CALIFORNIA INCLINE BRIDGE REPLACEMENT PROJECT
AIR QUALITY IMPACT REPORT

taha
environmental planners

Prepared for

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Prepared by

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ERRATA

This technical background report was drafted prior to the final definition of the current Build Alternative, with Design Options 1 and 2, presented in the draft environmental impact report/environmental assessment (DEIR/EA). Accordingly, several additional build alternatives and design options, other than those presented in the DEIR/EA, are still discussed in this report. They no longer apply and should be disregarded.

Since the preparation of this report, the Caltrans Standard Environmental Reference (SER) Annotated Outline guidance for the Final EIR/EA document; and the project construction schedule has changed. Please refer to the air quality and climate change analysis presented in the Final EIR/EA document for the latest and most up-to-date information. Revisions include the following: 1) updates that incorporate current SER discussion language, 2) updates to regulatory and environmental setting (i.e., California and national ambient air quality standards, local ambient monitoring data, and South Coast Air Basin attainment status), 3) updates to construction impacts analysis based on current construction schedule, and 4) updates to CO hotspot analysis based on revised traffic impact analysis.

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AIR QUALITY IMPACT REPORT

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1.0 SUMMARY OF FINDINGS

Terry A. Hayes Associates LLC has completed an air quality impact analysis for the proposed California Incline Bridge Replacement Project. Key findings are listed below.

1.1 NO-BUILD ALTERNATIVE

Under the No-Build Alterative, no structural or physical changes would be made to the California Incline. The California Incline would continue to function under existing conditions and would not contribute to regional construction emissions. The No-Build Alternative would result in no impact under CEQA and would not result in an adverse impact under NEPA.

1.2 ALTERNATIVE 1: DEMOLITION OF EXISTING STRUCTURE AND REPLACEMENT WITH NEW STRUCTURE

- Construction Emissions (CEQA) – Regional and localized emissions would exceed the applicable standards and would result in a significant and unavoidable impact.

- Construction Emissions (NEPA) – Pollutant concentrations would not exceed the federal standards and would not result in an adverse impact.

- Detour-Related Hot Spot Analysis (CEQA and NEPA) – Localized carbon monoxide concentrations would not exceed the State or federal standards. Emissions associated with detour-related traffic would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

- Toxic Air Contaminants and Odors (CEQA and NEPA) – Toxic air contaminant emissions and odors would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

- Operational Emissions (CEQA and NEPA) – Operational emissions would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

- Mobile Source Air Toxics (NEPA) - Alternative 1 does not have the potential for meaningful mobile source air toxic emissions.

- Transportation Conformity (NEPA) - Alternative 1 is exempt from all project-level conformity requirements and is consistent with regional transportation plans.

- Global Climate Change (CEQA) - Alternative 1 would not contribute to global climate change.

1.3 ALTERNATIVE 2: REHABILITATE AND WIDEN EXISTING STRUCTURE

- Construction Emissions (CEQA) – Regional and localized emissions would exceed the applicable standards and would result in a significant and unavoidable impact.

- Construction Emissions (NEPA) – Pollutant concentrations would not exceed the federal standards and would not result in an adverse impact.

- Detour-Related Hot Spot Analysis (CEQA and NEPA) – Localized carbon monoxide concentrations would not exceed the State or federal standards. Emissions associated with detour-related traffic would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

- Toxic Air Contaminants and Odors (CEQA and NEPA) – Toxic air contaminant emissions and odors would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

- Operational Emissions (CEQA and NEPA) – Operational emissions would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

- Mobile Source Air Toxics (NEPA) - Alternative 2 does not have the potential for meaningful mobile source air toxic emissions.

- Transportation Conformity (NEPA) - Alternative 2 is exempt from all project-level conformity requirements and is consistent with regional transportation plans.

- Global Climate Change (CEQA) - Alternative 2 would not contribute to global climate change.

2.0 INTRODUCTION

2.1 PURPOSE

The purpose of this report is to evaluate the potential air quality impacts of the proposed California Incline Bridge Replacement Project (proposed project). Potential air quality impacts are analyzed for construction and operation of the proposed project. Mitigation measures for potential significant impacts are recommended, when appropriate, to reduce air quality impacts.

2.2 PROJECT DESCRIPTION

Located within the City of Santa Monica, the California Incline, which is in close proximity to the Pacific coastline (within 950 feet), provides pedestrian and vehicular access to Santa Monica Beach. The Incline bisects Palisades Park, which extends the length of the bluffs, from the intersection of Ocean and California Avenues at the top of the Palisades bluffs, to State Route 1 (SR-1) at the base of the bluffs.

Repairs to the existing bridge on the Incline are necessary because of its deteriorated condition, which is evidenced by the dilapidated appearance, including spalling (i.e., breaking of concrete into chips or fragments) and cracks. According to bridge inspection reports, the bridge is in poor condition. The asphalt deck at the south end of the bridge has potholes, and the sidewalk near the north end exhibits spalling of up to 12 inches wide and 3 inches deep. Furthermore, the handrail has exposed rusted rebar. As of 1994, the California Incline had an estimated sufficiency rating of 35.8. The California Incline is classified as structurally deficient and qualifies for replacement under the federal Highway Bridge Program.[1]

The proposed project is subject to federal, as well as State and City of Santa Monica environmental review requirements because the City of Santa Monica proposes the use of federal funds from the Federal Highway Administration (FHWA) and/or the project requires a FHWA approval action. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The City of Santa Monica is the project proponent and the lead agency under CEQA.

FHWA's responsibility for environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the California Department of Transportation (Caltrans) under its assumption of responsibility pursuant to Section 6005 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, codified at 23 United States Code 327(a)(2)(A). Effective July 1, 2007, FHWA has assigned, and Caltrans has assumed, all of the United States Department of Transportation secretary's responsibilities under NEPA.

2.2.1 BUILD ALTERNATIVES

After preliminary design review, a replacement alternative with five design options and a rehabilitation alternative were selected for consideration. The California Incline would remain a three-lane roadway (two lanes in the southbound direction toward Ocean Avenue and one lane

[1]According to FHWA guidelines, if the sufficiency rating for a bridge is less than 50 and it is designed as structurally deficient or functionally obsolete, the bridge is eligible for replacement using Highway Bridge Program funding.

in the northbound direction toward SR-1) that terminates at each end with a signalized intersection. The three 12-foot-wide vehicular lanes would be maintained, and the proposed improvements would be designed to accommodate both pedestrians and bicyclists. Construction of the Incline would also require reconstruction of the upper and lower approaches at Ocean Avenue and SR-1, respectively. Both build alternatives, including all design options, would require the installation of "soil nails" for the geologic stability of the upper bluff slope.[2] No lighting is proposed on the Incline. Construction of the proposed project would last approximately 12 months, beginning in mid-2011 and ending by 2012. The California Incline would be closed to traffic for the entire construction period.

Alternative 1 – Option A– Earth Retaining Structure

Due to the alignment of the Incline along the bluff slope, an earth-retaining structure in the form of a mechanically stabilized earth wall is one of the design options under consideration to replace the existing Incline structure.[3] The upper bluff slope would be reinforced with soil nails, and a soil nail wall and mechanically stabilized earth wall would be constructed to stabilize the lower bluff slope up to the roadway elevation.

Alternative 1 – Option B – Sidehill Viaduct Structure

The existing California Incline is considered a sidehill viaduct structure; therefore, replacing it with a similar sidehill viaduct structure is under consideration.[4] The substructure would be comprised of a combination of footings and cast-in-drilled-hole (CIDH) piles. Shallow footings would be cast on the east side, while CIDH piles would be used on the west side. The superstructure would be a cast-in-place or precast concrete structure and would require a soil nail wall and a concrete facing over the lower slope bluffs to minimize erosion potential at the footings.

Alternative 1 – Option C – Cast-In-Place Concrete Slab Bridge

A standard reinforced concrete cast-in-place slab bridge supported on CIDH piles is also being considered for the replacement structure. This structure would require a large amount of falsework during construction, which would be supported on the bluff slope.[5] Temporary footings would be needed to support the falsework bents. Some bluff features may need to be removed to bring in equipment to construct the falsework.

Alternative 1 – Option D – Precast Slab Bridge Spanning Transversely

A precast slab bridge spanning transversely is one of the design options under consideration for the replacement structure. A precast slab bridge would be supported on CIDH piles so that it would be independently stable and protected from slope erosion. Precast panels would span transversely between two longitudinal girders that would be connected directly to the CIDH piles. The CIDH piles would be cast in two lines, one near the slope face and one along the

[2]Closely spaced steel bars that reinforce and strengthen the existing soil layer.

[3]Mechanically stabilized earth walls are gravity structures that utilize granular backfill, reinforcing strips, and a precast concrete face to create a retaining wall capable of withstanding high earth pressures.

[4]Viaducts are bridges that consist of a series of short spans supported on arches, piers, or columns.

[5]Falsework is temporary construction work on which a main work is wholly or partly built and supported until the main work is strong enough to support itself.

bluff edge to minimize disturbance to the slope. The longitudinal bent caps would be cast in place on the ground and on falsework. The falsework needed would be relatively small, and the forms could be supported on pile extensions to minimize ground disturbance.

The precast slabs would be designed to act compositely with a cast-in-place topping slab. The use of a topping slab would ensure structural continuity between the precast slabs, increase the strength of the superstructure for negative bending over the cantilever, and vary in thickness to provide the desired roadway crown. A fascia panel would be used on the transverse edge to provide a smooth surface at the ends of the slabs and replicate the existing concrete bracket.

Alternative 1 – Option E – Precast Slab Bridge Spanning Longitudinally

A precast slab bridge spanning longitudinally is also under consideration; its benefits would be similar to those of the transversely spanning structure described under Option D. This type of structure would be supported on CIDH piles, which would be aligned in transverse bents that are spaced at the span length of the precast slabs. A cast-in-place topping slab would be used to provide structural continuity and the desired roadway profile.

Alternative 2 – Rehabilitate and Widen Existing Structure

Under this alternative, the existing structure would be rehabilitated and strengthened to improve the sufficiency rating. It would also be widened to the proposed roadway width. This alternative would include removing the corroded reinforcing bars, repairing the concrete, and strengthening the existing structure with additional concrete columns and beams. The existing Incline structure would be widened by extending the concrete deck slab and adding additional beams, columns, and footings.

2.2.2 NO-BUILD ALTERNATIVE

The No-Build Alternative would result in no structural or physical changes to the Incline. Under this alternative, the California Incline would continue to deteriorate

3.0 AIR QUALITY

This section examines the degree to which the proposed project may cause significant adverse changes to air quality. This analysis focuses on air pollution from two perspectives: daily emissions and pollutant concentrations. "Emissions" refer to the quantity of pollutants released into the air, measured in pounds per day (ppd). "Concentrations" refer to the amount of pollutant material per volumetric unit of air, measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

3.1 POLLUTANTS & EFFECTS

Criteria air pollutants are defined as pollutants for which the federal and State governments have established ambient air quality standards for outdoor concentrations to protect public health. The federal and State standards have been set at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include carbon dioxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), particulate matter ten microns or less in diameter (PM_{10}), and lead (Pb). These pollutants are discussed below.

Carbon Monoxide. CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spacial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February.[6] The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Ozone. O_3 is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG), which includes volatile organic compounds (VOC), and nitrogen oxides (NO_X) react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of ROG and NO_X, the components of O_3, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O_3 formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. The greatest source of smog-producing gases is the automobile. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

[6] Inversion is an atmospheric condition in which a layer of warm air traps cooler air near the surface of the earth, preventing the normal rising of surface air.

Nitrogen Dioxide. NO_2, like O_3, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to O_3 formation. NO_2 also contributes to the formation of PM_{10}. High concentrations of NO_2 can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase of bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 ppm.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO_2 are coal and oil used in power plants and industries. Generally, the highest levels of SO_2 are found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g. motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as SO_2, NO_X, and VOC. Inhalable particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Lead. Pb in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturers of batteries, paint, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities have become lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans. A toxic substance released into the air is considered a toxic air contaminant (TAC). TACs are identified by State and federal agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management was designed to protect residents from the health effects of toxic substances in the air.

Greenhouse Gases. Greenhouse gas (GHG) emissions refer to a group of emissions that are generally believed to affect global climate conditions. The greenhouse effect compares the Earth and the atmosphere surrounding it to a greenhouse with glass panes. The glass panes in a greenhouse let heat from sunlight in and reduce the amount of heat that escapes. GHGs, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), keep the average surface temperature of the Earth close to 60 degrees Fahrenheit (°F). Without the greenhouse effect, the Earth would be a frozen globe with an average surface temperature of about 5°F.

In addition to CO_2, CH_4, and N_2O, GHGs include hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and water vapor. Of all the GHGs, CO_2 is the most abundant pollutant that contributes to climate change through fossil fuel combustion. CO_2 comprised 83.3 percent of the total GHG emissions in California in 2002.[7] The other GHGs are less abundant but have higher global warming potential than CO_2. To account for this higher potential, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as CO_2e. The CO_2e of CH_4 and N_2O represented 6.4 and 6.8 percent, respectively, of the 2002 California GHG emissions. Other high global warming potential gases represented 3.5 percent of these emissions.[8] In addition, there are a number of human-made pollutants, such as CO, NO_X, non-methane VOC, and SO_2, that have indirect effects on terrestrial or solar radiation absorption by influencing the formation or destruction of other climate change emissions.

3.2 REGULATORY SETTING

Federal

United States Environmental Protection Agency. The Federal Clean Air Act (CAA) governs air quality in the United States. The United States Environmental Protection Agency (USEPA) is responsible for enforcing the CAA. USEPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). NAAQS are required under the 1977 CAA and subsequent amendments. USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. USEPA has jurisdiction over emission sources outside State waters (e.g., beyond the outer

[7]California Environmental Protection Agency, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006, p. 11.

[8]Ibid.

continental shelf) and establishes various emission standards, including those for vehicles sold in States other than California. Automobiles sold in California must meet stricter emission standards established by the California Air Resources Board (CARB).

As required by the CAA, NAAQS have been established for seven major air pollutants: CO, NO_2, O_3, $PM_{2.5}$, PM_{10}, SO_2, and Pb. The CAA requires USEPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The federal standards are summarized in **Table 3-1**. The USEPA has classified the Basin as maintenance for CO and nonattainment for O_3, $PM_{2.5}$, and PM_{10}.

Under the 1990 Federal Clean Air Act Amendments, the United States Department of Transportation cannot fund, authorize, or approve federal actions to support programs or projects that are not first found to conform to Federal Clean Air Act requirements. Transportation conformity is a way to ensure that federal funding and approval goes to those transportation activities that are consistent with air quality goals. A conformity determination demonstrates that total emissions projected for a plan or program are within the emissions limits ("budgets") established by the State Implementation Plan and that transportation control measures are implemented in a timely fashion. Conformity applies to transportation plans, transportation improvement programs, and projects funded or approved by the FHWA or the Federal Transit Administration (FTA) in nonattainment or maintenance areas. The FHWA and FTA jointly make conformity determinations within air quality non-attainment and maintenance areas to ensure that federal actions conform to the "purpose" of State Implementation Plans. Section 176 of the Federal Clean Air Act specifies that no federal agency may approve, support, or fund an activity that does not conform to the applicable implementation plan. In late 1993, United States Environmental Protection Agency promulgated final rules for determining conformity of transportation plans, programs, and projects. Certain projects are exempt from the transportation conformity requirements of the Federal Clean Air Act. Exempt transportation projects are listed in Table 2 of 40 CFR Part 93.126. Transportation projects listed in Table 2 of 40 CFR Part 93.126 will not be exempt from transportation conformity if a Metropolitan Planning Organization in consultation with other agencies, the USEPA, the FHWA, or FTA concur that the transportation project has potentially adverse emissions impacts for any reason and/or the project is regional significant (40 CFR Part 93.121).

State

California Air Resources Board. In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). In California, the CCAA is administered by CARB at the State level and by the air quality management districts and air pollution control districts at the regional and local levels. The CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting the State requirements of the CAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective in March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in

turn administer air quality activities at the regional and county levels. The State standards are summarized in **Table 3-1**.

TABLE 3-1: STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS AND ATTAINMENT STATUS FOR THE SOUTH COAST AIR BASIN

Pollutant	Averaging Period	California		Federal	
		Standards	Attainment Status	Standards	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m^3)	Nonattainment	--	--
	8-hour	0.070 ppm (137 µg/m^3)	n/a	0.075 ppm (147 µg/m^3)	Nonattainment
Respirable Particulate Matter (PM_{10})	24-hour	50 µg/m^3	Nonattainment	150 µg/m^3	Nonattainment
	Annual Arithmetic Mean	20 µg/m^3	Nonattainment	--	--
Fine Particulate Matter ($PM_{2.5}$)	24-hour	--	--	35 µg/m^3	Nonattainment
	Annual Arithmetic Mean	12 µg/m^3	Nonattainment	15.0 µg/m^3	Nonattainment
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Maintenance
	1-hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Maintenance
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Attainment	0.053 ppm (100 µg/m^3)	Attainment
	1-hour	0.18 ppm (338 µg/m^3)	Attainment	--	--
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	--	--	0.030 ppm (80 µg/m^3)	Attainment
	24-hour	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (365 µg/m^3)	Attainment
	3-hour	--	--	--	--
	1-hour	0.25 ppm (655 µg/m^3)	Attainment	--	--
Lead (Pb)	30-day average	1.5 µg/m^3	Attainment	--	--
	Calendar Quarter	--	--	0.15 µg/m^3	Attainment

n/a = not available
SOURCE: CARB, *Ambient Air Quality Standards*, November 17, 2008.

The CCAA requires CARB to designate areas within California as either attainment or non-attainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as non-attainment for a pollutant if air quality data shows that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not

considered violations of a State standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the Los Angeles County portion of the Basin is designated as a nonattainment area for O_3, $PM_{2.5}$, and PM_{10}.[9]

Local

South Coast Air Quality Management District. The 1977 Lewis Air Quality Management Act created the SCAQMD to coordinate air quality planning efforts throughout Southern California. This Act merged four county air pollution control agencies into one regional district to better address the issue of improving air quality in Southern California. Under the Act, renamed the Lewis-Presley Air Quality Management Act in 1988, the SCAQMD is the agency principally responsible for comprehensive air pollution control in the region. Specifically, the SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain State and federal ambient air quality standards in the district. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. The SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

The SCAQMD monitors air quality within the project area. The SCAQMD has jurisdiction over an area of 10,743 square miles, consisting of Orange County; the non-desert portions of Los Angeles, Riverside, and San Bernardino counties; and the Riverside County portion of the Salton Sea Air Basin and Mojave Desert Air Basin. The Basin is a subregion of the SCAQMD and covers an area of 6,745 square miles. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino and San Jacinto mountains to the north and east; and the San Diego County line to the south (**Figure 3-1**).

Air Quality Management Plan. All areas designated as nonattainment under the CCAA are required to prepare plans showing how the area would meet the State air quality standards by its attainment dates. The AQMP is the region's plan for improving air quality in the region. It addresses CAA and CCAA requirements and demonstrates attainment with State and federal ambient air quality standards. The AQMP is prepared by SCAQMD and the Southern California Association of Governments (SCAG). The AQMP provides policies and control measures that reduce emissions to attain both State and federal ambient air quality standards by their applicable deadlines. Environmental review of individual projects within the Basin must demonstrate that daily construction and operational emissions thresholds, as established by the SCAQMD, would not be exceeded. The environmental review must also demonstrate that individual projects would not increase the number or severity of existing air quality violations.

[9]CARB, Area Designation Maps, available at http://www.arb.ca.gov/desig/adm/adm.htm, accessed February 19, 2009.

LEGEND:

South Coast Air Basin

State of California

SOURCE: California Air Resources Board, State and Local Air Monitoring Network Plan, October 1998

Approx. Scale

0 75 150 Miles

N

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FIGURE 3-1

SOUTH COAST AIR BASIN

The 2007 AQMP was adopted by the SCAQMD on June 1, 2007. The 2007 AQMP proposes attainment demonstration of the federal $PM_{2.5}$ standards through a more focused control of SO_X, directly-emitted $PM_{2.5}$, and NO_X supplemented with VOC by 2015. The eight-hour ozone control strategy builds upon the $PM_{2.5}$ strategy, augmented with additional NO_X and VOC reductions to meet the standard by 2024. The 2007 AQMP also addresses several federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2007 AQMP is consistent with and builds upon the approaches taken in the 2003 AQMP. However, the 2007 AQMP highlights the significant amount of reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the time frames allowed under the CAA.

Toxic Air Contaminants. The SCAQMD has a long and successful history of reducing air toxics and criteria emissions in the South Coast Air Basin (Basin). SCAQMD has an extensive control program, including traditional and innovative rules and policies. These policies can be viewed in the SCAQMD's *Air Toxics Control Plan for the Next Ten Years* (March 2000). To date, the most comprehensive study on air toxics in the Basin is the Multiple Air Toxics Exposure Study (MATES-III), conducted by the SCAQMD. The monitoring program measured more than 30 air pollutants, including both gases and particulates. The monitoring study was accompanied by a computer modeling study in which SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. MATES-III found that the cancer risk in the region from carcinogenic air pollutants ranges from about 870 in a million to 1,400 in a million, with an average regional risk of about 1,200 in a million.

Global Climate Change

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to GHG emissions reduction and climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with the emissions of GHG related to human activity that include CO_2, CH_4, N_2O, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. Assembly Bill 1493 requires CARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year; however, in order to enact the standards California needed a waiver from the USEPA. The waiver was denied by USEPA in December 2007. See California v. Environmental Protection Agency, 9th Cir. Jul. 25, 2008, No. 08-70011. However, on January 26, 2009, it was announced that USEPA will reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 miles per gallon fuel economy standard for automobiles and light duty trucks which will take effect in 2012. This standard is the same standard that was proposed by California, and so the California waiver request has been shelved.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2)

1990 levels by the 2020 and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the State's Climate Action Team.

With Executive Order S-01-07, Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least ten percent by 2020.

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change. California, in conjunction with several environmental organizations and several other states, sued to force USEPA to regulate GHG as a pollutant under the Clean Air Act (Massachusetts vs. Environmental Protection Agency et al., 549 U.S. 497 (2007). The court ruled that GHG does fit within the Clean Air Act's definition of a pollutant, and that the USEPA does have the authority to regulate GHG. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting GHG emissions.

According to *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate change in CEQA Documents*, an individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines sections 15064(i)(1) and 15130. To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

As part of its supporting documentation for the Draft Scoping Plan, CARB recently released an updated version of the GHG inventory for California (June 26, 2008). Shown below is a graph from that update that shows the total GHG emissions for California for 1990, 2002 to 2004 average, and 2020 projected if no action is taken.

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation (see Climate Action Program at Caltrans (December 2006), Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006. This document can be found at: http://www.dot.ca.gov/docs/ClimateReport.pdf.

3.3 EXISTING AIR QUALITY

3.3.1 Air Pollution Climatology

The project site is located within the Los Angeles County portion of the Basin. Ambient pollution concentrations recorded in Los Angeles County are among the highest in the four counties comprising the Basin.

The Basin is in an area of high air pollution potential due to its climate and topography. The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The Basin experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of its perimeter. The mountains and hills within the area contribute to the variation of rainfall, temperature, and winds throughout the region.

The Basin experiences frequent temperature inversions. Temperature typically decreases with height. However, under inversion conditions, temperature increases as altitude increases, thereby preventing air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere. This interaction creates a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and NO_2 react under strong sunlight, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to CO and NO_2 emissions. CO concentrations are generally worse in the morning and late evening (around 10:00 p.m.). In the morning, CO levels are relatively high due to cold temperatures and the large number of cars traveling. High CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO emissions are produced almost entirely from automobiles, the highest CO concentrations in the Basin are associated with heavy traffic. NO_2 concentrations are also generally higher during fall and winter days.

3.3.2 Local Climate

The mountains and hills within the Basin contribute to the variation of rainfall, temperature, and winds throughout the region. Within the project site and its vicinity, the average wind speed, as recorded at the West Los Angeles Wind Monitoring Station, is approximately three miles per hour, with calm winds occurring approximately 19 percent of the time. Wind in the vicinity of the project site predominately blows from the southwest.[10]

The annual average temperature in the project area is 61.3°F. The project area experiences an average winter temperature of approximately 57°F and an average summer temperature of approximately 66°F. Total precipitation in the project area averages approximately 13 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer. Precipitation averages approximately eight inches during the winter, approximately

[10]SCAQMD, Meteorological Data, available at http://www.aqmd.gov/smog/metdata/MeteorologicalData.html, accessed September 14, 2009. See Appendix A.

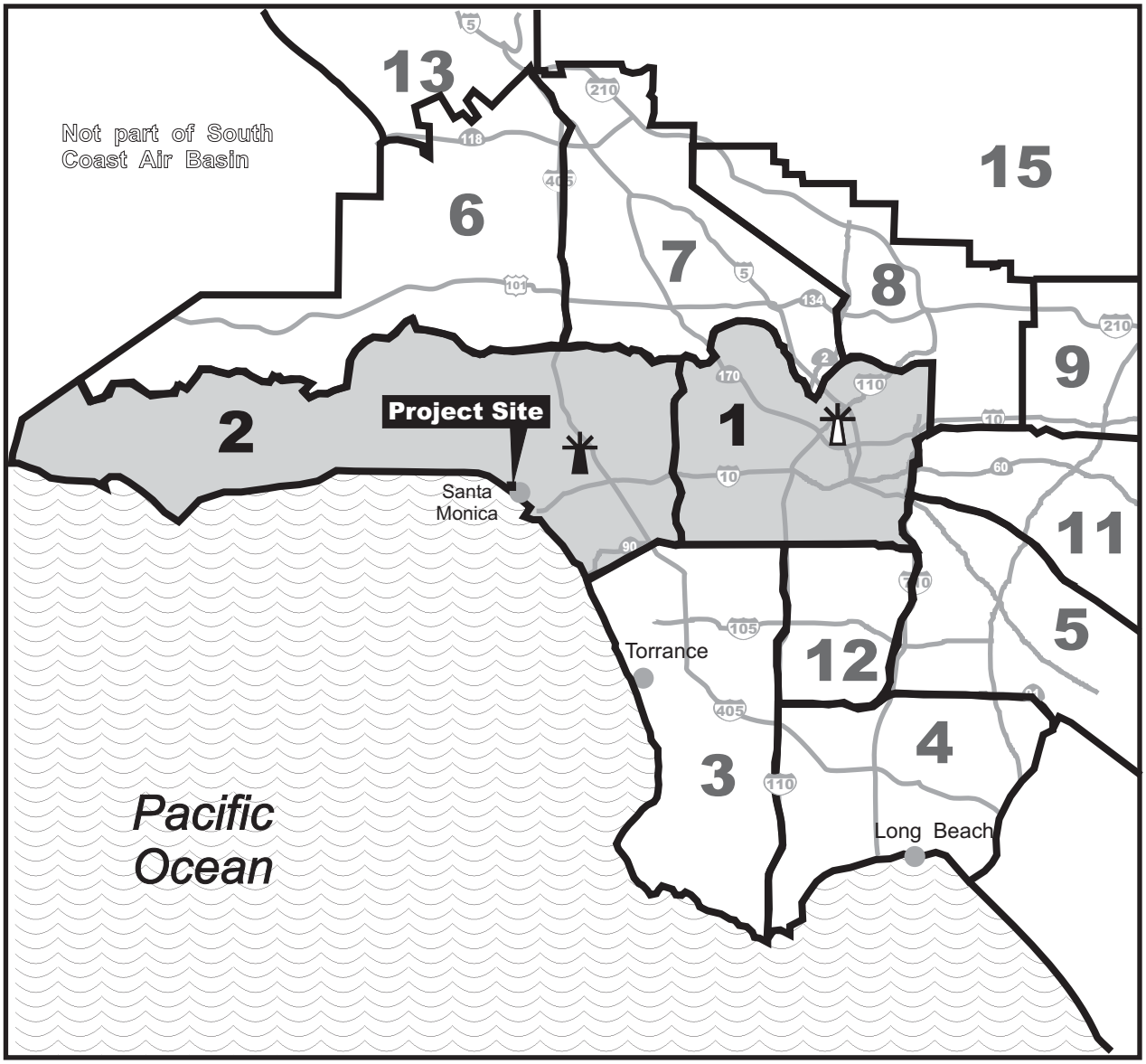
three inches during the spring, approximately two inches during the fall, and less than one inch during the summer.[11]

3.3.3 Air Monitoring Data

The SCAQMD monitors air quality conditions at 38 locations throughout the Basin. The project site is located in SCAQMD's Northwest Los Angeles County Coastal Air Monitoring Subregion, which is served by the West Los Angeles Monitoring Station, is located approximately 3.5 miles n of the project site in the City of Los Angeles (**Figure 3-2**). Historical data from the West Los Angeles Monitoring Station were used to characterize existing conditions in the vicinity of the project area. Criteria pollutants monitored at the West Los Angeles Monitoring Station include O_3, CO, and NO_2. Historical data from the Downtown Los Angeles Station was used to characterize existing SO_2, $PM_{2.5}$ and PM_{10} levels.

Table 3-2 shows pollutant levels, the State and federal standards, and the number of exceedances recorded at the West Los Angeles Monitoring Station compared to the Coastal General Forecast Area (Forecast Area) from 2006-2008. Criteria pollutants CO, NO_2, and SO_2 did not exceed the CAAQS during the 2006-2008 period. When compared to the Forecast area the West Los Angeles Monitoring Station recorded concentrations of averages of the CO, NO_2, and SO_2 that were lower than the average concentrations of the Forecast Area's monitoring areas. The one-hour State standard for O_3 was exceeded two to three times during this period, and the eight-hour State standard for O_3 was exceeded two to eight times. Additionally, the 24-hour State standard for PM_{10} was exceeded three to five times and the annual State standard for $PM_{2.5}$ was exceeded in during year 2006 to 2008 period. When compared to the Forecast Area, the West Los Angeles Monitoring station has recorded concentrations of O_3 and $PM_{2.5}$ that were higher than the Forecast Area.

[11]Western Regional Climate Center, Historical Climate Information, available at http://www.wrcc.dri.edu, accessed September 14, 2009.



LEGEND: West Los Angeles Downtown Los Angeles Monitoring Station

Air Monitoring Areas in Los Angeles County:

1. Central Los Angeles
2. Northwest Coastal
3. Southwest Coastal
4. South Coastal
5. Southeast Los Angeles County
6. West San Fernando Valley
7. East San Fernando Valley
8. West San Gabriel Valley
9. East San Gabriel Valley
10. Pomona/Walnut Valley (not shown)
11. South San Gabriel Valley
12. South Central Los Angeles
13. Santa Clarita Valley
15. San Gabriel Mountains

Approx. Scale

0 3.0 6.0 9.0 Miles

SOURCE: South Coast Air Quality Management District Air Monitoring Areas Map, 1999

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FIGURE 3-2

AIR QUALITY MONITORING AREAS

TABLE 3-2: 2006-2008 AMBIENT AIR QUALITY DATA IN PROJECT VICINITY

Pollutant	Pollutant Concentration & Standards	West Los Angeles Monitoring Station			Coastal General Forecast Area /a,b/		
		Number of Days Above State Standard					
		2006	2007	2008	2006	2007	2008
Ozone	Maximum 1-hr Concentration (ppm)	0.10	0.117	0.11	0.083	0.096	0.096
	Days > 0.09 ppm (State 1-hr standard)	3	2	3	1	1	1
	Maximum 8-hr Concentration (ppm)	0.074	0.087	0.097	.066	0.077	0.083
	Days > 0.07 ppm (State 8-hr standard)	0	2	8	0	2	7
	Days > 0.075 ppm (Federal 8-hr standard)	0	2	2	0	1	0
Carbon Monoxide	Maximum 1-hr concentration (ppm)	3	3	3	4	4	3
	Days > 20 ppm (State1-hr standard)	0	0	0	0	0	0
	Days > 35 ppm (Federal 1-hr standard)	0	0	0	0	0	0
	Maximum 8-hr concentration (ppm)	2.0	2.0	2.0	2.7	2.5	2.3
	Days > 9.0 ppm (State 8-hr standard)	0	0	0	0	0	0
	Days > 9 ppm (Federal 8-hr standard)	0	0	0	0	0	0
Nitrogen Dioxide	Maximum 1-hr Concentration (ppm)	0.08	0.08	0.09	.095	0.09	0.10
	Days > 0.18 ppm (State 1-hr standard)	0	0	0	0	0	0
	Annual Arithmetic Mean (ppm)	.0173	.020	.0184	.017	.017	.017
	Exceed State Standard (0.030 ppm)?	No	No	No	No	No	No
	Exceed Federal Standard (0.053 ppm)?	No	No	No	No	No	No
PM_{10}	Maximum 24-hr concentration (µg/m^3)	59	78	66 /c/	80	98	64
	Estimated Days > 50 µg/m^3 (State 24-hr standard)	3	5	3	8	8	3
	Estimated Days > 150 µg/m^3 Federal 24-hr standard)	0	0	0	0	0	0
$PM_{2.5}$	Annual Arithmetic Mean (µg/m^3)	15.6	16.8	15.7	14.35	14.1	14.0
	Exceed State Standard (12 µg/m^3)?	Yes	Yes	Yes	Yes	Yes	Yes
	Exceed Federal Standard (15.0 µg/m^3)?	Yes	Yes	Yes	No	No	Yes
Sulfur Dioxide	Maximum 24-hr Concentration (ppm)	0.006	0.003	0.002	.007	0.008	0.009
	Days > 0.04 ppm (State 24-hr standard)	0	0	0	0	0	0
	Days > 0.14 ppm (Federal 24-hr standard)	0	0	0	0	0	0

/a/ The Coastal General Forecast Area includes the Northwest Los Angeles County Coastal, Southwest Los Angeles County Coastal, South Los Angeles County Coastal, North Coastal Orange County, and Central Orange County Coastal air monitoring areas of the SCAQMD.

