Chapter 14—Air Quality

14.1 Introduction

This chapter describes the existing air quality within the Project Area and evaluates the potential incremental air-quality impacts associated with the construction and operation of the Proposed Project. Although some temporary impacts would result during construction activities, the potential air-quality impacts of the Proposed Project are less than significant for both construction and operation phases of the Proposed Project. The Proposed Project will not cause any objectionable odors, expose sensitive receptors to increased pollutant concentrations, or otherwise significantly affect air quality.

14.1.1 Methodology

Data supplied by the U.S. Environmental Protection Agency (EPA) (1985a and b) were used to develop construction-emission estimates for the Project. The sulfur dioxide (SO_2) emissions are especially conservative, because emission factors used from EPA reference documents do not reflect the use of reformulated-diesel fuel.

The potential impact of Proposed Project construction activity on air quality is based on a "worst case" scenario using projections of the numbers and types of equipment that will be used during construction of the Project. It is unlikely, however, that this scenario will occur. The following "worst case" assumptions were made:

- A fleet vehicle age of 10 years
- A total project size (disturbed soil) of 60 acres
- All vehicles and equipment would be operated daily and simultaneously, based on air-quality guidelines

14.1.2 Applicable Laws and Regulations

14.1.2.1 Federal Programs

National ambient air-quality standards were established in 1970 for six pollutants: carbon monoxide (CO), ozone, particulate matter (PM_{10}), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). These pollutants are commonly referred to as "criteria" pollutants. The Act required states exceeding the standards to prepare air-quality plans showing how the standards were to be met by December 1987. The Clean Air Act (CAA) Amendments of 1990 directed EPA to set standards for toxic-air contaminants and required facilities to sharply reduce emissions.

The United States Environmental Protection Agency (EPA) adopted the CAA in 1970 and its amendments of 1977 and 1990. As mandated by the CAA, the EPA has established maximum-threshold standards for carbon monoxide (CO), particulate matter less than 10 microns in equivalent diameter (PM_{10}), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). These six pollutants are known to have adverse effects on human health and the environment. The EPA had termed these six pollutants "criteria" pollutants due to their known adverse affect on human health and the environment and the need to

reduce and mitigate emissions of these pollutants. To protect human health and the environment, the EPA has set "primary" and "secondary" maximum-ambient thresholds for the six criteria pollutants. The primary thresholds were set to protect human health; particularly children and the elderly, as well as individuals in the population who suffer from chronic lung conditions (e.g., asthma and emphysema). The secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings. The combined primary and secondary standards are termed the National Ambient Air Quality Standards (NAAQS). These standards have been included in Table 14-1, along with attainment status.

TABLE 14-1
Bay Area Air Quality Management District (BAAQMD) Attainment Status as of April 1999

		California Standards		Federal Standards	
Pollutant	**Averaging Time**	**Concentration**	**Attainment Status**	**Concentration**	**Attainment Status**
Ozone	8 Hour	—-		0.08 ppm	U
	1 Hour	0.09 ppm	N	0.12 ppm	N (Moderate)
Carbon Monoxide	8 Hour	9.0 ppm	A	9.0 ppm	A
	1 Hour	20.0 ppm	A	35.0 ppm	A
Nitrogen Dioxide	Annual	—-	—-	0.053 ppm	A
	1 Hour	0.25 ppm	A	—-	—-
Sulfur Dioxide	Annual	—-	—-	0.03 ppm	A
	24 Hour	0.04 ppm	A	0.14 ppm	A
	1 Hour	0.25 ppm	A	—-	—-
PM_{10}	Annual Geometric Mean	20 $\mu g/m^3$	N	50 $\mu g/m^3$	A [a]
	24 Hour	50 $\mu g/m^3$	N	150 $\mu g/m^3$	U
$PM_{2.5}$	Annual Arithmetic Mean	12 $\mu g/m^3$	—-	15 $\mu g/m^3$	U
	24 Hour	—-	—-	65 $\mu g/m^3$	U

[a] Annual arithmetic mean
N: Non-attainment
A: Attainment
U: Unclassified
Moderate: 0.138-0.160 ppb

The 1977 CAA required each state to develop and maintain a State Implementation Plan (SIP) for each criteria pollutant that violates the ambient air-quality standard. The SIP serves as a tool to avoid and minimize emissions of pollutants that are known to cause impacts that exceed the ambient thresholds and to achieve compliance with the NAAQS. In 1990, the CAA was amended to strengthen regulation of both stationary and mobile emission sources for the criteria pollutants.

