APPENDIX 3.2

Air Quality Technical Report

for

Plaza Linda Verde
San Diego State University

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Glossary of Terms and Acronyms

APCD	Air Pollution Control District
AQIA	Air Quality Impact Assessment
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
BACM	Best Available Control Measure
BACT	Best Available Control Technology
BMPs	Best Management Practices
CAA	Clean Air Act (Federal)
CAAQS	California Ambient Air Quality Standard
CALINE4	California Line Source Dispersion Model (Version 4)
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CO	Carbon Monoxide
EPA	United States Environmental Protection Agency
H_2S	Hydrogen Sulfide
HARP	HotSpots Analysis and Reporting Program
HI	Hazard Index
ISCST	Industrial Source Complex Short Term Model
mg/m^3	Milligrams per Cubic Meter
$\mu g/m^3$	Micrograms per Cubic Meter
NAAQS	National Ambient Air Quality Standard
NOx	Oxides of Nitrogen
NO_2	Nitrogen Dioxide
O_3	Ozone
$PM_{2.5}$	Fine Particulate Matter (particulate matter with an aerodynamic diameter of 2.5 microns or less
PM_{10}	Respirable Particulate Matter (particulate matter with an aerodynamic diameter of 10 microns or less
ppm	Parts per million
PSD	Prevention of Significant Deterioration
RAQS	San Diego County Regional Air Quality Strategy
ROCs	Reactive Organic Compounds
ROG	Reactive Organic Gases
SANDAG	San Diego Association of Governments
SCAQMD	South Coast Air Quality Management District
SCAB	South Coast Air Basin
SDAB	San Diego Air Basin
SDAPCD	San Diego County Air Pollution Control District
SIP	State Implementation Plan
SOx	Oxides of Sulfur
SO_2	Sulfur Dioxide
TACs	Toxic Air Contaminants

T-BACT	Toxics Best Available Control Technology
VOCs	Volatile Organic Compounds

1.0 Introduction

This report presents an assessment of potential air quality impacts associated with the Plaza Linda Verde Project at San Diego State University. The evaluation addresses the potential for air quality impacts during construction and after full buildout of the project.

The SDSU Plaza Linda Verde Project (the Project) involves development of a mixed-use development that would provide additional student housing and retail uses south of the SDSU Transit Center and Aztec Walk in the San Diego College Area community. The Project would be developed in multiple phases, and at project buildout would include approximately 400 apartments to house approximately 1,600 students, with approximately 90,000 square feet of retail space. Two options are under consideration for development of the retail space: University/Community-Serving Retail, which would provide retail services focused primarily towards the university community but also would serve the surrounding residential community; and University-Service Retail, which would provide retail services focused exclusively on SDSU students, faculty, and staff. The Project will also include a five-story above grade parking structure to accommodate approximately 560 vehicles, a Campus Green that will feature both active and passive recreation areas for public use, and pedestrian malls in place of existing streets/alleys. The Project would require demolition of existing structures to allow for project construction and a revision to the SDSU Campus Master Plan boundary.

The Project will be designed as a pedestrian/bicycle friendly, open-air, sustainable urban village that will utilize "green" building practices, drought-tolerant landscaping, and other environmentally sustainable measures. CSU/SDSU will seek Leadership in Energy and Environmental Design (LEED) certification for the Project. To facilitate development of the Project, the existing southern boundary of the SDSU Campus Master Plan between 55th Street and one block east of College Avenue would be extended south to Montezuma Road to incorporate the proposed Project parcels within the Campus Master Plan boundaries. The Project includes five land use types: (1) Mixed-Use Retail/Student Housing; (2) Student Apartments; (3) Parking Structure; (4) Campus Green; and (5) Pedestrian Malls. Each of the developments is described in detail below.

Mixed-Use Retail/Student Housing. This Project component, which would be developed in two phases, consists of the construction of ground-floor retail and upper-floor residential buildings on sites located south of Hardy Avenue, north of Montezuma Road, and west and east of College Avenue immediately south of the main SDSU campus. Phase I would consist of the construction of two buildings west of College Avenue. Building 1 would include approximately 25,000 gross square feet (GSF) of ground-floor retail space and four floors of apartments consisting of approximately 90 student apartments for a total of 120,000 GSF. Building 2 would include approximately 20,000 GSF of retail space and four floors of apartments consisting of 60 student apartments for a total of 85,000 GSF.