/b/ An average of the maximum concentration of each criteria pollutant of the air monitoring areas of the Coastal General Forecast Area was used to represent maximum concentrations in the Coastal General Forecast Area.

/c/ Less than 12 months of data, may not be representative

SOURCE: SCAQMD, Historical Data by Year, available at http://www.aqmd.gov/smog/historicaldata.htm, accessed September 29, 2009 (Appendix B).

3.3.4 Existing Carbon Monoxide Concentrations at Project Area Intersections

There is a direct relationship between traffic/circulation congestion and CO impacts since exhaust fumes from vehicular traffic are the primary source of CO. CO is a localized gas that dissipates very quickly under normal meteorological conditions. Therefore, CO concentrations decrease substantially as distance from the source (intersection) increases. The highest CO concentrations are typically found in areas directly adjacent to congested roadway intersections.

SCAQMD defines the ambient CO level as the highest reading over the past three years. A review of data from the West Los Angeles Station for the 2006-2008 period indicates that the one- and eight-hour background concentrations are approximately 3 and 2.0 ppm, respectively. Accordingly, the existing background concentrations do not exceed the State one- and eight-hour CO standards of 20 and 9.0 ppm, respectively.

Existing CO concentrations adjacent to five study intersections were modeled for AM, PM, and summer midday PM peak hour conditions. The study intersections were selected to be representative of the traffic detour areas as indicated in the traffic analysis. [12,13]

The selected AM peak hour intersections are as follows:

- Lincoln Boulevard/Interstate 10 Eastbound On Ramp
- Lincoln Boulevard/Interstate 10 Westbound Off Ramp
- Palisades Beach Road/California Avenue
- Ocean Avenue/Colorado Avenue
- Pacific Coast Highway/Channel Drive/Chautauqua Boulevard

The selected PM peak hour intersections are as follows:

- Lincoln Boulevard/Interstate 10 Eastbound On Ramp
- Lincoln Boulevard/Interstate 10 Westbound Off Ramp
- Palisades Beach Road/California Avenue
- Ocean Avenue/Colorado Avenue
- Pacific Coast Highway/Channel Drive/Chautauqua Boulevard

The selected summer midday PM peak hour intersections are as follows

- Lincoln Boulevard/Interstate 10 Eastbound On Ramp
- Lincoln Boulevard/Interstate 10 Westbound Off Ramp
- Palisades Beach Road/California Avenue
- Ocean Avenue/Colorado Avenue

At each intersection, traffic-related CO contributions were added to background CO conditions. Traffic CO contributions were estimated using the USEPA CAL3QHC dispersion model, which utilizes traffic volume inputs and CARB EMFAC2007 emissions factors. Consistent with the Caltrans CO protocol, receptors for the analysis were located ten feet from each intersection corner.[14] Existing AM, PM, and summer midday PM peak hour conditions at the study intersections are shown in **Tables 3-3**, **3-4** and **3-5**, respectively. During the AM peak hour, one-hour CO concentrations range from approximately 3 ppm to 4 ppm and eight-hour CO concentrations range from 2.1 ppm to 2.6 ppm. During the PM peak hour, one-hour CO concentrations range from approximately 3 ppm to 4 ppm and eight-hour CO concentrations range from 2.2 ppm to 2.6 ppm. During the summer midday PM peak hour, one-hour CO concentrations are range from approximately 3 to 4 ppm and eight-hour CO concentrations are range from approximately 2.3 ppm to 2.6 ppm. Presently, none of the study intersections exceed the state one- and eight-hour CO standards of 20 ppm and 9.0 ppm, respectively.

[12]Level of service is used to indicate the quality of traffic flow on roadway segments and at intersections. Level of service ranges from A (free flow, little congestion) to F (forced flow, extreme congestion).

[13]KOA Corporation, California Incline Bridge Replacement Project – Traffic Assessment, August 2009.

[14]California Department of Transportation, Transportation Project-Level Carbon Monoxide Protocol, 1997.

TABLE 3-3: EXISTING CARBON MONOXIDE CONCENTRATIONS – AM PEAK HOUR CONDITIONS /a/

Intersection	1-hour	8-hour
Lincoln Boulevard/Interstate 10 Eastbound On Ramp	4	2.4
Boulevard/Interstate 10 Westbound Off Ramp	4	2.4
Ocean Avenue/Colorado Avenue	3	2.1
Palisades Beach Road/California Avenue	4	2.5
Pacific Coast Highway/Channel Drive/Chautauqua Boulevard	4	2.6
State Standard	**20**	**9.0**

/a/ Existing concentrations include year 2009 one- and eight-hour ambient concentrations of 3 and 2.0 ppm, respectively.
SOURCE: TAHA, 2009 (Appendix C).

TABLE 3-4: EXISTING CARBON MONOXIDE CONCENTRATIONS – PM PEAK HOUR CONDITIONS /a/

Intersection	1-hour	8-hour
Lincoln Boulevard/Interstate 10 Eastbound On Ramp	3	2.3
Boulevard/Interstate 10 Westbound Off Ramp	4	2.4
Ocean Avenue/Colorado Avenue	3	2.2
Palisades Beach Road/California Avenue	4	2.5
Pacific Coast Highway/Channel Drive/Chautauqua Boulevard	4	2.6
State Standard	**20**	**9.0**

/a/ Existing concentrations include year 2009 one- and eight-hour ambient concentrations of 3 and 2.0 ppm, respectively.
SOURCE: TAHA, 2009 (Appendix C).

TABLE 3-5: EXISTING CARBON MONOXIDE CONCENTRATIONS – SUMMER MIDDAY PM PEAK HOUR CONDITIONS /a/

Intersection	1-hour	8-hour
Lincoln Boulevard/Interstate 10 Eastbound On Ramp	4	2.4
Boulevard/Interstate 10 Westbound Off Ramp	4	2.6
Ocean Avenue/Colorado Avenue	3	2.3
Palisades Beach Road/California Avenue	4	2.4
State Standard	**20**	**9.0**

/a/ Existing concentrations include year 2009 one- and eight-hour ambient concentrations of 3 and 2.0 ppm, respectively.
SOURCE: TAHA, 2009 (Appendix C).

As shown in **Figure 3-3**, sensitive receptors within one-quarter mile (1,320 feet) of the project site include the following:

- Palisades Park adjacent to the east
- Multi-family residences approximately 80 feet to the southwest
- Jonathan Beach Club approximately 80 feet to the southwest
- Multi-family residences approximately 160 feet to the northeast
- Santa Monica State Beach approximately 520 feet to the southwest
- First Presbyterian Nursery School located approximately 1,050 feet the southeast
- First Presbyterian Church approximately 1,050 feet to the southeast
- Early Years School approximately 1,320 feet to the northeast

The above sensitive receptors represent the nearest sensitive receptors with the potential to be impacted by the proposed project. Additional sensitive receptors are located in the surrounding community within one-quarter mile of the project site and may be impacted by the proposed project.

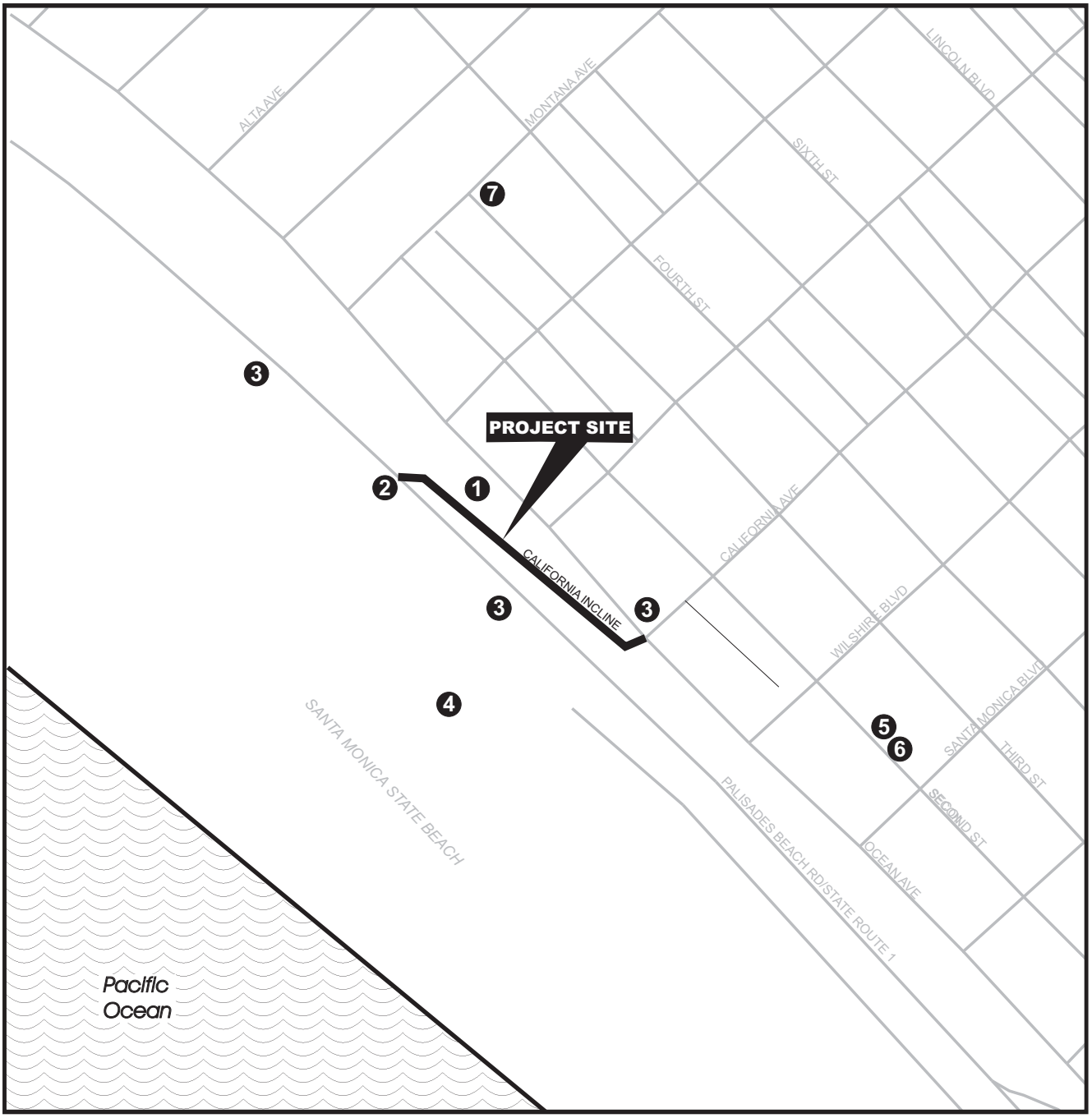
3.4 METHODOLOGY AND SIGNIFICANCE CRITERIA

3.4.1 Methodology

This air quality analysis is consistent with the methods described in the SCAQMD *CEQA Air Quality Handbook* (1993 edition), as well as the updates to the *CEQA Air Quality Handbook*, as provided on the SCAQMD website.[15] Construction emissions were estimated from EMFAC2007 and OFFROAD2007 emissions factors. Construction intensity assumptions were provided by the Applicant. The localized construction analysis for CEQA followed guidelines published by the SCAQMD in the Localized Significance Methodology for CEQA Evaluations.[16] In January 2005, the SCAQMD supplemented the *Localized Significance Threshold Guidance Document* with Sample Construction Scenarios for Projects Less than Five Acres in Size (February

[15]SCAQMD, http://www.aqmd.gov/ceqa/hdbk.html, accessed September 15, 2009.

[16]SCAQMD, *Localized Significance Methodology*, June 2003, revised July 2008.



LEGEND:

Project Site

Sensitive Receptors

1. Palisades Park
2. Jonathan Beach Club
3. Multi-Family Residences
4. Santa Monica State Beach
5. First Presbyterian Church
6. First Presbyterian Nursery School
7. Early Year School

SOURCE: TAHA, 2009

N

APPROX. SCALE

0 275 550 FEET

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FIGURE 3-3

AIR QUALITY SENSITIVE RECEPTOR LOCATIONS

2005).[17] The NEPA construction evaluation used localized construction emissions and the USEPA SCREEN3 model. SCREEN3 only outputs concentrations by the hour. Hourly concentrations were converted into 8-hour, daily, and annual concentrations using multiplying factors contained in USEPA guidance.[18] The SCREEN3 concentrations were compared to the federal standards to evaluate impacts.

A review of Alternative 1 design options found that the Cast-in-Place Bridge design option would represent the worst-case-scenario of all the five design options. Assumptions used for the construction calculations are as follows:

- Duration: 12 month
- Acres to be Graded in One Day: 1.5
- Haul Truck Trips: 100 trips per day
- Equipment: 20 pieces of construction equipment
- Employees: 75
- 24-hour construction period (18 hours of equipment operations)

Alternative 2 construction assumptions are as follows:

- Duration: 12 months
- Acres to be Graded in One Day: 0.5
- Haul Trucks: 50 trips per day
- Equipment: 10 pieces of construction equipment
- Employees: 40
- 24-hour construction period (18 hours of equipment operations)

Greenhouse Gas Emissions

GHG emissions were developed from EMFAC2007 and OFFROAD2007 emissions factors, and assumptions used in CARB's URBEMIS2007 model.

3.4.2 Significance Criteria

CEQA Criteria

The following are the significance criteria SCAQMD has established to determine project impacts under CEQA.

Construction Phase Significance Criteria. The proposed project would have a significant impact if:

- Daily regional and localized construction emissions were to exceed SCAQMD construction emissions thresholds for VOC, NO_X, CO, SO_X, $PM_{2.5}$, or PM_{10}, as presented in **Table 3-6**;
- The proposed project would generate significant emissions of TACs;
- The proposed project would create an odor nuisance; and/or

[17]SCAQMD, Sample Construction Scenarios for Projects Less than Five Acres in Size, February 2005.

[18]USEPA, Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, October, 1992.

- Project construction-related traffic causes CO concentrations at study intersections to violate the CAAQS for either the one- or eight-hour period. The CAAQS for the one- and eight-hour periods are 20 ppm and 9.0 ppm, respectively. If CO concentrations currently exceed the CAAQS, then an incremental increase of 1.0 ppm over "no project" conditions for the one-hour period would be considered a significant impact. An incremental increase of 0.45 ppm over the existing conditions for the eight-hour period would be considered significant.

TABLE 3-6: SCAQMD DAILY CONSTRUCTION EMISSIONS THRESHOLDS

Criteria Pollutant	Regional Emissions (Pounds Per Day)	Localized Emissions – One Acre Site (Pounds Per Day)	Localized Emissions – 1.5 Acre Site (Pounds Per Day)
Volatile Organic Compounds (VOC)	75	--	--
Nitrogen Oxides (NO_X)	100	114	139
Carbon Monoxide (CO)	550	554	685
Sulfur Oxides (SO_X)	150	--	--
Fine Particulates ($PM_{2.5}$)	55	1	2
Particulates (PM_{10})	150	4	5

SOURCE: SCAQMD, 2009.

Operations Phase Significance Criteria. The proposed project would have a significant impact if:

- Daily operational emissions were to exceed SCAQMD operational emissions thresholds for VOC, NO_X, CO, SO_X, $PM_{2.5}$, or PM_{10}, as presented in **Table 3-7**;

TABLE 3-7: SCAQMD DAILY OPERATIONAL EMISSIONS THRESHOLDS

Criteria Pollutant	Pounds Per Day
Volatile Organic Compounds (VOC)	55
Nitrogen Oxides (NO_X)	55
Carbon Monoxide (CO)	550
Sulfur Oxides (SO_X)	150
Fine Particulates ($PM_{2.5}$)	55
Particulates (PM_{10})	150

SOURCE: SCAQMD, 2009.

- Project-related traffic causes CO concentrations at study intersections to violate the CAAQS for either the one- or eight-hour period. The CAAQS for the one- and eight-hour periods are 20 ppm and 9.0 ppm, respectively. If CO concentrations currently exceed the CAAQS, then an incremental increase of 1.0 ppm over "no project" conditions for the one-hour period would be considered a significant impact. An incremental increase of 0.45 ppm over the "no project" conditions for the eight-hour period would be considered significant;
- The proposed project would generate significant emissions of TACs;
- The proposed project would create an odor nuisance;

- The proposed project would not be consistent with the AQMP; and/or
- The proposed project would not comply with regional and local greenhouse gas regulations and policies.

NEPA Impacts

According to the Council on Environmental Quality regulations (40 CFR §§ 1500-1508), the determination of a significant impact is a function of both context and intensity. Context means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Both short- and long-term effects are relevant. Intensity refers to the severity of impact. To determine significance, the severity of the impact must be examined in terms of the type, quality and sensitivity of the resource involved; the location of the proposed project; the duration of the effect (short- or long-term) and other consideration of context. Significance of the impact will vary with the setting of the proposed action and the surrounding area.

3.5 ENVIRONMENTAL IMPACTS

3.5.1 Construction Phase Impacts

Regional Construction Emissions

No-Build Alternative. Under the No-Build Alterative, no structural or physical changes would be made to the California Incline. The California Incline would continue to function under existing conditions and would not contribute to regional construction emissions. The No-Build Alternative would result in no impact under CEQA and would not result in an adverse impact under NEPA.

Alternative 1: Demolition of Existing Structure and Replacement with New Structure. Alternative 1 includes five design options. A review of the design options found that the Cast-in-Place Bridge design option would generate the most emissions and would represent the worst-case-scenario for Alternative 1. **Table 3-8** shows maximum daily construction emissions for Alternative 1. Regional construction emissions would not exceed the VOC, CO, SO_X, $PM_{2.5}$, and PM_{10} significance thresholds. However, NO_X emissions would exceed the regional significance thresholds. Alternative 1 would result in a significant impact under CEQA without mitigation.

The significance of construction emissions under NEPA is discussed below under Localized Construction Emissions.

Alternative 2: Rehabilitate and Widen Existing Structure. **Table 3-9** shows maximum daily construction emissions for Alternative 2. Regional construction emissions would not exceed the VOC, CO, SO_X, $PM_{2.5}$, and PM_{10} significance thresholds. However, NO_X emissions would exceed the regional significance thresholds. Alternative 2 would result in a significant impact under CEQA without mitigation.

The significance of construction emissions under NEPA is discussed below under Localized Construction Emissions.

TABLE 3-8: ALTERNATIVE 1 DAILY CONSTRUCTION EMISSIONS - UNMITIGATED

	Pounds Per Day					
Construction Phase	**VOC**	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$ /a/**	**PM_{10} /a/**
Construction						
On-Site Emissions	35	336	142	< 1	18	37
Off-Site Emissions	8	91	59	< 1	3	4
Total Emissions	*43*	*427*	*201*	< 1	*21*	*41*
Maximum Regional Total	*43*	*427*	*201*	< 1	*21*	*41*
Regional Significance Threshold	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	No	Yes	No	No	No	No
Maximum On-Site Total	35	336	142	< 1	18	37
Localized Significance Threshold /b/	-- /c/	**139**	**685**	-- /c/	**2**	**5**
Exceed Threshold?	-- /c/	Yes	No	-- /c/	Yes	Yes

/a/ URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
/b/ Localized Significance Thresholds were developed with a linear regression model of established SCAQMD threshold values, and assumed a 1.5 acre project site and a 25 meter (82 foot) receptor distance.
/c/ SCAQMD has not developed localized significance methodology for VOC or SO_X.
SOURCE: TAHA, 2009 (Appendix C).

TABLE 3-9: ALTERNATIVE 2 DAILY CONSTRUCTION EMISSIONS - UNMITIGATED

	Pounds Per Day					
Construction Phase	**VOC**	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$ /a/**	**PM_{10} /a/**
Construction						
On-Site Emissions	18	168	71	<1	8	15
Off-Site Emissions	4	46	30	<1	2	2
Total Emissions	*22*	*214*	*101*	*<1*	*10*	*17*
Maximum Regional Total	*22*	*214*	*101*	*<1*	*10*	*17*
Regional Significance Threshold	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	No	Yes	No	No	No	No
Maximum On-Site Total	18	168	71	<1	8	15
Localized Significance Threshold /b/	-- /c/	**114**	**554**	-- /c/	**1**	**4**
Exceed Threshold?	-- /c/	Yes	No	-- /c/	Yes	Yes

/a/ URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
/b/ Localized Significance Thresholds assumed a one acre project site and a 25 meter (82 foot) receptor distance.
/c/ SCAQMD has not developed localized significance methodology for VOC or SO_X.
SOURCE: TAHA, 2009 (Appendix C).

Localized Construction Emissions

Localized on-site emissions were calculated using similar methodology to the regional emission calculations. LSTs were developed based upon the size or total area of the emissions source, the ambient air quality in each source receptor area, and the distance to the sensitive receptor. LSTs for CO and NO_2 were derived by using an air quality dispersion model to back-calculate the emissions per day that would cause or contribute to a violation of any ambient air quality standard for a particular source receptor area. Construction PM_{10} LST was derived using a dispersion model to back-calculate the emissions necessary to exceed a concentration equivalent to 50 µg/m^3 over five hours, which is the SCAQMD Rule 403 control requirement.

No-Build Alternative. Under the No-Build Alterative, no structural or physical changes would be made to the California Incline. The California Incline would continue to function under existing conditions and would not contribute to localized construction emissions. The No-Build Alternative would result in no impact under CEQA and would not result in an adverse impact under NEPA.

Alternative 1: Demolition of Existing Structure and Replacement with New Structure. **Tables 3-8** shows the estimated daily localized emissions associated with the construction of the Alternative 1. Alternative 1 would not exceed the SCAQMD localized threshold for CO. However, NO_2, $PM_{2.5}$, and PM_{10} emissions would exceed localized significance thresholds during construction. Alternative 1 localized construction emissions would result in a significant localized air quality impact under CEQA. Similar to the regional emissions discussion, Alternative 1 would not result in an adverse localized construction impact under NEPA.

Construction pollutant concentrations were compared to federal standards to determine potential impacts under NEPA. The incremental increases in concentrations were used because of the short-term nature of construction activity. As shown in **Table 3-10**, construction pollutant concentrations would not exceed the federal standards. Alternative 1 would not result in an adverse impact under NEPA.

TABLE 3-10: NEPA CONSTRUCTION ANALYSIS

Pollutant and Alternative	Concentration	Standard	Impact?
Alternative 1			
PM_{10} – 24-Hour (Fg/m^3)	30.7	150	No
$PM_{2.5}$ – 24-Hour (Fg/m^3)	6.4	35	
$PM_{2.5}$ – Annual (Fg/m^3)	1.27	15.0	No
CO – 1-Hour (ppm)	0.05	35	No
CO – 8-Hour (ppm)	0.004	9	No
NO_2 – Annual (ppm)	0.015	0.053	No
Alternative 2			
PM_{10} – 24-Hour (Fg/m^3)	22.3	150	No
$PM_{2.5}$ – 24-Hour (Fg/m^3)	4.52	35	
$PM_{2.5}$ – Annual (Fg/m^3)	0.905	15.0	No
CO – 1-Hour (ppm)	0.20	35	No
CO – 8-Hour (ppm)	0.14	9	No
NO_2 – Annual (ppm)	0.038	0.053	No

SOURCE: TAHA, 2009.

Alternative 2: Rehabilitate and Widen Existing Structure. **Tables 3-9** shows the estimated daily localized emissions associated with the construction of the Alternative 2. Alternative 1 would not exceed the SCAQMD localized threshold for CO. However, NO_2, $PM_{2.5}$, and PM_{10} emissions would exceed localized significance thresholds during construction. Alternative 2 localized construction emissions would result in a significant localized air quality impact under CEQA. Similar to the regional emissions discussion, Alternative 2 would not result in an adverse localized construction impact under NEPA.

Construction pollutant concentrations were compared to federal standards to determine potential impacts under NEPA. The incremental increases in concentrations were used because of the short-term nature of construction activity. As shown in **Table 3-10**, construction pollutant concentrations would not exceed the federal standards. Alternative 2 would not result in an adverse impact under NEPA.

Construction Detour CO Hot Spot Analysis

No-Build Alternative. Under the No-Build Alterative, no structural or physical changes would be made to the California Incline. The California Incline would continue to function under existing conditions and would not contribute to a construction-related CO hot spot. The No-Build Alternative would result in no impact under CEQA and would not result in an adverse impact under NEPA.

Alternative 1: Demolition of Existing Structure and Replacement with New Structure. All of the design options included under Alternative 1 would close the California Incline during construction. Existing traffic movement would be re-routed causing traffic volumes at nearby intersections to increase. The State one- and eight-hour CO standards may potentially be exceeded at congested intersections as a result of construction detours. An exceedance of the State CO standards at an intersection is referred to as a CO hotspot. The SCAQMD recommends a CO hotspot evaluation of potential localized CO impacts when V/C ratios are increased by two percent at intersections with a LOS of D or worse. SCAQMD also recommends a CO hotspot evaluation when an intersection decreases in LOS by one level beginning when LOS changes from C to D.
Based on the traffic study, the selected intersections are as follows:

- Lincoln Boulevard/Interstate 10 Eastbound On Ramp - AM Peak Hour
- Lincoln Boulevard/Interstate 10 Westbound Off Ramp - AM Peak Hour
- Palisades Beach Road/California Avenue - AM Peak Hour
- Ocean Avenue/Colorado Avenue - AM Peak Hour
- Pacific Coast Highway/Channel Drive/Chautauqua Boulevard - - AM Peak Hour
- Lincoln Boulevard/Interstate 10 Eastbound On Ramp - PM Peak Hour
- Lincoln Boulevard/Interstate 10 Westbound Off Ramp - PM Peak Hour
- Palisades Beach Road/California Avenue - PM Peak Hour
- Ocean Avenue/Colorado Avenue - PM Peak Hour
- Pacific Coast Highway/Channel Drive/Chautauqua Boulevard - - PM Peak Hour
- Lincoln Boulevard/Interstate 10 Eastbound On Ramp – Summer Midday Peak Hour
- Lincoln Boulevard/Interstate 10 Westbound Off Ramp - Summer Midday Peak Hour
- Palisades Beach Road/California Avenue - Summer Midday Peak Hour
- Ocean Avenue/Colorado Avenue - Summer Midday Peak Hour

The USEPA CAL3QHC micro-scale dispersion model was used to calculate CO concentrations for 2011 construction conditions. Weekday AM, weekday PM, and summer midday weekend PM peak hour CO concentrations at the analyzed intersections are shown in **Tables 3-11**, **3-12**, and **3-13** respectively.

Weekday AM Peak Hour. One-hour CO concentrations under construction conditions would range from approximately 3 to 4 ppm at worst-case sidewalk receptors. Eight-hour CO concentrations under construction conditions would range from approximately 1.9 to 2.4 ppm.

TABLE 3-11: CONSTRUCTION CARBON MONOXIDE CONCENTRATIONS - WEEKDAY AM PEAK HOUR /a/

Intersection	1-hour (parts per million)	8-hour (parts per million)
Lincoln Boulevard/Interstate 10 Eastbound On Ramp	3	2.1
Lincoln Boulevard/Interstate 10 Westbound Off Ramp	3	2.0
Ocean Avenue/Colorado Avenue	3	1.9
Palisades Beach Road/California Avenue	3	2.1
Pacific Coast Highway/Channel Drive/Chautauqua Boulevard	4	2.4
State Standard	**20**	**9.0**
Federal Standard	**35**	**9**

/a/ Project concentrations include year 2011 one- and eight-hour ambient concentrations of 3 and 1.7 ppm, respectively.
SOURCE: TAHA, 2009 (Appendix C).

Weekday PM Peak Hour. One-hour CO concentrations under construction conditions would range from approximately 3 to 4 ppm at worst-case sidewalk receptors. Eight-hour CO concentrations under construction conditions would range from approximately 2.0 to 2.4 ppm.

TABLE 3-12: CONSTRUCTION CARBON MONOXIDE CONCENTRATIONS – WEEKDAY PM PEAK HOUR /a/

Intersection	1-hour (parts per million)	8-hour (parts per million)
Lincoln Boulevard/Interstate 10 Eastbound On Ramp	3	2.0
Lincoln Boulevard/Interstate 10 Westbound Off Ramp	3	2.0
Ocean Avenue/Colorado Avenue	3	2.0
Palisades Beach Road/California Avenue	3	2.2
Pacific Coast Highway/Channel Drive/Chautauqua Boulevard	4	2.4
State Standard	**20**	**9.0**
Federal Standard	**35**	**9**

/a/ Project concentrations include year 2011 one- and eight-hour ambient concentrations of 3 and 1.7 ppm, respectively.
SOURCE: TAHA, 2009 (Appendix C).

Summer Midday Weekend PM Peak Hour. One-hour CO concentrations under construction conditions would be approximately 3 ppm at worst-case sidewalk receptors. Eight-hour CO concentrations under construction conditions would be range from approximately 2.0 to 2.1 ppm.

TABLE 3-13: CONSTRUCTION CARBON MONOXIDE CONCENTRATIONS – SUMMER WEEKEND PM PEAK HOUR /a/

Intersection	1-hour (parts per million)	8-hour (parts per million)
Lincoln Boulevard/Interstate 10 Eastbound On Ramp	3	2.1
Lincoln Boulevard/Interstate 10 Westbound Off Ramp	3	2.0
Ocean Avenue/Colorado Avenue	3	2.0
Palisades Beach Road/California Avenue	3	2.1
State Standard	**20**	**9.0**
Federal Standard	**35**	**9**

/a/ Project concentrations include year 2011 one- and eight-hour ambient concentrations of 3 and 1.7 ppm, respectively.
SOURCE: TAHA, 2009 (Appendix C).

CO is a gas that disperses quickly. Thus, CO concentrations at sensitive receptor locations are expected to be much lower than CO concentrations adjacent to the roadway intersections. Additionally, the intersections were selected based on poor LOS and high traffic volumes. Sensitive receptors that are located away from congested intersections or are located near roadway intersections with better LOS are expected to be exposed to lower CO concentrations. As shown in **Tables 3-11**, **3-12** and **3-13**, CO concentrations would not exceed the State or federal one- and eight-hour standards. Alternative 1 would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

Alternative 2: Rehabilitate and Widen Existing Structure. Alternative 2 would close the California Incline during construction. Existing traffic movement would be re-routed causing traffic volumes at nearby intersections to increase. As shown in **Tables 3-11**, **3-12** and **3-13**, CO concentrations would not exceed the State or federal one- and eight-hour standards. Alternative 2 would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

Toxic Air Contaminant Impacts

No-Build Alternative. Under the No-Build Alterative, no structural or physical changes would be made to the California Incline. The California Incline would continue to function under existing conditions and would not contribute to construction-related TAC emissions. The No-Build Alternative would result in no impact under CEQA and would not result in an adverse impact under NEPA.

Alternative 1: Demolition of Existing Structure and Replacement with New Structure. The greatest potential for TAC emissions during construction would be diesel particulate emissions associated with heavy equipment operations. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. “Individual Cancer Risk” is the likelihood that a person continuously exposed to concentrations

of TACs over a 70-year lifetime will contract cancer based on the use of standard risk assessment methodology. Given the short-term construction schedule of approximately 12 months, the proposed project would not result in a long-term (i.e., 70 years) source of TAC emissions. No residual emissions and corresponding individual cancer risk are anticipated after construction. Because there is such a short-term exposure period (12 out of 840 months), project-related construction TAC emission would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

The California Incline was constructed in 1930. Due to the age of the bridge, there is a potential for aerially deposited lead from leaded fuel exhaust to exist in soil materials alongside the bridge prior to the ban on such fuels (between 1978 and 1987). These soil materials can be re-entrained along with wind-blown dust, which may result in adverse health effects. In addition, asbestos-containing material may be present in demolition debris. Lead and asbestos exposure would result in a significant impact without mitigation.

Alternative 2: Rehabilitate and Widen Existing Structure. Alternative 2 would also involve a 12-month construction period. As discussed for Alternative 1, project-related construction TAC emission would result in a less-than-significant impact under CEQA. However, lead and asbestos exposure would result in a significant impact without mitigation. Alternative 2 construction-related TAC emissions would not result in an adverse impact under NEPA.

Odor Impacts

No-Build Alternative. Under the No-Build Alterative, no structural or physical changes would be made to the California Incline. The California Incline would continue to function under existing conditions and would not contribute to construction-related odors. The No-Build Alternative would result in no impact under CEQA and would not result in an adverse impact under NEPA.

