ROCKWELL POND COMMERCIAL DEVELOPMENT

AIR QUALITY IMPACT ASSESSMENT

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INTRODUCTION

This section describes the proposed Rockwell Pond Commercial Development in northwest Selma (Project) impacts on local and regional air quality, including the identification of air pollutant standards, current air quality conditions, air quality impacts and associated mitigation measures. Air quality is described in relation to the ambient air quality standards for ozone precursors. In addition, an analysis of carbon monoxide (CO) pollutant impacts along a representative number of street and road segments adjacent to the Project has also been prepared.

EXISTING ENVIRONMENTAL SETTING

Project Setting

The Project lies within the central portion of the San Joaquin Valley Air Basin (SJVAB) in Fresno County in the City of Selma. The Project is scheduled to be developed in two phases. Phase 1 is defined as the development of 494,800 square feet of retail/commercial space, a 102-room Hotel, and two auto dealerships. Phase 2 is defined as the development of 401,300 square feet of retail/commercial space. The Project location is shown in Figure 1. Figure 2 displays the site plan for the Project.

Regional Setting

The surrounding topography includes foothills and mountains to the east, west, and south. These mountain ranges direct air circulation and dispersion patterns. Temperature inversions can trap air within the Valley, thereby preventing the vertical dispersal of air pollutants. In addition to topographic conditions, the local climate can also contribute to air quality problems. Climate in the City of Selma is classified as Mediterranean, with moist cool winters and dry warm summers. The Project is located on the valley floor at an elevation of approximately 308 feet above sea level with the surrounding area mostly flat.

Ozone, classified as a "regional" pollutant, often afflicts areas downwind of the original source of precursor emissions. Ozone can be easily transported by winds from a source area. Peak ozone levels tend to be higher in the southern portion of the Valley, as the prevailing summer winds sweep precursors downwind of northern source areas before concentrations peak. The separate designations reflect the fact that ozone precursor transport depends on daily meteorological conditions.

Other primary pollutants, CO, for example, may form high concentrations when wind speed is low. During the winter, Selma experiences cold temperatures and calm conditions that increase the likelihood of a climate conducive to high CO concentrations.

Precipitation and fog tend to reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog block the required radiation. CO is slightly water-soluble so precipitation and fog tends to "reduce" CO concentrations in the atmosphere. PM-10 is somewhat "washed" from the atmosphere with precipitation. Precipitation in the SJV is strongly influenced by the position of the semi-permanent subtropical high-pressure belt located off the Pacific coast (Pacific High). In the winter, this high-pressure system moves southward, allowing Pacific storms to move through the SJV. These storms bring in moist, maritime air that produces considerable precipitation on the western, upslope side of the Coast Ranges. Significant precipitation also occurs on the western side of the Sierra Nevada. On the valley floor, however, there is some down slope flow from the Coast Ranges and the resultant evaporation of moisture from associated warming results in a minimum of precipitation. Nevertheless, the majority of the precipitation falling in the SJV is produced by those storms during the winter. Precipitation during the summer months is in the form of convective rain showers and is rare. It is usually associated with an influx of moisture into the SJV through the San Francisco area during an anomalous flow pattern in the lower layers of the atmosphere. Although the hourly rates of precipitation from these storms may be high, their rarity keeps monthly totals low.

Precipitation on the SJV floor and in the Sierra Nevada decreases from north to south. Stockton in the north receives about 20 inches of precipitation per year, Selma in the center, receives about 10 inches per year, and Bakersfield at the southern end of the valley receives less than 6 inches per year. This is primarily because the Pacific storm track often passes through the northern part of the state while the southern part of the state remains protected by the Pacific High. Precipitation in the SJVAB is confined primarily to the winter months with some also occurring in late summer and fall. Average annual rainfall for the entire SJV is 9.25 inches on the SJV floor.

Snowstorms, hailstorms, and ice storms occur infrequently in the SJV and severe occurrences of any of these are very rare.

The winds and unstable air conditions experienced during the passage of storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the SJV floor. This creates strong low-level temperature inversions and very stable air conditions. This situation leads to the SJV's famous Tule Fogs. The formation of natural fog is caused by local cooling of the atmosphere until it is saturated (dew point temperature). This type of fog, known as radiation fog is more likely to occur inland. Cooling may also be accomplished by heat radiation losses or by horizontal movement of a mass of air over a colder surface. This second type of fog, known as advection fog, generally occurs along the coast.

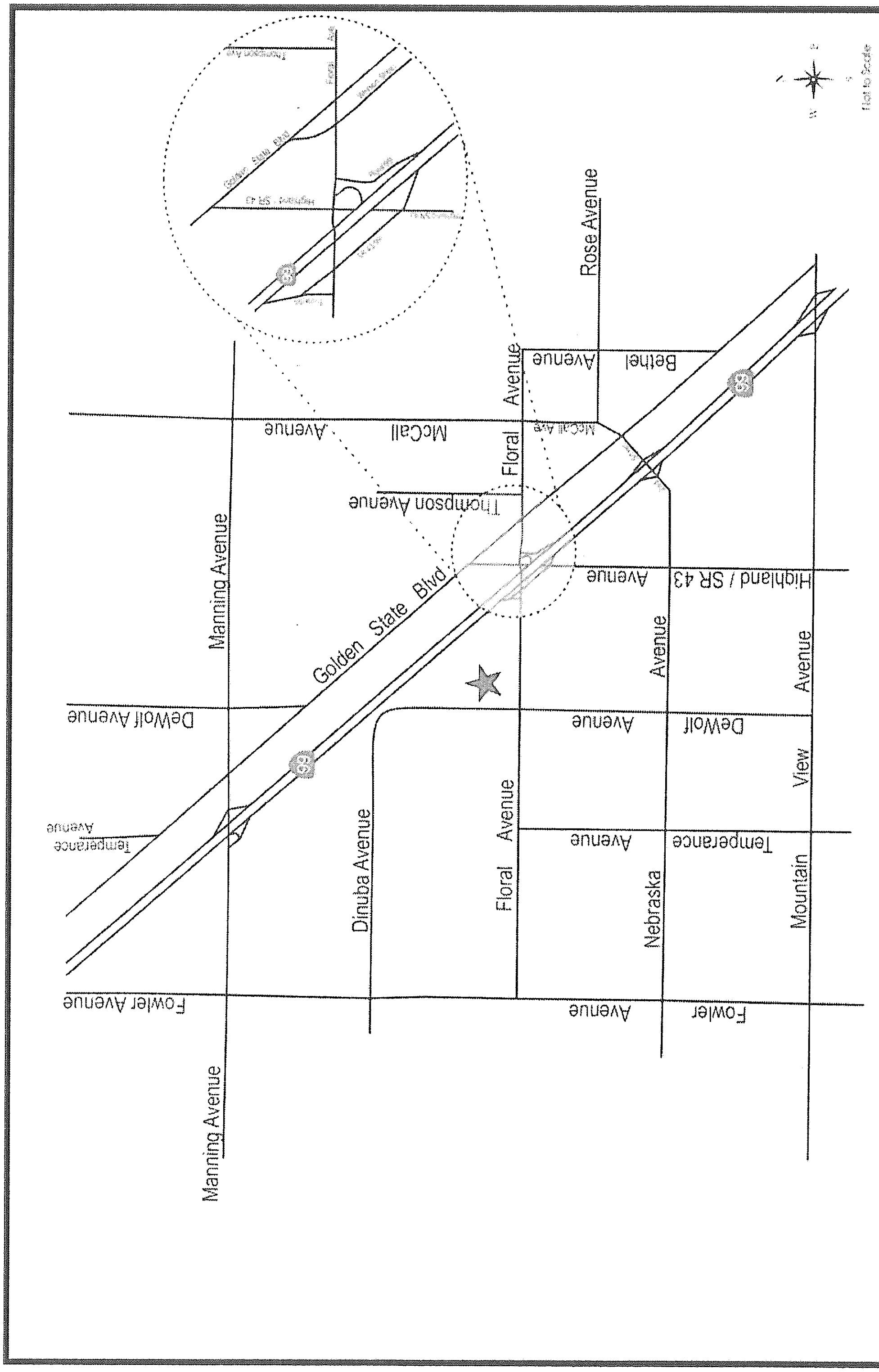

Figure 1

Rockwell Pond Project Location

Legend

★ Project Site

— Existing Roadway

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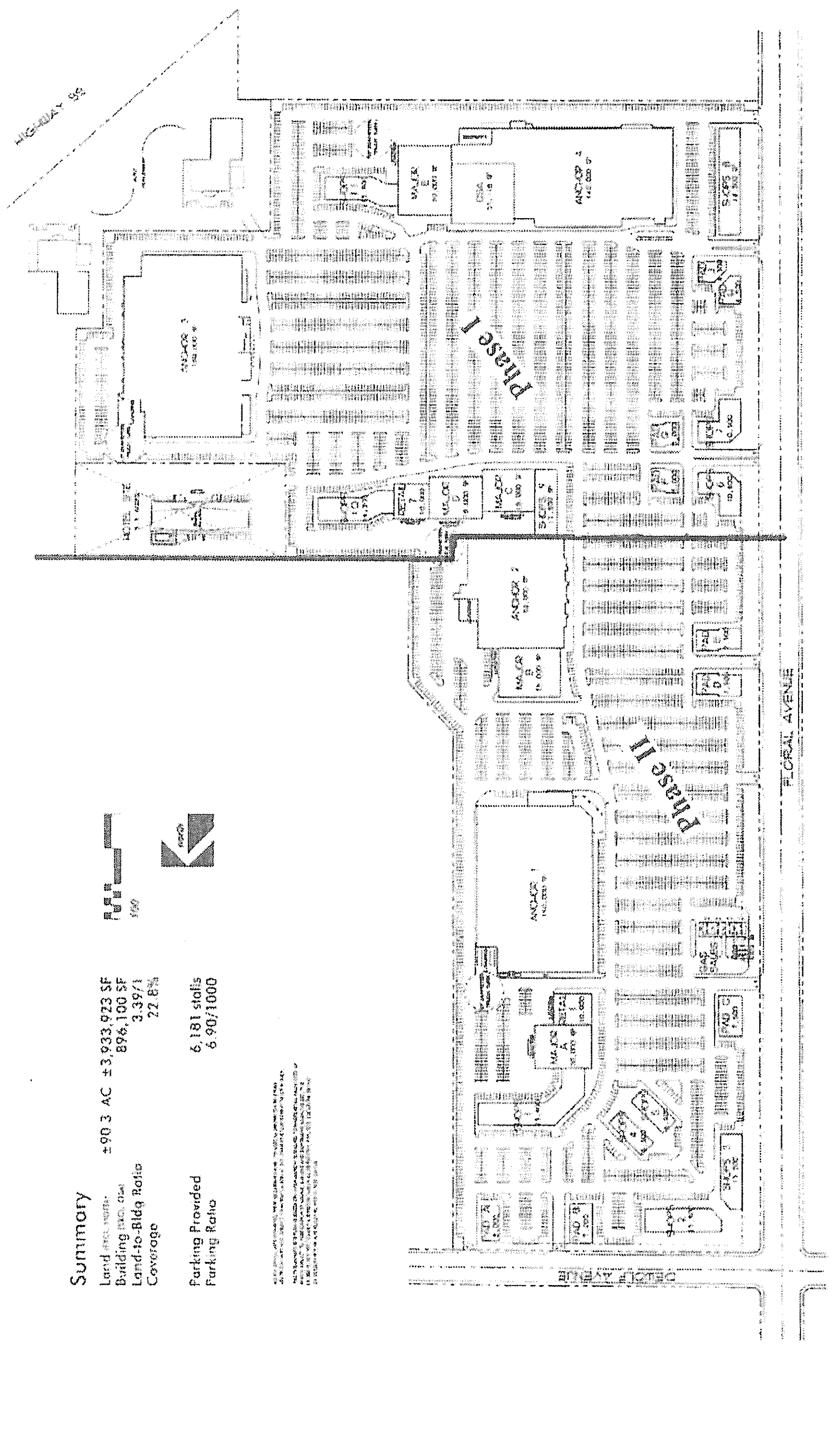