14.1.1.2 California Programs

The California Clean Air Act requires regions to develop and implement strategies to attain California's ambient air-quality standards. For some pollutants, the California standards are more stringent than the national standards. Regional air-quality management districts like the Bay Area Air Quality Management District (BAAQMD) must prepare an air-quality plan specifying how federal and state standards will be met.

The Air Toxic "Hot Spots" Information and Assessment Act was enacted to identify toxic air-contaminant hot spots where emissions from specific sources may expose individuals to an elevated risk of adverse health effects. The Act requires that a business or other establishment identified as a significant source of toxic emissions provide the affected population with information about health risks posed by the emissions. This Project is not a significant source of toxics because no operational emissions will result; therefore, no further discussion or analysis is warranted.

The California Air Resources Board (CARB) oversees California air-quality policies. California ambient air-quality standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards are generally more stringent than the NAAQS and limit four additional pollutants, including sulfates, Hydrogen Sulfide (H_2S), Vinyl Chloride (C_2H_3Cl) and visibility-reducing particulates. The California CAA was approved in 1988 and requires each local air district in the State to prepare an air-quality plan to achieve compliance with the CAAQS. The national and California ambient air-quality standards are summarized in Table 14-1 and represent safe levels for each pollutant to avoid specific adverse effects to human health and the environment.

14.1.1.3 Bay Area Plans and Programs

The Bay Area Air Quality Plan is a regional plan that addresses how the Bay Area will attain federal and state air-quality standards. The plan states that major sources of emissions should install emission-control devices and that new sources need to apply for air-quality permits.

As discussed in subsection 14.3.2, the BAAQMD has adopted CEQA guidelines which set forth the conditions under which major Bay Area construction projects are deemed to have less-than-significant effects on air quality.

14.2 Existing Conditions

14.2.1 Meteorology and Climate

Several factors combine to give the San Francisco Bay region a unique and varied climate. California's location in the middle latitudes, uneven topography in the Bay region, and maritime surroundings combine to produce a climate-type generally characterized by moist, mild winters and dry summers.

Summertime in the area produces average maximum temperatures of between 60°F and 70°F, with average minimum temperatures ranging between 50°F and 55°F. Temperatures are also moderate in the winter, ranging from highs of 55°F to 60°F to lows in the 45°F to 50°F range. Fog is typical in the area, and is usually thicker and more resilient toward the coast, where it is produced in the summer by upsurging cold Pacific waters. The main source of wintertime fog in the region can be the Great Valley, where radiation fog forms in

the Sacramento River Delta and is advected through Suisun and San Pablo Bays and into San Francisco Bay on cool, easterly drainage winds (Root 1960).

The majority of rainfall in the area, 80 percent of the average yearly total of 21.5 inches, occurs from November through March, usually falling on about 10 days per month. Rainfall from May to September is relatively rare, with an aggregate of less than one inch, or only about five percent of the yearly average total. Off-season rains are usually the result of weak early- or late-season occluded fronts, or surges of subtropical moisture from the south. Considerable moisture is also produced through drizzle, although rarely enough to measure in one day. The most notable attribute of rain in the San Francisco Bay region is how much variation in rainfall occurs from year to year. Within a few miles in any direction, rainfall can vary up to 20 percent in any given year.

14.2.2 Air Quality

The Project lies within the San Francisco Bay Area Air Basin (Basin), a region that extends from Napa County to Santa Clara County. Three air-quality designations can be given to an area for a particular pollutant:

- **Non-attainment:** This designation applies when air-quality standards have not been consistently achieved.
- **Attainment:** This designation applies when air quality standards have been achieved.
- **Unclassified:** This designation applies when there is not enough monitoring data to determine if the area is non-attainment or attainment.

According to the California Air Resources Board (CARB) State Ambient Air Quality Standards (AAQS), the Basin is designated non-attainment for both ozone and particulate matter less than 10 microns (PM_{10} or "fugitive dust"). The AAQS for ozone is 0.09 parts per million (ppm) over a 1-hour averaging period, and for particulate matter less than 10 microns (PM_{10}), the AAQS is 50 micrograms per cubic meter of air ($\mu g / m^3$) averaged over 24-hours. The Basin is designated attainment for NO_2, SO_2, CO, sulfate particulates, and Pb particulates. By Federal standards, the Basin is also designated as non-attainment for 1-hour ozone and attainment for the annual arithmetic mean PM_{10} standard. It is unclassified for the Federal 24-hour PM_{10} annual arithmetic mean and 24-hour $PM_{2.5}$ and 8-hour ozone standards.