Alternative 1: Demolition of Existing Structure and Replacement with New Structure. Potential sources that may emit odors during Alternative 1 construction activities include equipment exhaust. Odors from these sources would be localized and generally confined to the immediate area surrounding the project site. Alternative 1 would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. Alternative 1 construction would not cause an odor nuisance. Construction odors would result in a less-than-significant impact. Alternative 1 would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

Alternative 2: Rehabilitate and Widen Existing Structure. Potential sources that may emit odors during Alternative 2 construction activities include equipment exhaust. Odors from these sources would be localized and generally confined to the immediate area surrounding the project site. Alternative 2 would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. Alternative 2 construction activities would not cause an odor nuisance. Construction odors would result in a less-than-significant impact. Alternative 1 would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

Construction Phase Mitigation Measures

AQ1 Water or a stabilizing agent shall be applied to exposed surfaces in sufficient quantity to prevent generation of dust plumes.

AQ2 The construction contractor shall utilize at least one of the following measures at each vehicle egress from the project site to a paved public road:

- Install a pad consisting of washed gravel maintained in clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long;
- Pave the surface extending at least 100 feet and at least 20 feet wide;
- Utilize a wheel shaker/wheel spreading device consisting of raised dividers at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages; or
- Install a wheel washing system to remove bulk material from tires and vehicle undercarriages.

AQ3 All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).

AQ4 Construction activity on unpaved surfaces shall be suspended when winds exceed 25 miles per hour.

AQ5 Heavy-duty equipment operations shall be suspended during first and second stage smog alerts.

AQ6 Ground cover in disturbed areas shall be replaced as quickly as possible.

AQ7 Construction contractor shall maintain equipment and vehicle engines in good condition and in proper tune per manufacturers' specifications.

AQ8 All diesel-powered construction equipment in use shall require control equipment that meets at a minimum Tier III emissions requirements. In the event Tier III equipment is not available, diesel powered construction equipment in use shall require emissions control equipment with a minimum of Tier II diesel standards.

AQ9 During project construction, the developer shall require all contractors to turn off all construction equipment and delivery vehicles when not in use or prohibit idling in excess of five minutes.

AQ10 Construction contractors shall comply with SCAQMD Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities). The requirements for demolition activities include asbestos surveying, notification, removal procedures and time schedules, handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials.

AQ11 Construction contractors shall prepare a project-specific Lead Compliance Plan to prevent or minimize worker exposure to lead while handling material containing aerially deposited lead. The Lead Compliance Plan shall contain the elements listed in Title 8, California Code of Regulations, Section 1532.1(e)(2)(B). Before submission to the Engineer, the Lead Compliance Plan shall be approved by an Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene. The plan shall be submitted to the Engineer for review and acceptance at least 15 days prior to beginning work in areas containing aerially deposited lead.

Impacts After Mitigation

Implementation of Mitigation Measures **AQ1** through **AQ6** would ensure that fugitive dust emissions would be reduced by approximately 61 percent in compliance with SCAQMD Rule 403. Even with mitigation, localized construction emissions of $PM_{2.5}$ and PM_{10} would continue to exceed SCAQMD thresholds. Alternatives 1 and 2 would result in a short-term significant and unavoidable fugitive dust impact under CEQA.

Implementation of **AQ7** through **AQ9** would help to reduce construction emissions. Mitigation Measure **AQ7** would reduce on-site construction equipment emissions by five percent. While difficult to quantify, Mitigation Measures **AQ8** through **AQ9** would also reduce construction emissions. As shown in **Tables 3-14 and 3-15**, Alternative 1 and 2 regional and localized construction NO_X emissions would still exceed SCAQMD thresholds. Alternatives 1 and 2 would result in a short-term significant and unavoidable regional and localized construction NO_X impact under CEQA.

TABLE 3-14: ALTERNATIVE 1 DAILY CONSTRUCTION EMISSIONS - MITIGATED

	Pounds Per Day					
Construction Phase	**VOC**	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$ /a/**	**PM_{10} /a/**
Construction						
On-Site Emissions	34	319	135	<1	17	36
Off-Site Emissions	8	87	58	<1	3	4
Total Emissions	*42*	*406*	*193*	*<1*	*20*	*30*
Maximum Regional Total	*42*	*406*	*193*	*<1*	*20*	*30*
Regional Significance Threshold	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	No	Yes	No	No	No	No
Maximum On-Site Total	34	319	135	<1	17	36
Localized Significance Threshold /b/	-- /c/	**139**	**685**	-- /c/	**2**	**5**
Exceed Threshold?	-- /c/	Yes	No	-- /c/	Yes	Yes

/a/ URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
/b/ Localized Significance Thresholds assumed a 1.5 acre project site and a 25 meter (82 foot) receptor distance.
/c/ SCAQMD has not developed localized significance methodology for VOC or SO_X.
SOURCE: TAHA, 2009 (Appendix C).

TABLE 3-15: ALTERNATIVE 2 DAILY CONSTRUCTION EMISSIONS - MITIGATED

	Pounds Per Day					
Construction Phase	**VOC**	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$ /a/**	**PM_{10} /a/**
Construction						
On-Site Emissions	17	159	67	<1	8	14
Off-Site Emissions	4	43	30	<1	2	2
Total Emissions	*21*	*202*	*97*	*<1*	*10*	*6*
Maximum Regional Total	*21*	*202*	*97*	*<1*	*10*	*6*
Regional Significance Threshold	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	No	Yes	No	No	No	No
Maximum On-Site Total	17	159	67	<1	8	14
Localized Significance Threshold /b/	-- /c/	**114**	**554**	-- /c/	**1**	**4**
Exceed Threshold?	-- /c/	Yes	No	-- /c/	Yes	Yes

/a/ URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
/b/ Localized Significance Thresholds were developed with a linear regression model of established SCAQMD threshold values, and assumed a one acre project site and a 25 meter (82 foot) receptor distance.
/c/ SCAQMD has not developed localized significance methodology for VOC or SO_X.
SOURCE: TAHA, 2009 (Appendix C).

3.5.2 Operational Phase Impacts

Regional Emissions, Consistency with the AQMP, and Odors

No-Build Alternative. Under the No-Build Alterative, no structural or physical changes would be made to the California Incline. The California Incline would continue to operate under existing conditions and would not contribute to regional emissions or odors. The No-Build Alternative would also be consistent with assumptions utilized in the AQMP. The No-Build Alternative would result in no impact under CEQA and would not result in an adverse impact under NEPA.

Alternative 1: Demolition of Existing Structure and Replacement with New Structure. Alternative 1 would reconstruct the existing California Incline while maintaining the existing three vehicular lanes. None of the options under Alternative 1 would increase the average daily traffic above baseline conditions. Operational activity associated with Alternative 1 would not increase regional emissions or odors. Alternative 1 would also be consistent with assumptions utilized in the AQMP. Alternative 1 would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

NEPA requires the evaluation of impacts that encompass the reasonable life of a project. None of the options under Alternative 1 would increase the average daily traffic above baseline conditions. Alternative 1 would not lead to a future increase in operational emissions and an analysis of future impacts is not necessary.

Alternative 2: Rehabilitate and Widen Existing Structure. Alternative 2 would rehabilitate the existing California Incline while maintaining the existing three vehicular lanes. Alternative 2 would not increase the average daily traffic above baseline conditions. Operational activity

associated with Alternative 2 would not increase regional emissions or odors. Alternative 2 would also be consistent with assumptions utilized in the AQMP. Alternative 2 would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

NEPA requires the evaluation of impacts that encompass the reasonable life of a project. None of the options under Alternative 2 would increase the average daily traffic above baseline conditions. Alternative 2 would not lead to a future increase in operational emissions and an analysis of future impacts is not necessary.

CO Hotspot Analysis

The *Transportation Project-Level Carbon Monoxide Protocol* was consulted to determine the necessity for a localized CO analysis.[19] The *Protocol* includes a flow chart to determine the level of analysis required for new projects. According to Figure 1 of the *Protocol*, a project-level CO analysis is not required if the project is exempt from all emissions analyses. Safety improvement programs and bridge reconstruction without adding additional travel lanes are included in the list of project exempt from all emissions analyses. Alternatives 1 and 2 are exempt from completing a localized CO analysis. This would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

PM Hotspot Analysis

The *Transportation Conformity Guidance for Qualitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas* was consulted to determine the necessity for localized $PM_{2.5}$ and PM_{10} analyses.[20] According to the *Guidance*, an analysis is required for projects of air quality concern. The proposed project would not involve a significant number of diesel vehicles, would not increase in the number of diesel vehicles, and would not increase idle times of diesel vehicles. Alternatives 1 and 2 are exempt from completing localized $PM_{2.5}$ and PM_{10} analyses. This would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

Toxic Air Contaminants

The Federal Highway Administration published project-level mobile source air toxic assessment (MSAT) guidance in February 2006.[21] Given the emerging state of the science and of project-level analysis techniques, there are no established criteria for determining when MSAT emissions should be considered a significant issue in the NEPA context. Therefore, a range of responses may be appropriate for addressing this issue in NEPA documentation. The response may involve quantitative analysis of emissions to compare or differentiate among proposed project alternatives, qualitative analysis to explore the general nature of the project and inform interested parties, or no analysis depending on the circumstances as set out in this interim guidance. The FHWA has developed a tiered approach for analyzing MSATs in NEPA

[19]California Department of Transportation, *Transportation Project-Level Carbon Monoxide Protocol*, December 1997.

[20]USEPA, Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas, March 2006.

[21]Federal Highway Administration, *Interim Guidance on Air Toxic Analysis in NEPA Documents*, February 3, 2006.

documents. Depending on the specific project circumstances, FHWA has identified three levels of analysis:

- No analysis for projects with no potential for meaningful MSAT effects;
- Qualitative analysis for projects with low potential MSAT effects; or
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

The Federal Highway Administration has stated that projects with no potential for meaningful MSAT effects include:

- Projects qualifying as a categorical exclusion under 23 CFR 771.117(c);
- Projects exempt under the Clean Air Act conformity rule under 40 CFR 93.126; or
- Other projects with no meaningful impacts on traffic volumes or vehicle mix.

No-Build Alternative. Under the No-Build Alterative, no structural or physical changes would be made to the California Incline. The California Incline would continue to operate under existing conditions and would not contribute to toxic air contaminant emissions. The No-Build Alternative would result in no impact under CEQA and would not result in an adverse impact under NEPA.

Alternative 1: Demolition of Existing Structure and Replacement with New Structure. According to 40 CFR 93.126, bridge reconstruction projects that do not include additional travel lanes are exempt under the Clean Air Act conformity rule. None of the options include under Alternative 1 would add travel lanes to the reconstructed California Incline. Alternative 1 is exempt under the Clean Air Act conformity rule and there is no potential for meaningful MSAT emissions. Alternative 1 would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

Alternative 2: Rehabilitate and Widen Existing Structure. According to 40 CFR 93.126, bridge rehabilitation projects that do not include additional travel lanes are exempt under the Clean Air Act conformity rule. Alternative 2 would add travel lanes to the reconstructed California Incline. Alternative 2 is exempt under the Clean Air Act conformity rule and there is no potential for meaningful MSAT emissions. Alternative 2 would result in a less-than-significant impact under CEQA and would not result in an adverse impact under NEPA.

3.5.3 Federal Conformity Guidelines

The Under the 1990 Clean Air Act Amendments, the United States Department of Transportation cannot fund, authorize, or approve federal actions to support programs or projects that do not conform to State Implementation Plan for achieving the goals of the Clean Air Act requirements. Title 40 of the Code of Federal regulations states the conformity requirements. The FHWA has published guidance for analyzing conformity on project and regional levels.

Project-Level Conformity

According to Section 93.126 of Title 40 of the CFR, bridge reconstruction projects that do not include additional travel lanes are exempt from project-level conformity regulations. Alternatives 1 and 2 are bridge reconstruction/rehabilitation projects designed to improve the safety of

vehicles traveling between California Avenue to SR-1. The Alternatives do not include the addition of travel lanes. Alternatives 1 and 2 are exempt from all project-level conformity requirements.

Regional Conformity

The California Incline Bridge Replacement Project was previously included in the Regional Transportation Plan and Transportation Improvement Program. However, the year that the project was programmed for construction passed without commencement of the project. The proposed project is not included in the most recent transportation plans. However, the City is currently working with Caltrans to get the project reprogrammed. The project's design concept and scope have not changed significantly since the project was last included in the transportation plans. The reprogramming is considered a technicality and it is planned to be completed in 2009. At that time, the proposed project would conform to the regional transportation plans.

3.6 CUMULATIVE IMPACTS

3.6.1 SCAQMD Methodology

The SCAQMD's approach for assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and State CAAs. The SCQAMD has set forth regional significance thresholds designed to assistant in the attainment of ambient air quality standards. The alternatives would not change baseline traffic volumes and would not result in increased operational emissions. The alternatives would not result in a cumulatively considerable operational impact.

3.6.2 Global Climate Change

Alternative 1 would rehabilitate and Alternative 2 would reconstruct the existing bridge while maintaining the existing three vehicular lanes. Neither of the Alternatives would increase the average daily traffic above baseline conditions. There is no potential for increased GHG emissions from long-term sources. However, as discussed below, Alternatives 1 and 2 would generate short-term emissions from construction activity.

Construction Emissions

GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

Alternatives 1 and 2 would generate approximately 58,000 and 29,000 tons of GHG emissions, respectively, during construction activity. Mitigation Measures **AQ7** though **AQ9** would reduce GHG emissions by requiring equipment with efficient engines and reducing idle times for diesel

trucks. In addition, the City of Santa Monica will coordinate with the Los Angeles Department of Transportation and Caltrans to develop a detailed traffic management plan (TMP) to minimize neighborhood traffic (to identify feasible traffic calming measures) and encourage the use of the designated detour route via Moomat Ahiko Way. Traffic monitoring will be ongoing throughout construction, and signal timing will be adjusted as necessary to facilitate traffic flow between downtown and Pacific Coast Highway. Programmable message boards and traffic control personnel will be used as necessary to ensure safe traffic circulation. Based on the above discussion, Alternatives 1 and 2 would implement reasonable GHG-reduction measures and GHG emissions would result in a less-than-significant impact.

AB 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as CARB works to implement the Governor's Executive Orders and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $238.6 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $100.7 billion in transportation funding through 2016.[22] As shown on the figure below, the Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together yield the promised reduction in congestion. The Strategic Growth Plan relies on a complete systems approach of a variety of strategies: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements.

As part of the Climate Action Program at Caltrans, Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by USEPA and CARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the UC Davis.

Table 3-16 summarizes the Department and statewide efforts that Caltrans is implementing in order to reduce GHG emissions. For more detailed information about each strategy, please see Climate Action Program at Caltrans (December 2006); it is available at http://www.dot.ca.gov/docs/ClimateReport.pdf.

[22]Governor's Strategic Growth Plan, Fig. 1 (http://gov.ca.gov/pdf/gov/CSGP.pdf)

TABLE 3-16: SUMMARY OF CALTRANS STRATEGIES TO REDUCE GREENHOUSE GASES

Strategy	Program	Partnership	Method/Process	Estimated Carbon Dioxide Savings (million metric tons)	
				2010	2020
Smart Land Use	Intergovernmental Reviw (IGR)	Lead: Caltrans Partner: Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Lead: Caltrans Partner: Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Lead: Regional Agencies Partner: Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements and Intelligent Transportation System (ITS) Deployment	Strategic Growth Plan	Lead: Caltrans Partner: Regions	State ITS; Congestion Management Plan	0.007	2.17
Mainstream Energy and Greenhouse Gas into Plans and Projects	Office of Policy Analysis & Research; Division of Env. Analysis	Interdepartmental effort	Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational and Information Program	Office of Policy Analysis & Research	Partner: Interdepartmental, CalEPA, CARB, CEC	Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening and Fuel Diversification	Division of Equipment	Department of General Services	Fleet Replacement B20 B100	0.0045	0.0065 0.4500 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team	Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries	2.5% limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	3.6
Goods Movement	Office of Goods Movement	California Environmental Protection Agency, California Air Resources Board, Business, transportation and Housing, Metropolitan Planning Organizations.	Goods Movement Action Plan	Not Estimated	Not Estimated
TOTAL				**2.72**	**18.67**

SOURCE: Caltrans, 2006.

Based on the above analysis, Caltrans and the proposed project would not impede the State mandates to reduce greenhouse gas emissions. The proposed project would not change baseline traffic patterns and would not increase permanent GHG emissions. The proposed project would result in a less-than-significant global climate change impact.

Adaption Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

Climate change adaption must also involve the natural environment as well. Efforts are underway on a Statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Governor Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change.

The California Resources Agency (now the Natural Resources Agency, (Resources Agency)), through the interagency Climate Action Team, was directed to coordinate with local, regional, state and federal public and private entities to develop a state Climate Adaptation Strategy. The Climate Adaptation Strategy will summarize the best known science on climate change impacts to California, assess California's vulnerability to the identified impacts and then outline solutions that can be implemented within and across state agencies to promote resiliency.

As part of its development of the Climate Adaptation Strategy, Resources Agency was directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010 to advise how California should plan for future sea level rise. The report is to include:

- Relative sea level rise projections for California, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates;
- The range of uncertainty in selected sea level rise projections;
- A synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems; and
- A discussion of future research needs regarding sea level rise for California.

Furthermore Executive Order S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance and operational improvements of the system and economy of the

state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Prior to the release of the final Sea Level Rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. However, all projects that have filed a Notice of Preparation, and/or are programmed for construction funding the next five years (through 2013), or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data. (Executive Order S-13-08 allows some exceptions to this planning requirement.)

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted as part of Governor's Schwarzenegger's Executive Order on Sea Level Rise and is mobilizing to be able to respond to the National Academy of Science report on Sea Level Rise Assessment which is due to be released by December 2010. Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without Statewide planning scenarios for relative sea level rise and other climate change impacts, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once Statewide planning scenarios become available, Caltrans will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

Both Alternatives 1 and 2 are scheduled to be completed in 2012. Based on the above discussion, further analysis is not required regarding adaptation strategies.

Appendix A

Wind and Climate Information

SANTA MONICA PIER, CALIFORNIA

Period of Record General Climate Summary - Temperature

Station:(047953) SANTA MONICA PIER															
From Year=1937 To Year=2009															
	Monthly Averages			Daily Extremes				Monthly Extremes				Max. Temp.		Min. Temp.	
	Max.	Min.	Mean	High	Date	Low	Date	Highest Mean	Year	Lowest Mean	Year	>= 90 F	<= 32 F	<= 32 F	<= 0 F
	F	F	F	F	dd/yyyy or yyyymmdd	F	dd/yyyy or yyyymmdd	F	-	F	-	# Days	# Days	# Days	# Days
January	64.1	49.2	56.6	85	13/1938	34	21/1937	62.2	2003	50.4	1950	0.0	0.0	0.0	0.0
February	63.7	49.9	56.8	89	06/1987	35	16/1946	61.1	1977	51.2	2001	0.0	0.0	0.0	0.0
March	63.4	50.9	57.2	90	17/1978	33	01/1945	61.2	1978	52.1	1962	0.0	0.0	0.0	0.0
April	64.5	52.9	58.8	99	06/1989	39	22/1957	63.5	1992	53.1	1967	0.0	0.0	0.0	0.0
May	65.5	55.6	60.5	93	07/1941	43	11/1957	65.3	1997	55.1	1964	0.0	0.0	0.0	0.0
June	68.1	58.4	63.2	92	18/1957	45	23/1965	68.6	1981	58.9	1962	0.1	0.0	0.0	0.0
July	71.0	61.2	66.1	91	10/1959	49	13/1941	71.4	1959	61.3	1965	0.0	0.0	0.0	0.0
August	72.1	62.1	67.1	95	06/1983	51	22/1947	72.5	1983	63.5	1999	0.0	0.0	0.0	0.0
September	72.1	61.4	66.7	105	22/1939	44	01/1961	73.5	1984	62.9	1999	0.1	0.0	0.0	0.0
October	70.4	58.1	64.3	99	23/1965	42	05/1955	69.0	1983	59.6	1955	0.4	0.0	0.0	0.0
November	68.0	53.5	60.8	100	01/1966	37	27/1983	67.8	1976	55.4	1946	0.1	0.0	0.0	0.0
December	64.9	49.6	57.2	89	05/1979	34	25/1948	63.9	1976	52.2	1948	0.0	0.0	0.0	0.0
Annual	67.3	55.2	61.3	105	19390922	33	19450301	64.0	1984	58.8	1962	0.7	0.0	0.0	0.0
Winter	64.2	49.6	56.9	89	19791205	34	19370121	61.6	1977	52.6	1950	0.0	0.0	0.0	0.0

Spring	64.5	53.1	58.8	99	19890406	33	19450301	62.3	1984	55.3	1975	0.0	0.0	0.0	0.0
Summer	70.4	60.6	65.5	95	19830806	45	19650623	68.9	1957	61.8	1962	0.1	0.0	0.0	0.0
Fall	70.2	57.7	63.9	105	19390922	37	19831127	68.8	1976	60.3	2000	0.6	0.0	0.0	0.0

Table updated on Aug 27, 2009
For monthly and annual means, thresholds, and sums:
Months with 5 or more missing days are not considered
Years with 1 or more missing months are not considered
Seasons are climatological not calendar seasons
Winter = Dec., Jan., and Feb. Spring = Mar., Apr., and May
Summer = Jun., Jul., and Aug. Fall = Sep., Oct., and Nov.

Western Regional Climate Center, wrcc@dri.edu

SANTA MONICA PIER, CALIFORNIA

Period of Record General Climate Summary - Precipitation

Station:(047953) SANTA MONICA PIER														
From Year=1937 To Year=2009														
	Precipitation											Total Snowfall		
	Mean	High	Year	Low	Year	1 Day Max.		>= 0.01 in.	>= 0.10 in.	>= 0.50 in.	>= 1.00 in.	Mean	High	Year
	in.	in.	-	in.	-	in.	dd/yyyy or yyyymmdd	# Days	# Days	# Days	# Days	in.	in.	-
January	2.76	17.82	1995	0.00	1959	5.11	20/1969	6	4	2	1	0.0	0.0	1939
February	3.11	14.11	1962	0.00	1961	4.24	08/1962	5	4	2	1	0.0	0.0	1939
March	2.06	9.85	1978	0.00	1956	4.14	08/1968	5	3	1	1	0.0	0.0	1939
April	0.75	5.52	1965	0.00	1947	1.72	27/1960	3	2	0	0	0.0	0.0	1939
May	0.17	2.92	1998	0.00	1939	1.73	05/1998	1	0	0	0	0.0	0.0	1939
June	0.02	0.55	1993	0.00	1937	0.55	05/1993	0	0	0	0	0.0	0.0	1939
July	0.02	0.39	1969	0.00	1937	0.39	11/1969	0	0	0	0	0.0	0.0	1939
August	0.08	3.14	1977	0.00	1937	2.81	17/1977	0	0	0	0	0.0	0.0	1939
September	0.16	2.82	1939	0.00	1937	2.61	25/1939	1	0	0	0	0.0	0.0	1939
October	0.33	3.13	2004	0.00	1937	1.45	30/1996	2	1	0	0	0.0	0.0	1948
November	1.39	8.68	1965	0.00	1941	4.20	29/1970	3	2	1	0	0.0	0.0	1939
December	2.08	6.58	1941	0.00	1963	3.34	29/1951	5	3	1	1	0.0	0.0	1939
Annual	12.94	25.40	1998	3.73	1989	5.11	19690120	30	20	8	4	0.0	0.0	1949
Winter	7.95	26.21	2005	1.11	1964	5.11	19690120	16	11	5	2	0.0	0.0	1940

Spring	2.99	11.16	1978	0.00	1982	4.14	19680308	9	5	2	1	0.0	0.0	1939
Summer	0.13	3.14	1977	0.00	1937	2.81	19770817	1	0	0	0	0.0	0.0	1939
Fall	1.87	8.71	1965	0.00	1995	4.20	19701129	5	3	1	1	0.0	0.0	1948

Table updated on Aug 27, 2009
For monthly and annual means, thresholds, and sums:
Months with 5 or more missing days are not considered
Years with 1 or more missing months are not considered
Seasons are climatological not calendar seasons
Winter = Dec., Jan., and Feb. Spring = Mar., Apr., and May
Summer = Jun., Jul., and Aug. Fall = Sep., Oct., and Nov.

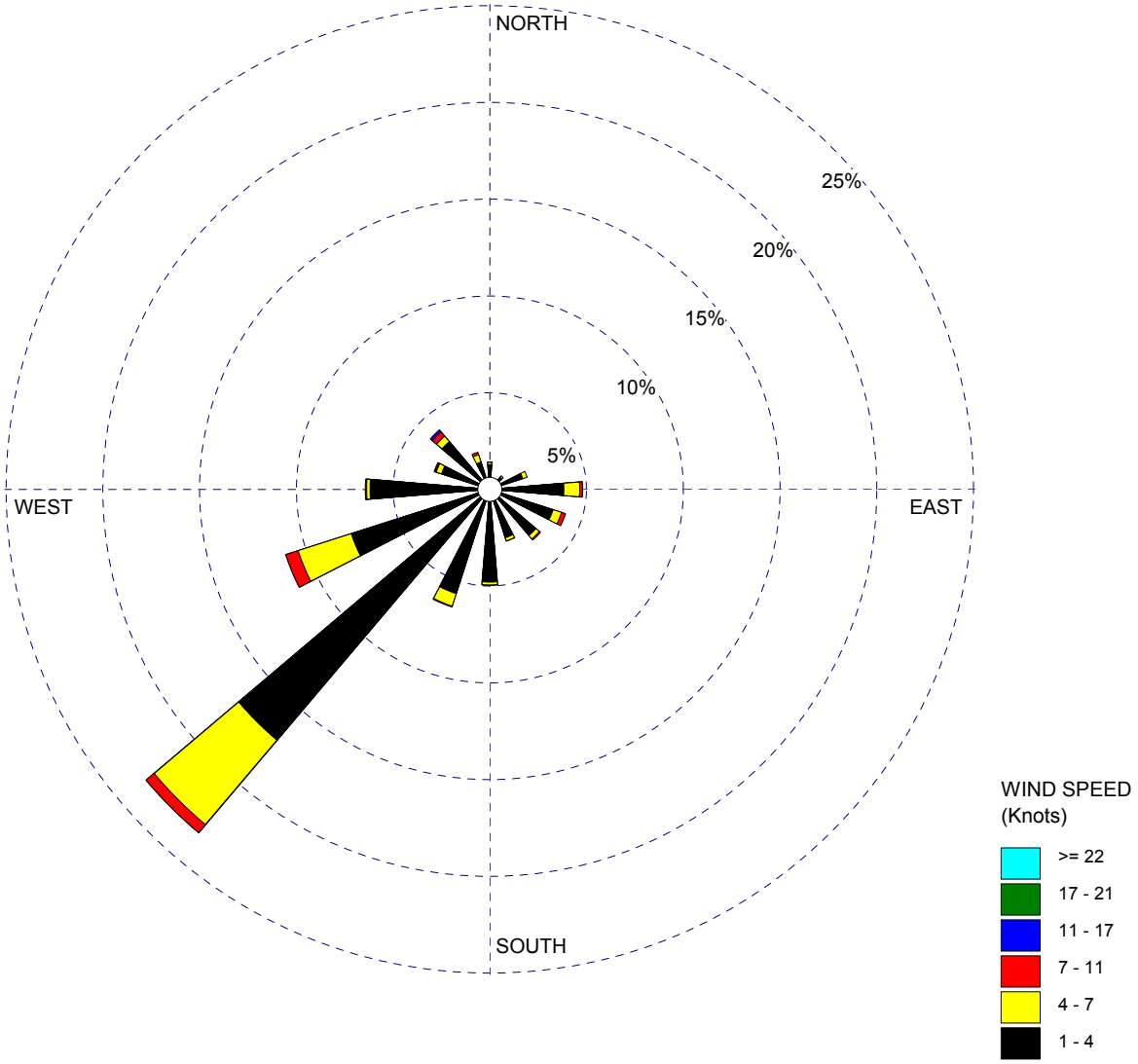
Western Regional Climate Center, wrcc@dri.edu

WIND ROSE PLOT:

Station #52158 - California Incline Bridge Replacement Project 2009-049

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
	1981 **Jan 1 - Dec 31** **00:00 - 23:00**	MODELER:	
	CALM WINDS: **19.10%**	TOTAL COUNT: **8760 hrs.**	
	AVG. WIND SPEED: **2.98 Knots**	DATE: **9/14/2009**	PROJECT NO.:

WRPLOT View - Lakes Environmental Software

Appendix B

SCAQMD Data

2006 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2006

Source/Receptor Area No.	Location	Station No.	Carbon Monoxide a) No. Days of Data	Carbon Monoxide Max. Conc. in ppm 1-hour	Carbon Monoxide Max Conc. in ppm 8-hour	Ozone b) No. Days of Data	Ozone Max. Conc. in ppm 1-hour	Ozone Max. Conc. in ppm 8-hour	Ozone Fourth High Conc. ppm 8-hour	Ozone No. Days Standard Exceeded: Health Advisory ≥ 0.15 ppm 1-hour	Ozone: Federal > 0.12 ppm 1-hour	Ozone: Federal > 0.08 ppm 8-hour	Ozone: State > 0.09 ppm 1-hour	Ozone: State > 0.07 ppm 8-hour	Nitrogen Dioxide c) No. Days of Data	Nitrogen Dioxide Max Conc. in ppm 1-hour	Nitrogen Dioxide Max Conc. in ppm 24-hour	Nitrogen Dioxide Annual Average AAM Conc. ppm	Sulfur Dioxide d) No. Days of Data	Sulfur Dioxide Max. Conc. in ppm 1-hour	Sulfur Dioxide Max. Conc. in ppm 24-hour	Sulfur Dioxide Annual Average AAM Conc. ppm
LOS ANGELES COUNTY																						
1	Central LA	087	362	3	2.6	362	0.11	0.079	0.077	0	0	0	8	4	360	0.11	0.06	0.0288	365	0.03	0.006	0.0019
2	Northwest Coastal LA County	091	365	3	2.0	365	0.10	0.074	0.069	0	0	0	3	0	365	0.08	0.05	0.0173	--	--	--	--
3	Southwest Coastal LA County	820	363	3	2.3	360	0.08	0.066	0.062	0	0	0	0	0	351	0.10	0.05	0.0155	363	0.02	0.006	0.0020
4	South Coastal LA County 1	072	360	4	3.4	364	0.08	0.058	0.058	0	0	0	0	0	357	0.10	0.05	0.0215	364	0.03	0.010	0.0012
4	South Coastal LA County 2	077	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	West San Fernando Valley	074	365	5	3.4	361	0.16	0.108	0.105	1	6	17	32	39	363	0.07	0.04	0.0174	--	--	--	--
7	East San Fernando Valley	069	365	4	3.5	365	0.17	0.128	0.099	2	6	12	25	23	365	0.10	0.05	0.0274	360	0.01	0.004	0.0006
8	West San Gabriel Valley	088	360	4	2.8	365	0.15	0.117	0.095	1	5	7	25	24	365	0.12	0.06	0.0245	--	--	--	--
9	East San Gabriel Valley 1	060	365	2	1.7	364	0.17	0.120	0.091	2	7	10	23	19	365	0.11	0.07	0.0258	--	--	--	--
9	East San Gabriel Valley 2	591	363	2	2.0	363	0.18	0.128	0.107	2	10	15	37	31	362	0.10	0.06	0.0206	--	--	--	--
10	Pomona/Walnut Valley	075	365	3	2.1	365	0.15	0.128	0.109	2	9	16	32	30	365	0.10	0.06	0.0307	--	--	--	--
11	South San Gabriel Valley	085	232*	3*	2.7*	250*	0.13*	0.095*	0.080*	0*	1*	3*	9*	5*	204*	0.10*	0.06*	0.0283*	--	--	--	--
12	South Central LA County	084	365	8	6.4	365	0.09	0.066	0.064	0	0	0	0	0	363	0.14	0.08	0.0306	--	--	--	--
13	Santa Clarita Valley	090	363	2	1.3	359	0.16	0.120	0.112	1	20	40	62	64	359	0.08	0.04	0.0184	--	--	--	--
ORANGE COUNTY																						
16	North Orange County	3177	362	6	3.0	362	0.15	0.114	0.092	1	3	4	8	9	361	0.09	0.05	0.0224	--	--	--	--
17	Central Orange County	3176	365	5	3.0	365	0.11	0.088	0.072	0	0	1	5	3	343	0.11	0.06	0.0197	--	--	--	--
18	North Coastal Orange County	3195	365	4	3.0	365	0.07	0.064	0.062	0	0	0	0	0	361	0.10	0.05	0.0145	353	0.01	0.004	0.0013
19	Saddleback Valley	3812	365	2	1.8	356	0.12	0.105	0.092	0	0	6	13	17	--	--	--	--	--	--	--	--
RIVERSIDE COUNTY																						
22	Norco/Corona	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	365	3	2.1	365	0.15	0.116	0.113	1	8	30	45	59	365	0.08	0.05	0.0199	365	0.01	0.004	0.0013
23	Metropolitan Riverside County 2	4146	365	4	2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Mira Loma	5214	364	4	2.7	364	0.16	0.119	0.107	1	4	25	39	48	332	0.08	0.05	0.0194	--	--	--	--
24	Perris Valley	4149	--	--	--	351	0.17	0.122	0.114	3	12	53	76	84	--	--	--	--	--	--	--	--
25	Lake Elsinore	4158	362	1	1.0	362	0.14	0.109	0.102	0	3	24	40	58	352	0.07	0.05	0.0151	--	--	--	--
29	Banning Airport	4164	--	--	--	357	0.14	0.115	0.104	0	8	44	57	78	355	0.11	0.04	0.0161	--	--	--	--
30	Coachella Valley 1**	4137	365	2	1.0	361	0.13	0.109	0.101	0	2	23	37	67	359	0.09	0.05	0.0103	--	--	--	--
30	Coachella Valley 2**	4157	--	--	--	364	0.10	0.089	0.087	0	0	7	4	29	--	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																						
32	Northwest San Bernardino Valley	5175	360	3	1.8	365	0.17	0.130	0.114	2	14	25	50	54	337	0.10	0.07	0.0310	--	--	--	--
33	Southwest San Bernardino Valley	5817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	5197	365	3	2.0	361	0.16	0.123	0.116	1	12	29	47	49	362	0.09	0.06	0.0270	365	0.01	0.003	0.0019
34	Central San Bernardino Valley 2	5203	364	3	2.3	362	0.15	0.127	0.119	3	10	29	52	57	362	0.09	0.05	0.0252	--	--	--	--
35	East San Bernardino Valley	5204	--	--	--	365	0.16	0.135	0.125	5	11	36	60	64	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	--	--	--	365	0.16	0.142	0.112	2	9	59	71	96	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM				8	6.4		0.18	0.142	0.125	5	20	59	76	96		0.14	0.08	0.0310		0.03	0.010	0.0020
SOUTH COAST AIR BASIN				8	6.4		0.18	0.142	0.125	10	35	86	102	121		0.14	0.08	0.0310		0.03	0.010	0.0020

ppm - Parts Per Million parts of air, by volume. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

* Less than 12 full months of data. May not be representative. ** Salton Sea Air Basin.

a) - The federal 8-hour standard (8-hour average CO > 9 ppm) and state 8-hour standard (8-hour average CO > 9.0 ppm) were not exceeded. The federal and state 1-hour standards (35 ppm and 20 ppm) were not exceeded, either.

b) - The federal 1-hour ozone standard was revoked and replaced by the 8-hour average ozone standard effective June 15, 2005. The 8-hour average California ozone standard of 0.07 ppm was established effective May 17, 2006.

c) - The state standard is 1-hour average NO_2 > 0.25 ppm. The federal standard is annual arithmetic mean NO_2 > 0.0534 ppm. Air Resources Board has approved to lower the NO_2 1-hour standard to 0.18 ppm and establish a new annual standard of 0.030 ppm. The revisions are expected to become effective later in 2007.

d) - The state standards are 1-hour average SO_2 > 0.25 ppm and 24-hour average SO_2 > 0.04 ppm. The federal standards are annual arithmetic mean SO_2 > 0.03 ppm, 24-hour average > 0.14 ppm, and 3-hour average > 0.50 ppm. The federal and state SO_2 standards were not exceeded.