Figure 2

Project Site Plan

Legend

Conditions favorable to fog formation are also conditions favorable to high concentrations of CO and PM-10. Ozone levels are low during these periods because of the lack of sunlight to drive the photochemical reaction. Maximum CO concentrations tend to occur on clear, cold nights when a strong surface inversion is present and large numbers of fireplaces are in use. A secondary peak in CO concentrations occurs during morning commute hours when a large number of motorists are on the road and the surface inversion has not yet broken.

The water droplets in fog, however, can act as a sink for CO and nitrogen oxides (NOx), lowering pollutant concentrations. At the same time, fog could help in the formation of secondary particulates such as ammonium sulfate. These secondary particulates are believed to be a significant contributor of winter season violations of the PM-10 and PM-2.5 standards.

Regulatory Agencies and Responsibilities

Air quality within the Selma area is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies primarily responsible for improving the air quality within Fresno County are discussed below along with their individual responsibilities.

U.S. Environmental Protection Agency

The federal Clean Air Bill first adopted in 1967 and periodically amended since then, established federal ambient air quality standards. A 1987 amendment to the Bill set a deadline for the attainment of these standards. That deadline has since passed. The other federal Clean Air Bill Amendments, passed in 1990, share responsibility with the State in reducing emissions from mobile sources. U.S. Environmental Protection Agency (U.S. EPA) is responsible for enforcing the 1990 amendments.

The Federal Clean Air Act (CAA) and the national ambient air quality standards identify levels of air quality for six "criteria" pollutants, which are considered the maximum levels of ambient air pollutants considered safe, with an adequate margin of safety, to protect public health and welfare. The six criteria pollutants include ozone, CO, nitrogen dioxide, sulfur dioxide, particulate matter 10 microns in size and smaller (PM_{10}), and lead.

The U.S. EPA requires each state to prepare and submit a State Implementation Plan (SIP) that describes how the state will achieve the federal standards by the specificed dates, depending on the severity of the air quality within the state or basin. Based on the provisions contained in the 1990 amendment, EPA designated the entire San Joaquin Valley as non-attainment for two pollutants: ozone and particle matter less than 10 microns in size or PM_{10}.

More recently, on April 24, 2004, the EPA reclassified the San Joaquin Valley ozone nonattainment area from its previous severe status to "extreme" at the request of the San Joaquin Air Pollution Control District Board. On December 17, 2004, EPA took action to designate attainment and non-attainment areas under the more protective national air quality standards for fine particles or $PM_{2.5}$.

Fresno County is considered to be in non-attainment of ozone, PM_{10} and $PM_{2.5}$ standards.

California Air Resources Board

The California Air Resources Board (ARB) is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing its own air quality legislation called the California Clean Air Act (CCAA), adopted in 1988. The ARB was created in 1967 from the merging of the California Motor Vehicle Pollution Control Board and the Bureau of Air Sanitation and its Laboratory.

The ARB has primary responsibility in California to develop and implement air pollution control plans designed to achieve and maintain the NAAQS established by the EPA. Whereas the ARB has primary responsibility and produces a major part of the SIP for pollution sources that are statewide in scope, it relies on the local air districts to provide additional strategies for sources under their jurisdiction. The ARB combines its data with all local district data and submits the completed SIP to the EPA. The SIP consists of the emissions standards for vehicular sources and consumer products set by the ARB, and attainment plans adopted by the APCDs and AQMDs and approved by the ARB.

States may establish their own standards, provided the state standards are at least as stringent as the NAAQS. California has established California Ambient Air Quality Standards (CAAQS) pursuant to California Health and Safety Code (CH&SC) [§39606(b)] and its predecessor statutes.

The CH&SC [§39608] requires the ARB to "identify" and "classify" each air basin in the state on a pollutant-by-pollutant basis. Subsequently, the ARB designated areas in California as nonattainment based on violations of the CAAQSs. Designations and classifications specific to the SJVAB can be found in the next section of this document. Areas in the state were also classified based on severity of air pollution problems. For each nonattainment class, the CCAA specifies air quality management strategies that must be adopted. For all nonattainment categories, attainment plans are required to demonstrate a five-percent-per-year reduction in nonattainment air pollutants or their precursors, averaged every consecutive three-year period, unless an approved alternative measure of progress is developed. In addition, air districts in violation of CAAQS are required to prepare an Air Quality Attainment Plan (AQAP) that lays out a program to attain and maintain the CCAA mandates.

Other ARB duties include monitoring air quality. The ARB has established and maintains, in conjunction with local air pollution control districts (APCDs) and air quality management districts, a network of sampling stations (called the State and Local Air Monitoring [SLAMS] network), that monitor what the pollutants levels are actually present in the ambient air.

Fresno County is in the CARB-designated, San Joaquin Valley Air Basin (SJVAB). A map of the SJVAB is provided in Figure 3. In addition to Fresno County, the SJVAB includes San Joaquin, Kern, Kings, Madera, Merced, Stanislaus, and Tulare Counties.

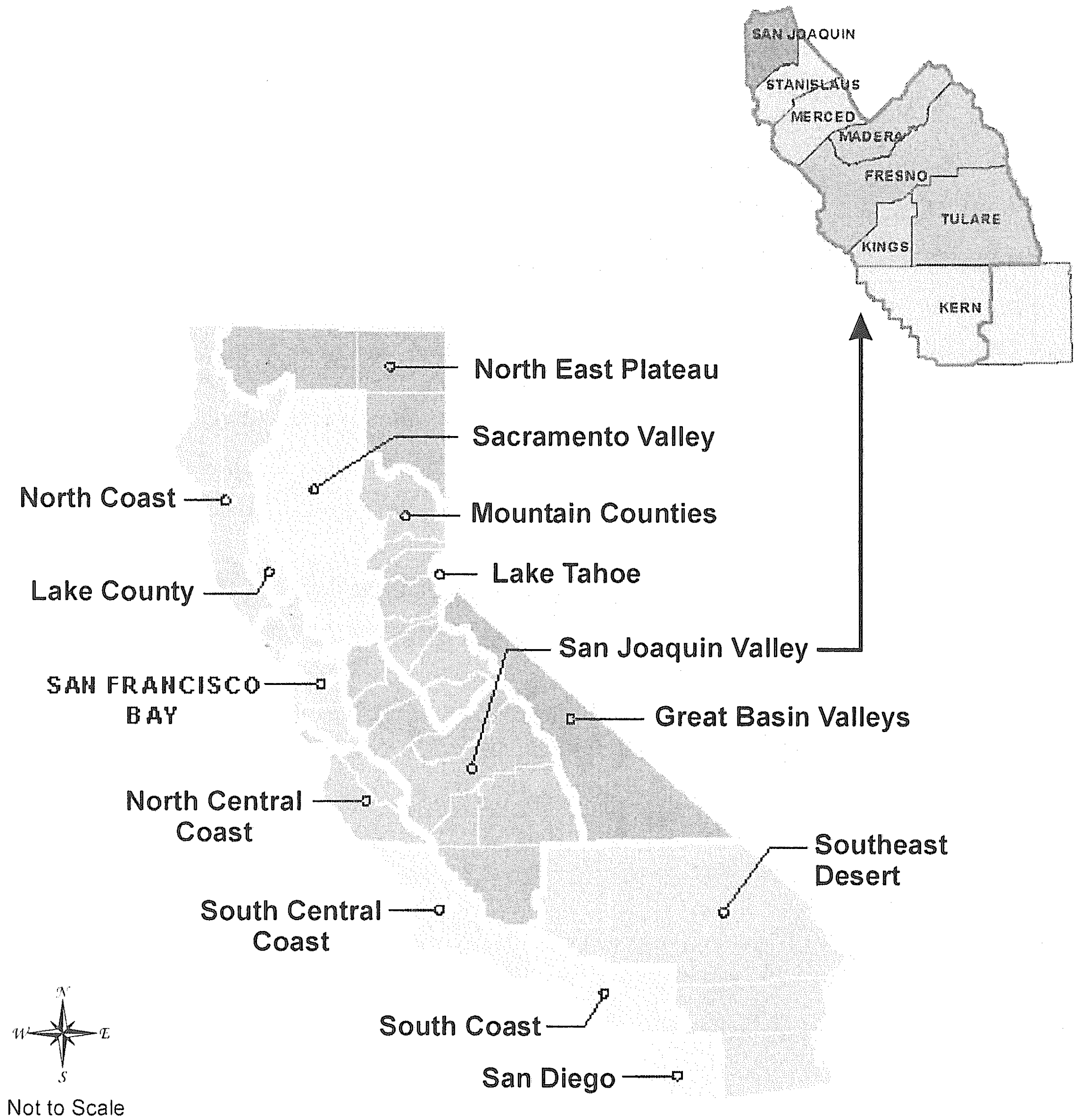
Federal and State standards for criteria pollutants are provided in Table 1.