Phase II would consist of the construction of two buildings east of College Avenue, directly across from Buildings 1 and 2. The development plan for Buildings 4 and 5 would be similar to that for Buildings 1 and 2. Building 4 would include approximately 20,000 GSF of retail space and 60 student apartments for a total of 120,000 GSF. Building 5 would include approximately 23,000 GSF of retail space and 90 student apartments for a total of 150,000 GSF.

Student Apartments. This Project component, which would be developed in Phase II, would consist of two buildings to be located north of Montezuma Road, west of Campanile Road, and south of Lindo Paseo, and one building to be located north of Montezuma Road west of Montezuma Place. The Student Apartments component would provide two 4-story buildings approximately 60,000 GSF in size with 50 student apartments each.

Parking Facilities. A parking structure which would be developed in Phase I, would be located north of Lindo Paseo and west of the Mixed-Use Retail/Student Housing Building 1 at the northwest corner of Lindo Paseo and Montezuma Place. The parking structure would be five stories above grade and would provide five levels of above ground parking and one level of below ground parking. The eastern portion of the parking structure would feature 2,000 GSF of ground-floor retail space.

In Phase II, an underground parking facility would be constructed below, and in conjunction with, Buildings 4 and 5 in the Mixed-Use Retail/Student Housing development.

Campus Green. This Project component, which would be developed in Phase I, would be located north of the proposed Mixed-Use Retail/Student Housing Building 1 and would be bisected by a public promenade. This "campus green" area would feature both active and passive recreation areas for public use.

Pedestrian Malls. This project component would be ancillary to the Mixed Use Retail/Student Housing and would not be essential to the development of the overall project site. The pedestrian malls would be developed primarily along portions of the existing Montezuma Place and the alley east of proposed Buildings 4 and 5 between Montezuma Road and College Avenue. The areas would be designed as pedestrian/bicycle-friendly, open-air spaces that would provide access to both existing uses, such as the transit center, and to the future buildings. The development of the pedestrian malls is contingent upon vacation of existing streets and alleys, and if not approved, the project would proceed without this element.

As discussed above, construction of the proposed Project would occur in multiple phases. Phase I demolition of existing structures is anticipated to begin in early 2011, with construction commencing in the summer of 2011. Occupancy of the buildings will occur some time in 2013. Phase II demolition and construction is anticipated to begin in 2013, with occupancy projected for 2015.

This Air Quality Technical Report includes an evaluation of existing conditions in the project vicinity, an assessment of potential impacts associated with project construction, and an evaluation of project operational impacts.

Methodology. The methodology for preparing the impact analysis involved identifying existing conditions, including background ambient air quality levels. To gauge the potential significance of air quality impacts associated with the proposed project, emissions associated with both construction and operation of the proposed project were estimated and compared with applicable air quality significance thresholds. Emissions attributable to both construction activities and project operation were calculated using the URBEMIS2007 model. To evaluate the potential for impacts associated with project-generated traffic, emissions associated with vehicles were estimated, and air dispersion modeling was conducted to estimate ground-level concentrations attributable to traffic. The concentrations, together with existing background air quality levels, were measured against applicable air quality standards.

2.0 Existing Conditions

The SDSU Campus is located in central San Diego, south of Interstate 8 at College Avenue. The campus is located in the San Diego Air Basin (SDAB). The following section provides information about the existing air quality regulatory framework, climate, air pollutants and sources, and sensitive receptors in the project area.