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4182
www.aqmd.gov

The map showing the locations of source/receptor areas can be accessed via the Internet at http://www.aqmd.gov/telemweb/areamap.aspx. Locations of source/receptor areas are shown on the "South Coast Air Quality Management District Air Monitoring Areas" map available free of charge from SCAQMD Public Information.

2006 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2006

Source/Receptor Area No.	Location	Station No.	Suspended Particulates PM10 e) No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standard Federal > 150 µg/m³ 24-hour	No. (%) Samples Exceeding Standard State > 50 µg/m³ 24-hour	Annual Average AAM h) Conc. µg/m³	Fine Particulates PM2.5 f) No. Days of Data	Max. Conc. in µg/m³ 24-hour	98th Percentile Conc. in µg/m³	No. (%) Samples Exceeding Standard Federal i) > 35 µg/m³ 24-hour	Standard Federal i) > 65 µg/m³ 24-hour	Annual Averages AAM j) Conc. µg/m³	Particulates TSP g) No. Days of Data	Max. Conc. in µg/m³ 24-hour	Annual Average AAM Conc. µg/m³	Lead g) Max. Monthly Average Conc. k) µg/m³	Max. Quarterly Average Conc. k) µg/m³	Sulfate g) Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standard State ≥ 25 µg/m³ 24-hour
LOS ANGELES COUNTY																				
1	Central LA	087	59	59	0	3(5.1)	30.3	330	56.2	38.9	11(3.3)	0	15.6	59	109	63.3	0.02	0.01	18.2	0
2	Northwest Coastal LA County	091	--	--	--	--	--	--	--	--	--	--	--	56	76	40.2	--	--	12.2	0
3	Southwest Coastal LA County	820	51	45	0	0	26.5	--	--	--	--	--	--	56	84	43.1	0.01	0.01	13.6	0
4	South Coastal LA County 1	072	61	78	0	6(9.8)	31.1	290*	58.5*	34.9*	5(1.7)*	0*	14.2*	62	157	62.9	0.01	0.01	17.8	0
4	South Coastal LA County 2	077	58	117	0	19(32.7)	45.0	320	53.6	35.3	6(1.9)	0	14.5	59	192	71.1	0.01	0.01	18.8	0
6	West San Fernando Valley	074	--	--	--	--	--	92	44.1	32.0	1(1.1)	0	12.9	--	--	--	--	--	--	--
7	East San Fernando Valley	069	54	71	0	10(18.5)	35.6	104	50.7	43.4	6(5.8)	0	16.6	--	--	--	--	--	--	--
8	West San Gabriel Valley	088	--	--	--	--	--	113	45.9	32.1	1(0.9)	0	13.4	60	123	42.8	--	--	28.7	1(1.7)
9	East San Gabriel Valley 1	060	58	81	0	7(12.1)	31.9	278*	52.8*	38.5*	8(2.9)*	0*	15.5*	59	142	68.4	--	--	20.8	0
9	East San Gabriel Valley 2	591	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Pomona/Walnut Valley	075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South San Gabriel Valley	085	--	--	--	--	--	116	72.2	43.1	7(6)	1(0.9)	16.7	58	768	79.3	0.03	0.02	28.6	1(1.7)
12	South Central LA County	084	--	--	--	--	--	107	55.0	44.5	4(3.7)	0	16.7	58	147	68.4	0.02	0.02	24.1	0
13	Santa Clarita Valley	090	58	53	0	1(1.7)	23.4	--	--	--	--	--	--	--	--	--	--	--	--	--
ORANGE COUNTY																				
16	North Orange County	3177	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Central Orange County	3176	56	104	0	7(12.5)	33.4	330	56.2	40.5	8(2.4)	0	14.1	--	--	--	--	--	--	--
18	North Coastal Orange County	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	3812	50	57	0	1(2.0)	22.8	106	47.0	25.7	1(0.9)	0	11.0	--	--	--	--	--	--	--
RIVERSIDE COUNTY																				
22	Norco/Corona	4155	57	74	0	10(17.5)	36.5	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	118	109	0	71(60.2)	54.4	300	68.5	53.7	32(10.7)	1(0.3)	19.0	59	169	91.2	0.01	0.01	10.8	0
23	Metropolitan Riverside County 2	4146	--	--	--	--	--	105	55.3	47.7	9(8.6)	0	17.0	59	131	72.9	0.01	0.01	9.9	0
23	Mira Loma	5214	59	124	0	41(69.5)	64.0	113	63.0	52.5	14(12.4)	0	20.6	--	--	--	--	--	--	--
24	Perris Valley	4149	54	125	0	19(35.2)	45.0	--	--	--	--	--	--	--	--	--	--	--	--	--
25	Lake Elsinore	4158	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
29	Banning Airport	4164	55	75	0	8(14.6)	31.1	--	--	--	--	--	--	--	--	--	--	--	--	--
30	Coachella Valley 1**	4137	57	73+	0+	2(3.5)+	24.5+	111	24.8	15.9	0	0	7.7	--	--	--	--	--	--	--
30	Coachella Valley 2**	4157	115	122+	0+	57(49.6)+	52.7+	107	24.3	19.1	0	0	9.5	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																				
32	Northwest San Bernardino Valley	5175	--	--	--	--	--	--	--	--	--	--	--	58	105	54.6	0.01	0.01	9.1	0
33	Southwest San Bernardino Valley	5817	62	78	0	17(27.4)	42.3	107	53.7	41.5	7(6.5)	0	18.5	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	5197	60	142	0	31(51.7)	53.5	112	52.6	43.8	7(6.3)	0	17.6	59	190	101.0	--	--	10.3	0
34	Central San Bernardino Valley 2	5203	57	92	0	24(42.1)	46.0	102	55.0	48.4	8(7.8)	0	17.8	54	174	87.0	0.02	0.01	11.0	0
35	East San Bernardino Valley	5204	60	103	0	12(20.0)	36.2	--	--	--	--	--	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	58	63	0	1(1.7)	26.2	--	--	--	--	--	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	42*	40.1*	40.1*	1(2.4)*	0*	11.2*	--	--	--	--	--	--	--
DISTRICT MAXIMUM				142+	0+	71	64.0		72.2	53.7	32	1	20.6		768	101.0	0.03	0.02	28.7	1
SOUTH COAST AIR BASIN				142+	0+	75	64.0		72.2	53.7	32	1	20.6		768	101.0	0.03	0.02	28.7	1

µg/m³ - Micrograms per cubic meter of air AAM - Annual Arithmetic Mean -- - Pollutant not monitored

* Less than 12 full months of data. May not be representative. ** Salton Sea Air Basin.

e) - PM10 samples were collected every 6 days at all sites except for Station Numbers 4144 and 4157 where samples were collected every 3 days.

f) - PM2.5 samples were collected every 3 days at all sites except for the following sites: Station Numbers 060, 072, 077, 087, 3176, and 4144 where samples were taken every day, and Station Number 5818 where samples were taken every 6 days.

g) - Total suspended particulates, lead, and sulfate were determined from samples collected every 6 days by the high volume sampler method, on glass fiber filter media.

h) - Federal annual PM10 standard (AAM > 50 µg/m³) was revoked effective December 17, 2006. State standard is annual average (AAM) > 20 µg/m³.

i) - U.S. EPA has revised the federal 24-hour PM2.5 standard from 65 µg/m³ to 35 µg/m³; effective December 17, 2006.

j) - Federal PM2.5 standard is annual average (AAM) > 15 µg/m³. State standard is annual average (AAM) > 12 µg/m³.

k) - Federal lead standard is quarterly average > 1.5 µg/m³; and state standard is monthly average ≥ 1.5 µg/m³. No location exceeded lead standards. Maximum monthly and quarterly lead concentrations at special monitoring sites immediately downwind of stationary lead sources were 0.24 µg/m³ and 0.22 µg/m³, respectively, both recorded at Central Los Angeles.

\+ - The data for the samples collected on a high-wind day (July 16, 2006) at Palm Springs and Indio (226 µg/m³ and 313 µg/m³, respectively) were excluded in accordance with EPA's Natural Events Policy.

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2007 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2007

Source/Receptor Area No.	Location	Station No. State Code	Station No. District Code	Carbon Monoxide a) No. Days of Data	Carbon Monoxide Max. Conc. in ppm 1-hour	Carbon Monoxide Max Conc. in ppm 8-hour	Ozone No. Days of Data	Ozone Max. Conc. in ppm 1-hour	Ozone Max. Conc. in ppm 8-hour	Ozone Fourth High Conc. ppm 8-hour	No. Days Standard Exceeded: Health Advisory ≥ 0.15 ppm 1-hour	Federal b): > 0.12 ppm 1-hour	Federal b): > 0.08 ppm 8-hour	Federal b): > 0.075 ppm 8-hour	State c): > 0.09 ppm 1-hour	State c): > 0.070 ppm 8-hour	Nitrogen Dioxide d) No. Days of Data	Nitrogen Dioxide Max Conc. in ppm 1-hour	Nitrogen Dioxide Annual Average AAM Conc. ppm	Sulfur Dioxide e) No. Days of Data	Sulfur Dioxide Max. Conc. in ppm 1-hour	Sulfur Dioxide Max. Conc. in ppm 24-hour	Sulfur Dioxide Annual Average AAM Conc. ppm
LOS ANGELES COUNTY																							
1	Central LA	70087	087	359	3	2.2	355	0.115	0.102	0.072	0	0	2	3	3	6	360	0.10	0.0299	351	0.01	0.003	0.0009
2	Northwest Coastal LA County	70091	091	365	3	2.0	360	0.117	0.087	0.067	0	0	1	2	2	2	353	0.08	0.0200	--	--	--	--
3	Southwest Coastal LA County	70111	820	361	3	2.4	361	0.087	0.074	0.066	0	0	0	0	0	1	331*	0.08	0.0140	361	0.02	0.009	0.0028
4	South Coastal LA County 1	70072	072	347*	3	2.6	365	0.099	0.073	0.056	0	0	0	0	1	1	365	0.11	0.0207	365	0.11	0.011	0.0027
4	South Coastal LA County 2	70110	077	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	West San Fernando Valley	70074	074	358	4	2.8	358	0.129	0.104	0.092	0	1	8	28	21	43	358	0.08	0.0186	--	--	--	--
7	East San Fernando Valley	70069	069	365	4	2.8	365	0.116	0.096	0.088	0	0	6	13	13	19	363	0.09	0.0289	365	0.01	0.003	0.0010
8	West San Gabriel Valley	70088	088	365	3	2.3	365	0.149	0.100	0.089	0	3	6	11	13	21	365	0.09	0.0246	--	--	--	--
9	East San Gabriel Valley 1	70060	060	365	3	1.8	365	0.158	0.112	0.096	1	3	13	20	22	28	365	0.12	0.0253	--	--	--	--
9	East San Gabriel Valley 2	70591	591	365	2	2.0	364	0.147	0.116	0.104	0	3	14	26	25	40	365	0.11	0.0227	--	--	--	--
10	Pomona/Walnut Valley	70075	075	365	3	2.0	365	0.153	0.108	0.102	1	2	10	18	19	25	365	0.10	0.0318	--	--	--	--
11	South San Gabriel Valley	70185	085	365	5	2.9	364	0.135	0.100	0.079	0	2	2	5	6	9	361	0.11	0.0249	--	--	--	--
12	South Central LA County	70084	084	365	8	5.1	365	0.102	0.077	0.056	0	0	0	1	1	2	365	0.10	0.0291	--	--	--	--
13	Santa Clarita Valley	70090	090	361	2	1.2	357	0.135	0.110	0.101	0	2	16	44	31	64	339*	0.08	0.0196	--	--	--	--
ORANGE COUNTY																							
16	North Orange County	30177	3177	360	6	2.9	365	0.152	0.107	0.082	1	1	2	8	7	9	365	0.08	0.0219	--	--	--	--
17	Central Orange County	30178	3176	346*	4	2.9	365	0.127	0.099	0.073	0	1	1	1	2	7	359	0.10	0.0208	--	--	--	--
18	North Coastal Orange County	30195	3195	362	5	3.1	362	0.082	0.072	0.065	0	0	0	0	0	2	362	0.07	0.0132	358	0.01	0.004	0.0010
19	Saddleback Valley	30002	3812	364	3	2.2	365	0.108	0.089	0.080	0	0	2	5	5	10	--	--	--	--	--	--	
RIVERSIDE COUNTY																							
22	Norco/Corona	33155	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
23	Metropolitan Riverside County 1	33144	4144	364	4	2.9	365	0.131	0.111	0.099	0	2	15	46	31	69	364	0.07	0.0206	323*	0.02	0.002	0.0017
23	Metropolitan Riverside County 2	33146	4146	365	4	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Mira Loma	33165	5214	359	3	2.1	360	0.118	0.104	0.092	0	0	10	23	16	48	349*	0.07	0.0181	--	--	--	--
24	Perris Valley	33149	4149	--	--	--	365	0.139	0.116	0.103	0	4	37	73	66	88	--	--	--	--	--	--	--
25	Lake Elsinore	33158	4158	365	2	1.4	359	0.130	0.108	0.097	0	3	19	35	26	55	358	0.06	0.0174	--	--	--	--
29	Banning Airport	33164	4164	--	--	--	365	0.129	0.113	0.095	0	1	12	43	28	63	363	0.08	0.0147	--	--	--	--
30	Coachella Valley 1**	33137	4137	365	2	0.8	365	0.126	0.101	0.097	0	1	20	58	29	83	365	0.06	0.0103	--	--	--	--
30	Coachella Valley 2**	33155	4157	--	--	--	365	0.106	0.094	0.087	0	0	6	29	8	48	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																							
32	Northwest San Bernardino Valley	36175	5175	365	2	1.7	365	0.145	0.115	0.112	0	7	18	35	32	55	327*	0.10	0.0276	--	--	--	--
33	Southwest San Bernardino Valley	36025	5817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	36197	5197	359	3	1.8	359	0.144	0.122	0.112	0	9	19	43	40	60	358	0.09	0.0239	359	0.01	0.004	0.0019
34	Central San Bernardino Valley 2	36203	5203	365	4	2.3	365	0.153	0.121	0.117	1	8	24	51	48	74	351	0.08	0.0245	--	--	--	--
35	East San Bernardino Valley	36204	5204	--	--	--	365	0.149	0.124	0.112	0	7	25	58	54	79	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	36181	5181	--	--	--	365	0.171	0.137	0.126	4	13	59	93	67	115	--	--	--	--	--	--	--
38	East San Bernardino Mountains	36001	5818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM					8	5.1		0.171	0.137	0.126	4	13	59	93	67	115		0.12	0.0318		0.11	0.011	0.0028
SOUTH COAST AIR BASIN					8	5.1		0.171	0.137	0.126	5	18	79	108	96	128		0.12	0.0318		0.11	0.011	0.0028

ppm - Parts Per Million parts of air, by volume. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

* Less than 12 full months of data; may not be representative. ** Salton Sea Air Basin.

a) - The federal 8-hour standard (8-hour average CO > 9 ppm) and state 8-hour standard (8-hour average CO > 9.0 ppm) were not exceeded. The federal and state 1-hour standards (35 ppm and 20 ppm) were not exceeded, either.

b) - The federal 1-hour ozone standard was revoked and replaced by the 8-hour average ozone standard effective June 15, 2005. U.S. EPA has revised the federal 8-hour ozone standard from 0.084 ppm to 0.075 ppm, effective May 27, 2008.

c) - The 8-hour average California ozone standard of 0.070 ppm was established effective May 17, 2006.

d) - The federal standard is annual arithmetic mean NO_2 > 0.0534 ppm. California Air Resources Board has revised the NO_2 1-hour state standard from 0.25 ppm to 0.18 ppm and has established a new annual standard of 0.030 ppm, effective March 20, 2008.

e) - The state standards are 1-hour average SO_2 > 0.25 ppm and 24-hour average SO_2 > 0.04 ppm. The federal standards are annual arithmetic mean SO_2 > 0.03 ppm, 24-hour average > 0.14 ppm, and 3-hour average > 0.50 ppm. The federal and state SO_2 standards were not exceeded.

South Coast Air Quality Management District
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2007 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2007

Source/Receptor Area No.	Location	Station No. State Code	Station No. District Code	Suspended Particulates PM10 f) No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standards Federal > 150 µg/m³ 24-hour	State > 50 µg/m³ 24-hour	Annual Average Conc. i) (AAM) µg/m³	Fine Particulates PM2.5 g) No. Days of Data	Max. Conc. in µg/m³ 24-hour	98th Percentile Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Federal Standard Current > 35 j) µg/m³ 24-hour	Old > 65 j) µg/m³ 24-hour	Annual Average Conc. k) (AAM) µg/m³	Particulates h) No. Days of Data	Max. Conc. in µg/m³ 24-hour	Annual Average Conc. (AAM) µg/m³	Lead h) Max. Monthly Average Conc. l) µg/m³	Max. Quarterly Average Conc. l) µg/m³	Sulfate h) Max. Conc. in µg/m³ 24-hour	%Samples Exceeding State Standard ≥ 25 µg/m³ 24-hour
LOS ANGELES COUNTY																					
1	Central LA	70087	087	56	78	0	5(9)	33.3	324	64.2	51.2	20(0.6)	0	16.8	58	194	73.5	0.04	0.03	10.5	0
2	Northwest Coastal LA County	70091	091	--	--	--	--	--	--	--	--	--	--	--	57	180	57.6	--	--	9.7	0
3	Southwest Coastal LA County	70111	820	56	96	0	2(4)	27.7	--	--	--	--	--	--	55	286	51.8	0.02	0.01	10.5	0
4	South Coastal LA County 1	70072	072	57	75+	0+	5(9)+	30.2+	332	82.9	40.8	12(3.6)	1(0.3)	14.6	59	732	76.5	0.02	0.01	11.1	0
4	South Coastal LA County 2	70110	077	56	123+	0+	17(30)+	41.7+	326	68.0	33.7	6(1.8)	1(0.3)	13.7	58	694	79.4	0.02	0.01	11.7	0
6	West San Fernando Valley	70074	074	--	--	--	--	--	95	43.3	33.4	1(1.1)	0	13.1	--	--	--	--	--	--	--
7	East San Fernando Valley	70069	069	54	109	0	11(20)	40.0	98	56.5	47.7	9(9.2)	0	16.8	--	--	--	--	--	--	--
8	West San Gabriel Valley	70088	088	--	--	--	--	--	108	68.9	45.4	3(2.8)	1(0.9)	14.3	56	123	46.3	--	--	22.4	0
9	East San Gabriel Valley 1	70060	060	55	83+	0+	11(20)+	35.6+	292*	63.8	49.3	19(6.5)	0	15.9	58	243	77.8	--	--	37.0++	1(1.7)++
9	East San Gabriel Valley 2	70591	591	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Pomona/Walnut Valley	70075	075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South San Gabriel Valley	70185	085	--	--	--	--	--	101	63.6	49.5	5(5.0)	0	16.7	55	196	76.0	0.05	0.02	25.4++	1(1.7)++
12	South Central LA County	70084	084	--	--	--	--	--	106	49.0	46.1	4(3.8)	0	15.9	59	327	78.8	0.03	0.02	12.5	0
13	Santa Clarita Valley	70090	090	57	131+	0+	5(9)+	29.9+	--	--	--	--	--	--	--	--	--	--	--	--	--
ORANGE COUNTY																					
16	North Orange County	30177	3177	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Central Orange County	30178	3176	58	75+	0+	5(9)+	31.0+	336	79.4	46.5	14(4.2)	1(0.3)	14.5	--	--	--	--	--	--	--
18	North Coastal Orange County	30195	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	30002	3812	57	74	0	3(5)	23.0	98	46.9	35.0	2(2.0)	0	11.3	--	--	--	--	--	--	--
RIVERSIDE COUNTY																					
22	Norco/Corona	33155	4155	58	93+	0+	10(17)+	39.6+	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	33144	4144	116	118+	0+	66(57)+	54.6+	295*	75.7	54.3	33(11.2)	3(1.0)	19.1	57	237	111.0	0.02	0.01	13.0	0
23	Metropolitan Riverside County 2	33146	4146	--	--	--	--	--	101	68.6	57.3	8(7.9)	1(1.0)	18.1	60	674	88.9	0.02	0.01	9.3	0
23	Mira Loma	33165	5214	56	142	0	41(73)	68.5	110	69.7	60.1	13(11.8)	1(0.9)	21.0	--	--	--	--	--	--	--
24	Perris Valley	33149	4149	57	120+	0+	32(56)+	54.8+	--	--	--	--	--	--	--	--	--	--	--	--	--
25	Lake Elsinore	33158	4158	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
29	Banning Airport	33164	4164	48*	78	0	7(15)	33.3	--	--	--	--	--	--	--	--	--	--	--	--	--
30	Coachella Valley 1**	33137	4137	54	83	0	6(11)	30.5	104	32.5	20.5	0	0	8.7	--	--	--	--	--	--	--
30	Coachella Valley 2**	33155	4157	84*	146+	0+	51(61)+	53.5+	97	26.8	26.5	0	0	9.8	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																					
32	Northwest San Bernardino Valley	36175	5175	--	--	--	--	--	--	--	--	--	--	--	60	206	63.5	0.02	0.01	7.6	0
33	Southwest San Bernardino Valley	36025	5817	58	115+	0+	14(24)+	43.4+	102	72.8	53.0	6(5.9)	1(1.0)	17.9	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	36197	5197	56	111+	0+	33(59)+	54.9+	107	77.5	64.9	10(9.3)	2(1.9)	19.0	58	242	96.2	--	--	20.3	0
34	Central San Bernardino Valley 2	36203	5203	57	136+	0+	28(49)+	51.4+	99	72.1	68.4	11(11.1)	3(3.0)	18.3	59	536	106.9	0.04	0.02	13.6	0
35	East San Bernardino Valley	36204	5204	60	97	0	19(32)	39.7	--	--	--	--	--	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	36181	5181	54	89	0	2(4)	27.2	--	--	--	--	--	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	36001	5818	--	--	--	--	--	54	45.4	34.0	1(1.9)	0	10.4	--	--	--	--	--	--	--
DISTRICT MAXIMUM					146+	0+	66+	68.5+		82.9	68.4	33	3	21.0		732	111.0	0.05	0.03	37.0	1++
SOUTH COAST AIR BASIN					142+	0+	79+	68.5+		82.9	68.4	48	8	21.0		732	111.0	0.05	0.03	37.0	1++

µg/m³ - Micrograms per cubic meter of air. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

* Less than 12 full months of data; may not be representative. ** Salton Sea Air Basin.

f) - PM10 samples were collected every 6 days at all sites except for Station Numbers 4144 and 4157 where samples were collected every 3 days.

g) - PM2.5 samples were collected every 3 days at all sites except for the following sites: Station Numbers 060, 072, 077, 087, 3176, and 4144 where samples were taken every day, and Station Number 5818 where samples were taken every 6 days.

h) - Total suspended particulates, lead, and sulfate were determined from samples collected every 6 days by the high volume sampler method, on glass fiber filter media.

i) - Federal annual PM10 standard (AAM > 50 µg/m³) was revoked effective December 17, 2006. State standard is annual average (AAM) > 20 µg/m³.

j) - U.S. EPA has revised the federal 24-hour PM2.5 standard from 65 µg/m³ to 35 µg/m³; effective December 17, 2006.

k) - Federal PM2.5 standard is annual average (AAM) > 15 µg/m³. State standard is annual average (AAM) > 12 µg/m³.

l) - Federal lead standard is quarterly average > 1.5 µg/m³; and state standard is monthly average ≥ 1.5 µg/m³.

\+ - The following PM10 data samples were excluded from compliance consideration in accordance with the EPA Exceptional Event Regulation: 210 and 157 ug/m3 on March 22 and April 6, respectively, at Coachella Valley 2 (high wind events); 167 ug/m3 on April 12 at Perris Valley (high wind event); 165 and 155 ug/m3 on July 5 at East San Gabriel 1 and Central San Bernardino Valley 1, respectively (fireworks displays); and high concentrations throughout the District on October 21, with a maximum concentration of 559 ug/m3 at Metropolitan Riverside County 1 (high wind and wildfire event).

++ - High sulfate concentrations were recorded on July 5, 2008, due to the 4th of July firework activities.

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2008 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2008

Source/Receptor Area No.	Location	Station No. State Code	Station No. District Code	Carbon Monoxide a) No. Days of Data	Carbon Monoxide Max. Conc. in ppm 1-hour	Carbon Monoxide Max Conc. in ppm 8-hour	Ozone No. Days of Data	Ozone Max. Conc. in ppm 1-hour	Ozone Max. Conc. in ppm 8-hour	Ozone Fourth High Conc. ppm 8-hour	Ozone No. Days Standard Exceeded: Health Advisory ≥ 0.150 ppm 1-hour	Ozone No. Days Standard Exceeded: Federal b) > 0.12 ppm 1-hour	Ozone No. Days Standard Exceeded: Federal b) > 0.08 ppm 8-hour	Ozone No. Days Standard Exceeded: Federal b) > 0.075 ppm 8-hour	Ozone No. Days Standard Exceeded: State c) > 0.09 ppm 1-hour	Ozone No. Days Standard Exceeded: State c) > 0.070 ppm 8-hour	Nitrogen Dioxide d) No. Days of Data	Nitrogen Dioxide Max Conc. in ppm 1-hour	Nitrogen Dioxide Annual Average AAM Conc. ppm	Sulfur Dioxide e) No. Days of Data	Sulfur Dioxide Max. Conc. in ppm 1-hour	Sulfur Dioxide Max. Conc. in ppm 24-hour	Sulfur Dioxide Annual Average AAM Conc. ppm
LOS ANGELES COUNTY																							
1	Central LA	70087	087	366	3	2.1	356	0.109	0.090	0.073	0	0	1	3	3	7	343	0.12	0.0275	366	0.01	0.002	0.0003
2	Northwest Coastal LA County	70091	091	366	3	2.0	366	0.11	0.097	0.073	0	0	1	2	3	8	364	0.09	0.0184	--	--	--	--
3	Southwest Coastal LA County	70111	820	358	4	2.5	360	0.086	0.075	0.065	0	0	0	0	0	1	359	0.10	0.0143	357	0.02	0.005	0.0014
4	South Coastal LA County 1	70072	072	366	3	2.6	366	0.093	0.074	0.064	0	0	0	0	0	1	366	0.13	0.0208	366	0.09	0.012	0.0022
4	South Coastal LA County 2	70110	077	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	West San Fernando Valley	70074	074	366	4	2.9	366	0.123	0.103	0.095	0	0	14	25	23	40	366	0.09	0.0180	--	--	--	--
7	East San Fernando Valley	70069	069	366	3	2.6	366	0.133	0.109	0.092	0	1	8	17	20	35	364	0.11	0.0285	366	0.01	0.003	0.0008
8	West San Gabriel Valley	70088	088	366	3	2.1	366	0.122	0.100	0.091	0	0	6	16	16	26	365	0.11	0.0235	--	--	--	--
9	East San Gabriel Valley 1	70060	060	366	2	1.6	366	0.135	0.111	0.101	0	7	14	28	34	39	366	0.10	0.0230	--	--	--	--
9	East San Gabriel Valley 2	70591	591	366	3	3.0	366	0.156	0.118	0.112	2	12	25	45	48	61	366	0.10	0.0182	--	--	--	--
10	Pomona/Walnut Valley	70075	075	366	3	2.0	366	0.141	0.110	0.100	0	5	19	35	32	47	366	0.11	0.0302	--	--	--	--
11	South San Gabriel Valley	70185	085	357	3	2.1	366	0.107	0.093	0.077	0	0	1	5	7	13	341	0.10	0.0263	--	--	--	--
12	South Central LA County	70084	084	310*	6*	4.3*	310*	0.078*	0.060*	0.055*	0*	0*	0*	0*	0*	0*	305*	0.12*	0.0301*	--	--	--	--
13	Santa Clarita Valley	70090	090	363	2	1.1	363	0.160	0.131	0.108	2	8	35	60	54	81	363	0.07	0.0165	--	--	--	--
ORANGE COUNTY																							
16	North Orange County	30177	3177	366	5	2.9	366	0.104	0.084	0.078	0	0	0	5	7	15	361	0.09	0.0206	--	--	--	--
17	Central Orange County	30178	3176	366	4	3.6	366	0.105	0.086	0.076	0	0	1	4	2	10	366	0.09	0.0203	--	--	--	--
18	North Coastal Orange County	30195	3195	366	3	2.0	366	0.094	0.079	0.075	0	0	0	3	0	6	365	0.08	0.0132	366	0.01	0.003	0.0011
19	Saddleback Valley	30002	3812	365	2	1.1	365	0.118	0.104	0.092	0	0	6	15	9	25	--	--	--	--	--	--	--
RIVERSIDE COUNTY																							
22	Norco/Corona	33155	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	33144	4144	366	3	2.0	366	0.146	0.116	0.111	0	8	38	64	54	88	366	0.09	0.0192	366	0.01	0.003	0.0009
23	Metropolitan Riverside County 2	33146	4146	366	7	2.0	--	--	--	--	--	--	--	--	--	--	70*	0.09*	0.0258*	--	--	--	--
23	Mira Loma	33165	5214	366	3	1.9	366	0.135	0.107	0.104	0	4	23	47	38	62	366	0.10	0.0174	--	--	--	--
24	Perris Valley	33149	4149	--	--	--	366	0.142	0.114	0.106	0	4	41	77	65	94	--	--	--	--	--	--	--
25	Lake Elsinore	33158	4158	365	1	1.0	365	0.139	0.118	0.108	0	6	32	69	49	92	362	0.06	0.0129	--	--	--	--
29	Banning Airport	33164	4164	--	--	--	365	0.149	0.120	0.108	0	10	45	74	57	95	366	0.08	0.0128	--	--	--	--
30	Coachella Valley 1**	33137	4137	366	1	0.6	366	0.11	0.101	0.098	0	0	20	51	26	70	366	0.05	0.0093	--	--	--	--
30	Coachella Valley 2**	33155	4157	--	--	--	355	0.12	0.092	0.090	0	0	11	27	11	44	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																							
32	Northwest San Bernardino Valley	36175	5175	365	2	1.6	365	0.155	0.122	0.111	2	9	30	50	51	65	365	0.09	0.0235	--	--	--	--
33	Southwest San Bernardino Valley	36025	5817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	36197	5197	363	2	1.9	364	0.162	0.124	0.111	1	8	35	58	55	82	364	0.10	0.0207	364	0.01	0.003	0.0018
34	Central San Bernardino Valley 2	36203	5203	366	2	1.8	366	0.157	0.122	0.113	2	11	43	62	62	90	366	0.09	0.0217	--	--	--	--
35	East San Bernardino Valley	36204	5204	--	--	--	366	0.154	0.120	0.112	1	12	50	75	72	100	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	36181	5181	--	--	--	362	0.176	0.126	0.120	2	16	67	97	78	115	--	--	--	--	--	--	--
38	East San Bernardino Mountains	36001	5818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM				366	7	4.3	366	0.176	0.131	0.120	2	17	75	97	79	115		0.13	0.0302		0.09	0.012	0.0022
SOUTH COAST AIR BASIN					7	4.3		0.176	0.131	0.120	7	28	80	120	102	140		0.13	0.0302		0.09	0.012	0.0022

ppm - Parts Per Million parts of air, by volume. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

* Less than 12 full months of data; may not be representative. ** Salton Sea Air Basin.

a) - The federal 8-hour standard (8-hour average CO > 9 ppm) and state 8-hour standard (8-hour average CO > 9.0 ppm) were not exceeded. The federal and state 1-hour standards (35 ppm and 20 ppm) were not exceeded, either.

b) - The federal 1-hour ozone standard was revoked and replaced by the 8-hour average ozone standard effective June 15, 2005. U.S. EPA has revised the federal 8-hour ozone standard from 0.084 ppm to 0.075 ppm, effective May 27, 2008.

c) - The 8-hour average California ozone standard of 0.070 ppm was established effective May 17, 2006.

d) - The federal standard is annual arithmetic mean NO_2 > 0.0534 ppm. California Air Resources Board has revised the NO_2 1-hour state standard from 0.25 ppm to 0.18 ppm and has established a new annual standard of 0.030 ppm, effective March 20, 2008.

e) - The state standards are 1-hour average SO_2 > 0.25 ppm and 24-hour average SO_2 > 0.04 ppm. The federal standards are annual arithmetic mean SO_2 > 0.03 ppm, 24-hour average > 0.14 ppm, and 3-hour average > 0.50 ppm. The federal and state SO_2 standards were not exceeded.