14.2.2.1 Ozone

Air quality in the Basin, with respect to ozone, has remained relatively uniform over the last decade relative to attainment of the federal air-quality standard. With years of attainment intermixed with years of non-attainment, 1995 marked the beginning of renewed exceedances of the Federal and State standards after 5 years of attainment. These exceedances are generally attributed to unique meteorological patterns, combined with increases in emissions during the summer months. Urban vehicular emissions, industrial-complex emissions, and high ambient temperatures in the Basin contribute to summertime ozone generation and subsequent air-standard violations.

In San Mateo County, State AAQS have been exceeded each year since 1996, except in 1998. Table 14-2 shows that peak hourly-average ozone concentrations ranged from 0.066 to 0.105 ppm in the Project Area during this time. Table 14-3 shows data from the BAAQMD

monitoring station located in Redwood City. This station provides data that is most representative of the Project Area. The station is the closest to the Project Area, approximately 4 miles from the Jefferson Substation. The Federal AAQS for ozone, both 1-hr and 8-hour, has not been exceeded in San Mateo County since 1996.

TABLE 14-2
San Mateo County Exceedances of the State Ambient Air Quality-Standards Between 1996 and 2001

	Ozone [a]		Carbon Monoxide [b]		PM_{10} [c]	
Year	Number of Exceedance Days	Maximum Hr. Conc. (ppm)	Number of Exceedance Days	Maximum Hr. Conc. (ppm)	Number of Exceedance Days	Maximum 24-hr. Conc. ($\mu g/m^3$)
1996	1	0.097	0	4	0	48
1997	0	0.090	0	4	2	70
1998	0	0.066	0	4	0	49
1999	0	0.082	0	4	3	85
2000	0	0.083	0	4	1	53
2001	1	0.105	0	4	3	59

Source: CARB, 1997-2002.

[a] The sampling frequency of ozone is continuous (hourly). The state ambient air quality standard for ozone is 0.9 ppm.

[b] The sampling frequency of CO is continuous (hourly). The state 1-hour ambient air quality standard for CO is 20 ppm.

[c] Sampling of PM10 is scheduled throughout the Project Area once every sixth a (24-hour sample). Therefore, each station has nominally 60 to 61 sampling days per year. All stations have the same schedule; that is, they all attempt to sample for PM10 on the same days. The number of station-sampling days per county would depend on the number of PM10 stations in the county. The 24-hour state ambient air quality standard for PM10 is 50 μg/m. Comparisons with the newly adopted annual PM10 and PM 2.5 standards have not been made due to the newness of the standards.

TABLE 14-3
Redwood City Station Annual Air-Quality Measurements Between 1996 and 2001

	Ozone		Carbon Monoxide		PM_{10}
Year	Maximum 8-Hr. Conc. (ppm)	Maximum 1-Hr. Conc. (ppm)	Maximum 1-Hr. Conc. (ppm)	Annual Geometric Mean ($\mu g/m^3$)	Maximum 24-hr. Conc. ($\mu g/m^3$)
1996	0.067	0.097	8.6	19.2	48.2
1997	0.073	0.090	10.7	22.3	69.8
1998	0.053	0.066	8.7	20.7	48.6
1999	0.063	0.082	8.0	22.4	84.8
2000	0.063	0.083	9.8	19.1	53.3
2001	0.067	0.105	7.1	—-	59.2

Source: Bay Area Air Quality Management District, 2002.
CARB, 1997-2002.

14.2.1.2 Fugitive Dust (PM_{10})

Fugitive dust (PM_{10}) is generated within the Project Area largely as a result of combustion sources and wind during dry conditions (CARB 2001). Between 1992 and 1997, the maximum 24-hour PM_{10} concentration within San Mateo County was 85µg / m^3. This level was reached in 1999. The number of violations of the PM_{10} state air-quality standard (i.e., over 50 µg / m^3) during 1996 to 2001 ranged from 0 to 3 days out of 61 sampling days in 2001. The Federal 25-hour PM-10 AAQS had not been exceeded in San Mateo County during this period. PM_{10} levels are elevated during the winter (due to stable conditions and low mixing heights) because of wood smoke, vehicle exhaust, and dry, windy conditions.