2.1 Regulatory Framework

2.1.1 Federal Regulations

Air quality is defined by ambient air concentrations of specific pollutants identified by the United States Environmental Protection Agency (EPA) to be of concern with respect to health and welfare of the general public. The EPA is responsible for enforcing the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 Amendments. The CAA required the EPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the EPA established both primary and secondary standards for seven pollutants (called "criteria" pollutants). The seven pollutants regulated under the NAAQS are as follows: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), respirable particulate matter (or particulate matter with an aerodynamic diameter of 10 microns or less, PM_{10}), fine particulate matter (or particulate matter with an aerodynamic diameter of 2.5 microns or less, $PM_{2.5}$), sulfur dioxide (SO_2), and lead (Pb). Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere. Areas that do not meet the NAAQS for a particular pollutant are considered to be "nonattainment areas" for that pollutant. On April 15, 2004, the San Diego Air Basin (SDAB) was designated a basic nonattainment area for the 8-hour NAAQS for O_3. The SDAB is in attainment for the NAAQS for all other criteria pollutants.

The following specific descriptions of health effects for each of the criteria air pollutants associated with project construction and operations are based on EPA (EPA 2007a) and the California Air Resources Board (ARB) (ARB 2005).

Ozone. O_3 is considered a photochemical oxidant, which is a chemical that is formed when volatile organic compounds (VOCs) and oxides of nitrogen (NOx), both by-products of combustion, react in the presence of ultraviolet light. O_3 is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to O_3.

Carbon Monoxide. CO is a product of combustion, and the main source of CO in the SDAB is from motor vehicle exhaust. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease, and can also affect mental alertness and vision.

Nitrogen Dioxide. NO_2 is also a by-product of fuel combustion, and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitrogen oxide (NO) with oxygen. NO_2 is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO_2 can also increase the risk of respiratory illness.

Respirable Particulate Matter and Fine Particulate Matter. Respirable particulate matter, or PM_{10}, refers to particulate matter with an aerodynamic diameter of 10 microns or less. Fine particulate matter, or $PM_{2.5}$, refers to particulate matter with an aerodynamic diameter of

2.5 microns or less. Particulate matter in this size range has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM_{10} and $PM_{2.5}$ arise from a variety of sources, including road dust, diesel exhaust, combustion, tire and brake wear, construction operations and windblown dust. PM_{10} and $PM_{2.5}$ can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. $PM_{2.5}$ is considered to have the potential to lodge deeper in the lungs.

Sulfur dioxide. SO_2 is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes. Generally, the highest concentrations of SO_2 are found near large industrial sources. SO_2 is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease.

Lead. Pb in the atmosphere occurs as particulate matter. Pb has historically been emitted from vehicles combusting leaded gasoline, as well as from industrial sources. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Pb has the potential to cause gastrointestinal, central nervous system, kidney and blood diseases upon prolonged exposure. Pb is also classified as a probable human carcinogen.

Volatile Organic Compounds. While the EPA has not set ambient air quality standards for volatile organic compounds (VOCs), VOCs are considered ozone precursors as they react in the atmosphere to form O_3. Accordingly, VOCs are regulated through limitations on VOC emissions from solvents, paints, processes, and other sources.

Hazardous Air Pollutants. Also referred to as toxic air contaminants (TACs), HAPs are pollutants that are known or suspected to result in adverse health effects upon exposure through inhalation or other exposure routes. HAPs from stationary sources are regulated through the federal National Emission Standards for Hazardous Air Pollutants (NESHAPS) program. HAPs from mobile sources such as vehicles and off-road equipment are regulated through emission standards implemented by the EPA and/or state regulatory agencies.

2.1.2 State and Local Regulations

California Clean Air Act. The California Clean Air Act was signed into law on September 30, 1988, and became effective on January 1, 1989. The Act requires that local air districts implement regulations to reduce emissions from mobile sources through the adoption and enforcement of transportation control measures. The California Clean Air Act required the SDAB to achieve a five percent annual reduction in ozone precursor emissions from 1987 until the standards are attained. If this reduction cannot be achieved, all feasible control measures must be implemented. Furthermore, the California Clean Air Act required local air districts to implement a Best Available Control Technology rule and to require emission offsets for nonattainment pollutants.