South Coast
Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4182
www.aqmd.gov

The map showing the locations of source/receptor areas can be accessed via the Internet at http://www.aqmd.gov/telemweb/areamap.aspx. Locations of source/receptor areas are shown on the "South Coast Air Quality Management District Air Monitoring Areas" map available free of charge from SCAQMD Public Information.

PRELIMINARY DATA

2008 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2008

Source/Receptor Area No.	Location	Station No. State Code	Station No. District Code	Suspended Particulates PM10 f) No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standards Federal > 150 µg/m³ 24-hour	No. (%) Samples Exceeding Standards State > 50 µg/m³ 24-hour	Annual Average Conc. i) (AAM) µg/m³	Fine Particulates PM2.5 g) No. Days of Data	Max. Conc. in µg/m³ 24-hour	98th Percentile Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Federal Standard Current > 35 j) µg/m³ 24-hour	No. (%) Samples Exceeding Federal Standard Old > 65 j) µg/m³ 24-hour	Annual Average Conc. k) (AAM) µg/m³	Particulates TSP h) No. Days of Data	Max. Conc. in µg/m³ 24-hour	Annual Average Conc. (AAM) µg/m³	Lead h) Max. Monthly Average Conc. l) µg/m³	Lead h) Max. Quarterly Average Conc. l) µg/m³	Sulfate h) Max. Conc. in µg/m³ 24-hour	Sulfate h) %Samples Exceeding State Standard ≥ 25 µg/m³ 24-hour
LOS ANGELES COUNTY																					
1	Central LA	70087	087	42*	66*	0*	3(7%)*	32.2*	337	78.3	40.4	10(3.0)	1(0.3)	15.7							
2	Northwest Coastal LA County	70091	091	--	--	--	--	--	--	--	--	--	--	--							
3	Southwest Coastal LA County	70111	820	60	50	0	0(0%)	25.6	--	--	--	--	--	--							
4	South Coastal LA County 1	70072	072	57	62	0	1(2%)	29.1	346	57.2	38.9	8(2.3)	0	14.2							
4	South Coastal LA County 2	70110	077	58	81	0	9(16%)	35.8	349	60.9	36.4	7(2.0)	0	13.7							
6	West San Fernando Valley	70074	074	--	--	--	--	--	113	50.5	26.2	2(1.8)	0	11.9							
7	East San Fernando Valley	70069	069	54	66	0	7(13%)	35.6	116	57.5	34.6	2(1.7)	0	14.1							
8	West San Gabriel Valley	70088	088	--	--	--	--	--	118	66.0	32.1	2(1.7)	1(0.9)	12.9							
9	East San Gabriel Valley 1	70060	060	49	98	0	13(27%)	35.3	321	53.1	34.8	5(1.6)	0	14.1							
9	East San Gabriel Valley 2	70591	591	--	--	--	--	--	--	--	--	--	--	--							
10	Pomona/Walnut Valley	70075	075	--	--	--	--	--	--	--	--	--	--	--							
11	South San Gabriel Valley	70185	085	--	--	--	--	--	114.	47.3	38.0	4(3.5)	0	15.0							
12	South Central LA County	70084	084	--	--	--	--	--	118	44.2	36.5	3(2.5)	0	15.5							
13	Santa Clarita Valley	70090	090	57	91	0	2(4%)	25.8	--	--	--	--	--	--							
ORANGE COUNTY																					
16	North Orange County	30177	3177	--	--	--	--	--	--	--	--	--	--	--							
17	Central Orange County	30178	3176	58	61	0	3(5%)	28.6	336	67.9	39.4	13(3.9)	1(0.3)	13.7							
18	North Coastal Orange County	30195	3195	--	--	--	--	--	--	--	--	--	--	--							
19	Saddleback Valley	30002	3812	55	42	0	0(0%)	22.6	120	32.6	27.1	0	0	10.4							
RIVERSIDE COUNTY																					
22	Norco/Corona	33155	4155	61	86	0	9(15%)	34.4	--	--	--	--	--	--							
23	Metropolitan Riverside County 1	33144	4144	119	115	0	49(41%)	47.0	348	57.7	41.5	14(4.0)	0	16.4							
23	Metropolitan Riverside County 2	33146	4146	61	135	0	35(57%)	57.4	116	43.0	39.1	4(3.4)	0	13.4							
23	Mira Loma	33165	5214	--	--	--	--	--	111	50.9	47.1	10(9.0)	0	18.2							
24	Perris Valley	33149	4149	45*	85*	0*	12(27%)*	38.3*	--	--	--	--	--	--							
25	Lake Elsinore	33158	4158	--	--	--	--	--	--	--	--	--	--	--							
29	Banning Airport	33164	4164	56	51	0	1(2%)	26.1	--	--	--	--	--	--							
30	Coachella Valley 1**	33137	4137	52	75	0	4(8%)	24.0	110	18.1	17.1	0	0	7.2							
30	Coachella Valley 2**	33157	4157	114	128	0	27(24%)	39.9	113	21.6	18.8	0	0	8.4							
SAN BERNARDINO COUNTY																					
32	Northwest San Bernardino Valley	36175	5175	--	--	--	--	--	--	--	--	--	--	--							
33	Southwest San Bernardino Valley	36025	5817	62	90	0	15(24%)	38.8	113	54.2	45.0	6(5.3)	0	15.8							
34	Central San Bernardino Valley 1	36197	5197	60	75	0	14(23%)	40.3	112	49.0	47.1	6(5.4)	0	15.4							
34	Central San Bernardino Valley 2	36203	5203	60	76	0	19(32%)	42.7	110	43.5	40.1	3(2.7)	0	13.5							
35	East San Bernardino Valley	36204	5204	61	58	0	4(7%)	29.0	--	--	--	--	--	--							
37	Central San Bernardino Mountains	36181	5181	46	46	0	0(0%)	25.0	--	--	--	--	--	--							
38	East San Bernardino Mountains	36001	5818	--	--	--	--	--	58	36.8	33.3	1(1.7)	0	9.2							
DISTRICT MAXIMUM					135	0	59	57.4		78.3	47.1	14	1	18.2							
SOUTH COAST AIR BASIN					135	0	68	57.4		78.3	47.1	28	2	18.2							

µg/m³ - Micrograms per cubic meter of air. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

* Less than 12 full months of data; may not be representative. ** Salton Sea Air Basin.

f) - PM10 samples were collected every 6 days at all sites except for Station Numbers 4144 and 4157 where samples were collected every 3 days.

g) - PM2.5 samples were collected every 3 days at all sites except for the following sites: Station Numbers 060, 072, 077, 087, 3176, and 4144 where samples were taken every day, and Station Number 5818 where samples were taken every 6 days.

h) - Total suspended particulates, lead, and sulfate were determined from samples collected every 6 days by the high volume sampler method, on glass fiber filter media.

i) - Federal annual PM10 standard (AAM > 50 µg/m³) was revoked effective December 17, 2006. State standard is annual average (AAM) > 20 µg/m³.

j) - U.S. EPA has revised the federal 24-hour PM2.5 standard from 65 µg/m³ to 35 µg/m³; effective December 17, 2006.

k) - Federal PM2.5 standard is annual average (AAM) > 15 µg/m³. State standard is annual average (AAM) > 12 µg/m³.

l) - Federal lead standard is quarterly average > 1.5 µg/m³; and state standard is monthly average ≥ 1.5 µg/m³. U.S. EPA has established the federal standard of 0.15 ug/m3, rolling 3-month average, as of October 15, 2008.

PRELIMINARY DATA

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Appendix C

EMFAC 2007 & CAL3QHC Output Files

Concentrations of CO for California Incline Bridge Replacement Project - AM Peak Hour

2008 Existing					
	1-Hour Bckgrnd Conc.	8-Hour Bckgrnd Conc.	CALROADS RESULTS	Parts Per Million	
Intersection			1-hour	1-hour	8-hour
Lincoln Boulevard/Interstate 10 Eastbound On Ramp	3	2	0.5	3.5	2.4
Lincoln Boulevard/Interstate 10 Westbound Off Ramp	3	2	0.5	3.5	2.4
Ocean Avenue/Colorado Avenue	3	2	0.2	3.2	2.1
Palisades Beach Road/California Avenue	3	2	0.7	3.7	2.5
Pacific Coast Highway/Channel Drive/Chautauqua Boulevard	3	2	0.9	3.9	2.6

2011 Construction					
	1-Hour Bckgrnd Conc.	8-Hour Bckgrnd Conc.	CALROADS RESULTS	Parts Per Million	
Intersection			1-hour	1-hour	8-hour
Lincoln Boulevard/Interstate 10 Eastbound On Ramp	2.61	1.74	0.5	3.1	2.1
Lincoln Boulevard/Interstate 10 Westbound Off Ramp	2.61	1.74	0.4	3.0	2.0
Ocean Avenue/Colorado Avenue	2.61	1.74	0.2	2.8	1.9
Palisades Beach Road/California Avenue	2.61	1.74	0.5	3.1	2.1
Pacific Coast Highway/Channel Drive/Chautauqua Boulevard	2.61	1.74	0.9	3.5	2.4

State Standard	20	9.0

JOB: Cal Incline PM Pk hr - PcCh-co RUN: Cal Incline PM Pk hr - PcCh-co

DATE : 9/22/ 9
TIME : 14:54: 4

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	3677.	3.5	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	4866.	3.5	.0	****		
3. NBQ	1719.2	1640.4	1719.2	1554.6	86.	180.	AG	12.	100.0	.0	****	.84	4.4
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	2958.	3.5	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	3128.	3.5	.0	****		
6. SBQ	1561.7	1837.3	1561.7	1893.8	57.	360.	AG	12.	100.0	.0	****	.68	2.9
7. EBD	1640.4	1640.4	3280.8	1640.4	1640.	90.	AG	728.	3.5	.0	****		
8. WBA	3280.8	1738.8	1640.4	1738.8	1640.	270.	AG	2087.	3.5	.0	****		
9. WBQ	1797.9	1738.8	2974.8	1738.8	1177.	90.	AG	47.	100.0	.0	****	1.31	59.8

JOB: Cal Incline PM Pk hr - PcCh-co RUN: Cal Incline PM Pk hr - PcCh-co

DATE : 9/22/ 9
TIME : 14:54: 4

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	14	3.0	3677	1600	4.84	3	3
6. SBQ	60	14	3.0	2958	1600	4.84	3	3
9. WBQ	60	43	3.0	2087	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1902.9	17.7
2. NE	1863.5	1902.9	17.7
3. SW	1417.3	1574.8	17.7
4. SE	1863.5	1574.8	17.7

JOB: Cal Incline PM Pk hr - PcCh-co RUN: Cal Incline PM Pk hr - PcCh-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.1	.1	.4
10.	.4	.0	.5	.2
20.	.6	.0	.6	.2
30.	.5	.0	.5	.2
40.	.4	.0	.3	.2
50.	.4	.0	.3	.3
60.	.3	.0	.5	.3
70.	.3	.0	.5	.4
80.	.3	.0	.7	.4
90.	.4	.1	.4	.2
100.	.6	.3	.2	.0
110.	.5	.3	.2	.0
120.	.4	.2	.3	.0
130.	.3	.2	.3	.0
140.	.2	.2	.4	.0
150.	.4	.2	.4	.0
160.	.5	.2	.5	.0
170.	.5	.2	.4	.0
180.	.1	.4	.1	.2
190.	.0	.8	.0	.5
200.	.0	.6	.0	.5
210.	.0	.6	.0	.5
220.	.0	.5	.0	.3
230.	.0	.6	.0	.3
240.	.0	.4	.0	.3
250.	.0	.3	.0	.3
260.	.0	.3	.0	.3
270.	.0	.3	.0	.3
280.	.0	.3	.0	.3
290.	.0	.3	.0	.4
300.	.0	.3	.0	.6
310.	.0	.4	.0	.4
320.	.0	.4	.0	.5
330.	.0	.6	.0	.6
340.	.0	.6	.0	.7
350.	.0	.6	.0	.9
360.	.1	.1	.1	.4
MAX	.6	.8	.7	.9
DEGR.	20	190	80	350

THE HIGHEST CONCENTRATION OF .90 PPM OCCURRED AT RECEPTOR REC4 .

JOB: Cal Incline - PM Pk Hr - PaCa-ex RUN: Cal Incline - PM Pk Hr - PaCa-ex

DATE : 9/22/ 9
TIME : 13:47: 5

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	2907.	4.1	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	3755.	4.1	.0	****		
3. NBQ	1719.2	1601.0	1719.2	1569.3	32.	180.	AG	7.	100.0	.0	****	.58	1.6
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	3240.	4.1	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	2867.	4.1	.0	****		
6. SBQ	1561.7	1719.2	1561.7	1754.6	35.	360.	AG	7.	100.0	.0	****	.65	1.8
7. EBA	.0	1620.7	1640.4	1620.7	1640.	90.	AG	51.	4.1	.0	****		
8. EBD	1640.4	1620.7	3280.8	1620.7	1640.	90.	AG	485.	4.1	.0	****		
9. EBQ	1482.9	1620.7	1469.3	1620.7	14.	270.	AG	11.	100.0	.0	39.4	.32	.7
10. WBA	3280.8	1679.8	1640.4	1679.8	1640.	270.	AG	940.	4.1	.0	****		
11. WBD	1640.4	1679.8	.0	1679.8	1640.	270.	AG	31.	4.1	.0	****		
12. WBQ	1797.9	1679.8	5167.4	1679.8	3370.	90.	AG	21.	100.0	.0	78.7	2.96	171.2

JOB: Cal Incline - PM Pk Hr - PaCa-ex RUN: Cal Incline - PM Pk Hr - PaCa-ex

DATE : 9/22/ 9
TIME : 13:47: 5

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	8	3.0	2907	1600	4.84	3	3
6. SBQ	60	8	3.0	3240	1600	4.84	3	3
9. EBQ	60	49	3.0	51	1600	4.84	3	3
12. WBQ	60	49	3.0	940	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1784.8	17.7
2. NE	1863.5	1784.8	17.7
3. SW	1417.3	1535.4	17.7
4. SE	1863.5	1535.4	17.7

JOB: Cal Incline - PM Pk Hr - PaCa-ex RUN: Cal Incline - PM Pk Hr - PaCa-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.2	.1	.2	.2
10.	.5	.0	.6	.0
20.	.7	.0	.6	.1
30.	.5	.0	.4	.1
40.	.4	.0	.4	.1
50.	.4	.0	.4	.1
60.	.4	.0	.3	.1
70.	.4	.0	.4	.3
80.	.4	.0	.5	.3
90.	.6	.2	.3	.0
100.	.7	.4	.2	.0
110.	.4	.2	.3	.0
120.	.4	.1	.3	.0
130.	.3	.1	.3	.0
140.	.3	.1	.4	.0
150.	.5	.1	.4	.0
160.	.5	.1	.5	.0
170.	.6	.1	.5	.0
180.	.1	.3	.1	.1
190.	.0	.7	.0	.5
200.	.0	.6	.0	.5
210.	.0	.6	.0	.4
220.	.0	.5	.0	.4
230.	.0	.5	.0	.3
240.	.0	.4	.0	.3
250.	.0	.3	.0	.2
260.	.0	.3	.0	.2
270.	.0	.3	.0	.2
280.	.0	.3	.0	.2
290.	.0	.3	.0	.3
300.	.0	.3	.0	.3
310.	.0	.3	.0	.4
320.	.0	.5	.0	.6
330.	.0	.5	.0	.6
340.	.0	.6	.0	.7
350.	.0	.6	.0	.7
360.	.2	.1	.2	.2
MAX	.7	.7	.6	.7
DEGR.	20	190	10	340

THE HIGHEST CONCENTRATION OF .70 PPM OCCURRED AT RECEPTOR REC1 .

JOB: Cal Incline - PM Pk Hr - PaCa-co RUN: Cal Incline - PM Pk Hr - PaCa-co

DATE : 9/22/ 9
TIME : 13:59:50

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	3367.	3.5	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	3377.	3.5	.0	****		
3. NBQ	1719.2	1601.0	1719.2	1568.9	32.	180.	AG	6.	100.0	.0	****	.66	1.6
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	3129.	3.5	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	3130.	3.5	.0	****		
6. SBQ	1561.7	1719.2	1561.7	1749.1	30.	360.	AG	6.	100.0	.0	****	.61	1.5
7. EBA	.0	1620.7	1640.4	1620.7	1640.	90.	AG	27.	3.5	.0	****		
8. EBQ	1482.9	1620.7	1475.6	1620.7	7.	270.	AG	8.	100.0	.0	39.4	.20	.4
9. WBD	1640.4	1679.8	.0	1679.8	1640.	270.	AG	16.	3.5	.0	****		

JOB: Cal Incline - PM Pk Hr - PaCa-co RUN: Cal Incline - PM Pk Hr - PaCa-co

DATE : 9/22/ 9
TIME : 13:59:50

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	7	3.0	3367	1600	4.84	3	3
6. SBQ	60	7	3.0	3129	1600	4.84	3	3
8. EBQ	60	50	3.0	27	1600	3.46	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1784.8	17.7
2. NE	1863.5	1784.8	17.7
3. SW	1417.3	1535.4	17.7
4. SE	1863.5	1535.4	17.7

JOB: Cal Incline - PM Pk Hr - PaCa-co RUN: Cal Incline - PM Pk Hr - PaCa-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.1	.1	.1
10.	.4	.0	.5	.0
20.	.5	.0	.5	.0
30.	.4	.0	.4	.0
40.	.4	.0	.3	.0
50.	.3	.0	.3	.0
60.	.2	.0	.2	.0
70.	.2	.0	.3	.0
80.	.2	.0	.2	.0
90.	.2	.0	.2	.0
100.	.2	.0	.2	.0
110.	.2	.0	.2	.0
120.	.2	.0	.3	.0
130.	.3	.0	.3	.0
140.	.3	.0	.3	.0
150.	.5	.0	.4	.0
160.	.5	.0	.5	.0
170.	.6	.0	.4	.0
180.	.1	.2	.1	.1
190.	.0	.5	.0	.5
200.	.0	.5	.0	.5
210.	.0	.5	.0	.4
220.	.0	.3	.0	.3
230.	.0	.3	.0	.3
240.	.0	.2	.0	.3
250.	.0	.3	.0	.2
260.	.0	.2	.0	.2
270.	.0	.2	.0	.2
280.	.0	.2	.0	.2
290.	.0	.2	.0	.3
300.	.0	.3	.0	.3
310.	.0	.3	.0	.3
320.	.0	.3	.0	.4
330.	.0	.4	.0	.4
340.	.0	.5	.0	.5
350.	.0	.5	.0	.5
360.	.1	.1	.1	.1
MAX	.6	.5	.5	.5
DEGR.	170	190	10	190

THE HIGHEST CONCENTRATION OF .60 PPM OCCURRED AT RECEPTOR REC1 .

JOB: Cal Incline PM Pk Hr - OcOc-ex RUN: Cal Incline PM Pk Hr - OcOc-ex

DATE : 9/22/ 9
TIME : 14:11:41

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	*	1719.2	.0	1719.2	1640.4	*	1640.	360.	AG	959.	4.1	.0	****		
2. NBD	*	1719.2	1640.4	1719.2	3280.8	*	1640.	360.	AG	977.	4.1	.0	****		
3. NBQ	*	1719.2	1601.0	1719.2	1584.1	*	17.	180.	AG	9.	100.0	.0	****	.21	.9
4. SBA	*	1561.7	3280.8	1561.7	1640.4	*	1640.	180.	AG	1235.	4.1	.0	****		
5. SBD	*	1561.7	1640.4	1561.7	.0	*	1640.	180.	AG	1425.	4.1	.0	****		
6. SBQ	*	1561.7	1758.5	1561.7	1780.4	*	22.	360.	AG	11.	100.0	.0	****	.28	1.1
7. EBA	*	.0	1620.7	1640.4	1620.7	*	1640.	90.	AG	115.	4.1	.0	****		
8. EBD	*	1640.4	1620.7	.0	1620.7	*	1640.	270.	AG	312.	4.1	.0	****		
9. EBQ	*	1482.9	1620.7	1455.3	1620.7	*	28.	270.	AG	10.	100.0	.0	39.4	.39	1.4
10. WBA	*	3280.8	1699.5	1640.4	1699.5	*	1640.	270.	AG	526.	4.1	.0	****		
11. WBD	*	1640.4	1699.5	.0	1699.5	*	1640.	270.	AG	121.	4.1	.0	****		
12. WBQ	*	1797.9	1699.5	1840.1	1699.5	*	42.	90.	AG	29.	100.0	.0	****	.60	2.1

JOB: Cal Incline PM Pk Hr - OcOc-ex RUN: Cal Incline PM Pk Hr - OcOc-ex

DATE : 9/22/ 9
TIME : 14:11:41

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	*	60	13	3.0	959	1600	3.84	3	3
6. SBQ	*	60	13	3.0	1235	1600	4.84	3	3
9. EBQ	*	60	44	3.0	115	1600	4.84	3	3
12. WBQ	*	60	44	3.0	526	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. NW	*	1417.3	1824.1	17.7	*
2. NE	*	1863.5	1824.1	17.7	*
3. SW	*	1417.3	1535.4	17.7	*
4. SE	*	1863.5	1535.4	17.7	*

JOB: Cal Incline PM Pk Hr - OcOc-ex RUN: Cal Incline PM Pk Hr - OcOc-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.0	.1	.0
10.	.2	.0	.3	.0
20.	.2	.0	.2	.0
30.	.2	.0	.2	.0
40.	.2	.0	.2	.0
50.	.1	.0	.0	.0
60.	.1	.0	.1	.0
70.	.1	.0	.1	.1
80.	.1	.0	.2	.1
90.	.1	.0	.1	.0
100.	.2	.1	.1	.0
110.	.1	.1	.1	.0
120.	.1	.0	.1	.0
130.	.1	.0	.1	.0
140.	.1	.0	.2	.0
150.	.2	.0	.2	.0
160.	.2	.0	.3	.0
170.	.3	.0	.2	.0
180.	.1	.1	.0	.0
190.	.0	.2	.0	.2
200.	.0	.2	.0	.2
210.	.0	.1	.0	.2
220.	.0	.1	.0	.2
230.	.0	.2	.0	.2
240.	.0	.1	.0	.2
250.	.0	.1	.0	.1
260.	.0	.1	.0	.1
270.	.0	.2	.0	.1
280.	.0	.1	.1	.2
290.	.0	.2	.0	.0
300.	.0	.2	.0	.0
310.	.0	.2	.0	.1
320.	.0	.2	.0	.2
330.	.0	.2	.0	.2
340.	.0	.2	.0	.2
350.	.0	.1	.0	.2
360.	.1	.0	.1	.0
MAX	.3	.2	.3	.2
DEGR.	170	190	10	190

THE HIGHEST CONCENTRATION OF .30 PPM OCCURRED AT RECEPTOR REC3 .

JOB: Cal Incline PM Pk Hr - OcOc-co RUN: Cal Incline PM Pk Hr - OcOc-co

DATE : 9/22/ 9
TIME : 14:20:49

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	1309.	3.5	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	1327.	3.5	.0	****		
3. NBQ	1719.2	1601.0	1719.2	1583.2	18.	180.	AG	9.	100.0	.0	****	.27	.9
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	1695.	3.5	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	1885.	3.5	.0	****		
6. SBQ	1561.7	1758.5	1561.7	1781.7	23.	360.	AG	9.	100.0	.0	****	.35	1.2
7. EBA	.0	1620.7	1640.4	1620.7	1640.	90.	AG	115.	3.5	.0	****		
8. EBD	1640.4	1620.7	.0	1620.7	1640.	270.	AG	312.	3.5	.0	****		
9. EBQ	1482.9	1620.7	1453.4	1620.7	30.	270.	AG	10.	100.0	.0	39.4	.54	1.5
10. WBA	3280.8	1699.5	1640.4	1699.5	1640.	270.	AG	526.	3.5	.0	****		
11. WBD	1640.4	1699.5	.0	1699.5	1640.	270.	AG	121.	3.5	.0	****		
12. WBQ	1797.9	1699.5	1860.1	1699.5	62.	90.	AG	31.	100.0	.0	****	.82	3.2

JOB: Cal Incline PM Pk Hr - OcOc-co RUN: Cal Incline PM Pk Hr - OcOc-co

DATE : 9/22/ 9
TIME : 14:20:49

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	10	3.0	1309	1600	4.84	3	3
6. SBQ	60	10	3.0	1695	1600	4.84	3	3
9. EBQ	60	47	3.0	115	1600	4.84	3	3
12. WBQ	60	47	3.0	526	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1824.1	17.7
2. NE	1863.5	1824.1	17.7
3. SW	1417.3	1535.4	17.7
4. SE	1863.5	1535.4	17.7

JOB: Cal Incline PM Pk Hr - OcOc-co RUN: Cal Incline PM Pk Hr - OcOc-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.0	.1	.0
10.	.2	.0	.3	.0
20.	.3	.0	.2	.0
30.	.2	.0	.2	.0
40.	.2	.0	.2	.0
50.	.2	.0	.2	.0
60.	.1	.0	.1	.0
70.	.2	.0	.1	.0
80.	.1	.0	.2	.0
90.	.1	.0	.1	.0
100.	.2	.1	.1	.0
110.	.1	.1	.1	.0
120.	.1	.0	.2	.0
130.	.1	.0	.2	.0
140.	.2	.0	.2	.0
150.	.2	.0	.2	.0
160.	.3	.0	.3	.0
170.	.3	.0	.2	.0
180.	.1	.1	.1	.1
190.	.0	.2	.0	.2
200.	.0	.2	.0	.2
210.	.0	.2	.0	.2
220.	.0	.1	.0	.2
230.	.0	.2	.0	.2
240.	.0	.1	.0	.2
250.	.0	.2	.0	.2
260.	.0	.2	.0	.2
270.	.0	.2	.0	.2
280.	.0	.2	.0	.2
290.	.0	.2	.0	.1
300.	.0	.2	.0	.1
310.	.0	.2	.0	.1
320.	.0	.2	.0	.2
330.	.0	.2	.0	.2
340.	.0	.2	.0	.2
350.	.0	.2	.0	.3
360.	.1	.0	.1	.0
MAX	.3	.2	.3	.3
DEGR.	20	190	10	350

THE HIGHEST CONCENTRATION OF .30 PPM OCCURRED AT RECEPTOR REC3 .

JOB: Cal Incline - PM Pk Hr-ex RUN: Cal Incline - PM Pk Hr-ex

DATE : 9/22/ 9
TIME : 10:58:56

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	1502.	4.1	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	1138.	4.1	.0	****		
3. NBQ	1719.2	1522.3	1719.2	1505.9	16.	180.	AG	7.	100.0	.0	****	.30	.8
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	2297.	4.1	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	1703.	4.1	.0	****		
6. SBQ	1561.7	1640.4	1561.7	1665.5	25.	360.	AG	7.	100.0	.0	****	.46	1.3
7. EBA	.0	1581.4	1640.4	1581.4	1640.	90.	AG	636.	4.1	.0	****		
8. EBD	1640.4	1581.4	3280.8	1581.4	1640.	90.	AG	1594.	4.1	.0	****		
9. EBQ	1482.9	1581.4	822.1	1581.4	661.	270.	AG	32.	100.0	.0	****	1.33	33.6

JOB: Cal Incline - PM Pk Hr-ex RUN: Cal Incline - PM Pk Hr-ex

DATE : 9/22/ 9
TIME : 10:58:56

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	8	3.0	1502	1600	4.84	3	3
6. SBQ	60	8	3.0	2297	1600	4.84	3	3
9. EBQ	60	49	3.0	636	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1706.0	17.7
2. NE	1863.5	1706.0	17.7
3. SW	1417.3	1456.7	17.7
4. SE	1863.5	1456.7	17.7

JOB: Cal Incline - PM Pk Hr-ex RUN: Cal Incline - PM Pk Hr-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.0	.1	.2
10.	.3	.0	.4	.1
20.	.4	.0	.3	.1
30.	.3	.0	.2	.1
40.	.3	.0	.3	.1
50.	.2	.0	.1	.1
60.	.1	.0	.2	.1
70.	.2	.0	.3	.2
80.	.1	.0	.4	.2
90.	.2	.1	.3	.1
100.	.3	.2	.2	.0
110.	.3	.2	.2	.0
120.	.3	.1	.2	.0
130.	.2	.1	.2	.0
140.	.2	.1	.2	.0
150.	.2	.1	.2	.0
160.	.3	.1	.3	.0
170.	.3	.1	.3	.0
180.	.1	.2	.1	.1
190.	.0	.4	.0	.3
200.	.0	.4	.0	.3
210.	.0	.3	.0	.2
220.	.1	.3	.0	.2
230.	.1	.3	.0	.2
240.	.2	.3	.0	.2
250.	.2	.2	.0	.2
260.	.1	.4	.0	.2
270.	.0	.2	.0	.2
280.	.0	.2	.1	.4
290.	.0	.2	.2	.3
300.	.0	.2	.2	.2
310.	.0	.2	.1	.3
320.	.0	.2	.1	.3
330.	.0	.2	.0	.3
340.	.0	.3	.0	.4
350.	.0	.2	.0	.4
360.	.1	.0	.1	.2
MAX	.4	.4	.4	.4
DEGR.	20	190	10	280

THE HIGHEST CONCENTRATION OF .40 PPM OCCURRED AT RECEPTOR REC3 .

JOB: Cal Incline - PM Pk Hr-co RUN: Cal Incline - PM Pk Hr-co

DATE : 9/22/ 9
TIME : 11: 9:25

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	1502.	3.5	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	1298.	3.5	.0	****		
3. NBQ	1719.2	1522.3	1719.2	1501.8	21.	180.	AG	9.	100.0	.0	****	.31	1.0
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	2357.	3.5	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	1703.	3.5	.0	****		
6. SBQ	1561.7	1640.4	1561.7	1672.6	32.	360.	AG	9.	100.0	.0	****	.49	1.6
7. EBA	.0	1581.4	1640.4	1581.4	1640.	90.	AG	796.	3.5	.0	****		
8. EBD	1640.4	1581.4	3280.8	1581.4	1640.	90.	AG	1654.	3.5	.0	****		
9. EBQ	1482.9	1581.4	814.1	1581.4	669.	270.	AG	31.	100.0	.0	****	1.24	34.0

JOB: Cal Incline - PM Pk Hr-co RUN: Cal Incline - PM Pk Hr-co

DATE : 9/22/ 9
TIME : 11: 9:25

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	10	3.0	1502	1600	4.84	3	3
6. SBQ	60	10	3.0	2357	1600	4.84	3	3
9. EBQ	60	47	3.0	796	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1706.0	17.7
2. NE	1863.5	1706.0	17.7
3. SW	1417.3	1456.7	17.7
4. SE	1863.5	1456.7	17.7

JOB: Cal Incline - PM Pk Hr-co RUN: Cal Incline - PM Pk Hr-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.0	.1	.1
10.	.3	.0	.4	.1
20.	.3	.0	.3	.1
30.	.3	.0	.2	.1
40.	.2	.0	.3	.1
50.	.2	.0	.1	.1
60.	.1	.0	.2	.1
70.	.1	.0	.3	.2
80.	.1	.0	.4	.2
90.	.2	.1	.3	.1
100.	.3	.2	.2	.0
110.	.2	.2	.2	.0
120.	.3	.1	.2	.0
130.	.2	.1	.2	.0
140.	.2	.1	.2	.0
150.	.2	.1	.2	.0
160.	.3	.1	.3	.0
170.	.3	.1	.2	.0
180.	.1	.2	.0	.1
190.	.0	.4	.0	.3
200.	.0	.3	.0	.2
210.	.0	.3	.0	.2
220.	.1	.3	.0	.2
230.	.1	.3	.0	.2
240.	.2	.2	.0	.2
250.	.2	.2	.0	.2
260.	.1	.4	.0	.2
270.	.0	.2	.0	.2
280.	.0	.2	.1	.4
290.	.0	.2	.2	.3
300.	.0	.2	.2	.2
310.	.0	.2	.1	.3
320.	.0	.2	.1	.3
330.	.0	.2	.0	.3
340.	.0	.2	.0	.3
350.	.0	.2	.0	.4
360.	.1	.0	.1	.1
MAX	.3	.4	.4	.4
DEGR.	10	190	10	280

THE HIGHEST CONCENTRATION OF .40 PPM OCCURRED AT RECEPTOR REC3 .