14.2.1.3 Carbon Monoxide (CO)

Local air-monitoring stations determined that the CO 1-hour air-quality standard was not violated in the Project Area during the last 10 years. Because there were no violations of the state (20 ppm) or federal (35 ppm) CO standard during a continuous 3-year period, the BAAQMD granted attainment status in 1995 for CO.

14.3 Potential Impacts

14.3.1 Significance Criteria

Standards of significance were derived from Appendix G of the revised CEQA Guidelines. Impacts from air quality would be considered significant if they were to:

- Violate any AAQS
- Contribute substantially to an existing or Project-related air quality violation
- Expose sensitive receptors to a substantial pollutant concentration

Sensitive air quality receptors are defined as facilities or land uses that include people who are particularly susceptible to the effects of air pollution, (e.g., children, the elderly, and people with illnesses). Schools, hospitals, and residential areas are all examples of sensitive receptors. The sensitive receptors located within 1 mile of the Project are found on Figure 12-1, Population, Housing, Public Services, and Utilities.

14.3.2 Construction Impacts

PM_{10} is the primary air-pollutant source from construction activities. In addition to PM_{10}, there are pollutants associated with construction-equipment usage, and with vehicular emissions from transporting workers, equipment, and supplies.

The "worst case" scenario for total Project emissions during the construction phase would be as follows (see Table 14-5 for breakdown of individual equipment contribution):

- PM_{10} 1.56 tons per day
- Reactive Organic Gas (ROG [ozone precursors]) 0.05 tons per day
- CO 0.86 tons per day
- NOx (as NO_2) 0.43 tons per day
- SO_2 0.05 tons per day

The total impact of the Project construction emissions is presented in Table 14-4. Control measures for Project construction emissions were compared to the BAAQMD CEQA Guidelines, "Thresholds of Significance" (BAAQMD 1996), and impacts were determined to be less than significant, as described in Section 2.3 of their document.

TABLE 14-4
Construction Emissions Estimates

Activity and Equipment	Emissions (Pounds/Day)				
	ROG	CO	NO_x (as NO_2)	SO_2	PM_{10}
Transmission Line Activity					
Overhead General Construction					
Rigging Truck (2)	0.59	9.24	1.08	0.00	0.00
Mechanic Truck (1)	0.14	1.69	0.17	0.00	0.00
Structure Foundation Excavation					
3/4-Ton Pick-up Truck (2)	0.59	9.24	1.08	0.00	0.00
1-Ton Truck (1)	1.52	14.32	33.36	3.63	2.05
Truck Mounted Digger (2)	2.40	10.56	27.04	2.29	2.22
Crawler Backhoe (1)	1.52	28.72	10.16	2.88	1.52
Concrete Truck (2)	3.04	28.64	66.72	7.26	4.10
Structure Delivery and Setup					
Helicopter	1.60	8.00	40.00	0.00	0.00
3/4-Ton Pick-up Truck (2)	0.59	9.24	1.08	0.00	0.00
Boom Truck (2)	8.96	272.00	6.74	0.37	0.90
Mobile Crane (2)	8.96	272.00	6.74	0.21	0.90
Underground Delivery and Setup					
Rigging Truck (1)	0.30	4.62	0.54	0.00	0.00
Mechanics Truck (1)	0.14	1.69	0.17	0.00	0.00
Small Mobile Crane (1)	1.52	14.32	33.36	3.63	2.05
Shop Van (2)	0.59	9.24	1.08	0.00	0.00
2-Ton Flat Bed Truck (1)	1.52	14.32	33.36	3.63	2.05
Excavation and Construction					
Crawler Backhoe (1)	1.52	28.72	10.16	2.79	1.25
Cement Truck (2)	3.42	32.22	75.06	8.17	4.61
Dump Truck (2)	3.42	32.22	75.06	8.17	4.61
Mobile Crane (1)	4.98	136.00	3.37	0.11	0.45
Transport Truck (1)	0.14	1.36	0.17	0.00	0.00
Wire Installation					
Cable Puller Truck (1)	1.52	28.72	10.16	2.79	1.25
Wench Truck (1)	1.52	28.72	10.16	2.79	1.25
1-Ton Truck (2)	3.04	28.64	66.72	7.26	4.10
Mobile Crane (1)	4.89	136.00	3.37	0.11	0.45