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (SJVAPCD or District) is the agency responsible for monitoring and regulating air pollutant emissions from stationary, area, and indirect sources within Fresno County and throughout the SJVAB. The District also has responsibility for monitoring air quality and setting and enforcing limits for source emissions. CARB is the agency with the legal responsibility for regulating mobile source emissions. The District is precluded from such activities under State law.

The District was formed in mid-1991 and prepared and adopted the San Joaquin Valley Air Quality Attainment Plan (AQAP), dated January 30, 1992, in response to the requirements of the State CCAA. The CCAA requires each non-attainment district to reduce pertinent air contaminants by at least five percent (5%) per year until new, more stringent, 1988 State air quality standards are met.

The District is the agency empowered to regulate air pollutant emissions. The District regulates air quality through its permit authority for most types of stationary emission sources and through its planning and review activities for other sources. Table 2 contains the ambient air quality classifications for the San Joaquin Valley Air Basin.



California Air Basins	Figure 3
Legend	

TABLE 1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards [1]		Federal Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)	1 Hour	0.09 ppm (180 $\mu g/m^3$)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 $\mu g/m^3$)		0.075 ppm (147 $\mu g/m^3$)		
Respirable Particulate Matter (PM10)	24 Hour	50 $\mu g/m^3$	Gravimetric or Beta Attenuation	150 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 $\mu g/m^3$		—		
Fine Particulate Matter (PM2.5)	24 Hour	No Separate State Standard		35 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 $\mu g/m^3$	Gravimetric or Beta Attenuation	15.0 $\mu g/m^3$		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 $\mu g/m3$)	Gas Phase Chemiluminescence	0.053 ppm (100 $\mu g/m^3$)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 $\mu g/m^3$)		—		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 $\mu g/m^3$)	—	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 $\mu g/m^3$)		0.14 ppm (365 $\mu g/m^3$)	—	
	3 Hour	—		—	0.5 ppm (1300 $\mu g/m^3$)	
	1 Hour	0.25 ppm (655 $\mu g/m^3$)		—	—	—
Lead[8]	30 Day Average	1.5 $\mu g/m^3$	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 $\mu g/m^3$	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[9]	—		0.15 $\mu g/m^3$		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 $\mu g/m^3$	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 $\mu g/m^3$)	Ultraviolet Fluorescence			
Vinyl Chloride[8]	24 Hour	0.01 ppm (26 $\mu g/m^3$)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990 — California Air Resources Board (11/17/08)

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour),

nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calender year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
Contact U.S. EPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
8. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
9. National lead standard, rolling 3-month average: final rule signed October 15, 2008.

Table 2
San Joaquin Valley Air Basin – District Attainment Status

	Designation/Classification	
Pollutant	**Federal Standards**	**State Standards**
Ozone- 1 Hour	No Designation	Non-attainment/Severe
Ozone - 8 Hour	Non-attainment/Serious	No State Standard
PM_{10}	Attainment	Non-attainment
$PM_{2.5}$	Non-attainment	Non-attainment
Carbon Monoxide	Unclassified/Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified	Attainment
Lead Particulates	No Designation	Attainment

Air Pollution Sources and Current Air Quality

Motor vehicles account for significant portions of regional gaseous and particulate emissions. Local large employers such as industrial plants can also generate substantial regional gaseous and particulate emissions. In addition, construction and agricultural activities can generate significant temporary gaseous and particulate emissions (dust, ash, smoke, etc.). Finally, urban areas upwind from Selma can cause or generate transported emissions from all four-pollutant sources.

The principal factors that affect air quality in and around Selma are: (a) the sink effect, climatic subsidence and temperature inversions and low wind speeds; (b) automobile and truck travel and (c) increases in mobile and stationary pollutants generated by local urban growth.

Ozone Emissions

The most severe air quality problem in the SJVAB is the high level of ozone. Ozone can cause eye irritation and impair respiratory functions. Accumulations of ozone depend heavily on weather patterns and thus vary substantially from year to year. Ozone is produced in the atmosphere through photochemical reactions involving reactive organic compounds (ROG) and nitrogen oxides (NO_X). Numerous small sources throughout the region are responsible for most of the ROG and NO_X emissions in the Basin.

Suspended PM_{10} Emissions

PM_{10} refers to particulate matter less than 10 microns in diameter - those that can be inhaled and cause health effects. Common sources of particulate include demolition, construction activity, agricultural operations, traffic and other localized sources such as from fireplaces. Very small particulate of certain substances can cause direct lung damage, or can contain absorbed gases that may be harmful when inhaled. Particulate can also damage materials and reduce visibility.

Fine Particles $PM_{2.5}$

Particles less than 2.5 micrometers in diameter are called "fine" particles. These particles are so small they can be detected only with an electron microscope. Sources of fine particles include all types of combustion, including motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes.

Carbon Monoxide (CO)

Because CO is emitted primarily by motor vehicles and is non-reactive, ambient CO concentrations normally follow the spatial and temporal distributions of vehicular traffic.

CO concentrations are also influenced by meteorological factors such as wind speed and atmospheric mixing. High levels of CO can impair the transport of oxygen in the bloodstream and thereby aggravate cardiovascular disease and cause fatigue, headaches, and dizziness. The California Air Resources Board (CARB) found CO standards in Fresno County in attainment of federal and State standards.

Nitrogen Dioxide (NO_2)

The major sources of nitrogen dioxide (NO_2), essential to the formation of photochemical smog, are vehicular, residential, and industrial fuel combustion. NO_2 is the "whiskey brown" colored gas evident during periods of heavy air pollution. NO_2 increases respiratory disease and irritation and may reduce resistance to certain infections. The standards for NO_2 are being met in the SJVAB and the District does not expect that the standards will be exceeded in the near future.

Sulfur Dioxide (SO_2)

The major source of sulfur dioxide (SO_2) is the combustion of high-sulfur fuels for electricity generation, petroleum refining and shipping. In humid atmospheres, sulfur oxides can react with vapor to produce sulfuric acid, a component of acid rain. SO_2 can irritate the lungs, damage vegetation and materials and reduce visibility. The standards for SO_2 are being met in the SJVAB and the District does not expect that the standards will be exceeded in the near future.

Lead (Pb)

Gasoline-powered automobile engines are a major source of airborne lead, although the use of leaded fuel is being reduced. Lead can cause blood effects such as anemia and the inhibition of enzymes involved in blood synthesis. Lead may also affect the central nervous and reproductive systems. Ambient lead levels have dropped dramatically as the percentage of motor vehicles using unleaded gasoline continues to increase. The standards for lead are being met in the SJVAB and the District does not expect that the standards will be exceeded in the future.

Local Air Monitoring Stations

The closest monitoring station is located at Fresno's First Street Monitoring Station. The station monitors particulates, ozone, carbon monoxide, and nitrogen dioxide. Monitoring data for the past three years is summarized in Table 3.

TABLE 3
Maximum Pollutant Levels at Fresno's 1st Street Monitoring Station

Pollutant	Time Averaging	2006 Maximums	2007 Maximums	2008 Maximums	Standards National	Standards State
Ozone (O_3)	1 hour	0.138 ppm	0.119 ppm	0.157 ppm	0.12 ppm	0.09 ppm
Ozone (O_3)	8 hour	0.113 ppm	0.101 ppm	0.132 ppm	0.08 ppm	-
Carbon Monoxide (CO)	8 hour	3.20 ppm	2.60 ppm	2.34 ppm	9.0 ppm	9.0 ppm
Nitrogen Dioxide (NO_2)	1 hour	0.076 ppm	0.086 ppm	0.070 ppm	-	.025 ppm
Nitrogen Dioxide (NO_2)	Annual Average	0.017 ppm	0.017 ppm	0.016 ppm	0.053 ppm	-
Particulates (PM_{10})	24 hour	117 mg/m^3	107 mg/m^3	77.7 mg/m^3	150 mg/m^3	50 mg/m^3
Particulates (PM_{10})	Federal Annual Arithmetic Mean	37.7 mg/m^3	32.0 mg/m^3	34.4 mg/m^4	50 mg/m^3	20 mg/m^3
Particulates ($PM_{2.5}$)	24 hour	71.0 mg/m^3	104.0 mg/m^3	79.5 mg/m^3	65 mg/m^3	-
Particulates ($PM_{2.5}$)	Federal Annual Arithmetic Mean	16.8 mg/m^3	18.8 mg/m^3	17.4 mg/m^3	15 mg/m^3	12 mg/m^3

AIR QUALITY IMPACTS AND SIGNIFICANCE CRITERIA

Development of the project would generate air pollutant emissions from a wide variety of stationary and mobile sources. Stationary source emissions, such as PM10, would be generated by on-site construction activities. Once the proposed project is complete and occupied, emissions would be generated by stationary sources such as water and space heaters. Mobile source emissions would be generated by motor vehicle travel associated with construction activities and occupancy of the proposed development. This section of the Air Quality Impact Assessment addresses and analyzes the regional or area-wide and the localized air quality impacts associated with the Project. A discussion of significance criteria and an assessment of construction and operation emissions are presented below, based on the methodologies recommended in the District's *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI).

Short-Term Emissions

Short-term impacts are mainly related to the construction phase of a project and are recognized to be short in duration. Construction air quality impacts are generally attributable to dust generated by equipment and vehicles. Fugitive dust is emitted both during construction activity and as a result of wind erosion over exposed earth surfaces. Clearing and earth moving activities do comprise major sources of construction dust emissions, but traffic and general disturbances of soil surfaces also generate significant dust emissions. Further, dust generation is dependent on soil type and soil moisture.

Adverse effects of construction activities cause increased dust-fall and locally elevated levels of total suspended particulate. Dust-fall can be a nuisance to neighboring properties or previously completed developments surrounding or within the Project area and may require frequent washing during the construction period. Further, asphalt-paving materials used during construction will present temporary, minor sources of hydrocarbons that are precursors of ozone.

PM_{10} emissions can result from construction activities of the project. The SJVAPCD requires implementation of effective and comprehensive control measures, rather than a detailed quantification of emissions. The SJVAPCD has determined that compliance with Regulation VIII for all sites and other control measures will constitute sufficient mitigation to reduce PM_{10} impacts to a level considered less-than significant.