The ARB is the state regulatory agency with authority to enforce regulations to both achieve and maintain air quality in the state. The ARB is responsible for the development, adoption, and enforcement of the state's motor vehicle emissions program, as well as the adoption of the California Ambient Air Quality Standards (CAAQS). The ARB also reviews operations and programs of the local air districts, and requires each air district with jurisdiction over a nonattainment area to develop its own strategy for achieving the NAAQS and CAAQS. The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. The ARB has established the more stringent CAAQS for the six criteria pollutants through the California Clean Air Act of 1988, and also has established CAAQS for additional pollutants, including sulfates, hydrogen sulfide, vinyl chloride and visibility-reducing particles. The SDAB is currently classified as a nonattainment area under the CAAQS for O_3, PM_{10}, and $PM_{2.5}$. It should be noted that the ARB does not differentiate between attainment of the 1-hour and 8-hour CAAQS for O_3; therefore, if an air basin records exceedances of either standard the area is considered a nonattainment area for the CAAQS for O_3. The SDAB has recorded exceedances of both the

1-hour and 8-hour CAAQS for O_3. The following specific descriptions of health effects for the additional California criteria air pollutants are based on the ARB (ARB 2001).

Sulfates. Sulfates are the fully oxidized ionic form of sulfur. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide (SO_2) during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features. The ARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and due to fact that they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen Sulfide. H_2S is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation. Breathing H_2S at levels above the standard would result in exposure to a very disagreeable odor. In 1984, an ARB committee concluded that the ambient standard for H_2S is adequate to protect public health and to significantly reduce odor annoyance.

Vinyl Chloride. Vinyl chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants and hazardous waste sites, due to microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness and headaches. Long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage. Cancer is a major concern from exposure to vinyl chloride via inhalation. Vinyl chloride exposure has been shown to increase the risk of angiosarcoma, a rare form of liver cancer, in humans.

Visibility Reducing Particles. Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt. The CAAQS is intended to limit the frequency and severity of visibility impairment due to regional haze. A separate standard for visibility-reducing particles that is applicable only in the Lake Tahoe Air Basin is based on reduction in scenic quality.

Table 1 presents a summary of the ambient air quality standards adopted by the federal and California Clean Air Acts.

Table 1
Ambient Air Quality Standards

POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS		NATIONAL STANDARDS		
		Concentration	Measurement Method	Primary	Secondary	Measurement Method
Ozone (O_3)	1 hour	0.09 ppm (180 μg/m^3)	Ultraviolet Photometry	0.12 ppm (235 μg/m^3)	0.12 ppm (235 μg/m^3)	Ethylene Chemiluminescence
	8 hour	0.070 ppm (137 μg/m^3)		0.075 ppm (147 μg/m^3)	0.075 ppm (147 μg/m^3)	
Carbon Monoxide (CO)	8 hours	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Spectroscopy (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Spectroscopy (NDIR)
	1 hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
Nitrogen Dioxide (NO_2)	Annual Average	0.030 ppm (56 μg/m^3)	Gas Phase Chemiluminescence	0.053 ppm (100 μg/m^3)	0.053 ppm (100 μg/m^3)	Gas Phase Chemiluminescence
	1 hour	0.18 ppm (338 μg/m^3)		--	--	
Sulfur Dioxide (SO_2)	Annual Average	--	Ultraviolet Fluorescence	0.03 ppm (80 μg/m^3)	--	Pararosaniline
	24 hours	0.04 ppm (105 μg/m^3)		0.14 ppm (365 μg/m^3)	--	
	3 hours	--		--	0.5 ppm (1300 μg/m^3)	
	1 hour	0.25 ppm (655 μg/m^3)		--	--	
Respirable Particulate Matter (PM_{10})	24 hours	50 μg/m^3	Gravimetric or Beta Attenuation	150 μg/m^3	150 μg/m^3	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 μg/m^3		--	--	
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 μg/m^3	Gravimetric or Beta Attenuation	15 μg/m^3	15 μg/m^3	Inertial Separation and Gravimetric Analysis
	24 hours	--		35 μg/m^3	35 μg/m^3	
Sulfates	24 hours	25 μg/m^3	Ion Chromatography	--	--	--
Lead (Pb)	30-day Average	1.5 μg/m^3	Atomic Absorption	--	--	Atomic Absorption
	Calendar Quarter	--		1.5 μg/m^3	1.5 μg/m^3	
	3-month Rolling Average	--		0.15 μg/m^3	0.15 μg/m^3	
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm (42 μg/m^3)	Ultraviolet Fluorescence	--	--	--
Vinyl Chloride	24 hours	0.010 ppm (26 μg/m^3)	Gas Chromatography	--	--	--

ppm= parts per million
μg/m^3 = micrograms per cubic meter
mg/m^3= milligrams per cubic meter
Source: California Air Resources Board 2009