TABLE 14-4
Construction Emissions Estimates

Activity and Equipment	Emissions (Pounds/Day)				
	ROG	CO	NO_x (as NO_2)	SO_2	PM_{10}
Fugitive Dust					
Grading and Backfill	0.00	0.00	0.00	0.00	2,983.5
Line Activity Totals (pounds/day)	**58.43**	**1160.44**	**516.91**	**56.09**	**3,017.26**
Line Activity Totals (tons/day)	**0.03**	**0.58**	**0.26**	**0.03**	**1.51**
Substation Construction					
General Construction					
Rigging Truck (1)	0.30	4.62	0.54	0.00	0.00
Mechanic Truck (1)	0.14	1.69	0.17	0.00	0.00
Structure Foundation Excavation					
3/4-Ton Pick-up Truck (4)	1.18	18.47	2.16	0.00	0.00
1-Ton Truck (1)	1.52	14.32	33.36	3.63	2.05
Truck Mounted Digger (1)	1.20	5.28	13.52	1.30	1.11
Crawler Backhoe (1)	1.52	28.72	10.16	2.74	1.25
Concrete Truck (1)	1.52	28.72	10.16	2.74	1.25
Structure Delivery and Setup					
3/4-Ton Pick-up Truck (2)	0.59	9.24	1.08	0.00	0.00
Boom Truck (1)	4.98	136.00	3.38	0.19	0.45
Mobile Crane (1)	4.98	136.00	3.38	0.19	0.45
Wire Installation					
1-Ton Truck (1)	3.04	28.64	66.72	7.26	4.10
3/4-Ton Pick-up Truck (10)	2.96	46.18	5.40	0.00	0.00
Cleanup and Landscaping					
2-Ton Flat Bed Truck (2)	1.52	14.32	33.36	3.63	2.05
3/4-Ton Pick-up Truck (2)	1.88	18.47	2.16	0.00	0.00
1-Ton Truck (2)	3.04	28.64	66.72	7.26	4.10
D-3 Bulldozer	1.52	14.32	33.36	2.78	1.32
Concrete Truck (2)	3.04	28.64	66.72	7.26	4.10
Fugitive Dust					
Grading and Backfill	0.00	0.00	0.00	0.00	77.00
Substation Construction Total (Pounds/day)	**34.93**	**562.27**	**352.10**	**38.96**	**99.23**
Substation Construction Total (Tons/day)	**0.02**	**0.28**	**0.18**	**0.02**	**0.05**
Project Construction Total (Tons/day)	**0.05**	**0.86**	**0.43**	**0.05**	**1.56**

Source: EPA, 1995.

An emissions inventory of the Bay Area Air Basin by source category is presented in Table 14-5. This table also contains the net percent (unabated) contribution of the Project. Even when assuming "worst case" conditions with all equipment and all excavation operations conducted

simultaneously, these contributions are small when compared to the total air quality in the Bay Area. The likelihood of this scenario occurring is unrealistic because those operations cannot logically occur together, (e.g., a foundation must be laid before the equipment can be installed). Furthermore, the BAAQMD CEQA Guidelines, Section 2.3, state that "if all the control measures indicated in Table 2 of the Guidelines, as appropriate (depending on the size of the Project Area), will be implemented, then air pollutant emissions from construction activities would be deemed a less than significant impact." Therefore, no significant impacts would occur for the sensitive receptors identified for the Project in Figure 12-1, Population, Housing, Public Utilities and Services.

TABLE 14-5
2001 Bay Area Annual Average Emissions by Source Category

	Daily Emissions (Tons/Day)				
Source Category	**PM_{10}**	**ROG**	**NOx (as NO2)**	**SO_2**	**CO**
Industrial Processes	1.44	1.35	0.01	—-	0.00
Organic Compound Evaporation	—-	8.13	—-	—-	—-
Combustion	0.10	0.09	1.84	0.21	1.00
Mobile Sources	1.62	32.35	48.56	2.26	235.34
Natural Sources	0.06	0.02	0.01	—-	0.33
Miscellaneous	11.95	9.56	2.02	0.16	19.12
Area Totals	15.17	51.5	52.44	2.63	255.79
Project Construction Contribution	1.56	0.05	0.43	0.05	0.86
Percent Net Contribution	10.3	0.1	0.8	1.9	0.3

Source: BAAQMD, 2001.

Although the air-quality impacts from construction are potentially significant, implementation of Mitigation Measures 14.1, 14.2, and 14.3 will reduce temporary air emissions from Project construction to a less-than-significant impact.