JOB: Cal Incline - PM Peak Hr - LiOf-ex RUN: Cal Incline - PM Peak Hr - LiOf-ex

DATE : 9/23/ 9
TIME : 10:23:41

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1699.5	.0	1699.5	1640.4	1640.	360.	AG	943.	4.1	.0	****		
2. NBD	1699.5	1640.4	1699.5	3280.8	1640.	360.	AG	1518.	4.1	.0	****		
3. NBQ	1699.5	1640.4	1699.5	1600.9	39.	180.	AG	15.	100.0	.0	****	.37	2.0
4. SBA	1581.4	3280.8	1581.4	1640.4	1640.	180.	AG	1760.	4.1	.0	****		
5. SBD	1581.4	1640.4	1581.4	.0	1640.	180.	AG	2475.	4.1	.0	****		
6. SBQ	1581.4	1797.9	1581.4	1871.6	74.	360.	AG	15.	100.0	.0	****	.69	3.7
7. WBA	3280.8	1719.2	1640.4	1719.2	1640.	270.	AG	1825.	4.1	.0	****		
8. WBD	1640.4	1719.2	.0	1719.2	1640.	270.	AG	535.	4.1	.0	****		
9. WBQ	1758.5	1719.2	1858.2	1719.2	100.	90.	AG	29.	100.0	.0	****	.82	5.1

JOB: Cal Incline - PM Peak Hr - LiOf-ex RUN: Cal Incline - PM Peak Hr - LiOf-ex

DATE : 9/23/ 9
TIME : 10:23:41

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	23	3.0	943	1600	4.84	3	3
6. SBQ	60	23	3.0	1760	1600	4.84	3	3
9. WBQ	60	34	3.0	1825	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1456.7	1863.5	17.7
2. NE	1824.1	1863.5	17.7
3. SW	1456.7	1574.8	17.7
4. SE	1824.1	1574.8	17.7

JOB: Cal Incline - PM Peak Hr - LiOf-ex RUN: Cal Incline - PM Peak Hr - LiOf-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.1	.1	.2
10.	.4	.0	.4	.1
20.	.3	.0	.3	.1
30.	.3	.0	.2	.1
40.	.2	.0	.2	.1
50.	.2	.0	.3	.1
60.	.2	.0	.4	.2
70.	.2	.0	.4	.2
80.	.2	.0	.3	.2
90.	.3	.1	.2	.1
100.	.4	.2	.1	.0
110.	.4	.2	.1	.0
120.	.3	.2	.2	.0
130.	.3	.1	.2	.0
140.	.1	.1	.3	.0
150.	.3	.1	.3	.0
160.	.4	.1	.4	.0
170.	.5	.1	.5	.0
180.	.2	.2	.1	.1
190.	.0	.4	.0	.3
200.	.0	.4	.0	.3
210.	.0	.4	.0	.3
220.	.0	.3	.0	.2
230.	.0	.3	.0	.2
240.	.0	.3	.0	.2
250.	.1	.3	.0	.2
260.	.1	.3	.0	.1
270.	.0	.2	.0	.2
280.	.0	.2	.1	.2
290.	.0	.2	.1	.2
300.	.0	.2	.0	.3
310.	.0	.2	.0	.3
320.	.0	.2	.0	.3
330.	.0	.2	.0	.3
340.	.0	.3	.0	.4
350.	.0	.3	.0	.4
360.	.1	.1	.1	.2
MAX	.5	.4	.5	.4
DEGR.	170	190	170	340

THE HIGHEST CONCENTRATION OF .50 PPM OCCURRED AT RECEPTOR REC1 .

JOB: Cal Incline - PM Peak Hr - LiOf-co RUN: Cal Incline - PM Peak Hr - LiOf-co

DATE : 9/22/ 9
TIME : 11:30:26

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1699.5	.0	1699.5	1640.4	1640.	360.	AG	943.	3.5	.0	****		
2. NBD	1699.5	1640.4	1699.5	3280.8	1640.	360.	AG	1518.	3.5	.0	****		
3. NBQ	1699.5	1640.4	1699.5	1604.4	36.	180.	AG	14.	100.0	.0	****	.35	1.8
4. SBA	1581.4	3280.8	1581.4	1640.4	1640.	180.	AG	2090.	3.5	.0	****		
5. SBD	1581.4	1640.4	1581.4	.0	1640.	180.	AG	2475.	3.5	.0	****		
6. SBQ	1581.4	1797.9	1581.4	1879.4	82.	360.	AG	14.	100.0	.0	****	.77	4.1
7. WBA	3280.8	1719.2	1640.4	1719.2	1640.	270.	AG	1825.	3.5	.0	****		
8. WBD	1640.4	1719.2	.0	1719.2	1640.	270.	AG	865.	3.5	.0	****		
9. WBQ	1758.5	1719.2	1889.1	1719.2	131.	90.	AG	31.	100.0	.0	****	.90	6.6

JOB: Cal Incline - PM Peak Hr - LiOf-co RUN: Cal Incline - PM Peak Hr - LiOf-co

DATE : 9/22/ 9
TIME : 11:30:26

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	21	3.0	943	1600	4.84	3	3
6. SBQ	60	21	3.0	2090	1600	4.84	3	3
9. WBQ	60	36	3.0	1825	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1456.7	1863.5	17.7
2. NE	1824.1	1863.5	17.7
3. SW	1456.7	1574.8	17.7
4. SE	1824.1	1574.8	17.7

JOB: Cal Incline - PM Peak Hr - LiOf-co RUN: Cal Incline - PM Peak Hr - LiOf-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.1	.1	.2
10.	.4	.0	.4	.1
20.	.3	.0	.3	.1
30.	.3	.0	.2	.1
40.	.2	.0	.2	.1
50.	.2	.0	.2	.1
60.	.2	.0	.4	.1
70.	.2	.0	.2	.2
80.	.2	.0	.3	.2
90.	.3	.1	.2	.1
100.	.4	.2	.1	.0
110.	.3	.2	.1	.0
120.	.3	.1	.1	.0
130.	.1	.1	.1	.0
140.	.1	.1	.2	.0
150.	.3	.1	.3	.0
160.	.4	.1	.3	.0
170.	.4	.1	.4	.0
180.	.1	.2	.1	.0
190.	.0	.4	.0	.2
200.	.0	.4	.0	.3
210.	.0	.3	.0	.2
220.	.0	.3	.0	.2
230.	.1	.3	.0	.2
240.	.1	.3	.0	.1
250.	.1	.3	.0	.1
260.	.1	.3	.0	.1
270.	.0	.2	.0	.1
280.	.0	.2	.1	.2
290.	.0	.2	.1	.2
300.	.0	.2	.1	.2
310.	.0	.2	.1	.3
320.	.0	.2	.0	.3
330.	.0	.2	.0	.3
340.	.0	.2	.0	.3
350.	.0	.3	.0	.4
360.	.1	.1	.1	.2
MAX	.4	.4	.4	.4
DEGR.	10	190	10	350

THE HIGHEST CONCENTRATION OF .40 PPM OCCURRED AT RECEPTOR REC1 .

JOB: Cal Incline - Midday Pk Hr - PaCa-ex RUN: Cal Incline - Midday Pk Hr - PaCa-ex

DATE : 9/22/ 9
TIME : 16:25:12

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	2228.	4.1	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	2694.	4.1	.0	****		
3. NBQ	1719.2	1601.0	1719.2	1579.7	21.	180.	AG	6.	100.0	.0	****	.44	1.1
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	3274.	4.1	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	2870.	4.1	.0	****		
6. SBQ	1561.7	1719.2	1561.7	1750.5	31.	360.	AG	6.	100.0	.0	****	.64	1.6
7. EBA	.0	1620.7	1640.4	1620.7	1640.	90.	AG	79.	4.1	.0	****		
8. EBD	1640.4	1620.7	3280.8	1620.7	1640.	90.	AG	588.	4.1	.0	****		
9. EBQ	1482.9	1620.7	1459.5	1620.7	23.	270.	AG	11.	100.0	.0	39.4	.59	1.2
10. WBA	3280.8	1679.8	1640.4	1679.8	1640.	270.	AG	658.	4.1	.0	****		
11. WBD	1640.4	1679.8	.0	1679.8	1640.	270.	AG	87.	4.1	.0	****		
12. WBQ	1797.9	1679.8	3956.8	1679.8	2159.	90.	AG	22.	100.0	.0	78.7	2.47	109.7

JOB: Cal Incline - Midday Pk Hr - PaCa-ex RUN: Cal Incline - Midday Pk Hr - PaCa-ex

DATE : 9/22/ 9
TIME : 16:25:12

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	7	3.0	2228	1600	4.84	3	3
6. SBQ	60	7	3.0	3274	1600	4.84	3	3
9. EBQ	60	50	3.0	79	1600	4.84	3	3
12. WBQ	60	50	3.0	658	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1784.8	17.7
2. NE	1863.5	1784.8	17.7
3. SW	1417.3	1535.4	17.7
4. SE	1863.5	1535.4	17.7

JOB: Cal Incline - Midday Pk Hr - PaCa-ex RUN: Cal Incline - Midday Pk Hr - PaCa-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.2	.1	.2	.1
10.	.5	.0	.5	.0
20.	.6	.0	.5	.0
30.	.5	.0	.4	.0
40.	.3	.0	.3	.0
50.	.3	.0	.3	.0
60.	.3	.0	.3	.2
70.	.3	.0	.3	.3
80.	.3	.0	.5	.3
90.	.4	.0	.3	.1
100.	.6	.3	.2	.0
110.	.5	.3	.3	.0
120.	.3	.1	.3	.0
130.	.3	.1	.3	.0
140.	.3	.0	.3	.0
150.	.4	.0	.3	.0
160.	.5	.0	.5	.0
170.	.5	.0	.5	.0
180.	.1	.1	.1	.1
190.	.0	.5	.0	.4
200.	.0	.4	.0	.4
210.	.0	.3	.0	.4
220.	.0	.4	.0	.4
230.	.0	.3	.0	.2
240.	.0	.2	.0	.2
250.	.0	.2	.0	.2
260.	.0	.2	.0	.2
270.	.0	.2	.0	.2
280.	.0	.2	.0	.2
290.	.0	.2	.0	.3
300.	.0	.4	.0	.2
310.	.0	.3	.0	.3
320.	.0	.4	.0	.3
330.	.0	.4	.0	.4
340.	.0	.5	.0	.5
350.	.0	.4	.0	.6
360.	.2	.1	.2	.1
MAX	.6	.5	.5	.6
DEGR.	20	190	10	350

THE HIGHEST CONCENTRATION OF .60 PPM OCCURRED AT RECEPTOR REC1 .

JOB: Cal Incline - Midday Pk Hr - PaCa-co RUN: Cal Incline - MIdday Pk Hr - PaCa-co

DATE : 9/23/ 9
TIME : 10:45:53

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	2558.	3.5	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	2534.	3.5	.0	****		
3. NBQ	1719.2	1601.0	1719.2	1597.6	3.	180.	AG	1.	100.0	.0	****	.44	.2
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	3102.	3.5	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	3123.	3.5	.0	****		
6. SBQ	1561.7	1719.2	1561.7	1723.4	4.	360.	AG	1.	100.0	.0	****	.54	.2
7. EBA	.0	1620.7	1640.4	1620.7	1640.	90.	AG	63.	3.5	.0	****		
8. EBQ	1482.9	1620.7	1369.5	1620.7	113.	270.	AG	9.	100.0	.0	39.4	****	5.8
9. WBD	1640.4	1679.8	.0	1679.8	1640.	270.	AG	66.	3.5	.0	****		

JOB: Cal Incline - Midday Pk Hr - PaCa-co RUN: Cal Incline - MIdday Pk Hr - PaCa-co

DATE : 9/23/ 9
TIME : 10:45:53

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	1	3.0	2558	1600	4.84	3	3
6. SBQ	60	1	3.0	3102	1600	4.84	3	3
8. EBQ	60	56	3.0	63	1600	3.46	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1784.8	17.7
2. NE	1863.5	1784.8	17.7
3. SW	1417.3	1535.4	17.7
4. SE	1863.5	1535.4	17.7

JOB: Cal Incline - Midday Pk Hr - PaCa-co RUN: Cal Incline - MIdday Pk Hr - PaCa-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.1	.1	.1
10.	.4	.0	.5	.0
20.	.5	.0	.5	.0
30.	.3	.0	.3	.0
40.	.3	.0	.2	.0
50.	.3	.0	.3	.0
60.	.2	.0	.2	.0
70.	.2	.0	.2	.0
80.	.2	.0	.2	.0
90.	.2	.0	.2	.0
100.	.2	.0	.2	.0
110.	.2	.0	.2	.0
120.	.2	.0	.3	.0
130.	.3	.0	.3	.0
140.	.3	.0	.3	.0
150.	.4	.0	.3	.0
160.	.5	.0	.5	.0
170.	.5	.0	.4	.0
180.	.1	.1	.1	.1
190.	.0	.4	.0	.4
200.	.0	.4	.0	.4
210.	.0	.3	.0	.4
220.	.0	.3	.0	.2
230.	.0	.3	.0	.2
240.	.0	.2	.0	.2
250.	.0	.2	.0	.2
260.	.0	.2	.0	.2
270.	.0	.2	.0	.2
280.	.0	.2	.0	.2
290.	.0	.2	.0	.3
300.	.0	.2	.0	.2
310.	.0	.2	.0	.3
320.	.0	.3	.0	.2
330.	.0	.4	.0	.4
340.	.0	.4	.0	.4
350.	.0	.4	.0	.4
360.	.1	.1	.1	.1
MAX	.5	.4	.5	.4
DEGR.	20	190	10	190

THE HIGHEST CONCENTRATION OF .50 PPM OCCURRED AT RECEPTOR REC3 .

JOB: Cal Incline Midday Pk Hr - OcOc-ex RUN: Cal Incline Midday Pk Hr - OcOc-ex

DATE : 9/22/ 9
TIME : 16:53: 4

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	1267.	4.1	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	1249.	4.1	.0	****		
3. NBQ	1719.2	1601.0	1719.2	1576.9	24.	180.	AG	10.	100.0	.0	****	.29	1.2
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	1617.	4.1	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	1444.	4.1	.0	****		
6. SBQ	1561.7	1758.5	1561.7	1789.5	31.	360.	AG	12.	100.0	.0	****	.37	1.6
7. EBA	.0	1620.7	1640.4	1620.7	1640.	90.	AG	283.	4.1	.0	****		
8. EBD	1640.4	1620.7	.0	1620.7	1640.	270.	AG	694.	4.1	.0	****		
9. EBQ	1482.9	1620.7	1383.6	1620.7	99.	270.	AG	9.	100.0	.0	39.4	.89	5.0
10. WBA	3280.8	1699.5	1640.4	1699.5	1640.	270.	AG	657.	4.1	.0	****		
11. WBD	1640.4	1699.5	.0	1699.5	1640.	270.	AG	437.	4.1	.0	****		
12. WBQ	1797.9	1699.5	1852.7	1699.5	55.	90.	AG	28.	100.0	.0	****	.69	2.8

JOB: Cal Incline Midday Pk Hr - OcOc-ex RUN: Cal Incline Midday Pk Hr - OcOc-ex

DATE : 9/22/ 9
TIME : 16:53: 4

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	14	3.0	1267	1600	3.84	3	3
6. SBQ	60	14	3.0	1617	1600	4.84	3	3
9. EBQ	60	43	3.0	283	1600	4.84	3	3
12. WBQ	60	43	3.0	657	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1824.1	17.7
2. NE	1863.5	1824.1	17.7
3. SW	1417.3	1535.4	17.7
4. SE	1863.5	1535.4	17.7

JOB: Cal Incline Midday Pk Hr - OcOc-ex RUN: Cal Incline Midday Pk Hr - OcOc-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.0	.1	.1
10.	.2	.0	.3	.0
20.	.3	.0	.3	.0
30.	.2	.0	.2	.0
40.	.2	.0	.2	.0
50.	.2	.0	.3	.0
60.	.2	.0	.2	.1
70.	.2	.0	.2	.1
80.	.2	.0	.2	.1
90.	.2	.0	.2	.0
100.	.3	.1	.2	.0
110.	.3	.1	.2	.0
120.	.1	.1	.2	.0
130.	.1	.0	.2	.0
140.	.2	.0	.2	.0
150.	.3	.0	.2	.0
160.	.2	.0	.3	.0
170.	.3	.0	.3	.0
180.	.1	.1	.1	.1
190.	.0	.3	.0	.3
200.	.0	.2	.0	.2
210.	.0	.2	.0	.2
220.	.0	.2	.0	.2
230.	.0	.2	.0	.2
240.	.1	.1	.0	.2
250.	.1	.3	.0	.2
260.	.2	.4	.0	.2
270.	.0	.2	.1	.3
280.	.0	.2	.2	.4
290.	.0	.2	.1	.1
300.	.0	.2	.1	.1
310.	.0	.2	.1	.1
320.	.0	.2	.0	.2
330.	.0	.2	.0	.2
340.	.0	.2	.0	.2
350.	.0	.3	.0	.3
360.	.1	.0	.1	.1
MAX	.3	.4	.3	.4
DEGR.	20	260	10	280

THE HIGHEST CONCENTRATION OF .40 PPM OCCURRED AT RECEPTOR REC2 .

JOB: Cal Incline Midday Pk Hr - OcOc-co RUN: Cal Incline Midday Pk Hr - OcOc-co

DATE : 9/22/ 9
TIME : 17: 5:43

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	*	1719.2	.0	1719.2	1640.4	*	1640.	360.	AG	1667.	3.5	.0	****		
2. NBD	*	1719.2	1640.4	1719.2	3280.8	*	1640.	360.	AG	1649.	3.5	.0	****		
3. NBQ	*	1719.2	1601.0	1719.2	1573.8	*	27.	180.	AG	10.	100.0	.0	****	.36	1.4
4. SBA	*	1561.7	3280.8	1561.7	1640.4	*	1640.	180.	AG	1947.	3.5	.0	****		
5. SBD	*	1561.7	1640.4	1561.7	.0	*	1640.	180.	AG	1774.	3.5	.0	****		
6. SBQ	*	1561.7	1758.5	1561.7	1790.4	*	32.	360.	AG	10.	100.0	.0	****	.42	1.6
7. EBA	*	.0	1620.7	1640.4	1620.7	*	1640.	90.	AG	283.	3.5	.0	****		
8. EBD	*	1640.4	1620.7	.0	1620.7	*	1640.	270.	AG	694.	3.5	.0	****		
9. EBQ	*	1482.9	1620.7	1161.0	1620.7	*	322.	270.	AG	10.	100.0	.0	39.4	1.06	16.4
10. WBA	*	3280.8	1699.5	1640.4	1699.5	*	1640.	270.	AG	657.	3.5	.0	****		
11. WBD	*	1640.4	1699.5	.0	1699.5	*	1640.	270.	AG	437.	3.5	.0	****		
12. WBQ	*	1797.9	1699.5	1869.6	1699.5	*	72.	90.	AG	29.	100.0	.0	****	.82	3.6

JOB: Cal Incline Midday Pk Hr - OcOc-co RUN: Cal Incline Midday Pk Hr - OcOc-co

DATE : 9/22/ 9
TIME : 17: 5:43

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	*	60	12	3.0	1667	1600	4.84	3	3
6. SBQ	*	60	12	3.0	1947	1600	4.84	3	3
9. EBQ	*	60	45	3.0	283	1600	4.84	3	3
12. WBQ	*	60	45	3.0	657	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. NW	*	1417.3	1824.1	17.7	*
2. NE	*	1863.5	1824.1	17.7	*
3. SW	*	1417.3	1535.4	17.7	*
4. SE	*	1863.5	1535.4	17.7	*

JOB: Cal Incline Midday Pk Hr - OcOc-co RUN: Cal Incline Midday Pk Hr - OcOc-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.0	.1	.1
10.	.3	.0	.3	.0
20.	.3	.0	.3	.0
30.	.2	.0	.2	.0
40.	.2	.0	.2	.0
50.	.2	.0	.2	.0
60.	.2	.0	.2	.0
70.	.2	.0	.1	.1
80.	.2	.0	.3	.1
90.	.2	.0	.2	.0
100.	.3	.1	.2	.0
110.	.2	.1	.2	.0
120.	.1	.1	.2	.0
130.	.1	.0	.2	.0
140.	.2	.0	.2	.0
150.	.3	.0	.2	.0
160.	.2	.0	.3	.0
170.	.3	.0	.3	.0
180.	.1	.1	.1	.1
190.	.0	.3	.0	.3
200.	.0	.2	.0	.3
210.	.0	.2	.0	.2
220.	.0	.2	.0	.2
230.	.0	.2	.0	.2
240.	.0	.1	.0	.2
250.	.1	.3	.0	.2
260.	.1	.4	.0	.2
270.	.0	.2	.1	.3
280.	.0	.2	.1	.3
290.	.0	.2	.1	.1
300.	.0	.2	.1	.2
310.	.0	.2	.0	.2
320.	.0	.2	.0	.2
330.	.0	.2	.0	.2
340.	.0	.2	.0	.2
350.	.0	.3	.0	.3
360.	.1	.0	.1	.1
MAX	.3	.4	.3	.3
DEGR.	10	260	10	190

THE HIGHEST CONCENTRATION OF .40 PPM OCCURRED AT RECEPTOR REC2 .

JOB: Cal Incline - Midday Pk Hr-ex RUN: Cal Incline - Midday Pk Hr-ex

DATE : 9/22/ 9
TIME : 15:38:53

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	2117.	4.1	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	1204.	4.1	.0	****		
3. NBQ	1719.2	1522.3	1719.2	1507.8	14.	180.	AG	4.	100.0	.0	****	.40	.7
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	2621.	4.1	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	1724.	4.1	.0	****		
6. SBQ	1561.7	1640.4	1561.7	1658.3	18.	360.	AG	4.	100.0	.0	****	.49	.9
7. EBA	.0	1581.4	1640.4	1581.4	1640.	90.	AG	456.	4.1	.0	****		
8. EBD	1640.4	1581.4	3280.8	1581.4	1640.	90.	AG	2266.	4.1	.0	****		
9. EBQ	1482.9	1581.4	637.4	1581.4	846.	270.	AG	34.	100.0	.0	****	1.92	43.0

JOB: Cal Incline - Midday Pk Hr-ex RUN: Cal Incline - Midday Pk Hr-ex

DATE : 9/22/ 9
TIME : 15:38:53

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	5	3.0	2117	1600	4.84	3	3
6. SBQ	60	5	3.0	2621	1600	4.84	3	3
9. EBQ	60	52	3.0	456	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1706.0	17.7
2. NE	1863.5	1706.0	17.7
3. SW	1417.3	1456.7	17.7
4. SE	1863.5	1456.7	17.7

JOB: Cal Incline - Midday Pk Hr-ex RUN: Cal Incline - Midday Pk Hr-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.0	.1	.2
10.	.5	.0	.4	.1
20.	.4	.0	.3	.1
30.	.3	.0	.2	.1
40.	.3	.0	.3	.1
50.	.3	.0	.1	.2
60.	.2	.0	.3	.2
70.	.2	.0	.4	.3
80.	.2	.0	.5	.3
90.	.2	.1	.3	.1
100.	.4	.3	.2	.0
110.	.4	.3	.2	.0
120.	.4	.2	.2	.0
130.	.2	.2	.2	.0
140.	.2	.1	.2	.0
150.	.2	.1	.2	.0
160.	.4	.1	.3	.0
170.	.3	.1	.3	.0
180.	.1	.2	.1	.1
190.	.0	.5	.0	.4
200.	.0	.4	.0	.3
210.	.1	.4	.0	.3
220.	.1	.3	.0	.2
230.	.1	.4	.0	.2
240.	.1	.3	.0	.2
250.	.2	.1	.0	.2
260.	.2	.4	.0	.2
270.	.0	.2	.0	.2
280.	.0	.2	.2	.4
290.	.0	.2	.2	.2
300.	.0	.2	.1	.3
310.	.0	.2	.1	.4
320.	.0	.2	.1	.3
330.	.0	.3	.1	.5
340.	.0	.3	.0	.4
350.	.0	.3	.0	.4
360.	.1	.0	.1	.2
MAX	.5	.5	.5	.5
DEGR.	10	190	80	330

THE HIGHEST CONCENTRATION OF .50 PPM OCCURRED AT RECEPTOR REC1 .

JOB: Cal Incline - Midday Pk Hr-co RUN: Cal Incline - Midday Pk Hr-co

DATE : 9/22/ 9
TIME : 15:47:35

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	2117.	3.5	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	1389.	3.5	.0	****		
3. NBQ	1719.2	1522.3	1719.2	1502.1	20.	180.	AG	6.	100.0	.0	****	.41	1.0
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	2721.	3.5	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	1724.	3.5	.0	****		
6. SBQ	1561.7	1640.4	1561.7	1666.4	26.	360.	AG	6.	100.0	.0	****	.53	1.3
7. EBA	.0	1581.4	1640.4	1581.4	1640.	90.	AG	641.	3.5	.0	****		
8. EBD	1640.4	1581.4	3280.8	1581.4	1640.	90.	AG	2366.	3.5	.0	****		
9. EBQ	1482.9	1581.4	546.8	1581.4	936.	270.	AG	32.	100.0	.0	****	1.60	47.6

JOB: Cal Incline - Midday Pk Hr-co RUN: Cal Incline - Midday Pk Hr-co

DATE : 9/22/ 9
TIME : 15:47:35

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	7	3.0	2117	1600	4.84	3	3
6. SBQ	60	7	3.0	2721	1600	4.84	3	3
9. EBQ	60	50	3.0	641	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1706.0	17.7
2. NE	1863.5	1706.0	17.7
3. SW	1417.3	1456.7	17.7
4. SE	1863.5	1456.7	17.7

JOB: Cal Incline - Midday Pk Hr-co RUN: Cal Incline - Midday Pk Hr-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.0	.1	.2
10.	.4	.0	.4	.1
20.	.4	.0	.3	.1
30.	.3	.0	.2	.1
40.	.3	.0	.3	.1
50.	.2	.0	.1	.1
60.	.2	.0	.2	.2
70.	.2	.0	.4	.2
80.	.1	.0	.5	.3
90.	.2	.1	.3	.1
100.	.4	.3	.2	.0
110.	.4	.2	.2	.0
120.	.3	.2	.2	.0
130.	.2	.1	.2	.0
140.	.2	.1	.2	.0
150.	.2	.1	.2	.0
160.	.3	.1	.3	.0
170.	.3	.1	.3	.0
180.	.1	.2	.0	.1
190.	.0	.4	.0	.3
200.	.0	.4	.0	.3
210.	.0	.3	.0	.3
220.	.1	.3	.0	.2
230.	.1	.3	.0	.2
240.	.1	.3	.0	.2
250.	.2	.1	.0	.2
260.	.2	.4	.0	.2
270.	.0	.2	.0	.2
280.	.0	.2	.2	.4
290.	.0	.2	.2	.2
300.	.0	.2	.1	.2
310.	.0	.2	.1	.3
320.	.0	.2	.1	.3
330.	.0	.2	.0	.4
340.	.0	.3	.0	.4
350.	.0	.3	.0	.4
360.	.1	.0	.1	.2
MAX	.4	.4	.5	.4
DEGR.	10	190	80	280

THE HIGHEST CONCENTRATION OF .50 PPM OCCURRED AT RECEPTOR REC3 .

JOB: Cal Incline - Midday Peak Hr - LiOf-ex RUN: Cal Incline - Midday Peak Hr - LiOf-ex

DATE : 9/22/ 9
TIME : 15:58:33

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1699.5	.0	1699.5	1640.4	1640.	360.	AG	1251.	4.1	.0	****		
2. NBD	1699.5	1640.4	1699.5	3280.8	1640.	360.	AG	1744.	4.1	.0	****		
3. NBQ	1699.5	1640.4	1699.5	1592.5	48.	180.	AG	14.	100.0	.0	****	.46	2.4
4. SBA	1581.4	3280.8	1581.4	1640.4	1640.	180.	AG	1865.	4.1	.0	****		
5. SBD	1581.4	1640.4	1581.4	.0	1640.	180.	AG	2688.	4.1	.0	****		
6. SBQ	1581.4	1797.9	1581.4	1869.2	71.	360.	AG	14.	100.0	.0	****	.69	3.6
7. WBA	3280.8	1719.2	1640.4	1719.2	1640.	270.	AG	1822.	4.1	.0	****		
8. WBD	1640.4	1719.2	.0	1719.2	1640.	270.	AG	506.	4.1	.0	****		
9. WBQ	1758.5	1719.2	1888.1	1719.2	130.	90.	AG	31.	100.0	.0	****	.90	6.6

JOB: Cal Incline - Midday Peak Hr - LiOf-ex RUN: Cal Incline - Midday Peak Hr - LiOf-ex

DATE : 9/22/ 9
TIME : 15:58:33

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	21	3.0	1251	1600	4.84	3	3
6. SBQ	60	21	3.0	1865	1600	4.84	3	3
9. WBQ	60	36	3.0	1822	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1456.7	1863.5	17.7
2. NE	1824.1	1863.5	17.7
3. SW	1456.7	1574.8	17.7
4. SE	1824.1	1574.8	17.7

JOB: Cal Incline - Midday Peak Hr - LiOf-ex RUN: Cal Incline - Midday Peak Hr - LiOf-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.1	.1	.2
10.	.4	.0	.4	.1
20.	.3	.0	.3	.1
30.	.3	.0	.3	.1
40.	.2	.0	.2	.1
50.	.2	.0	.3	.1
60.	.2	.0	.4	.2
70.	.2	.0	.4	.2
80.	.2	.0	.3	.2
90.	.3	.1	.3	.1
100.	.4	.2	.2	.0
110.	.4	.2	.2	.0
120.	.3	.2	.3	.0
130.	.3	.1	.3	.0
140.	.2	.1	.3	.0
150.	.3	.1	.3	.0
160.	.4	.1	.4	.0
170.	.5	.1	.5	.0
180.	.2	.2	.1	.1
190.	.0	.5	.0	.4
200.	.0	.4	.0	.3
210.	.0	.4	.0	.3
220.	.0	.3	.0	.3
230.	.0	.4	.0	.2
240.	.0	.3	.0	.2
250.	.1	.3	.0	.2
260.	.1	.3	.0	.2
270.	.0	.2	.0	.2
280.	.0	.2	.1	.3
290.	.0	.2	.1	.3
300.	.0	.2	.0	.3
310.	.0	.2	.0	.3
320.	.0	.2	.0	.3
330.	.0	.3	.0	.4
340.	.0	.4	.0	.5
350.	.0	.3	.0	.5
360.	.1	.1	.1	.2
MAX	.5	.5	.5	.5
DEGR.	170	190	170	340

THE HIGHEST CONCENTRATION OF .50 PPM OCCURRED AT RECEPTOR REC1 .