Ozone precursor emissions are also an impact of construction activities and can be quantified through calculations. Numerous variables factored into estimating total construction emission include: level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and amount of materials to be transported onsite or offsite. Additional exhaust emissions would be associated with the transport of workers and materials. Because the specific mix of construction equipment in a multi-year build-out period is not presently known for this project, construction emissions from equipment was estimated using the URBEMIS 2007 model settings. Results of the analysis are shown in Table 4 below.

TABLE 4
PROJECT CONSTRUCTION EMISSIONS

SUMMARY REPORT	ROG	NO_X	PM_{10}
Total Construction Emissions	11.85 tons	9.84 tons	7.45 tons
Construction Emissions Per Year[1]	2.37 tons/year	1.97 tons/year	1.49 tons/year
SJVAPCD Level of Significance	**10 tons/year**	**10 tons/year**	**N/A**
Does Project Exceed Standard?	No	No	

[1] Construction to be phased over 5 years

The annual emissions from construction of the project will be less than the applicable SJVAPCD emission thresholds. The construction emissions are therefore considered less than significant with the implementation of Regulation VIII control measures.

Although Project emissions are predicted to be insignificant, the Selma area and the San Joaquin Valley are designated non-attainment for particulates for both state and federal standards. Fugitive particle emissions will occur during construction and control measures are required and enforced by the District under Regulation VIII. With the implementation of control measures, short-term emissions are considered less than significant. According to the GAMAQI, the fugitive dust control rules listed below apply to this project:

- **Rule 8011** Fugitive dust administrative requirements for the control of

fine particulate matter
- **Rule 8021** Fugitive dust requirements for the control of fine particulate matter from construction, demolition, excavation, extraction, and earthmoving activities
- **Rule 8071** Fugitive dust requirements for the control of fine particulate matter from vehicle and/or equipment parking, shipping, receiving, transfer, fueling, and service areas one are or larger

Further, the project should include the following local municipal code requirements:

- Water sprays or chemical suppressants must be applied to all unpaved roads to control fugitive emissions
- All access roads and parking areas must be covered with asphalt-concrete paving

Compliance with the District's Regulation VIII and the local municipal code would reduce particulate emissions impacts to levels that are considered less than significant.

Long-Term Emissions

Long-Term emissions from the project are generated by mobile source (vehicle) emissions from the project site and area sources such as water heaters and lawn maintenance equipment.

Localized Mobile Source Emissions – Ozone

The Selma area is extreme non-attainment for federal air quality standards for ozone and serious non-attainment for particulates. The District has established guidelines for evaluating land use changes and the potential impact on air quality. Nitrogen oxides and reactive organic gases are regulated as ozone precursors. Significance criteria have been established for ROG and NO_X at 10 tons per year each.

Vehicle emissions have been estimated for the year 2030 using the URBEMIS 2007 model from the California Air Resources Board. URBEMIS 2007 predicts carbon monoxide, reactive organic gases, nitrogen oxides, oxides of sulfur, and particulate matter emissions from motor vehicle traffic associated with new land use. Detailed URBEMIS results are in Appendix A of this report.

Results of the URBEMIS analysis are shown in Table 5. Results indicate that Project emissions are considered significant based on the District's levels of significance.

TABLE 5
PROJECT OPERATIONAL (VEHICLE) EMISSION ESTIMATES (TONS/YEAR)

SUMMARY REPORT	ROG	NO_X	PM_{10}
Operational (Vehicle) Emissions	46.79	48.84	62.29
SJVAPCD Level of Significance	**10**	**10**	**N/A**
Does Project Exceed Standard? (Yes/No)	Yes	Yes	

Area Source Emissions

Commercial developments typically result in area source emissions from natural gas, electricity and consumer product use. Results of the URBEMIS analysis for such commercial uses as consumer product use, natural gas consumption and landscape maintenance is shown in Table 6 below. Model output worksheets are included in Appendix A of this report.

TABLE 6
AREA SOURCE EMISSION ESTIMATES (TONS/YEAR)

SUMMARY REPORT	ROG	NO_X	PM_{10}
Area Source Emissions	1.23	1.87	0.00
SJVAPCD Level of Significance	**10**	**10**	**N/A**
Does Project Exceed Standard? (Yes/No)	No	No	

Localized Mobile Source Emissions – Carbon Monoxide

The SJVAB is currently in attainment for CO. Despite the success in achieving CO standards, an analysis of localized CO concentrations is warranted to ensure that standards are maintained. Also, an analysis is required to ensure that localized concentrations don't reach potentially unhealthful levels that could affect sensitive receptors (residents, school children, hospital patients, the elderly, etc.).

Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable Level of Service (LOS). CO "Hot Spot" modeling is required if a traffic study reveals that the project will reduce the LOS on one or more streets to E or F or if the project will worsen an existing LOS F.

To analyze the No Project and Project's "worst case" CO concentrations at deficient intersections, the analysis methodology considered the highest second annual maximum CO concentration reported in 2006, using 3.2 PPM as an estimate of the background concentration for the 8 hour standard (source: CARB annual publications).

Other modeling assumptions include a wind speed of .5 m/s, flat topography, 1,000 meter mixing height, and a 5 degree wind deviation.

Traffic forecasts for the year 2030 were used in the CALINE analysis to determine CO concentrations under worse case conditions with and without the project. Results of the CALINE analysis are shown in Table 7. Detailed CALINE analysis worksheets are included in Appendix B of this report.

TABLE 7
LOCAL ROADWAY AIR QUALITY SEGMENT ANALYSIS
Future Plus Project (1 hour and 8 hour CO concentration)

RECEPTORS		AIR QUALITY STANDARDS				MAXIMUM MODELED IMPACT 2030		MAXIMUM MODELED IMPACT 2030	
		FEDERAL		STATE		NO PROJECT		WITH PROJECT	
#	DESCRIPTION	1 hr	8 hr	1 hr	8 hr	1 hr	8 hr	1 hr	8 hr
BACKGROUND LEVELS (ppm)						4.0	3.2	4.0	3.2
1	DeWolf Avenue and Floral Avenue	35.0	9.0	20.0	9.0	11.1	6.6	8.5	4.5
EXCEEDANCE? (YES/NO)						NO	NO	NO	NO
2	SR 99 SB Off Ramp and Floral Avenue	35.0	9.0	20.0	9.0	12.8	8.7	12.1	7.3
EXCEEDANCE? (YES/NO)						NO	NO	NO	NO

Source: VRPA Technologies

Results of the CALINE "hot spots" analysis indicate the impact of this project is not likely to affect sensitive receptors. The project is not expected to result in significant localized impacts, such as CO "Hot Spots", and is not expected to impact nearby sensitive receptors. Therefore, the impact to sensitive receptors is considered less than significant.

Total Project Emissions

The emissions from the project are described in terms of operation emissions (mobile source) and area emissions. Total project emissions are shown in Table 8. The total emissions from the proposed Project exceed the District's threshold for ROG or NO_X.

TABLE 8
TOTAL PROJECT EMISSION ESTIMATES (TONS/YEAR)

SUMMARY REPORT	ROG	NO_X	PM_{10}
Operational (Vehicle) Emissions	46.79	48.84	62.29
Area Source Emissions	1.23	1.87	0.00
TOTAL PROJECT EMISSIONS	**48.02**	**50.71**	**62.29**
SJVAPCD Level of Significance	**10**	**10**	**N/A**
Does Project Exceed Standard? (Yes/No)	Yes	Yes	

Potential Impacts from Odors and Hazardous Air Pollutants

The project is composed of a commercial/retail land use. Odor generation and hazardous air pollutants are typically associated with certain types of industrial and agricultural activities. Because the project is commercial/retail in nature, it is not expected to significant odors or hazardous air pollutants.

Indirect Source Review[1]

The ISR Rule (Rule 9510) and the Administrative ISR Fee Rule (Rule 3180) are the result of state requirements outlined in the California Health and Safety Code, Section 40604 and the State Implementation Plan (SIP). The purpose of the San Joaquin Valley Air Pollution Control District's Indirect Source Review (ISR) Program is to reduce emissions of NOx and PM10 from new development projects. In general, new development contributes to the air-pollution problem in the Valley by increasing the number of vehicles and vehicle miles traveled. In 2005, on-road vehicles generated approximately 200 tons per day of NOx and direct PM10 pollution in the Valley. Although newer, cleaner technology is reducing the per-vehicle pollution, the emissions increase from new development putting more vehicles on Valley roads partially offsets the emission reductions gained from technology advances. Utilizing the Emissions Estimator and Fee Estimator worksheets available on the District website, it was determined that the proposed Project's total cost for emission reductions, without a deferral fee schedule, is $2,368,959.84. Should a deferral schedule be used, the fee would increase to $3,532,644.96. Detailed worksheets are provided in Appendix C.

Global Climate Change

Introduction

Climate refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Global

1 Indirect Source Review information provided by the San Joaquin Valley Air Pollution Control District website.

climate change means shift in the climate of the earth as a whole. It does occur naturally as in the case of the ice age. According to CARB, the climate change that is occurring today differs from previous climate changes in both time and scale.

Gases that catch heat in the atmosphere are regularly called greenhouse gases (GHG's). The Earth's surface temperature would be about 61 degrees Fahrenheit colder than it is currently if it were not for the innate heat trapping effect of GHG's. The buildup of these gases in the earth's atmosphere is considered the source of the observed increase in the earth's temperature (global warming). The primary GHG's are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. These particular gases are significant due to the residence time in the atmosphere from tens of years to more than 100 years. Some greenhouse gases such as carbon dioxide occur naturally in nature and are emitted to the atmosphere through natural processes and as well as anthropocentric activities. Other GHG's (e.g., fluorinated gases) are created and emitted solely through human activities.

Since the Industrial Revolution (approximately 1750), global concentrations of CO2 have risen about 36%, chiefly due to the burning of fossil fuels. Questions remain about the amount of warming that will occur, how fast it will occur, and how the warming will affect the rest of the climate system including weather events.

Environmental Setting

California is a significant contributor of global greenhouse gasses. According to the California Energy Commission, "in 2004, California produced 492 million gross metric tons of carbon dioxide-equivalent greenhouse gas emissions, including imported electricity." Climate studies point out that California is expected to see an increase of 5 to 9 degrees Fahrenheit over the next century.

Greenhouse gases are global in their effect, which is to increase the earth's capability to absorb heat in the atmosphere. Because the main greenhouse gases have a long lifetime in the atmosphere, they build up over time, and are generally well mixed; their impact on the atmosphere is mostly autonomous of the point of emission.

