsors inform sensitive receptors about any potential health impacts resulting from nearby sources of dust, odors, or toxic air contaminants.

Specific Plan Policy that Reduces the Impact

In addition to the General Plan policies, implementation of the Specific Plan policies listed below would reduce the impact of toxic air contaminants and odors on residents and employees in the Planning Area:

Sensitive Receptors

EH-1 Require air quality analysis based on project-specific development when permit applications are submitted for sensitive receptor uses (such as hospitals, schools, residential uses, and nursing homes) within 300 feet of SR 4, SR 160, the Union Pacific Railroad tracks, or stationary toxic air contaminant sources. If the results show that the carcinogenic human health risk exceeds the BAAQMD standards for toxic air contaminants, the City shall require upgraded ventilation systems with high efficiency filters or equivalent mechanisms to minimize health risks for future residents.

EH-2 Require project sponsors to inform future and/or existing sensitive receptors of any potential health impacts resulting from nearby sources of dust, odors, or toxic air contaminants, and where mitigation cannot reduce these impacts.

LU-23 Locate residential units away from railroads and freeways, to minimize impacts from noise and air emissions. Units should be at least 300 feet away from rail and freeway rights-of-way, or incorporate construction measures that mitigate noise and air emission impacts.

Mobile Sources

UD-20 Provide a continuous landscape buffer along both sides of the rail line corridor, outside of the Union Pacific and Chevron easements. The minimum width of the landscaped buffer shall be 25 feet if adjacent to a building; and 15 feet if adjacent to a street.

- Include landscaping, berming (typically 4 to 5 feet high), and at least one continuous row of trees throughout the area.
- This landscape buffer may be located within the Chevron easement if permission, encroachment permits, and maintenance agreements are obtained prior to final approval for a development project.

UD-21 Provide a continuous landscape buffer, with a minimum width of approximately 25 feet, immediately adjacent to both SR 4 and SR 160.

- Design landscaping along highway corridors to add significant natural elements and visual interest to soften the hard edged, linear travel experience that would otherwise occur.
- Include landscaping and a double row of trees.
- This landscape buffer may be located within the Caltrans right-of-way if permission, encroachment permits, and maintenance agreements are obtained prior to final approval for a development project.

Stationary Sources

UD-22 Provide a continuous landscape buffer, with a minimum width of approximately 25 feet, around the southern and eastern edges of the Hillcrest PG&E Substation.

- Include landscaping and a continuous double row of trees to screen the facility from new development, SR 4, and the eBART station.
- Work with PG&E when the company decides to expand substation operations within their site, to ensure an adequate separation is retained between the substation and development.

EH-39 As part of the project entitlement process, appropriate studies shall be conducted for each site with an open remediation case based on proposed land uses by a qualified environmental professional. The studies shall compare maximum soil, soil gas, and groundwater concentrations to relevant environmental screening levels (ESLs) and evaluate all potential exposure pathways from contaminated groundwater and soil. As required by the appropriate responsible agency, studies shall be prepared for the:

- Former Hickson-Kerley (FKP) Property (APN: 052-051-034);
- Chevron Old Valley Pipeline;
- TAOC New Love Pump Station Site (APN: 052-051-034); and,
- PG&E Oakley Metering Station (APN: 052-051-035)

Mitigation Measures

No mitigation measures are required.

3.2-3 Construction and demolition activities under the proposed Specific Plan could generate fugitive dust and other criteria pollutant emissions which could result health and nuisance impacts in the immediate vicinity of construction sites. ***(Less than Significant)***

Construction activities would occur intermittently at different sites in the Planning Area throughout the period of implementation of the proposed Specific Plan. Although impacts at any one location would be temporary, construction of individual projects could cause adverse effects on local air quality. Construction activities would generate substantial amounts of dust primarily from "fugitive" sources and lesser amounts of other criteria air pollutants primarily from the operation of heavy equipment construction machinery (primarily diesel operated) and construction worker automobile trips (primarily gasoline operated). BAAQMD's approach to analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions. BAAQMD considers any project's construction-related impacts to be less than significant if the required dust-control measures are implemented. Without these measures, the impact would be considered significant.

Construction within the Planning Area will likely entail the demolition of most, if not all (except the PG&E substation) existing structures. Available data indicate that at least two of the structures were built prior to 1980. Due to the likely existence of asbestos and lead dust, demolition activities in the Planning Area are subject to the requirements of BAAQMD Regulation 11, Rule 2.

The proposed Specific Plan entails large amounts of grading, including the potential removal of the two hills in the southeast quadrant. The General Plan requires that BAAQMD dust abatement actions are implemented at all construction sites (Policy 10.6.2a, as implemented by the City's Grading and Erosion Control Ordinance). Therefore, the air quality impacts from construction in the Planning Area are less than significant.

Specific Plan Policy that Reduces the Impact

In addition to the General Plan policies, implementation of the Specific Plan policies listed below would reduce the impact of construction activities in the Planning Area on air quality:

EH-40 At sites with known contamination issues, a Construction Risk Management Plan (RMP) shall be prepared and approved prior to commencement of construction, to protect the health and safety of construction workers and site users adjacent to construction activities.

EH-44 On parcels with existing structures, project sponsors shall submit to the City a project Demolition Plan that addresses onsite and offsite chemical and physical hazards. The Demolition Plan shall contain:

- Information for any existing structures or buildings, regarding the presence of hazardous building materials such as asbestos-containing building materials, PCBs, and lead-based paint in existing buildings proposed for demolition, additions, or alterations;
- Protocols for ensuring the safety of workers and the public during demolition or construction activities, as approved by the City. These protocols will include, but are not limited to:
  - Prior to demolition, hazardous building materials shall be removed and appropriately disposed of in accordance with all applicable guidelines, laws, and ordinances.
  - The demolition of buildings containing asbestos requires that licensed asbestos abatement contractors are retained and the Bay Area Air Quality Management District (BAAQMD) is notified ten days prior to initiating construction and demolition activities.
  - The Cal-OSHA-specified method of compliance for demolition activities involving lead-based paint including required respiratory protection, protective clothing, housekeeping, hygiene facilities, medical surveillance, and training shall be required.
  - Any electrical transformers and fluorescent light ballasts that do not have labels stating that they do not contain PCBs, shall be treated as hazardous waste and are subject to all hazardous waste regulations.

Mitigation Measures

No mitigation measures are required.