JOB: Cal Incline - Midday Peak Hr - LiOf-co RUN: Cal Incline - Midday Peak Hr - LiOf-co

DATE : 9/23/ 9
TIME : 9:58: 1

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1699.5	.0	1699.5	1640.4	1640.	360.	AG	1251.	3.5	.0	****		
2. NBD	1699.5	1640.4	1699.5	3280.8	1640.	360.	AG	1744.	3.5	.0	****		
3. NBQ	1699.5	1640.4	1699.5	1594.8	46.	180.	AG	13.	100.0	.0	****	.45	2.3
4. SBA	1581.4	3280.8	1581.4	1640.4	1640.	180.	AG	2110.	3.5	.0	****		
5. SBD	1581.4	1640.4	1581.4	.0	1640.	180.	AG	2688.	3.5	.0	****		
6. SBQ	1581.4	1797.9	1581.4	1874.8	77.	360.	AG	13.	100.0	.0	****	.75	3.9
7. WBA	3280.8	1719.2	1640.4	1719.2	1640.	270.	AG	1822.	3.5	.0	****		
8. WBD	1640.4	1719.2	.0	1719.2	1640.	270.	AG	751.	3.5	.0	****		
9. WBQ	1758.5	1719.2	1916.8	1719.2	158.	90.	AG	32.	100.0	.0	****	.95	8.0

JOB: Cal Incline - Midday Peak Hr - LiOf-co RUN: Cal Incline - Midday Peak Hr - LiOf-co

DATE : 9/23/ 9
TIME : 9:58: 1

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	20	3.0	1251	1600	4.84	3	3
6. SBQ	60	20	3.0	2110	1600	4.84	3	3
9. WBQ	60	37	3.0	1822	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1456.7	1863.5	17.7
2. NE	1824.1	1863.5	17.7
3. SW	1456.7	1574.8	17.7
4. SE	1824.1	1574.8	17.7

JOB: Cal Incline - Midday Peak Hr - LiOf-co RUN: Cal Incline - Midday Peak Hr - LiOf-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.1	.1	.2
10.	.4	.0	.4	.1
20.	.3	.0	.3	.1
30.	.3	.0	.2	.1
40.	.2	.0	.2	.1
50.	.2	.0	.2	.1
60.	.2	.0	.4	.1
70.	.2	.0	.3	.2
80.	.2	.0	.3	.2
90.	.3	.1	.2	.1
100.	.4	.2	.1	.0
110.	.3	.2	.1	.0
120.	.3	.1	.2	.0
130.	.2	.1	.3	.0
140.	.1	.1	.3	.0
150.	.3	.1	.3	.0
160.	.4	.1	.4	.0
170.	.4	.1	.4	.0
180.	.1	.2	.1	.1
190.	.0	.4	.0	.4
200.	.0	.4	.0	.3
210.	.0	.3	.0	.3
220.	.0	.3	.0	.2
230.	.0	.3	.0	.2
240.	.1	.3	.0	.2
250.	.1	.3	.0	.2
260.	.1	.3	.0	.2
270.	.0	.2	.0	.2
280.	.0	.2	.1	.3
290.	.0	.2	.1	.2
300.	.0	.2	.1	.3
310.	.0	.2	.0	.3
320.	.0	.2	.0	.3
330.	.0	.2	.0	.3
340.	.0	.3	.0	.4
350.	.0	.3	.0	.4
360.	.1	.1	.1	.2
MAX	.4	.4	.4	.4
DEGR.	10	190	10	190

THE HIGHEST CONCENTRATION OF .40 PPM OCCURRED AT RECEPTOR REC1 .

JOB: Cal Incline AM Pk hr - PcCh-ex RUN: Cal Incline AM Pk hr - PcCh-ex

DATE : 9/22/ 9
TIME : 10:35:29

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	3677.	4.1	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	4636.	4.1	.0	****		
3. NBQ	1719.2	1640.4	1719.2	1565.1	75.	180.	AG	11.	100.0	.0	****	.82	3.8
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	2828.	4.1	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	3128.	4.1	.0	****		
6. SBQ	1561.7	1837.3	1561.7	1887.5	50.	360.	AG	11.	100.0	.0	****	.63	2.6
7. EBD	1640.4	1640.4	3280.8	1640.4	1640.	90.	AG	598.	4.1	.0	****		
8. WBA	3280.8	1738.8	1640.4	1738.8	1640.	270.	AG	1857.	4.1	.0	****		
9. WBQ	1797.9	1738.8	2761.0	1738.8	963.	90.	AG	48.	100.0	.0	****	1.27	48.9

JOB: Cal Incline AM Pk hr - PcCh-ex RUN: Cal Incline AM Pk hr - PcCh-ex

DATE : 9/22/ 9
TIME : 10:35:29

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	13	3.0	3677	1600	4.84	3	3
6. SBQ	60	13	3.0	2828	1600	4.84	3	3
9. WBQ	60	44	3.0	1857	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1902.9	17.7
2. NE	1863.5	1902.9	17.7
3. SW	1417.3	1574.8	17.7
4. SE	1863.5	1574.8	17.7

JOB: Cal Incline AM Pk hr - PcCh-ex RUN: Cal Incline AM Pk hr - PcCh-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.2	.2	.4
10.	.6	.0	.6	.2
20.	.6	.0	.6	.2
30.	.5	.0	.5	.2
40.	.5	.0	.4	.2
50.	.4	.0	.3	.2
60.	.4	.0	.5	.3
70.	.3	.0	.6	.4
80.	.3	.0	.8	.4
90.	.4	.1	.5	.2
100.	.6	.3	.3	.0
110.	.5	.3	.4	.0
120.	.5	.2	.4	.0
130.	.4	.2	.4	.0
140.	.4	.2	.4	.0
150.	.4	.2	.5	.0
160.	.6	.2	.6	.0
170.	.7	.2	.6	.0
180.	.2	.4	.1	.2
190.	.0	.9	.0	.6
200.	.0	.7	.0	.6
210.	.0	.6	.0	.5
220.	.0	.5	.0	.4
230.	.0	.6	.0	.3
240.	.0	.5	.0	.3
250.	.0	.3	.0	.3
260.	.0	.3	.0	.3
270.	.0	.3	.0	.3
280.	.0	.3	.0	.3
290.	.0	.3	.0	.3
300.	.0	.4	.0	.6
310.	.0	.4	.0	.5
320.	.0	.4	.0	.5
330.	.0	.6	.0	.7
340.	.0	.7	.0	.8
350.	.0	.7	.0	.9
360.	.1	.2	.2	.4
MAX	.7	.9	.8	.9
DEGR.	170	190	80	350

THE HIGHEST CONCENTRATION OF .90 PPM OCCURRED AT RECEPTOR REC4 .

JOB: Cal Incline AM Pk hr - PcCh-co RUN: Cal Incline AM Pk hr - PcCh-co

DATE : 9/22/ 9
TIME : 10:46:34

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	3677.	3.5	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	4811.	3.5	.0	****		
3. NBQ	1719.2	1640.4	1719.2	1565.1	75.	180.	AG	11.	100.0	.0	****	.82	3.8
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	2903.	3.5	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	3128.	3.5	.0	****		
6. SBQ	1561.7	1837.3	1561.7	1888.8	52.	360.	AG	11.	100.0	.0	****	.65	2.6
7. EBD	1640.4	1640.4	3280.8	1640.4	1640.	90.	AG	673.	3.5	.0	****		
8. WBA	3280.8	1738.8	1640.4	1738.8	1640.	270.	AG	2032.	3.5	.0	****		
9. WBQ	1797.9	1738.8	3123.9	1738.8	1326.	90.	AG	48.	100.0	.0	****	1.39	67.4

JOB: Cal Incline AM Pk hr - PcCh-co RUN: Cal Incline AM Pk hr - PcCh-co

DATE : 9/22/ 9
TIME : 10:46:34

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	13	3.0	3677	1600	4.84	3	3
6. SBQ	60	13	3.0	2903	1600	4.84	3	3
9. WBQ	60	44	3.0	2032	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1902.9	17.7
2. NE	1863.5	1902.9	17.7
3. SW	1417.3	1574.8	17.7
4. SE	1863.5	1574.8	17.7

JOB: Cal Incline AM Pk hr - PcCh-co RUN: Cal Incline AM Pk hr - PcCh-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.1	.1	.4
10.	.4	.0	.5	.2
20.	.6	.0	.6	.2
30.	.4	.0	.4	.2
40.	.4	.0	.3	.2
50.	.3	.0	.3	.2
60.	.3	.0	.5	.3
70.	.3	.0	.5	.4
80.	.3	.0	.7	.4
90.	.4	.1	.4	.2
100.	.6	.3	.2	.0
110.	.5	.3	.2	.0
120.	.4	.2	.3	.0
130.	.3	.2	.3	.0
140.	.2	.2	.4	.0
150.	.4	.2	.4	.0
160.	.5	.2	.5	.0
170.	.5	.2	.4	.0
180.	.1	.4	.1	.2
190.	.0	.8	.0	.5
200.	.0	.6	.0	.5
210.	.0	.6	.0	.5
220.	.0	.5	.0	.3
230.	.0	.5	.0	.3
240.	.0	.4	.0	.3
250.	.0	.3	.0	.3
260.	.0	.3	.0	.3
270.	.0	.3	.0	.3
280.	.0	.3	.0	.3
290.	.0	.3	.0	.3
300.	.0	.3	.0	.5
310.	.0	.4	.0	.4
320.	.0	.4	.0	.5
330.	.0	.4	.0	.5
340.	.0	.6	.0	.7
350.	.0	.6	.0	.9
360.	.1	.1	.1	.4
MAX	.6	.8	.7	.9
DEGR.	20	190	80	350

THE HIGHEST CONCENTRATION OF .90 PPM OCCURRED AT RECEPTOR REC4 .

JOB: Cal Incline - AM Pk Hr - PaCa-ex RUN: Cal Incline - AM Pk Hr - PaCa-ex

DATE : 9/22/ 9
TIME : 9: 9:23

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	2400.	4.1	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	2619.	4.1	.0	****		
3. NBQ	1719.2	1601.0	1719.2	1587.9	13.	180.	AG	3.	100.0	.0	****	.44	.7
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	4171.	4.1	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	3915.	4.1	.0	****		
6. SBQ	1561.7	1719.2	1561.7	1747.2	28.	360.	AG	3.	100.0	.0	****	.77	1.4
7. EBA	.0	1620.7	1640.4	1620.7	1640.	90.	AG	29.	4.1	.0	****		
8. EBD	1640.4	1620.7	3280.8	1620.7	1640.	90.	AG	488.	4.1	.0	****		
9. EBQ	1482.9	1620.7	1473.2	1620.7	10.	270.	AG	11.	100.0	.0	39.4	.55	.5
10. WBA	3280.8	1679.8	1640.4	1679.8	1640.	270.	AG	460.	4.1	.0	****		
11. WBD	1640.4	1679.8	.0	1679.8	1640.	270.	AG	38.	4.1	.0	****		
12. WBQ	1797.9	1679.8	3761.7	1679.8	1964.	90.	AG	23.	100.0	.0	78.7	4.34	99.8

JOB: Cal Incline - AM Pk Hr - PaCa-ex RUN: Cal Incline - AM Pk Hr - PaCa-ex

DATE : 9/22/ 9
TIME : 9: 9:23

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	4	3.0	2400	1600	4.84	3	3
6. SBQ	60	4	3.0	4171	1600	4.84	3	3
9. EBQ	60	53	3.0	29	1600	4.84	3	3
12. WBQ	60	53	3.0	460	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1784.8	17.7
2. NE	1863.5	1784.8	17.7
3. SW	1417.3	1535.4	17.7
4. SE	1863.5	1535.4	17.7

JOB: Cal Incline - AM Pk Hr - PaCa-ex RUN: Cal Incline - AM Pk Hr - PaCa-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.2	.1	.2	.1
10.	.7	.0	.7	.0
20.	.7	.0	.6	.0
30.	.6	.0	.5	.0
40.	.4	.0	.4	.0
50.	.4	.0	.4	.0
60.	.3	.0	.4	.0
70.	.3	.0	.3	.2
80.	.3	.0	.6	.3
90.	.3	.0	.4	.0
100.	.6	.3	.3	.0
110.	.3	.2	.3	.0
120.	.3	.1	.3	.0
130.	.4	.0	.3	.0
140.	.4	.0	.4	.0
150.	.5	.0	.4	.0
160.	.7	.0	.6	.0
170.	.6	.0	.6	.0
180.	.2	.1	.2	.1
190.	.0	.5	.0	.5
200.	.0	.5	.0	.6
210.	.0	.3	.0	.4
220.	.0	.4	.0	.4
230.	.0	.4	.0	.3
240.	.0	.3	.0	.3
250.	.0	.2	.0	.3
260.	.0	.3	.0	.3
270.	.0	.3	.0	.3
280.	.0	.3	.0	.3
290.	.0	.3	.0	.3
300.	.0	.4	.0	.3
310.	.0	.4	.0	.4
320.	.0	.4	.0	.3
330.	.0	.5	.0	.5
340.	.0	.6	.0	.6
350.	.0	.5	.0	.6
360.	.2	.1	.2	.1
MAX	.7	.6	.7	.6
DEGR.	10	340	10	200

THE HIGHEST CONCENTRATION OF .70 PPM OCCURRED AT RECEPTOR REC1 .

JOB: Cal Incline - Midday Pk Hr - PaCa-co RUN: Cal Incline - Midday Pk Hr - PaCa-co

DATE : 9/22/ 9
TIME : 16:37:21

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	2558.	3.5	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	2534.	3.5	.0	****		
3. NBQ	1719.2	1601.0	1719.2	1597.6	3.	180.	AG	1.	100.0	.0	****	.44	.2
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	3102.	3.5	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	3123.	3.5	.0	****		
6. SBQ	1561.7	1719.2	1561.7	1723.4	4.	360.	AG	1.	100.0	.0	****	.54	.2
7. EBA	.0	1620.7	1640.4	1620.7	1640.	90.	AG	63.	3.5	.0	****		
8. EBQ	1482.9	1620.7	1369.5	1620.7	113.	270.	AG	9.	100.0	.0	39.4	****	5.8
9. WBD	1640.4	1679.8	.0	1679.8	1640.	270.	AG	66.	3.5	.0	****		

JOB: Cal Incline - Midday Pk Hr - PaCa-co RUN: Cal Incline - Midday Pk Hr - PaCa-co

DATE : 9/22/ 9
TIME : 16:37:21

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	1	3.0	2558	1600	4.84	3	3
6. SBQ	60	1	3.0	3102	1600	4.84	3	3
8. EBQ	60	56	3.0	63	1600	3.46	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1784.8	17.7
2. NE	1863.5	1784.8	17.7
3. SW	1417.3	1535.4	17.7
4. SE	1863.5	1535.4	17.7

JOB: Cal Incline - Midday Pk Hr - PaCa-co RUN: Cal Incline - Midday Pk Hr - PaCa-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.1	.1	.1
10.	.4	.0	.5	.0
20.	.5	.0	.5	.0
30.	.3	.0	.3	.0
40.	.3	.0	.2	.0
50.	.3	.0	.3	.0
60.	.2	.0	.2	.0
70.	.2	.0	.2	.0
80.	.2	.0	.2	.0
90.	.2	.0	.2	.0
100.	.2	.0	.2	.0
110.	.2	.0	.2	.0
120.	.2	.0	.3	.0
130.	.3	.0	.3	.0
140.	.3	.0	.3	.0
150.	.4	.0	.3	.0
160.	.5	.0	.5	.0
170.	.5	.0	.4	.0
180.	.1	.1	.1	.1
190.	.0	.4	.0	.4
200.	.0	.4	.0	.4
210.	.0	.3	.0	.4
220.	.0	.3	.0	.2
230.	.0	.3	.0	.2
240.	.0	.2	.0	.2
250.	.0	.2	.0	.2
260.	.0	.2	.0	.2
270.	.0	.2	.0	.2
280.	.0	.2	.0	.2
290.	.0	.2	.0	.3
300.	.0	.2	.0	.2
310.	.0	.2	.0	.3
320.	.0	.3	.0	.2
330.	.0	.4	.0	.4
340.	.0	.4	.0	.4
350.	.0	.4	.0	.4
360.	.1	.1	.1	.1
MAX	.5	.4	.5	.4
DEGR.	20	190	10	190

THE HIGHEST CONCENTRATION OF .50 PPM OCCURRED AT RECEPTOR REC3 .

JOB: Cal Incline AM Pk Hr - OcOc-ex RUN: Cal Incline AM Pk Hr - OcOc-ex

DATE : 9/22/ 9
TIME : 10: 2: 6

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	1059.	4.1	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	1067.	4.1	.0	****		
3. NBQ	1719.2	1601.0	1719.2	1588.1	13.	180.	AG	6.	100.0	.0	****	.22	.7
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	653.	4.1	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	692.	4.1	.0	****		
6. SBQ	1561.7	1758.5	1561.7	1766.6	8.	360.	AG	8.	100.0	.0	****	.13	.4
7. EBA	.0	1620.7	1640.4	1620.7	1640.	90.	AG	9.	4.1	.0	****		
8. EBD	1640.4	1620.7	.0	1620.7	1640.	270.	AG	254.	4.1	.0	****		
9. EBQ	1482.9	1620.7	1480.6	1620.7	2.	270.	AG	10.	100.0	.0	39.4	.05	.1
10. WBA	3280.8	1699.5	1640.4	1699.5	1640.	270.	AG	309.	4.1	.0	****		
11. WBD	1640.4	1699.5	.0	1699.5	1640.	270.	AG	17.	4.1	.0	****		
12. WBQ	1797.9	1699.5	1825.4	1699.5	27.	90.	AG	31.	100.0	.0	****	.55	1.4

JOB: Cal Incline AM Pk Hr - OcOc-ex RUN: Cal Incline AM Pk Hr - OcOc-ex

DATE : 9/22/ 9
TIME : 10: 2: 6

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	9	3.0	1059	1600	3.84	3	3
6. SBQ	60	9	3.0	653	1600	4.84	3	3
9. EBQ	60	48	3.0	9	1600	4.84	3	3
12. WBQ	60	48	3.0	309	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1824.1	17.7
2. NE	1863.5	1824.1	17.7
3. SW	1417.3	1535.4	17.7
4. SE	1863.5	1535.4	17.7

JOB: Cal Incline AM Pk Hr - OcOc-ex RUN: Cal Incline AM Pk Hr - OcOc-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.0	.0	.0	.0
10.	.1	.0	.2	.0
20.	.2	.0	.2	.0
30.	.2	.0	.1	.0
40.	.1	.0	.1	.0
50.	.1	.0	.1	.0
60.	.0	.0	.0	.0
70.	.0	.0	.0	.0
80.	.0	.0	.0	.0
90.	.0	.0	.0	.0
100.	.0	.0	.0	.0
110.	.0	.0	.0	.0
120.	.0	.0	.0	.0
130.	.0	.0	.0	.0
140.	.1	.0	.1	.0
150.	.1	.0	.2	.0
160.	.2	.0	.2	.0
170.	.2	.0	.1	.0
180.	.0	.1	.0	.1
190.	.0	.1	.0	.1
200.	.0	.2	.0	.2
210.	.0	.1	.0	.1
220.	.0	.0	.0	.1
230.	.0	.1	.0	.1
240.	.0	.1	.0	.1
250.	.0	.1	.0	.1
260.	.0	.1	.0	.1
270.	.0	.1	.0	.1
280.	.0	.1	.0	.1
290.	.0	.1	.0	.1
300.	.0	.1	.0	.0
310.	.0	.1	.0	.0
320.	.0	.1	.0	.1
330.	.0	.1	.0	.1
340.	.0	.1	.0	.1
350.	.0	.1	.0	.1
360.	.0	.0	.0	.0
MAX	.2	.2	.2	.2
DEGR.	20	200	10	200

THE HIGHEST CONCENTRATION OF .20 PPM OCCURRED AT RECEPTOR REC3 .

JOB: Cal Incline AM Pk Hr - OcOc-co RUN: Cal Incline AM Pk Hr - OcOc-co

DATE : 9/22/ 9
TIME : 14:29:12

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	1489.	3.5	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	1497.	3.5	.0	****		
3. NBQ	1719.2	1601.0	1719.2	1586.8	14.	180.	AG	6.	100.0	.0	****	.29	.7
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	783.	3.5	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	822.	3.5	.0	****		
6. SBQ	1561.7	1758.5	1561.7	1766.0	7.	360.	AG	6.	100.0	.0	****	.15	.4
7. EBA	.0	1620.7	1640.4	1620.7	1640.	90.	AG	9.	3.5	.0	****		
8. EBD	1640.4	1620.7	.0	1620.7	1640.	270.	AG	254.	3.5	.0	****		
9. EBQ	1482.9	1620.7	1480.5	1620.7	2.	270.	AG	11.	100.0	.0	39.4	.07	.1
10. WBA	3280.8	1699.5	1640.4	1699.5	1640.	270.	AG	309.	3.5	.0	****		
11. WBD	1640.4	1699.5	.0	1699.5	1640.	270.	AG	17.	3.5	.0	****		
12. WBQ	1797.9	1699.5	1837.0	1699.5	39.	90.	AG	32.	100.0	.0	****	.77	2.0

JOB: Cal Incline AM Pk Hr - OcOc-co RUN: Cal Incline AM Pk Hr - OcOc-co

DATE : 9/22/ 9
TIME : 14:29:12

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	7	3.0	1489	1600	4.84	3	3
6. SBQ	60	7	3.0	783	1600	4.84	3	3
9. EBQ	60	50	3.0	9	1600	4.84	3	3
12. WBQ	60	50	3.0	309	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1824.1	17.7
2. NE	1863.5	1824.1	17.7
3. SW	1417.3	1535.4	17.7
4. SE	1863.5	1535.4	17.7

JOB: Cal Incline AM Pk Hr - OcOc-co RUN: Cal Incline AM Pk Hr - OcOc-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.0	.0	.0	.1
10.	.1	.0	.2	.0
20.	.2	.0	.2	.0
30.	.2	.0	.1	.0
40.	.1	.0	.1	.0
50.	.1	.0	.1	.0
60.	.1	.0	.0	.0
70.	.1	.0	.0	.0
80.	.1	.0	.0	.0
90.	.1	.0	.1	.0
100.	.1	.0	.1	.0
110.	.1	.0	.1	.0
120.	.0	.0	.1	.0
130.	.0	.0	.1	.0
140.	.1	.0	.1	.0
150.	.1	.0	.2	.0
160.	.2	.0	.2	.0
170.	.2	.0	.2	.0
180.	.0	.1	.0	.1
190.	.0	.2	.0	.2
200.	.0	.2	.0	.2
210.	.0	.1	.0	.1
220.	.0	.1	.0	.1
230.	.0	.1	.0	.1
240.	.0	.1	.0	.1
250.	.0	.1	.0	.1
260.	.0	.1	.0	.1
270.	.0	.1	.0	.1
280.	.0	.1	.0	.1
290.	.0	.1	.0	.1
300.	.0	.1	.0	.0
310.	.0	.1	.0	.0
320.	.0	.1	.0	.1
330.	.0	.1	.0	.1
340.	.0	.1	.0	.1
350.	.0	.2	.0	.2
360.	.0	.0	.0	.1
MAX	.2	.2	.2	.2
DEGR.	20	190	10	190

THE HIGHEST CONCENTRATION OF .20 PPM OCCURRED AT RECEPTOR REC3 .

JOB: Cal Incline - AM Pk Hr-ex RUN: Cal Incline - AM Pk Hr-ex

DATE : 9/21/ 9
TIME : 18: 9:56

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	1499.	4.1	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	1021.	4.1	.0	****		
3. NBQ	1719.2	1522.3	1719.2	1508.0	14.	180.	AG	6.	100.0	.0	****	.29	.7
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	2059.	4.1	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	1255.	4.1	.0	****		
6. SBQ	1561.7	1640.4	1561.7	1660.1	20.	360.	AG	6.	100.0	.0	****	.40	1.0
7. EBA	.0	1581.4	1640.4	1581.4	1640.	90.	AG	510.	4.1	.0	****		
8. EBD	1640.4	1581.4	3280.8	1581.4	1640.	90.	AG	1792.	4.1	.0	****		
9. EBQ	1482.9	1581.4	1000.1	1581.4	483.	270.	AG	32.	100.0	.0	****	1.28	24.5

JOB: Cal Incline - AM Pk Hr-ex RUN: Cal Incline - AM Pk Hr-ex

DATE : 9/21/ 9
TIME : 18: 9:56

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	7	3.0	1499	1600	4.84	3	3
6. SBQ	60	7	3.0	2059	1600	4.84	3	3
9. EBQ	60	50	3.0	510	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1706.0	17.7
2. NE	1863.5	1706.0	17.7
3. SW	1417.3	1456.7	17.7
4. SE	1863.5	1456.7	17.7

JOB: Cal Incline - AM Pk Hr-ex RUN: Cal Incline - AM Pk Hr-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.0	.1	.1
10.	.3	.0	.4	.1
20.	.3	.0	.3	.1
30.	.3	.0	.2	.1
40.	.2	.0	.3	.1
50.	.1	.0	.1	.1
60.	.1	.0	.2	.2
70.	.1	.0	.4	.2
80.	.1	.0	.5	.2
90.	.2	.1	.3	.1
100.	.4	.2	.2	.0
110.	.4	.2	.2	.0
120.	.3	.2	.2	.0
130.	.2	.1	.2	.0
140.	.2	.1	.2	.0
150.	.2	.1	.2	.0
160.	.2	.1	.2	.0
170.	.3	.1	.3	.0
180.	.1	.2	.0	.1
190.	.0	.4	.0	.2
200.	.0	.4	.0	.3
210.	.0	.3	.0	.2
220.	.1	.3	.0	.2
230.	.1	.3	.0	.2
240.	.1	.3	.0	.2
250.	.2	.0	.0	.2
260.	.1	.4	.0	.2
270.	.0	.2	.0	.2
280.	.0	.2	.1	.4
290.	.0	.2	.2	.2
300.	.0	.2	.1	.2
310.	.0	.2	.1	.3
320.	.0	.2	.1	.3
330.	.0	.2	.0	.3
340.	.0	.2	.0	.3
350.	.0	.2	.0	.3
360.	.1	.0	.1	.1
MAX	.4	.4	.5	.4
DEGR.	100	190	80	280

THE HIGHEST CONCENTRATION OF .50 PPM OCCURRED AT RECEPTOR REC3 .

JOB: Cal Incline - AM Pk Hr-co RUN: Cal Incline - AM Pk Hr-co

DATE : 9/21/ 9
TIME : 18:18:50

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	1499.	3.5	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	1256.	3.5	.0	****		
3. NBQ	1719.2	1522.3	1719.2	1499.8	22.	180.	AG	10.	100.0	.0	****	.32	1.1
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	2189.	3.5	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	1255.	3.5	.0	****		
6. SBQ	1561.7	1640.4	1561.7	1673.3	33.	360.	AG	10.	100.0	.0	****	.47	1.7
7. EBA	.0	1581.4	1640.4	1581.4	1640.	90.	AG	863.	3.5	.0	****		
8. EBD	1640.4	1581.4	3280.8	1581.4	1640.	90.	AG	2040.	3.5	.0	****		
9. EBQ	1482.9	1581.4	847.4	1581.4	636.	270.	AG	30.	100.0	.0	****	1.20	32.3

JOB: Cal Incline - AM Pk Hr-co RUN: Cal Incline - AM Pk Hr-co

DATE : 9/21/ 9
TIME : 18:18:50

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	11	3.0	1499	1600	4.84	3	3
6. SBQ	60	11	3.0	2189	1600	4.84	3	3
9. EBQ	60	46	3.0	863	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1706.0	17.7
2. NE	1863.5	1706.0	17.7
3. SW	1417.3	1456.7	17.7
4. SE	1863.5	1456.7	17.7

JOB: Cal Incline - AM Pk Hr-co RUN: Cal Incline - AM Pk Hr-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.0	.1	.1
10.	.2	.0	.3	.1
20.	.3	.0	.3	.1
30.	.3	.0	.2	.1
40.	.2	.0	.2	.1
50.	.2	.0	.1	.1
60.	.1	.0	.2	.2
70.	.1	.0	.4	.2
80.	.1	.0	.5	.2
90.	.2	.1	.3	.1
100.	.4	.2	.2	.0
110.	.3	.2	.2	.0
120.	.2	.2	.2	.0
130.	.2	.1	.2	.0
140.	.2	.1	.2	.0
150.	.2	.1	.2	.0
160.	.2	.1	.2	.0
170.	.2	.1	.1	.0
180.	.0	.2	.0	.1

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190.  *    .0    .4    .0    .2
200.  *    .0    .3    .0    .2
210.  *    .0    .3    .0    .2
220.  *    .0    .3    .0    .2
230.  *    .2    .3    .0    .2
240.  *    .2    .1    .0    .1
250.  *    .2    .1    .0    .1
260.  *    .1    .3    .0    .1
270.  *    .0    .3    .0    .2
280.  *    .0    .2    .1    .3
290.  *    .0    .2    .2    .2
300.  *    .0    .2    .2    .2
310.  *    .0    .2    .2    .3
320.  *    .0    .2    .0    .3
330.  *    .0    .2    .0    .3
340.  *    .0    .2    .0    .3
350.  *    .0    .2    .0    .3
360.  *    .1    .0    .1    .1
------*------------------------
MAX   *    .4    .4    .5    .3
DEGR. *  100   190    80   280

THE HIGHEST CONCENTRATION OF     .50 PPM OCCURRED AT RECEPTOR REC3 .
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JOB: Cal Incline - AM Peak Hr - LiOf-ex RUN: Cal Incline - AM Peak Hr - LiOf-ex

DATE : 9/23/ 9
TIME : 9:54:36

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1699.5	.0	1699.5	1640.4	1640.	360.	AG	1111.	4.1	.0	****		
2. NBD	1699.5	1640.4	1699.5	3280.8	1640.	360.	AG	1792.	4.1	.0	****		
3. NBQ	1699.5	1640.4	1699.5	1591.9	49.	180.	AG	16.	100.0	.0	****	.45	2.5
4. SBA	1581.4	3280.8	1581.4	1640.4	1640.	180.	AG	1459.	4.1	.0	****		
5. SBD	1581.4	1640.4	1581.4	.0	1640.	180.	AG	2111.	4.1	.0	****		
6. SBQ	1581.4	1797.9	1581.4	1861.7	64.	360.	AG	16.	100.0	.0	****	.59	3.2
7. WBA	3280.8	1719.2	1640.4	1719.2	1640.	270.	AG	1875.	4.1	.0	****		
8. WBD	1640.4	1719.2	.0	1719.2	1640.	270.	AG	542.	4.1	.0	****		
9. WBQ	1758.5	1719.2	1854.3	1719.2	96.	90.	AG	29.	100.0	.0	****	.80	4.9

JOB: Cal Incline - AM Peak Hr - LiOf-ex RUN: Cal Incline - AM Peak Hr - LiOf-ex

DATE : 9/23/ 9
TIME : 9:54:36

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	24	3.0	1111	1600	4.84	3	3
6. SBQ	60	24	3.0	1459	1600	4.84	3	3
9. WBQ	60	33	3.0	1875	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1456.7	1863.5	17.7
2. NE	1824.1	1863.5	17.7
3. SW	1456.7	1574.8	17.7
4. SE	1824.1	1574.8	17.7

JOB: Cal Incline - AM Peak Hr - LiOf-ex RUN: Cal Incline - AM Peak Hr - LiOf-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.1	.1	.2
10.	.3	.0	.3	.1
20.	.3	.0	.3	.1
30.	.2	.0	.2	.1
40.	.2	.0	.2	.1
50.	.2	.0	.3	.1
60.	.2	.0	.3	.2
70.	.2	.0	.4	.2
80.	.2	.0	.3	.2
90.	.3	.1	.2	.1
100.	.4	.2	.1	.0
110.	.4	.2	.2	.0
120.	.3	.2	.2	.0
130.	.3	.1	.2	.0
140.	.1	.1	.3	.0
150.	.3	.1	.3	.0
160.	.4	.1	.3	.0
170.	.4	.1	.4	.0
180.	.1	.2	.1	.1
190.	.0	.5	.0	.3
200.	.0	.4	.0	.3
210.	.0	.3	.0	.2
220.	.0	.3	.0	.2
230.	.0	.3	.0	.2
240.	.0	.3	.0	.2
250.	.1	.3	.0	.2
260.	.1	.3	.0	.2
270.	.0	.2	.0	.2
280.	.0	.2	.1	.3
290.	.0	.2	.1	.1
300.	.0	.2	.0	.3
310.	.0	.2	.0	.3
320.	.0	.2	.0	.3
330.	.0	.3	.0	.4
340.	.0	.3	.0	.4
350.	.0	.4	.0	.5
360.	.1	.1	.1	.2
MAX	.4	.5	.4	.5
DEGR.	100	190	70	350

THE HIGHEST CONCENTRATION OF .50 PPM OCCURRED AT RECEPTOR REC2 .