Regulatory Setting

Federal Regulations

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to assess the impacts of global warming and to develop strategies that nations could apply to curb global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change accord with the goal of controlling greenhouse gas emissions.

The Climate Change Action Plan was developed as a result to address the reduction of greenhouse gases in the United States. The plan is comprised of more than 50 voluntary programs.

Additionally, the Montreal Protocol was first signed in 1987 and considerably amended in 1990 and 1992. The Montreal Protocol instructs that the production and consumption of compounds that deplete ozone in the stratosphere--chlorofluorocarbons (CFCs), halons, carbon tetrachloride, and methyl chloroform--were to be phased out by 2000 (2005 for methyl chloroform).

Recently, in *Massachusetts v. EPA* (April 2, 2007), the U.S. Supreme Court held that GHG's fall within the Clean Air Act's definition of an "air pollutant" and directed the EPA to deem whether GHG's are affecting climate change. The EPA must regulate GHG emissions from automobiles under the Clean Air Act if it is determined GHG's do affect climate change. Currently, the EPA has not yet begun rule-making proceedings to judge whether GHG's are contributing to climate change.

In addition, Congress has enlarged the corporate average fuel economy (CAFE´) of the U.S. automotive fleet. In December 2007, President Bush signed a bill increasing the minimum average miles per gallon for cars, sport utility vehicles and light trucks to 35 miles per gallon by 2020. This rise in CAFE´ standard will result in a significant reduction in GHG emissions from automobiles, which are the largest single emitting GHG group in California.

However, there are no approved federal policies, regulations or laws setting a mandatory limit on GHG emissions or establishing what level of GEG emissions may make up a significant impact on the environment.

California Regulations

In 1976, California established the Appliance Efficiency Regulations in response to a legislative order to reduce California's energy consumption. These regulations are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and techniques.

California Code of Regulations Title 24 Part 6, established in 1978, recognized Energy Efficiency Standards for Residential and Nonresidential Buildings in response to a legislative order to reduce California's energy consumption. These standards are updated periodically to allow consideration and possible inclusion of new energy efficiency technologies and techniques. The most recent amendments were made in October 2005 and standards for 2008 are expected to be in place soon.

California Assembly Bill 170 passed in 2003. Ensuing revisions to California Government Code required cities and counties in the San Joaquin Valley to amend appropriate elements of general plans to contain data, analysis, comprehensive goals, policies, and feasible implementation strategies to improve air quality by no later than one year after the first revision of their housing elements that occurs after January 1, 2004. Air Quality Guidelines for General Plans (Air Quality Guidelines) is a guidance document and source for cities and counties to use in addressing air quality in their general plans. While reducing greenhouse gases is not specifically addressed, it includes goals, policies, and programs for adoption in general plans to decrease vehicle trips, reduce miles traveled, and improve air quality. Measures that reduce vehicle trips and miles traveled will result in a reduction in fuel combustion and will result in less greenhouse gas emissions.

In September of 2004 the ARB's Board approved regulations to decrease greenhouse gases from new passenger vehicles starting in 2009. These rules were authorized by the 2002 legislation Assembly Bill 1493. The regulations would cut greenhouse gas emissions from California passenger vehicles by about 22 percent by 2012 and about 30 percent by 2016. The regulations have been delayed by automaker lawsuits and the U.S. EPA's rejection of granting California an implementation waiver. California is suing the federal government over the failure to issue the waiver.

In 2005, the Governor issued Executive Order S-3-05, which established the following GHG emission reduction goals: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. Executive Order S-3-05 also established the Climate Action Team to meet the state's greenhouse gas reduction goals. The Secretary of CalEPA heads a Climate Action Team made up of 14 agencies, including the Business, Transportation and Housing Agency; the Department of Food and Agriculture; the Resources Agency; the Air Resources Board; the Energy Commission; and the Public Utilities Commission. The Climate Action Team is tasked with implementing global warming emission reduction programs and monitoring the progress made toward meeting the statewide greenhouse gas goals established in the executive order. Per the Executive Order, the first Climate Action Team report to the Governor and the Legislature was released in March 2006. It will be issued every two years from then on.

Assembly Bill 32 (Global Warming Solutions Act) was passed by the California Legislature on August 31, 2006. It requires the reduction of state global warming emissions to 1990 levels by 2020. The reduction will be achieved through an enforceable statewide limit on global warming emissions that will begin phasing in 2012. An emission inventory prepared by CARB staff suggests 427million metric tons of carbon dioxide equivalent (MMTCO2e) as the total statewide cumulative greenhouse gas 1990 emissions level and 2020 emissions limit.

In June 2007, CARB approved 37 greenhouse gas reduction strategies, three of which are identified as discrete early action measures. These are actions that can be adopted as regulations and made enforceable no later than January 1, 2010. These early action items include a low carbon fuel standard, reduction of refrigerant losses from motor vehicle air conditioning system maintenance, and increased methane detainment from landfills. These actions are expected to reduce greenhouse gas emissions between 13 and 26 million metric tons of carbon dioxide equivalent gasses annually by 2020. Additional measures are being created by other state agencies and seven additional reduction strategies have been added. The potential of the recommended early actions to reduce greenhouse gas emissions is at least 42 MMTCO2e by 2020, or about 25% of the estimated reductions needed by 2020.

AB 32 does not institute a threshold for determining what level of GHG emissions may contain a significant impact on the environment. However, in August 2007, the California legislature enacted Senate Bill 97 (SB 97), which directs the Governor's Office of Planning and Research (OPR) to prepare and develop CEQA guidelines pertaining to GHG emissions. These guidelines are to be certified and adopted by January 1, 2010. However, there is no adopted state standard or threshold for determining what amount of GHG emissions constitute a significant impact on the environment yet.

Global Climate Change Gases

Naturally occurring greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxide, and ozone. Pursuant to AB 32, the major greenhouse gases186 resulting from human activity that enter and build up in the atmosphere are carbon dioxide, methane, nitrous oxide and fluorinated gases.

- **Carbon Dioxide (CO2)**: Carbon dioxide enters the atmosphere from burnt fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere when plants absorb it as part of the biological carbon cycle.
- **Methane (CH4)**: Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- **Nitrous Oxide (N2O)**: Nitrous oxide is emitted during agricultural and industrial activities, and also during combustion of fossil fuels and solid waste.
- **Fluorinated Gases**: Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are anthropocentric, greenhouse gases emitted from a variety of industrial processes. Fluorinated gases are often used as alternatives for ozone-depleting substances (i.e., CFCs, HCFCs, and halons). Though typically emitted in smaller quantities, these are potent greenhouse gases, and are sometimes referred to as High Global Warming Potential187 gases ("High GWP gases").

Several gases which do not have direct global warming effects but in some way affect terrestrial and/or solar radiation absorption by influencing the formation or destruction of greenhouse gases, including tropospheric and stratospheric ozone include carbon monoxide, oxides of nitrogen and non-methane volatile organic compounds and aerosols.

CUMULATIVE IMPACTS

The analysis contained in this section of the assessment focuses on the impacts of the project together with other cumulative growth in the area. The CEQA GMAQI defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which increase other environmental impacts." CEQA also states "any proposed project that would individually have a significant air quality impact...would also be considered to have a significant cumulative air quality impact. Impacts of local pollutants (CO, HAP) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planed projects will exceed air quality standards."

This assessment addressed the following cumulative impacts:

- Cumulative Ozone Impacts – or impacts that result from cumulative emissions from various regional sources and emissions transported from outside the region. Ozone results from the chemical reaction of ROG, NOX and sunlight.

- Cumulative PM_{10} impacts – or impacts that have the potential to cause significant local problems during dry condition periods occurring during times of high winds, and during heavy earth disturbing activity periods. PM_{10} emissions may have cumulative local impacts when grading or earth moving projects in the project area are underway at similar times.

- Cumulative CO impacts – Cumulative carbon monoxide impacts are accounted for in the CO hotspot analysis described earlier in this report. The CALINE4 model uses background concentrations that include CO contributions from other sources. Traffic levels used in the model included all reasonably foreseeable project trips that will contribute traffic to the intersections and road segments being analyzed.

- Cumulative Hazardous Air Pollutant (HAP) Impacts – Cumulative analysis for HAPs focuses on local impacts on sensitive receptors. All sources are analyzed within a 1-mile radius of the project site.

Cumulative One-Mile Radius Analysis

The cumulative analysis is based, in part, on the quantitative analysis of various projects within a one-mile radius of the proposed project. This analysis considers the project's affects together with the cumulative impacts of growth in the area.

VRPA reviewed the proposed projects within the one-mile radius of the proposed Project. The projects identified were determined based on information provided by the City of Selma Staff. Cumulative impact emission totals were determined by VRPA using the URBEMIS 2007 model from the California Air Resources Board. The results of the analysis are identified in Table 9.

TABLE 9
CUMULATIVE IMPACT EMISSION TOTALS

SUMMARY REPORT	ROG	NO_X	PM_{10}
Operational (Vehicle) Emissions	13.84	17.86	107.7
Area Source Emissions	0.88	1.21	0.00
CUMULATIVE TOTAL EMISSIONS	**14.72**	**19.07**	**107.7**

The Project represents 76.5% of the area ROG emissions and 72.7% of NO_X emissions from the surrounding area. According to 2005 annual emission reporting data from the ARB, the San Joaquin Valley Air Basin has ROG and NO_X emissions of 143,635 tons and 179,690 tons, respectively, form all sources. The Project represents .03% of all ROG emissions and .03% of all NO_X emissions.

CO and HAPs Analysis

A cumulative analysis of land uses located within a mile of the Project study area of CO and HAPs within a mile of the project study area was evaluated for level of significance. APCD guidelines indicated that "impacts of local pollutants (CO, HAPs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards." A review of surrounding land uses indicates the Project will not cause a cumulative impact in excess of the CAAQS. The surrounding land uses within 1-mile consist mainly of agricultural, commercial, and residential uses. These land uses are not expected to generate HAPs. The Project is not a source of HAP emissions and therefore cannot have a significant impact from HAPs.

Construction Measures

Compliance with Regulation VIII under the San Joaquin Valley Air District for all construction sites will constitute sufficient mitigation to reduce PM_{10} impacts to a level considered less-than significant.

The following mitigation measures from the GAMAQI are required to be implemented at all construction sites:

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.
- When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
- Within urban areas, track out shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.

Additional enhanced control measures are desirable where feasible and include:

- limit traffic speeds on unpaved roads to 15 mph; and
- install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.