14.3.3 Operation Impacts

Once constructed and operating, the Project will not create any air emissions. Vehicular emissions associated with maintenance and repair of the Project components would be the only sources of emissions during the operational phase. As shown in Table 14-6, using an estimated total of 1,000 vehicle miles per month (both light-duty and heavy-duty trucks) for maintenance and repairs, the total emissions during the operational phase will be considerably less than the BAAQMD thresholds of significant contribution of 80 pounds / day maximum for ROG, NO_X, and PM_{10} (BAAQMD 1996). Potential impacts to air quality are considered less than significant and therefore, mitigation measures are not required.

TABLE 14-6
Operations-Emissions Estimates

Activity and Equipment	Emissions (Pounds/Day)				
	ROG	CO	NO_2	SO_2	PM_{10}
Light Duty Truck (800 miles/month)	0.08	1.64	0.42	0.00	0.00
Heavy Duty Truck (200 miles/month)	0.04	0.62	0.08	0.28	0.16
Substation and Power Line Operations Total (pounds/day)	0.12	2.26	0.50	0.28	0.16
Substation and Power Line Operations Total (tons/day)	0.00006	0.00114	0.00026	0.00014	0.00008

Source: Environmental Protection Agency, 1985a and b.

14.4 Mitigation Measures

14.4.1 Construction Mitigation Measures

To further reduce the construction-related impacts on air quality, the following mitigation measures are proposed.

Mitigation Measure 14.1: All personnel working on the Project will be trained prior to starting construction on methods for minimizing air-quality impacts during construction.

Mitigation Measure 14.2: Although the release of PM_{10} associated with Project construction is insignificant relative to ambient PM_{10} levels, the mitigation measures shown in Table 14-7 will be implemented to minimize PM_{10} emissions.

According to the BAAQMD CEQA Guidelines, implementation of the above mitigation measures during construction will further reduce air-quality impacts associated with PM_{10} emissions to less-than-significant levels.

TABLE 14-7
BAAQMD Control Measures for Construction Emissions of PM_{10}

Basic Control Measures (to be implemented at all sites)
Water all active construction areas at least twice daily
Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard
Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and the staging area at construction sites
Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites
Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets
Enhanced Control Measures (to be implemented at construction sites greater than four acres in area)
Hydroseed or apply (non-toxic) soil stabilizers to inactive construction area (previously graded areas inactive for ten days or more)
Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (e.g., dirt, sand)
Limit traffic speeds on unpaved roads to 15 mph
Install sandbags or other erosion-control measures to prevent silt runoff to public roadways
Replant vegetation in disturbed areas as quickly as possible

Source: BAAQMD, 1999.

Mitigation Measure 14.3: Although short-term construction vehicle emissions will be minimal relative to ambient emission levels, the following mitigation measures will be implemented:

- Construction workers will carpool when possible.
- Vehicle idling time will be minimized.

14.4.2 Operation Mitigation Measures

Because air-quality impacts during operations will be less than significant, mitigation measures are not required.

14.5 References

Bay Area Air Quality Management District (BAAQMD). 1993. *1993 Air Quality Handbook.*

Bay Area Air Quality Management District. 1996. *BAAQMD Guidelines, Assessing the Air quality Impact of Projects and Plans.*

California Environmental Protection Agency, Air Resources Board (CARB). 1997. *California Air Quality Data Summary of 1996 Air Quality Data, Gaseous and Particulate Pollutants.*

CARB. 1998. *California Air Quality Data Summary of 1997 Air Quality Data, Gaseous and Particulate Pollutants.*

CARB. 1999. *California Air Quality Data Summary of 1998 Air Quality Data, Gaseous and Particulate Pollutants.*

CARB. 2000. *California Air Quality Data Summary of 1999 Air Quality Data, Gaseous and Particulate Pollutants.*

CARB. 2000. *Website:* www.arb.ca.gov/app/emisinv/emssumcat_query.php, *Emissions by Category, 200 Estimated Annual Average Emission, Contra Costa County 2001.* October.

CARB. 2001. *The 2001 California Almanac of Emission and Air Quality.*

California Office of Planning and Research. 1994. *Threshold of Significance: Criteria for Defining Environmental Significance.* CEQA Technical Advice Series, September.

U. S. Environmental Protection Agency (USEPA). 1985a. *AP-42, Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources.*

USEPA. 1985b. *AP-42, Compilation of Air Pollutant Emission Factors, Volume II: Mobile Sources.*

USEPA. 1996. *Use of Locality-Specific Transportation Data for the Development of Mobil Source Emission Inventories.*

USEPA. 1998. *AP-42, Compilation of Air Pollutant Emission Factors, Volume II: Mobile Sources, Appendix H.*