JOB: Cal Incline - AM Peak Hr - LiOf-co RUN: Cal Incline - AM Peak Hr - LiOf-co

DATE : 9/23/ 9
TIME : 9:46:56

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1699.5	.0	1699.5	1640.4	1640.	360.	AG	1111.	3.5	.0	****		
2. NBD	1699.5	1640.4	1699.5	3280.8	1640.	360.	AG	1792.	3.5	.0	****		
3. NBQ	1699.5	1640.4	1699.5	1591.9	49.	180.	AG	16.	100.0	.0	****	.45	2.5
4. SBA	1581.4	3280.8	1581.4	1640.4	1640.	180.	AG	1544.	3.5	.0	****		
5. SBD	1581.4	1640.4	1581.4	.0	1640.	180.	AG	2111.	3.5	.0	****		
6. SBQ	1581.4	1797.9	1581.4	1865.4	67.	360.	AG	16.	100.0	.0	****	.62	3.4
7. WBA	3280.8	1719.2	1640.4	1719.2	1640.	270.	AG	1875.	3.5	.0	****		
8. WBD	1640.4	1719.2	.0	1719.2	1640.	270.	AG	627.	3.5	.0	****		
9. WBQ	1758.5	1719.2	1854.3	1719.2	96.	90.	AG	29.	100.0	.0	****	.80	4.9

JOB: Cal Incline - AM Peak Hr - LiOf-co RUN: Cal Incline - AM Peak Hr - LiOf-co

DATE : 9/23/ 9
TIME : 9:46:56

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	24	3.0	1111	1600	4.84	3	3
6. SBQ	60	24	3.0	1544	1600	4.84	3	3
9. WBQ	60	33	3.0	1875	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1456.7	1863.5	17.7
2. NE	1824.1	1863.5	17.7
3. SW	1456.7	1574.8	17.7
4. SE	1824.1	1574.8	17.7

JOB: Cal Incline - AM Peak Hr - LiOf-co RUN: Cal Incline - AM Peak Hr - LiOf-co

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.1	.1	.2
10.	.3	.0	.3	.1
20.	.3	.0	.2	.1
30.	.2	.0	.2	.1
40.	.2	.0	.2	.1
50.	.2	.0	.2	.1
60.	.2	.0	.2	.1
70.	.2	.0	.3	.2
80.	.2	.0	.3	.2
90.	.3	.1	.2	.1
100.	.4	.2	.1	.0
110.	.3	.2	.1	.0
120.	.3	.1	.1	.0
130.	.2	.1	.1	.0
140.	.1	.1	.2	.0
150.	.3	.1	.3	.0
160.	.4	.1	.3	.0
170.	.4	.1	.4	.0
180.	.1	.2	.1	.1
190.	.0	.3	.0	.2
200.	.0	.3	.0	.2
210.	.0	.3	.0	.2
220.	.0	.3	.0	.2
230.	.0	.2	.0	.2
240.	.0	.3	.0	.2
250.	.1	.3	.0	.2
260.	.1	.3	.0	.1
270.	.0	.2	.0	.2
280.	.0	.2	.1	.2
290.	.0	.2	.1	.1
300.	.0	.2	.0	.3
310.	.0	.2	.0	.3
320.	.0	.2	.0	.3
330.	.0	.2	.0	.3
340.	.0	.3	.0	.4
350.	.0	.3	.0	.4
360.	.1	.1	.1	.2
MAX	.4	.3	.4	.4
DEGR.	100	190	170	340

THE HIGHEST CONCENTRATION OF .40 PPM OCCURRED AT RECEPTOR REC1 .

JOB: Cal Incline PM Pk hr - PcCh-ex RUN: Cal Incline PM Pk hr - PcCh-ex

DATE : 9/22/ 9
TIME : 14:46: 4

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 100. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NBA	1719.2	.0	1719.2	1640.4	1640.	360.	AG	3677.	4.1	.0	****		
2. NBD	1719.2	1640.4	1719.2	3280.8	1640.	360.	AG	4636.	4.1	.0	****		
3. NBQ	1719.2	1640.4	1719.2	1565.1	75.	180.	AG	11.	100.0	.0	****	.82	3.8
4. SBA	1561.7	3280.8	1561.7	1640.4	1640.	180.	AG	2828.	4.1	.0	****		
5. SBD	1561.7	1640.4	1561.7	.0	1640.	180.	AG	3128.	4.1	.0	****		
6. SBQ	1561.7	1837.3	1561.7	1887.5	50.	360.	AG	11.	100.0	.0	****	.63	2.6
7. EBD	1640.4	1640.4	3280.8	1640.4	1640.	90.	AG	598.	4.1	.0	****		
8. WBA	3280.8	1738.8	1640.4	1738.8	1640.	270.	AG	1857.	4.1	.0	****		
9. WBQ	1797.9	1738.8	2761.0	1738.8	963.	90.	AG	48.	100.0	.0	****	1.27	48.9

JOB: Cal Incline PM Pk hr - PcCh-ex RUN: Cal Incline PM Pk hr - PcCh-ex

DATE : 9/22/ 9
TIME : 14:46: 4

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. NBQ	60	13	3.0	3677	1600	4.84	3	3
6. SBQ	60	13	3.0	2828	1600	4.84	3	3
9. WBQ	60	44	3.0	1857	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NW	1417.3	1902.9	17.7
2. NE	1863.5	1902.9	17.7
3. SW	1417.3	1574.8	17.7
4. SE	1863.5	1574.8	17.7

JOB: Cal Incline PM Pk hr - PcCh-ex RUN: Cal Incline PM Pk hr - PcCh-ex

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.2	.2	.4
10.	.6	.0	.6	.2
20.	.6	.0	.6	.2
30.	.5	.0	.5	.2
40.	.5	.0	.4	.2
50.	.4	.0	.3	.2
60.	.4	.0	.5	.3
70.	.3	.0	.6	.4
80.	.3	.0	.8	.4
90.	.4	.1	.5	.2
100.	.6	.3	.3	.0
110.	.5	.3	.4	.0
120.	.5	.2	.4	.0
130.	.4	.2	.4	.0
140.	.4	.2	.4	.0
150.	.4	.2	.5	.0
160.	.6	.2	.6	.0
170.	.7	.2	.6	.0
180.	.2	.4	.1	.2
190.	.0	.9	.0	.6
200.	.0	.7	.0	.6
210.	.0	.6	.0	.5
220.	.0	.5	.0	.4
230.	.0	.6	.0	.3
240.	.0	.5	.0	.3
250.	.0	.3	.0	.3
260.	.0	.3	.0	.3
270.	.0	.3	.0	.3
280.	.0	.3	.0	.3
290.	.0	.3	.0	.3
300.	.0	.4	.0	.6
310.	.0	.4	.0	.5
320.	.0	.4	.0	.5
330.	.0	.6	.0	.7
340.	.0	.7	.0	.8
350.	.0	.7	.0	.9
360.	.1	.2	.2	.4
MAX	.7	.9	.8	.9
DEGR.	170	190	80	350

THE HIGHEST CONCENTRATION OF .90 PPM OCCURRED AT RECEPTOR REC4 .

Appendix D

Construction Emission Calculations and Output Files

Construction Emissions for California Incline Built Alternative 1 - UNMITIGATED

EQUIPMENT		Equipment Emissions (ppd)						
	# Equipment	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Construction Equipment	20	35.42	142.35	335.54	0.46	14.53	13.37	44,183.08

WORKER VEHICLES			Worker Vehicle Emissions (ppd)						
	# of Workers	Total VMT/Day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
	75	**1,995.00**	**0.44**	**12.16**	**1.05**	**0.015**	**0.051**	**0.047**	**1,677.9**
Cars	*37.0*	*984.20*	*0.13*	*4.48*	*0.38*	*0.007*	*0.022*	*0.020*	*736.6*
Trucks	*38.0*	*1,010.80*	*0.31*	*7.67*	*0.67*	*0.009*	*0.029*	*0.027*	*941.3*

HEAVY-DUTY TRUCK TRIPS				Heavy-duty Truck Emissions (ppd)						
	Trips per Day	Round Trip Length	VMT/day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Haul Truck Trips	100	30	3,000	7.67	46.14	90.23	0.12	3.45	3.17	12,377.84

FUGITIVE DUST			
	Max Daily Grading (acres)	PM10	PM2.5
Grading [1]	1.50	22.3	4.6

TOTAL EMISSIONS	Emissions (ppd)						
	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
	43.53	**200.64**	**426.83**	**0.59**	**40.38**	**21.24**	58,238.82
On-Site	35.42	142.35	335.54	0.46	36.88	18.02	44,183.08
Off-Site	8.11	58.29	91.29	0.13	3.50	3.22	14,055.74
Regional Daily Maximum	**44**	**201**	**427**	**1**	**40**	**21**	
THRESHOLD	**75**	**550**	**100**	**150**	**150**	**55**	
IMPACT?	No	No	Yes	No	No	No	
On-Site Daily Maximum	**35**	**142**	**336**	**0**	**37**	**18**	
Localized Significance Threshold	**--**	**685**	**139**	**--**	**5.0**	**2.0**	
IMPACT?	N/A	No	Yes	N/A	Yes	Yes	

[1] Used UREBEMIS2007's rate for grading dust of 38.2 pounds per acre, and applied 61% reduction based on Rule 403 compliance.

Construction Emissions for California Incline Built Alternative 1 - MITIGATED

EQUIPMENT		Equipment Emissions (ppd)						
	# Equipment	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Construction Equipment	20	33.65	135.23	318.76	0.43	13.81	12.70	41,973.93

WORKER VEHICLES			Worker Vehicle Emissions (ppd)						
	# of Workers	Total VMT/Day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
	75	**1,995.00**	**0.44**	**12.16**	**1.05**	**0.015**	**0.051**	**0.047**	**1,677.9**
Cars	*37.0*	*984.20*	*0.13*	*4.48*	*0.38*	*0.007*	*0.022*	*0.020*	*736.6*
Trucks	*38.0*	*1,010.80*	*0.31*	*7.67*	*0.67*	*0.009*	*0.029*	*0.027*	*941.3*

HEAVY-DUTY TRUCK TRIPS				Heavy-duty Truck Emissions (ppd)						
	Trips per Day	Round Trip Length	VMT/day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Haul Truck Trips	100	30	3,000	7.67	46.14	85.72	0.12	3.45	3.17	12,377.84

FUGITIVE DUST			
	Max Daily Grading (acres)	PM10	PM2.5
Grading [1]	1.50	22.3	4.6

TOTAL EMISSIONS	Emissions (ppd)						
	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
	41.76	**193.53**	**405.54**	**0.57**	**39.65**	**20.57**	56,029.67
On-Site	33.65	135.23	318.76	0.43	36.15	17.35	41,973.93
Off-Site	8.11	58.29	86.77	0.13	3.50	3.22	14,055.74
Regional Daily Maximum	**42**	**194**	**406**	**1**	**40**	**21**	
THRESHOLD	**75**	**550**	**100**	**150**	**150**	**55**	
IMPACT?	No	No	Yes	No	No	No	
On-Site Daily Maximum	**34**	**135**	**319**	**0**	**36**	**17**	
Localized Significance Threshold	**--**	**685**	**139**	**--**	**5.0**	**2.0**	
IMPACT?	N/A	No	Yes	N/A	Yes	Yes	

[1] Used UREBEMIS2007's rate for grading dust of 38.2 pounds per acre, and applied 61% reduction based on Rule 403 compliance.

Construction Emissions for California Incline Built Alternative 2 - UNMITIGATED

EQUIPMENT		Equipment Emissions (ppd)						
	# Equipment	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Construction Equipment	10	17.71	71.18	167.77	0.23	7.27	6.68	22,091.54

WORKER VEHICLES			Worker Vehicle Emissions (ppd)						
	# of Workers	Total VMT/Day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
	40	**1,064.00**	**0.24**	**6.54**	**0.57**	**0.008**	**0.027**	**0.025**	**898.4**
Cars	*19.0*	*505.40*	*0.07*	*2.30*	*0.20*	*0.003*	*0.011*	*0.010*	*378.2*
Trucks	*21.0*	*558.60*	*0.17*	*4.24*	*0.37*	*0.005*	*0.016*	*0.015*	*520.2*

HEAVY-DUTY TRUCK TRIPS				Heavy-duty Truck Emissions (ppd)						
	Trips per Day	Round Trip Length	VMT/day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Haul Truck Trips	50	30	1,500	3.84	23.07	45.12	0.06	1.72	1.59	6,188.92

FUGITIVE DUST			
	Max Daily Grading (acres)	PM10	PM2.5
Grading [1]	0.50	7.4	1.5

TOTAL EMISSIONS	Emissions (ppd)						
	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
	21.78	**100.79**	**213.45**	**0.30**	**16.47**	**9.85**	29,178.91
On-Site	17.71	71.18	167.77	0.23	14.72	8.23	22,091.54
Off-Site	4.07	29.61	45.68	0.07	1.75	1.61	7,087.37
Regional Daily Maximum	**22**	**101**	**213**	**0**	**16**	**10**	
THRESHOLD	**75**	**550**	**100**	**150**	**150**	**55**	
IMPACT?	No	No	Yes	No	No	No	
On-Site Daily Maximum	**18**	**71**	**168**	**0**	**15**	**8**	
Localized Significance Threshold	**--**	**685**	**139**	**--**	**5.0**	**2.0**	
IMPACT?	N/A	No	Yes	N/A	Yes	Yes	

[1] Used UREBEMIS2007's rate for grading dust of 38.2 pounds per acre, and applied 61% reduction based on Rule 403 compliance.

Construction Emissions for California Incline Built Alternative 2 - MITIGATED

EQUIPMENT		Equipment Emissions (ppd)						
	# Equipment	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Construction Equipment	10	16.83	67.62	159.38	0.22	6.90	6.90	20,986.96

WORKER VEHICLES			Worker Vehicle Emissions (ppd)						
	# of Workers	Total VMT/Day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
	40	**1,064.00**	**0.24**	**6.54**	**0.57**	**0.008**	**0.027**	**0.025**	**898.4**
Cars	*19.0*	*505.40*	*0.07*	*2.30*	*0.20*	*0.003*	*0.011*	*0.010*	*378.2*
Trucks	*21.0*	*558.60*	*0.17*	*4.24*	*0.37*	*0.005*	*0.016*	*0.015*	*520.2*

HEAVY-DUTY TRUCK TRIPS				Heavy-duty Truck Emissions (ppd)						
	Trips per Day	Round Trip Length	VMT/day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Haul Truck Trips	50	30	1,500	3.84	23.07	42.86	0.06	1.72	1.59	6,188.92

FUGITIVE DUST			
	Max Daily Grading (acres)	PM10	PM2.5
Grading [1]	0.50	7.4	1.5

TOTAL EMISSIONS	Emissions (ppd)						
	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
	20.90	**97.23**	**202.81**	**0.28**	**16.10**	**10.06**	28,074.33
On-Site	16.83	67.62	159.38	0.22	14.35	8.45	20,986.96
Off-Site	4.07	29.61	43.43	0.07	1.75	1.61	7,087.37
Regional Daily Maximum	**21**	**97**	**203**	**0**	**16**	**10**	
THRESHOLD	**75**	**550**	**100**	**150**	**150**	**55**	
IMPACT?	No	No	Yes	No	No	No	
On-Site Daily Maximum	**17**	**68**	**159**	**0**	**14**	**8**	
Localized Significance Threshold	**--**	**685**	**139**	**--**	**5.0**	**2.0**	
IMPACT?	N/A	No	Yes	N/A	Yes	Yes	

[1] Used UREBEMIS2007's rate for grading dust of 38.2 pounds per acre, and applied 61% reduction based on Rule 403 compliance.

UNMITIGATED CONSTRUCTION EMISSIONS CALCULATIONS

Inputs for SCREEN - Alternative 1

		Weight Conv. [a]	Time Adjustment [b]
		453.59	57,600

	lb/day [c]	g/s	g/s/m^2
PM10			
Dust	22.3	1.76E-01	2.89E-05
PM2.5			
Dust	4.6	3.62E-02	5.97E-06

[a] Weight conversion is the amount of grams per pound.

[b] Time adjustment is the number of seconds in 16 hours (1 day of grading).

[c] Pounds per day emissions rate from URBEMIS2007.

Off-Road Equipment Emissions

Urbemis2007 - Daily Emissions	**CO**	**NO2**	**PM2.5**	**PM10**
Emissions (ppd)	142.35	333.54	3.17	14.53
Calculations	**CO**	**NO2**	**PM2.5**	**PM10**
Grams/Second	1.1210	2.6266	0.0250	0.1144
ISC-AERMOD INPUT	**CO**	**NO2**	**PM2.5**	**PM10**
Grams/Second/Meter^2	0.000184676	0.000649177	4.11255E-06	1.88503E-05

UNMITIGATED CONSTRUCTION EMISSIONS CALCULATIONS

Inputs for SCREEN - Alternative 2

		Weight Conv. [a]	Time Adjustment [b]
		453.59	57,600

	lb/day [c]	g/s	g/s/m^2
PM10			
Dust	7.4	5.83E-02	2.88E-05
PM2.5			
Dust	1.5	1.18E-02	5.84E-06

[a] Weight conversion is the amount of grams per pound.

[b] Time adjustment is the number of seconds in 16 hours (1 day of grading).

[c] Pounds per day emissions rate from URBEMIS2007.

Off-Road Equipment Emissions

Urbemis2007 - Daily Emissions	**CO**	**NO2**	**PM2.5**	**PM10**
Emissions (ppd)	71.18	167.77	6.68	7.27
Calculations	**CO**	**NO2**	**PM2.5**	**PM10**
Grams/Second	0.5605	1.3212	0.0526	0.0572
ISC-AERMOD INPUT	**CO**	**NO2**	**PM2.5**	**PM10**
Grams/Second/Meter^2	0.000277079	0.00065307	2.60029E-05	2.82995E-05

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15:01:57

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 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Alternative 1 - CO

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE              =       VOLUME
   EMISSION RATE (G/S)      =     0.180000E-03
   SOURCE HEIGHT (M)        =       5.0000
   INIT. LATERAL DIMEN (M)  =      18.0000
   INIT. VERTICAL DIMEN (M) =       0.2300
   RECEPTOR HEIGHT (M)      =       2.0000
   URBAN/RURAL OPTION       =        URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  3 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   3.40 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME   SIGMA   SIGMA
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   Y (M)   Z (M)  DWASH
-------  ----------  ----  -----  -----  ------  ------  ------  ------  -----
    25.   0.000        0     0.0    0.0     0.0    0.00    0.00    0.00
    50.  0.5047E-01    3     3.4    3.4  1088.0    5.00   28.55   10.23    NO
   100.  0.2068E-01    3     3.4    3.4  1088.0    5.00   38.90   20.23    NO
   200.  0.7031E-02    3     3.4    3.4  1088.0    5.00   59.04   40.23    NO
   500.  0.1453E-02    3     3.4    3.4  1088.0    5.00  115.53  100.23    NO

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

     ****************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ****************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.5047E-01       50.        0.


**************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**************************************************
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09/30/09
16:24:53

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 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Alternative 1 - NO2

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE              =       VOLUME
   EMISSION RATE (G/S)      =     0.650000E-03
   SOURCE HEIGHT (M)        =       5.0000
   INIT. LATERAL DIMEN (M)  =      18.0000
   INIT. VERTICAL DIMEN (M) =       0.2300
   RECEPTOR HEIGHT (M)      =       2.0000
   URBAN/RURAL OPTION       =        URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  3 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   3.40 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME   SIGMA   SIGMA
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   Y (M)   Z (M)  DWASH
-------  ----------  ----  -----  -----  ------  ------  ------  ------  -----
    25.   0.000        0     0.0    0.0     0.0    0.00    0.00    0.00
    50.  0.1822        3     3.4    3.4  1088.0    5.00   28.55   10.23    NO
   100.  0.7466E-01    3     3.4    3.4  1088.0    5.00   38.90   20.23    NO
   200.  0.2539E-01    3     3.4    3.4  1088.0    5.00   59.04   40.23    NO
   500.  0.5248E-02    3     3.4    3.4  1088.0    5.00  115.53  100.23    NO

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

     ****************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ****************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.1822           50.        0.


**************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**************************************************
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09/30/09
16:21:41

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 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Alternative 1 - PM10 (Dust)

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2)) =     0.289000E-04
   SOURCE HEIGHT (M)          =       0.0000
   LENGTH OF LARGER SIDE (M)  =      78.0000
   LENGTH OF SMALLER SIDE (M) =      78.0000
   RECEPTOR HEIGHT (M)        =       2.0000
   URBAN/RURAL OPTION         =        URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  3 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   3.40 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    25.   67.56        3     3.4    3.4  1088.0    0.00     45.
    50.   76.82        3     3.4    3.4  1088.0    0.00     37.
   100.   29.80        3     3.4    3.4  1088.0    0.00     45.
   200.   8.851        3     3.4    3.4  1088.0    0.00     45.
   500.   1.607        3     3.4    3.4  1088.0    0.00     31.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN      76.82           50.        0.


***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
```

09/30/09
16:23:32

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Alternative 1 - PM10 (Exhaust)

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE              =       VOLUME
   EMISSION RATE (G/S)      =     0.188000E-04
   SOURCE HEIGHT (M)        =       5.0000
   INIT. LATERAL DIMEN (M)  =      18.0000
   INIT. VERTICAL DIMEN (M) =       0.2300
   RECEPTOR HEIGHT (M)      =       2.0000
   URBAN/RURAL OPTION       =        URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  3 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   3.40 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME   SIGMA   SIGMA
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   Y (M)   Z (M)  DWASH
-------  ----------  ----  -----  -----  ------  ------  ------  ------  -----
    25.   0.000        0     0.0    0.0     0.0    0.00    0.00    0.00
    50.  0.5271E-02    3     3.4    3.4  1088.0    5.00   28.55   10.23    NO
   100.  0.2160E-02    3     3.4    3.4  1088.0    5.00   38.90   20.23    NO
   200.  0.7344E-03    3     3.4    3.4  1088.0    5.00   59.04   40.23    NO
   500.  0.1518E-03    3     3.4    3.4  1088.0    5.00  115.53  100.23    NO

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.5271E-02       50.        0.


**************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**************************************************
```

09/30/09
16:23:05

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Alternative 1 - PM2.5 (Dust)

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2)) =     0.597000E-05
   SOURCE HEIGHT (M)          =       0.0000
   LENGTH OF LARGER SIDE (M)  =      78.0000
   LENGTH OF SMALLER SIDE (M) =      78.0000
   RECEPTOR HEIGHT (M)        =       2.0000
   URBAN/RURAL OPTION         =        URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  3 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   3.40 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    25.   13.96        3     3.4    3.4  1088.0    0.00     45.
    50.   15.87        3     3.4    3.4  1088.0    0.00     37.
   100.   6.156        3     3.4    3.4  1088.0    0.00     45.
   200.   1.828        3     3.4    3.4  1088.0    0.00     45.
   500.  0.3320        3     3.4    3.4  1088.0    0.00     31.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN      15.87           50.        0.


***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
```

09/30/09
16:24:32

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Alternative 1 - PM2.5 (Exhaust)

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE              =       VOLUME
   EMISSION RATE (G/S)      =     0.411000E-05
   SOURCE HEIGHT (M)        =       5.0000
   INIT. LATERAL DIMEN (M)  =      18.0000
   INIT. VERTICAL DIMEN (M) =       0.2300
   RECEPTOR HEIGHT (M)      =       2.0000
   URBAN/RURAL OPTION       =        URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  3 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   3.40 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME   SIGMA   SIGMA
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   Y (M)   Z (M)  DWASH
-------  ----------  ----  -----  -----  ------  ------  ------  ------  -----
    25.   0.000        0     0.0    0.0     0.0    0.00    0.00    0.00
    50.  0.1152E-02    3     3.4    3.4  1088.0    5.00   28.55   10.23    NO
   100.  0.4721E-03    3     3.4    3.4  1088.0    5.00   38.90   20.23    NO
   200.  0.1606E-03    3     3.4    3.4  1088.0    5.00   59.04   40.23    NO
   500.  0.3318E-04    3     3.4    3.4  1088.0    5.00  115.53  100.23    NO

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.1152E-02       50.        0.


**************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**************************************************
```

09/30/09
16:15:55

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Alternative 2 - CO

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE              =       VOLUME
   EMISSION RATE (G/S)      =     0.280000E-03
   SOURCE HEIGHT (M)        =       5.0000
   INIT. LATERAL DIMEN (M)  =      10.0000
   INIT. VERTICAL DIMEN (M) =       0.2300
   RECEPTOR HEIGHT (M)      =       2.0000
   URBAN/RURAL OPTION       =        URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  3 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   3.40 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME   SIGMA   SIGMA
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   Y (M)   Z (M)  DWASH
-------  ----------  ----  -----  -----  ------  ------  ------  ------  -----
    25.  0.2048        3     3.4    3.4  1088.0    5.00   15.37    5.23    NO
    50.  0.1083        3     3.4    3.4  1088.0    5.00   20.70   10.23    NO
   100.  0.4011E-01    3     3.4    3.4  1088.0    5.00   31.19   20.23    NO
   200.  0.1251E-01    3     3.4    3.4  1088.0    5.00   51.61   40.23    NO
   500.  0.2400E-02    3     3.4    3.4  1088.0    5.00  108.80  100.23    NO

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.2048           25.        0.


**************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**************************************************
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09/30/09
16:14:39

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 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Alternative 2 - NO2

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE              =       VOLUME
   EMISSION RATE (G/S)      =     0.650000E-03
   SOURCE HEIGHT (M)        =       5.0000
   INIT. LATERAL DIMEN (M)  =      10.0000
   INIT. VERTICAL DIMEN (M) =       0.2300
   RECEPTOR HEIGHT (M)      =       2.0000
   URBAN/RURAL OPTION       =        URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  3 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   3.40 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME   SIGMA   SIGMA
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   Y (M)   Z (M)  DWASH
-------  ----------  ----  -----  -----  ------  ------  ------  ------  -----
    25.  0.4755        3     3.4    3.4  1088.0    5.00   15.37    5.23    NO
    50.  0.2514        3     3.4    3.4  1088.0    5.00   20.70   10.23    NO
   100.  0.9310E-01    3     3.4    3.4  1088.0    5.00   31.19   20.23    NO
   200.  0.2905E-01    3     3.4    3.4  1088.0    5.00   51.61   40.23    NO
   500.  0.5572E-02    3     3.4    3.4  1088.0    5.00  108.80  100.23    NO

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

     ****************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ****************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.4755           25.        0.


***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
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09/30/09
16:18:04

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Alternative 2 - PM10 (Dust)

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2)) =     0.288000E-04
   SOURCE HEIGHT (M)          =       0.0000
   LENGTH OF LARGER SIDE (M)  =      45.0000
   LENGTH OF SMALLER SIDE (M) =      45.0000
   RECEPTOR HEIGHT (M)        =       2.0000
   URBAN/RURAL OPTION         =        URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  3 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   3.40 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    25.   55.79        3     3.4    3.4  1088.0    0.00     42.
    50.   37.10        3     3.4    3.4  1088.0    0.00     45.
   100.   11.25        3     3.4    3.4  1088.0    0.00     45.
   200.   3.112        3     3.4    3.4  1088.0    0.00     38.
   500.  0.5398        3     3.4    3.4  1088.0    0.00     15.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN      55.79           25.        0.


***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
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09/30/09
16:20:12

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Alternative 2 - PM10 (Exhaust)

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE              =       VOLUME
   EMISSION RATE (G/S)      =     0.283000E-04
   SOURCE HEIGHT (M)        =       5.0000
   INIT. LATERAL DIMEN (M)  =      10.5000
   INIT. VERTICAL DIMEN (M) =       0.2300
   RECEPTOR HEIGHT (M)      =       2.0000
   URBAN/RURAL OPTION       =        URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  3 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   3.40 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME   SIGMA   SIGMA
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   Y (M)   Z (M)  DWASH
-------  ----------  ----  -----  -----  ------  ------  ------  ------  -----
    25.  0.2006E-01    3     3.4    3.4  1088.0    5.00   15.87    5.23    NO
    50.  0.1069E-01    3     3.4    3.4  1088.0    5.00   21.19   10.23    NO
   100.  0.3992E-02    3     3.4    3.4  1088.0    5.00   31.68   20.23    NO
   200.  0.1253E-02    3     3.4    3.4  1088.0    5.00   52.08   40.23    NO
   500.  0.2417E-03    3     3.4    3.4  1088.0    5.00  109.22  100.23    NO

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

     ****************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ****************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.2006E-01       25.        0.


**************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**************************************************
```

09/30/09
16:18:50

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Alternative 2 - PM2.5 (Dust)

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2)) =     0.584000E-05
   SOURCE HEIGHT (M)          =       0.0000
   LENGTH OF LARGER SIDE (M)  =      45.0000
   LENGTH OF SMALLER SIDE (M) =      45.0000
   RECEPTOR HEIGHT (M)        =       2.0000
   URBAN/RURAL OPTION         =        URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  3 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   3.40 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    25.   11.31        3     3.4    3.4  1088.0    0.00     42.
    50.   7.523        3     3.4    3.4  1088.0    0.00     45.
   100.   2.282        3     3.4    3.4  1088.0    0.00     45.
   200.  0.6311        3     3.4    3.4  1088.0    0.00     38.
   500.  0.1095        3     3.4    3.4  1088.0    0.00     15.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN      11.31           25.        0.


***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
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09/30/09
16:20:34

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 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Alternative 2 - PM2.5 (Exhaust)

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE              =       VOLUME
   EMISSION RATE (G/S)      =     0.260000E-04
   SOURCE HEIGHT (M)        =       5.0000
   INIT. LATERAL DIMEN (M)  =      10.5000
   INIT. VERTICAL DIMEN (M) =       0.2300
   RECEPTOR HEIGHT (M)      =       2.0000
   URBAN/RURAL OPTION       =        URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  3 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   3.40 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME   SIGMA   SIGMA
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   Y (M)   Z (M)  DWASH
-------  ----------  ----  -----  -----  ------  ------  ------  ------  -----
    25.  0.1843E-01    3     3.4    3.4  1088.0    5.00   15.87    5.23    NO
    50.  0.9821E-02    3     3.4    3.4  1088.0    5.00   21.19   10.23    NO
   100.  0.3667E-02    3     3.4    3.4  1088.0    5.00   31.68   20.23    NO
   200.  0.1152E-02    3     3.4    3.4  1088.0    5.00   52.08   40.23    NO
   500.  0.2220E-03    3     3.4    3.4  1088.0    5.00  109.22  100.23    NO

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
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SIMPLE TERRAIN     0.1843E-01       25.        0.


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** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
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Appendix E

SCAQMD Rule 403

(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

(1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.

(2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.

(3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.

(4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.

(5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

(6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.

(8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

(9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.

(10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.

(11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.

(12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.

(13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

(14) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:

(A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(B) been paved or otherwise covered by a permanent structure; or

(C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.

(15) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.

(16) EARTH-MOVING ACTIVITIES means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.

(17) DUST CONTROL SUPERVISOR means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.

(18) FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.

(19) HIGH WIND CONDITIONS means that instantaneous wind speeds exceed 25 miles per hour.

(20) INACTIVE DISTURBED SURFACE AREA means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.

(21) LARGE OPERATIONS means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

(22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.

(23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.

(24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.

(25) PM_{10} means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.

(26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.

(27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.

(28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.

(29) SIMULTANEOUS SAMPLING means the operation of two PM_{10} samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.

(30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

(31) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.

(32) TRACK-OUT means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(33) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.

(34) UNPAVED ROADS means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.

(35) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(36) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.

(37) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.

(d) Requirements

(1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

(A) the dust remains visible in the atmosphere beyond the property line of the emission source; or

(B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.

(2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.

(3) No person shall cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM_{10} monitoring. If sampling is conducted, samplers shall be:

(A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM_{10}.

(B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.

(4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.

(5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.

(A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

(B) Pave the surface extending at least 100 feet and at least 20 feet wide.

(C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).

(6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.

(e) Additional Requirements for Large Operations

(1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:

(A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;

(B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;

(C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

(D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;

(E) identify a dust control supervisor that:

(i) is employed by or contracted with the property owner or developer;

(ii) is on the site or available on-site within 30 minutes during working hours;

(iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;

(iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and

(F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).

(2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).

(f) Compliance Schedule

The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

(1) The provisions of this Rule shall not apply to:

(A) Dairy farms.

(B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.

(C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.

(D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.

(G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.

(H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.

(I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.

(J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:

(i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and

(ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.

(K) sandblasting operations.

(2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:

(A) When wind gusts exceed 25 miles per hour, provided that:

(i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;

(ii) records are maintained in accordance with subparagraph (e)(1)(C).

(B) To unpaved roads, provided such roads:

(i) are used solely for the maintenance of wind-generating equipment; or

(ii) are unpaved public alleys as defined in Rule 1186; or

(iii) are service roads that meet all of the following criteria:

(a) are less than 50 feet in width at all points along the road;

(b) are within 25 feet of the property line; and

(c) have a traffic volume less than 20 vehicle-trips per day.

(C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.

(3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.

(4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:

(A) Blasting operations which have been permitted by the California Division of Industrial Safety; and

(B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.

(5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

(6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.

(7) The provisions of subdivision (e) shall not apply to:

(A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.

(B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.

(C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.

(8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM_{10} pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	✓ Mix backfill soil with water prior to moving ✓ Dedicate water truck or high capacity hose to backfilling equipment ✓ Empty loader bucket slowly so that no dust plumes are generated ✓ Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	✓ Maintain live perennial vegetation where possible ✓ Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	✓ Follow permit conditions for crushing equipment ✓ Pre-water material prior to loading into crusher ✓ Monitor crusher emissions opacity ✓ Apply water to crushed material to prevent dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration ✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	✓ Haul waste material immediately off-site

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure		Guidance
Unpaved roads/parking lots	19-1	Stabilize soils to meet the applicable performance standards; and	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
	19-2	Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	
Vacant land	20-1	In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Earth-moving (except construction cutting and filling areas, and mining operations)	(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR
	(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-moving: Construction fill areas:	(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Earth-moving: Construction cut areas and mining operations:	(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c)	Apply chemical stabilizers within five working days of grading completion; OR
	(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a)	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR
	(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR
	(3c)	Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR
	(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Unpaved Roads	(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR
	(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR
	(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a)	Apply chemical stabilizers; OR
	(5b)	Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR
	(5c)	Install temporary coverings; OR
	(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

TABLE 3
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL MEASURES
Earth-moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
Open storage piles	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
Paved road track-out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
Manure Handling **(Only applicable to Commercial Poultry Ranches)**	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).