Additional mitigation measures should be considered for reducing emissions from construction emissions. The District's GAMAQI suggests the following measures:

- use of alternative fueled or catalyst equipped diesel construction equipment;
- minimize idling time (e.g., 10 minute maximum);
- limit the hours of operation of heavy duty equipment and/or the amount of equipment in use;
- replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set);
- curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways; and
- implement activity management (e.g. rescheduling activities to reduce short-term impacts).

APPENDIX A

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Urbemis 2007 Version 9.2.2

Combined Annual Emissions Reports (Tons/Year)

File Name:

Project Name: Rockwell Pond Commercial Development

Project Location: San Joaquin Valley APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10
2007 TOTALS (tons/year unmitigated)	0.43	3.57	1.62	0.00	4.97	0.18	5.14
2008 TOTALS (tons/year unmitigated)	11.42	6.27	9.36	0.01	2.06	0.25	2.31

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tons/year, unmitigated)	1.23	1.87	1.98	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tons/year, unmitigated)	46.79	48.84	499.47	0.34	62.29

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tons/year, unmitigated)	48.02	50.71	501.45	0.34	62.29

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10
2007	0.43	3.57	1.62	0.00	4.97	0.18	5.14
Fine Grading 11/30/2007-01/11/2008	0.42	3.53	1.61	0.00	4.97	0.17	5.14
Fine Grading Dust	0.00	0.00	0.00	0.00	4.97	0.00	4.97
Fine Grading Off Road Diesel	0.41	3.53	1.49	0.00	0.00	0.17	0.17
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00
Asphalt 12/28/2007-01/11/2008	0.01	0.03	0.02	0.00	0.00	0.00	0.00
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2008	11.42	6.27	9.36	0.01	2.06	0.25	2.31
Asphalt 12/28/2007-01/11/2008	0.03	0.14	0.07	0.00	0.00	0.01	0.01
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.02	0.09	0.05	0.00	0.00	0.01	0.01
Paving On Road Diesel	0.00	0.05	0.02	0.00	0.00	0.00	0.00
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Fine Grading 11/30/2007-01/11/2008	0.16	1.36	0.63	0.00	2.03	0.07	2.10
Fine Grading Dust	0.00	0.00	0.00	0.00	2.03	0.00	2.03
Fine Grading Off Road Diesel	0.16	1.36	0.58	0.00	0.00	0.07	0.07
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Building 01/11/2008-08/22/2008	0.59	4.76	8.50	0.01	0.03	0.17	0.20
Building Off Road Diesel	0.31	3.59	1.11	0.00	0.00	0.12	0.12
Building Vendor Trips	0.06	0.79	0.70	0.00	0.00	0.03	0.04
Building Worker Trips	0.22	0.37	6.68	0.01	0.03	0.01	0.04
Coating 08/08/2008-09/05/2008	10.63	0.01	0.16	0.00	0.00	0.00	0.00
Architectural Coating	10.63	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.16	0.00	0.00	0.00	0.00

<u>Phase Assumptions</u>

Phase: Fine Grading 11/30/2007 - 1/11/2008 - Default Fine Site Grading Description

Total Acres Disturbed: 90.3

Maximum Daily Acreage Disturbed: 22.58

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

11.3 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day

2.3 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

6.8 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day

4.5 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

2.3 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

4.5 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 12/28/2007 - 1/11/2008 - Default Paving Description

Acres to be Paved: 11.39

Off-Road Equipment:

2.3 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2.3 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 1/11/2008 - 8/22/2008 - Default Building Construction Description

Off-Road Equipment:

6.8 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

Phase: Architectural Coating 8/8/2008 - 9/5/2008 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.14	1.86	1.56	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00
Landscape	0.03	0.01	0.42	0.00	0.00
Consumer Products	0.00				
Architectural Coatings	1.06				
TOTALS (tons/year, unmitigated)	1.23	1.87	1.98	0.00	0.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10
Hotel	1.08	1.04	10.66	0.01	1.34
Motel	2.56	2.89	29.82	0.02	3.83
Regnl shop. center	43.15	44.91	458.99	0.31	57.12
TOTALS (tons/year, unmitigated)	46.79	48.84	499.47	0.34	62.29

Operational Settings:

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Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2030 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Hotel		8.17	rooms	102.00	833.34	4,275.67
Motel		21.14	rooms	90.00	1,902.60	12,192.99
Regnl shop. center		42.94	1000 sq ft	896.10	38,478.53	181,635.23
					41,214.47	198,103.89

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	49.4	2.0	97.6	0.4
Light Truck < 3750 lbs	23.4	3.7	90.8	5.5
Light Truck 3751-5750 lbs	16.7	0.9	98.6	0.5
Med Truck 5751-8500 lbs	6.7	1.1	98.9	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.2	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.0	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	0.6	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.4	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	1.2	77.1	22.9	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.0	0.0	0.0	100.0
Motor Home	1.3	10.0	80.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hotel				5.0	2.5	92.5
Motel				25.0	12.5	62.5
Regnl shop. center				2.0	1.0	97.0

District Recommended URBEMIS Construction Fleet
Construction Fleet Calculator

Applicant/Business Name: TUTELIAN
Project Name: Rockwell Pond Development
Project Location: Selma, CA

90.3	Total Acreage
22.58	Max Daily Disturbed

Construction Phase	Equipment Type	URBEMIS Value
Demolition	Rubber Tired Loader	2.26
Grading	Crawler Tractor	11.29
	Grader	2.26
	Off-Highway Truck	6.77
	Rubber Tired Loader	4.52
	Scraper	2.26
	Tractor/Loader/Backhoe	4.52
Building Construction	Other Equipment	6.77
Asphalt	Paver	2.26
	Roller	2.26

To use this spreadsheet:

1. Use this spreadsheet if you do not know specifics of the construction fleet and activity for the construction of your project and want to perform and emissions analysis. The District will use this spreadsheet to calculate construction emissions unless other information is provided.
2. Enter the total acreage to be disturbed in the construction of your project.
3. Print this sheet.
4. Enter the "URBEMIS Value" amounts into the corresponding construction phase of URBEMIS.
   A. In the Construction Emissions Module, click on the corresponding Construction Phase.
   B. Locate the "Equip Exhaust" tabs.
   C. Type the "URBEMIS Value" into the "Total #" field of the "Equip Exhaust" Tab.
   Note: Some values may not be whole numbers. Enter in the exact value, even if not a whole number
5. Do NOT change the default construction length in URBEMIS.

Central Regional Office: 1990 East Gettysburg Avenue Fresno, CA 93726-0244

TEL (559) 230-5800 FAX (559) 230-6064

Version 1.1
Revised: May 17, 2006

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Urbemis 2007 Version 9.2.2

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\VRPA Staff\Application Data\Urbemis\Version9a\Projects\Rockwell Cumulative Projects.urb9

Project Name: Rockwell Pond Commercial Development

Project Location: San Joaquin Valley APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10
2007 TOTALS (tons/year unmitigated)	0.42	3.56	1.62	0.00	4.97	0.18	5.14
2008 TOTALS (tons/year unmitigated)	7.69	5.85	6.78	0.00	2.05	0.23	2.29

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tons/year, unmitigated)	0.88	1.21	2.12	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tons/year, unmitigated)	13.84	17.86	187.27	0.80	107.65

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tons/year, unmitigated)	14.72	19.07	189.39	0.80	107.65

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.09	1.20	1.01	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00
Landscape	0.09	0.01	1.11	0.00	0.00
Consumer Products	0.00				
Architectural Coatings	0.70				
TOTALS (tons/year, unmitigated)	0.88	1.21	2.12	0.00	0.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10
Quality resturant	0.41	0.54	5.66	0.02	3.25
High turnover (sit-down) rest.	3.91	5.10	53.50	0.23	30.75
Fast food rest. w/ drive thru	2.04	2.69	28.19	0.12	16.20
Motel	0.37	0.40	4.21	0.02	2.39
Free-standing discount superstore	4.30	5.55	58.06	0.25	33.43
Strip mall	1.37	1.75	18.30	0.08	10.54
Gasoline/service station	1.05	1.37	14.38	0.06	8.28
General office building	0.39	0.46	4.97	0.02	2.81
TOTALS (tons/year, unmitigated)	13.84	17.86	187.27	0.80	107.65

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2030 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Quality resturant		127.15	1000 sq ft	10.85	1,379.58	10,377.18
High turnover (sit-down) rest.		127.15	1000 sq ft	103.69	13,184.18	98,321.05
Fast food rest. w/ drive thru		496.12	1000 sq ft	14.00	6,945.68	51,797.41

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Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Motel		5.63	rooms	172.00	968.36	7,637.94
Free-standing discount superstore		62.56	1000 sq ft	231.15	14,460.74	106,908.28
Strip mall		42.94	1000 sq ft	106.15	4,558.08	33,697.89
Gasoline/service station		162.78	pumps	22.00	3,581.16	26,475.52
General office building		11.01	1000 sq ft	100.59	1,107.50	8,973.49
					46,185.28	344,188.76

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	49.4	2.0	97.6	0.4
Light Truck < 3750 lbs	23.4	3.7	90.8	5.5
Light Truck 3751-5750 lbs	16.7	0.9	98.6	0.5
Med Truck 5751-8500 lbs	6.7	1.1	98.9	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.2	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.0	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	0.6	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.4	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	1.2	77.1	22.9	0.0
School Bus	0.0	0.0	0.0	100.0
Motor Home	1.3	10.0	80.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Quality resturant				8.0	4.0	88.0
High turnover (sit-down) rest.				5.0	2.5	92.5
Fast food rest. w/ drive thru				5.0	2.5	92.5
Motel				25.0	12.5	62.5
Free-standing discount superstore				2.0	1.0	97.0
Strip mall				2.0	1.0	97.0
Gasoline/service station				2.0	1.0	97.0
General office building				35.0	17.5	47.5

APPENDIX B

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Rockwell Pond Commercial Project 8 hour
RUN: (MULTI-RUN)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

VD= .0 CM/S   Z0= 100. CM   ALT= 94. (M)
VS= .0 CM/S

II. METEOROLOGICAL CONDITIONS

RUN	* U * (M/S)	BRG (DEG)	CLASS	AMB (PPM)	MIXH (M)	SIGTH (DEG)	TEMP (C)
1. Hour 1	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
2. Hour 2	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
3. Hour 3	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
4. Hour 4	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
5. Hour 5	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
6. Hour 6	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
7. Hour 7	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
8. Hour 8	* .5	0.	7 (G)	3.2	1000.	5.00	4.4

III. LINK GEOMETRY

LINK DESCRIPTION	* X1	Y1	X2	Y2	* TYPE	H (M)	W (M)
A. Floral Avenu	* -600	0	-300	0	* AG	.0	10.4
B. Floral Avenu	* -300	0	0	0	* AG	.0	10.4
C. Floral Avenu	* 0	0	300	0	* AG	.0	10.4
D. Floral Avenu	* 300	0	1100	0	* AG	.0	10.4
E. Floral Avenu	* 1100	0	1400	0	* AG	.0	10.4
F. Floral Avenu	* 1400	0	1700	0	* AG	.0	10.4
G. DeWolf Avenu	* 0	600	0	300	* AG	.0	10.4
H. DeWolf Avenu	* 0	300	0	0	* AG	.0	10.4
I. Dewolf Avenu	* 0	0	0	-300	* AG	.0	10.4
J. Dewolf Avenu	* 0	-300	0	-600	* AG	.0	10.4
K. SR 99 SB Off	* 1400	300	1400	0	* AG	.0	10.4

□□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Rockwell Pond Commercial Project 8 hour
RUN: (MULTI-RUN)
POLLUTANT: Carbon Monoxide

IV. EMISSIONS AND VEHICLE VOLUMES

* LINK

RUN		A	B	C	D	E	F	G	H	I	J
1	VPH	324	324	488	1939	1939	1405	186	186	56	56
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
2	VPH	324	324	488	1939	1939	1405	186	186	56	56
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
3	VPH	324	324	488	1939	1939	1405	186	186	56	56
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
4	VPH	324	324	488	1939	1939	1405	186	186	56	56
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
5	VPH	324	324	488	1939	1939	1405	186	186	56	56
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
6	VPH	324	324	488	1939	1939	1405	186	186	56	56
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
7	VPH	324	324	488	1939	1939	1405	186	186	56	56
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
8	VPH	324	324	488	1939	1939	1405	186	186	56	56
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.

□□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Rockwell Pond Commercial Project 8 hour
RUN: (MULTI-RUN)
POLLUTANT: Carbon Monoxide

IV. EMISSIONS AND VEHICLE VOLUMES (CONT.)

RUN		LINK K
1	VPH	599
	EF	24.
2	VPH	599
	EF	24.
3	VPH	599
	EF	24.
4	VPH	599
	EF	24.
5	VPH	599
	EF	24.
6	VPH	599
	EF	24.
7	VPH	599
	EF	24.
8	VPH	599
	EF	24.

□□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Rockwell Pond Commercial Project 8 hour
RUN: (MULTI-RUN)
POLLUTANT: Carbon Monoxide

V. RECEPTOR LOCATIONS AND MULTI-RUN AVERAGE CONCENTRATIONS

RECEPTOR	COORDINATES (M) X	Y	Z	AVG (PPM)
1. Recpt 1	15	-15	1.8	3.9
2. Recpt 2	15	15	1.8	3.4
3. Recpt 3	-15	15	1.8	3.4
4. Recpt 4	-15	-15	1.8	3.8
5. Recpt 5	1415	-15	1.8	4.8
6. Recpt 6	1415	15	1.8	3.4
7. Recpt 7	1385	15	1.8	3.4
8. Recpt 8	1385	-15	1.8	5.3

□□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Rockwell Pond With Project 8 hour
RUN: (MULTI-RUN)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

VD= .0 CM/S   Z0= 100. CM   ALT= 94. (M)
VS= .0 CM/S

II. METEOROLOGICAL CONDITIONS

RUN	* U (M/S)	BRG (DEG)	CLASS	AMB (PPM)	MIXH (M)	SIGTH (DEG)	TEMP (C)
1. Hour 1	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
2. Hour 2	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
3. Hour 3	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
4. Hour 4	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
5. Hour 5	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
6. Hour 6	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
7. Hour 7	* .5	0.	7 (G)	3.2	1000.	5.00	4.4
8. Hour 8	* .5	0.	7 (G)	3.2	1000.	5.00	4.4

III. LINK GEOMETRY

LINK DESCRIPTION	* X1	Y1	X2	Y2	* TYPE	H (M)	W (M)
A. Floral Avenu	* -600	0	-300	0	* AG	.0	10.4
B. Floral Avenu	* -300	0	0	0	* AG	.0	10.4
C. Floral Avenu	* 0	0	300	0	* AG	.0	10.4
D. Floral Avenu	* 300	0	1100	0	* AG	.0	10.4
E. Floral Avenu	* 1100	0	1400	0	* AG	.0	10.4
F. Floral Avenu	* 1400	0	1700	0	* AG	.0	10.4
G. DeWolf Avenu	* 0	600	0	300	* AG	.0	10.4
H. DeWolf Avenu	* 0	300	0	0	* AG	.0	10.4
I. Dewolf Avenu	* 0	0	0	-300	* AG	.0	10.4
J. Dewolf Avenu	* 0	-300	0	-600	* AG	.0	10.4
K. SR 99 SB Off	* 1400	300	1400	0	* AG	.0	10.4

□□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Rockwell Pond With Project 8 hour
RUN: (MULTI-RUN)
POLLUTANT: Carbon Monoxide

IV. EMISSIONS AND VEHICLE VOLUMES

* LINK

RUN		A	B	C	D	E	F	G	H	I	J
1	VPH	474	474	850	4076	4076	4190	428	428	86	86
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
2	VPH	474	474	850	4076	4076	4190	428	428	86	86
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
3	VPH	474	474	850	4076	4076	4190	428	428	86	86
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
4	VPH	474	474	850	4076	4076	4190	428	428	86	86
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
5	VPH	474	474	850	4076	4076	4190	428	428	86	86
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
6	VPH	474	474	850	4076	4076	4190	428	428	86	86
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
7	VPH	474	474	850	4076	4076	4190	428	428	86	86
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
8	VPH	474	474	850	4076	4076	4190	428	428	86	86
	EF	24.	24.	24.	24.	24.	24.	24.	24.	24.	24.

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Rockwell Pond With Project 8 hour
RUN: (MULTI-RUN)
POLLUTANT: Carbon Monoxide

IV. EMISSIONS AND VEHICLE VOLUMES (CONT.)

RUN		LINK K
1	VPH	860
	EF	24.
2	VPH	860
	EF	24.
3	VPH	860
	EF	24.
4	VPH	860
	EF	24.
5	VPH	860
	EF	24.
6	VPH	860
	EF	24.
7	VPH	860
	EF	24.
8	VPH	860
	EF	24.

□□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Rockwell Pond With Project 8 hour
RUN: (MULTI-RUN)
POLLUTANT: Carbon Monoxide

V. RECEPTOR LOCATIONS AND MULTI-RUN AVERAGE CONCENTRATIONS

RECEPTOR	COORDINATES (M) X	Y	Z	AVG (PPM)
1. Recpt 1	15	-15	1.8	4.5
2. Recpt 2	15	15	1.8	3.6
3. Recpt 3	-15	15	1.8	3.6
4. Recpt 4	-15	-15	1.8	4.1
5. Recpt 5	1415	-15	1.8	7.3
6. Recpt 6	1415	15	1.8	3.5
7. Recpt 7	1385	15	1.8	3.5
8. Recpt 8	1385	-15	1.8	7.2

□□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Rockwell Pond With Project 1 hour
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 94. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= 4.0 PPM
SIGTH= 5. DEGREES TEMP= 4.4 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Floral Avenu	*	-600	0	-300	0	*	AG	474	24.1	.0	10.4
B. Floral Avenu	*	-300	0	0	0	*	AG	474	24.1	.0	10.4
C. Floral Avenu	*	0	0	300	0	*	AG	850	24.1	.0	10.4
D. Floral Avenu	*	300	0	1100	0	*	AG	4076	24.1	.0	10.4
E. Floral Avenu	*	1100	0	1400	0	*	AG	4076	24.1	.0	10.4
F. Floral Avenu	*	1400	0	1700	0	*	AG	4190	24.1	.0	10.4
G. DeWolf Avenu	*	0	600	0	300	*	AG	428	24.1	.0	10.4
H. DeWolf Avenu	*	0	300	0	0	*	AG	428	24.1	.0	10.4
I. Dewolf Avenu	*	0	0	0	-300	*	AG	86	24.1	.0	10.4
J. Dewolf Avenu	*	0	-300	0	-600	*	AG	86	24.1	.0	10.4
K. SR 99 SB Off	*	1400	300	1400	0	*	AG	860	24.1	.0	10.4

III. RECEPTOR LOCATIONS

RECEPTOR	*	X	Y	Z
1. Recpt 1	*	15	-15	1.8
2. Recpt 2	*	15	15	1.8
3. Recpt 3	*	-15	15	1.8
4. Recpt 4	*	-15	-15	1.8
5. Recpt 5	*	1415	-15	1.8
6. Recpt 6	*	1415	15	1.8
7. Recpt 7	*	1385	15	1.8
8. Recpt 8	*	1385	-15	1.8

□□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Rockwell Pond With Project 1 hour
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. Recpt 1	355.	6.1	.0	.0	.9	.0	.0	.0	.2	1.0
2. Recpt 2	93.	8.3	.0	.0	1.1	2.7	.2	.2	.0	.0
3. Recpt 3	93.	8.5	.0	.0	1.3	2.4	.2	.2	.0	.4
4. Recpt 4	87.	8.3	.0	.0	1.3	2.4	.2	.2	.0	.0
5. Recpt 5	275.	11.3	.0	.0	.0	1.5	5.7	.0	.0	.0
6. Recpt 6	265.	12.1	.0	.0	.0	1.5	5.7	.0	.0	.0
7. Recpt 7	97.	11.2	.0	.0	.0	.0	.0	6.3	.0	.0
8. Recpt 8	275.	11.3	.0	.0	.0	1.7	5.4	.0	.0	.0

RECEPTOR	CONC/LINK (PPM) I	J	K
1. Recpt 1	.0	.0	.0
2. Recpt 2	.0	.0	.0
3. Recpt 3	.0	.0	.0
4. Recpt 4	.0	.0	.1
5. Recpt 5	.0	.0	.0
6. Recpt 6	.0	.0	.9
7. Recpt 7	.0	.0	.9
8. Recpt 8	.0	.0	.0

□□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Rockwell Pond Commercial Project 1 hour
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 94. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= 4.0 PPM
SIGTH= 5. DEGREES TEMP= 4.4 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Floral Avenu *	-600	0	-300	0 *	AG	324	24.1	.0	10.4
B. Floral Avenu *	-300	0	0	0 *	AG	324	24.1	.0	10.4
C. Floral Avenu *	0	0	300	0 *	AG	488	24.1	.0	10.4
D. Floral Avenu *	300	0	1100	0 *	AG	1939	24.1	.0	10.4
E. Floral Avenu *	1100	0	1400	0 *	AG	1939	24.1	.0	10.4
F. Floral Avenu *	1400	0	1700	0 *	AG	1405	24.1	.0	10.4
G. DeWolf Avenu *	0	600	0	300 *	AG	186	24.1	.0	10.4
H. DeWolf Avenu *	0	300	0	0 *	AG	186	24.1	.0	10.4
I. Dewolf Avenu *	0	0	0	-300 *	AG	56	24.1	.0	10.4
J. Dewolf Avenu *	0	-300	0	-600 *	AG	56	24.1	.0	10.4
K. SR 99 SB Off *	1400	300	1400	0 *	AG	599	24.1	.0	10.4

III. RECEPTOR LOCATIONS

RECEPTOR	* COORDINATES (M) X	Y	Z
1. Recpt 1 *	15	-15	1.8
2. Recpt 2 *	15	15	1.8
3. Recpt 3 *	-15	15	1.8
4. Recpt 4 *	-15	-15	1.8
5. Recpt 5 *	1415	-15	1.8
6. Recpt 6 *	1415	15	1.8
7. Recpt 7 *	1385	15	1.8
8. Recpt 8 *	1385	-15	1.8

□□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Rockwell Pond Commercial Project 1 hour
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	A	B	C	D	E	F	G	H
			CONC/LINK (PPM)							
1. Recpt 1	87.	6.6	.0	.0	.7	1.6	.1	.0	.0	.0
2. Recpt 2	93.	6.6	.0	.0	.7	1.6	.1	.0	.0	.0
3. Recpt 3	93.	6.6	.0	.0	.8	1.4	.1	.0	.0	.2
4. Recpt 4	87.	6.6	.0	.0	.8	1.4	.1	.0	.0	.0
5. Recpt 5	275.	8.1	.0	.0	.0	.8	3.1	.0	.0	.0
6. Recpt 6	265.	8.7	.0	.0	.0	.8	3.1	.0	.0	.0
7. Recpt 7	97.	7.3	.0	.0	.0	.0	.0	2.7	.0	.0
8. Recpt 8	275.	8.1	.0	.0	.0	1.0	3.0	.0	.0	.0

RECEPTOR	I	J	K
	CONC/LINK (PPM)		
1. Recpt 1	.0	.0	.0
2. Recpt 2	.0	.0	.0
3. Recpt 3	.0	.0	.0
4. Recpt 4	.0	.0	.0
5. Recpt 5	.0	.0	.0
6. Recpt 6	.0	.0	.6
7. Recpt 7	.0	.0	.6
8. Recpt 8	.0	.0	.0

□□

APPENDIX C

Off-site Emissions Estimator Worksheet

2/22/2008

Applicant/Business Name:	Tutelian
Project Name:	Rockwell Pond Commercial Development
Project Location:	City of Selma
District Project ID No.:	

Project Construction Emissions

		NOx				PM10			
Phase	Construction Start Date	Unmitigated Baseline (TPY)	Mitigated Baseline (TPY)	Achieved Onsite Reductions (tons)	Required Offsite Reductions (tons)	Unmitigated Baseline (TPY)	Mitigated Baseline (TPY)	Achieved Onsite Reductions (tons)	Required Offsite Reductions (tons)
1	1/1/2009	3.3800	3.3800	0.0000	0.6760	0.1300	0.1300	0.0000	0.0585
2		3.3800	3.3800	0.0000	0.6760	0.1300	0.1300	0.0000	0.0585
3		3.3800	3.3800	0.0000	0.6760	0.1300	0.1300	0.0000	0.0585
4		3.3800	3.3800	0.0000	0.6760	0.1300	0.1300	0.0000	0.0585
5		3.3800	3.3800	0.0000	0.6760	0.1300	0.1300	0.0000	0.0585
6				0.0000	0.0000			0.0000	0.0000
7				0.0000	0.0000			0.0000	0.0000
8				0.0000	0.0000			0.0000	0.0000
9				0.0000	0.0000			0.0000	0.0000
10				0.0000	0.0000			0.0000	0.0000
	Total	16.9000	16.9000	0.0000	3.3800	0.6500	0.6500	0.0000	0.2925

Total Achieved On-Site Reductions (tons)

Phase	NOx	PM10
1	0.0000	[illegible]
2	0.0000	[illegible]
3	0.0000	[illegible]
4	0.0000	[illegible]
5	0.0000	[illegible]
6	0.0000	[illegible]
7	0.0000	[illegible]
8	0.0000	[illegible]
9	0.0000	[illegible]
10	0.0000	[illegible]
Total	0.0000	0.0000

Project Operations Emissions (Area + Mobile)

		NOx				PM10			
Phase	Operation Start Date	Unmitigated Baseline (TPY)	Mitigated Baseline (TPY)	Achieved Onsite Reductions (tons)	Required Offsite Reductions (tons)	Unmitigated Baseline (TPY)	Mitigated Baseline (TPY)	Achieved Onsite Reductions (tons)	Required Offsite Reductions (tons)
1	7/1/2010	29.9700	29.9700	0.0000	74.9250	28.4400	28.4400	0.0000	142.2000
2				0.0000	0.0000			0.0000	0.0000
3				0.0000	0.0000			0.0000	0.0000
4				0.0000	0.0000			0.0000	0.0000
5	7/1/2015	20.9000	20.9000	0.0000	52.2500	19.8000	19.8000	0.0000	99.0000
6				0.0000	0.0000			0.0000	0.0000
7				0.0000	0.0000			0.0000	0.0000
8				0.0000	0.0000			0.0000	0.0000
9				0.0000	0.0000			0.0000	0.0000
10				0.0000	0.0000			0.0000	0.0000
	Total	50.8700	50.8700	0.0000	127.1750	48.2400	48.2400	0.0000	241.2000

Total Required Off-Site Reductions (tons)

Phase	NOx	PM10
1	75.6010	[illegible]
2	0.6760	[illegible]
3	0.6760	[illegible]
4	0.6760	[illegible]
5	52.9260	[illegible]
6	0.0000	[illegible]
7	0.0000	[illegible]
8	0.0000	[illegible]
9	0.0000	[illegible]
10	0.0000	[illegible]
Total	130.5550	241.4925

Note: TPY = Tons Per Year

Fee Estimator Worksheet

2/22/2008

Applicant/Business Name:	Tutelian
Project Name:	Rockwell Pond Commercial Development
Project Location:	City of Selma
District Project ID No.:	

Scheduled Payment Date per Phase	Start Date per Phase	Phase	Pollutant	Required Reductions (tons)	Project Reductions (tons)	NO FDS 2007	FDS 2007	FDS 2008	FDS 2009	FDS 2010	FDS 2011	FDS 2012	FDS 2013	FDS 2014
	1/1/2009	1	NOx	76.6010		76.6010			0.6760	74.9260				
			PM10	[illegible]		[illegible]			0.0585	142.2000				
		2	NOx	0.6760		0.6760				0.6760				
			PM10	[illegible]		[illegible]				0.0585				
		3	NOx	0.6760		0.6760					0.6760			
			PM10	[illegible]		[illegible]					0.0585			
		4	NOx	0.6760		0.6760						0.6760		
			PM10	[illegible]		[illegible]						0.0585		
	7/1/2015	5	NOx	52.9260		52.9260							62.9260	
			PM10	[illegible]		[illegible]							99.0585	
		6	NOx	0.0000		0.0000								
			PM10	[illegible]		[illegible]								
		7	NOx	0.0000		0.0000								
			PM10	[illegible]		[illegible]								
		8	NOx	0.0000		0.0000								
			PM10	[illegible]		[illegible]								
		9	NOx	0.0000		0.0000								
			PM10	[illegible]		[illegible]								
		10	NOx	0.0000		0.0000								
			PM10	[illegible]		[illegible]								
TOTAL (tons)			NOx	130.5550	130.5550	130.5550	0.0000	0.0000	0.6760	75.6010	0.6760	0.6760	62.9260	0.0000
			PM10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Rule 9510 Fee Schedule ($/ton)		
Year	NOx	PM10
2007	$7,100	$5,594
2008 and beyond	$9,350	$9,011

		NO FDS 2007	FDS 2007	FDS 2008	FDS 2009	FDS 2010	FDS 2011	FDS 2012	FDS 2013	FDS 2014
Offsite Fee by Pollutant by Year ($)	NOx	$926,938	$0	$0	$6,320	$706,868	$6,320	$6,320	$494,858	$0
	PM10	$1,350,908	$0	$0	$527	$1,281,891	$527	$527	$892,616	$0
Administrative Fee by Year ($)		$91,113.84	$0.00	$0.00	$273.88	$78,550.36	$273.88	$273.88	$55,498.96	$0.00
Offsite Mitigation Fee by Year ($)		##########	$0.00	$0.00	$7,120.88	##########	$7,120.88	$7,120.88	##########	$0.00
Total Project Offsite Fee ($)		##########	$3,532,644.96							

Summary		Without Fee Deferral Schedule (A)	With Fee Deferral Schedule (B)	Amount Saved Through One-Time Payment (B-A)
Total Offsite Mitigation Fee by Pollutant ($)	NOx	$926,938	$1,220,686	$293,748
	PM10	$1,350,908	$2,176,088	$825,180
Total Administrative Fee ($)		$91,113.84	$135,870.96	$44,757.12
Total ($)		$2,368,959.84	$3,532,644.96	$1,163,685.12

Total Amount Saved Through On-Site Mitigation Measures (Based on 2007 fee rate)	
NOx	$0
PM10	$0
Total Savings ($)	$0

A) If you have chosen a **ONE-TIME** payment for the project, then the total amount due for ALL PHASES combined is: $2,368,959.84

B) If you have chosen a **DEFERRED** payment schedule for the project, then according to the above Fee Deferral Schedule, the total amount due for ALL PHASES combined is: $3,532,644.96

Note: If the District did not receive a request for a Fee Deferral Schedule, an invoice is issued according to the **one-time** payment option.