Toxic Air Contaminants. In 1983, the California Legislature enacted a program to identify the health effects of Toxic Air Contaminants (TACs) and to reduce exposure to these contaminants to protect the public health (AB 1807: Health and Safety Code sections 39650-39674). The Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

The State of California has identified diesel particulate matter as a TAC. Diesel particulate matter is emitted from on- and off-road vehicles that utilize diesel as fuel. Following identification of diesel particulate matter as a TAC in 1998, the ARB has worked on developing strategies and regulations aimed at reducing the emissions and associated risk from diesel particulate matter. The overall strategy for achieving these reductions is found in the *Risk Reduction Plan to Reduce Particulate Matter from Diesel-Fueled Engines and Vehicles* (State of California 2000). A stated goal of the plan is to reduce the cancer risk statewide arising from exposure to diesel particulate matter by 75 percent by 2010 and by 85 percent by 2020. The *Risk Reduction Plan* contains the following three components:

- New regulatory standards for all new on-road, off-road and stationary diesel-fueled engines and vehicles to reduce diesel particulate matter emissions by about 90 percent overall from current levels;
- New retrofit requirements for existing on-road, off-road and stationary diesel-fueled engines and vehicles where determined to be technically feasible and cost-effective; and
- New Phase 2 diesel fuel regulations to reduce the sulfur content levels of diesel fuel to no more than 15 ppm to provide the quality of diesel fuel needed by the advanced diesel particulate matter emission controls.

A number of programs and strategies to reduce diesel particulate matter are in place or are in the process of being developed as part of the ARB's Diesel Risk Reduction Program. Some of these programs and strategies include those that would apply to construction and operation of the Plaza Linda Verde Project, including the following:

- In 2001, the ARB adopted new particulate matter and NOx emission standards to clean up large diesel engines that power big-rig trucks, trash trucks, delivery vans and other large vehicles. The new standard for particulate matter takes effect in 2007 and reduces emissions to 0.01 gram of particulate matter per brake horsepower-hour (g/bhp-hr.) This is a 90 percent reduction from the existing particulate matter standard. New engines will meet the 0.01 g/bhp-hr particulate matter standard with the aid of diesel particulate filters that trap the particulate matter before exhaust leaves the vehicle.
- ARB has worked closely with the United States Environmental Protection Agency (U.S. EPA) on developing new particulate matter and NOx standards for engines used in offroad equipment such as backhoes, graders, and farm equipment. U.S EPA has proposed new standards that would reduce the emission from off-road engines to similar levels to the on-road engines discussed above by 2010 – 2012. These new engine standards were adopted as part of the Clean Air Nonroad Diesel Final Rule in 2004. Once approved by U.S. EPA, ARB will adopt these as the applicable state standards for new off-road engines. These standards will reduce diesel particulate matter emission by over 90 percent from new off-road engines currently sold in California.
- The ARB has adopted several regulations that will reduce diesel emissions from in-use vehicles and engines throughout California. In some cases, the particulate matter reduction strategies also reduce smog-forming emissions such as NOx.

As an ongoing process, the ARB reviews air contaminants and identifies those that are classified as TACs. The ARB also continues to establish new programs and regulations for the control of TACs, including diesel particulate matter, as appropriate.

The local air pollution control district (APCD) has the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations. The San Diego APCD is the local agency responsible for the administration and enforcement of air quality regulations in San Diego County.

The APCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The San Diego County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004 and most recently in 2009 (APCD 2009). The RAQS outlines APCD's plans and control measures designed to attain the state air quality standards for O_3. The RAQS does not address the state air quality standards for PM_{10} or $PM_{2.5}$. The APCD has also developed the air basin's input to the State Implementation Plan (SIP), which is required under the Federal Clean Air Act for areas that are out of attainment of air quality standards. The SIP includes the APCD's plans and control measures for attaining the O_3 NAAQS. The SIP is also updated on a triennial basis. The latest SIP update was submitted by the ARB to the EPA in 1998, and the APCD is in the process of updating its SIP to reflect the new 8-hour O_3 NAAQS. To that end, the APCD has developed its *Eight-Hour Ozone Attainment Plan for San Diego County* (hereinafter referred to as the Attainment Plan) (APCD 2007). The Attainment Plan forms the basis for the SIP update, as it contains documentation on emission inventories and trends, the APCD's emission control strategy, and an attainment demonstration that shows that the SDAB will meet the NAAQS for O_3. Emission inventories, projections, and trends in the Attainment Plan are based on the latest O_3 SIP planning emission projections compiled and maintained by ARB. Supporting data were developed jointly by stakeholder agencies, including ARB, the APCD, the South Coast Air Quality Management District (SCAQMD), the Southern California Association of Governments (SCAG), and SANDAG. Each agency plays a role in collecting and reviewing data as necessary to generate comprehensive emission inventories. The supporting data include socio-economic projections, industrial and travel activity levels, emission factors, and emission speciation profiles.

The ARB compiles annual statewide emission inventories in its emission-related information database, the California Emission Inventory Development and Reporting System (CEIDARS). Emission projections for past and future years were generated using the California Emission Forecasting System (CEFS), developed by ARB to project emission trends and track progress towards meeting emission reduction goals and mandates. CEFS utilizes the most current growth and emissions control data available and agreed upon by the stakeholder agencies to provide comprehensive projections of anthropogenic (human activity-related) emissions for any year from 1975 through 2030. Local air districts are responsible for compiling emissions data for all point sources and many stationary area-wide sources. For mobile sources, CEFS integrates emission estimates from ARB's EMFAC2007 and OFFROAD models. SCAG and SANDAG incorporate data regarding highway and transit projects into their Travel Demand Models for estimating and projecting vehicle miles traveled (VMT) and speed. The ARB's on-road emissions inventory in EMFAC2007 relies on these VMT and speed estimates. To complete the inventory, estimates of biogenic (naturally occurring) emissions are developed by ARB using the Biogenic Emissions Inventory Geographic Information System (BEIGIS) model.

Because the ARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of General Plans, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS and the Attainment Plan. In the event that a project would propose development which is less dense than anticipated within the general plan, the project would likewise be consistent with the RAQS and the Attainment Plan. If a project proposes development that is greater than that anticipated in the general plan and SANDAG's growth projections, the project might be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality.

2.2 Climate and Meteorology

The SDSU Campus is located in central San Diego, south of Interstate 8 at College Avenue. The campus is located in the San Diego Air Basin (SDAB). The climate of the SDAB is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. Figure 1 provides a graphic representation of the prevailing winds in the project vicinity, as measured at the San Diego Air Pollution Control District's

(APCD's) Miramar Monitoring Station (the closest meteorological monitoring station to the site). The high pressure cell also creates two types of temperature inversions that may act to degrade local air quality.

The climate of the SDSU area of San Diego is characterized by a repetitive pattern of frequent early morning cloudiness, hazy afternoon sunshine, clean daytime onshore breezes and little temperature change throughout the year. Limited rainfall occurs in the winter while summers are often completely dry. An average of 10 inches of rain falls each year from mid-November to early April. Unfortunately, the same atmospheric conditions that create a desirable living climate combine to limit the ability of the atmosphere to disperse the air pollution generated by the large population attracted by the climate. The onshore winds across the coastline diminish quickly when they reach the foothill communities east of San Diego, and the sinking air within the offshore high pressure system forms a massive temperature inversion that traps all air pollutants near the ground. The resulting horizontal and vertical stagnation, in conjunction with ample sunshine, cause a number of reactive pollutants to undergo photochemical reactions and form smog that degrades visibility and irritates tear ducts and nasal membranes. High smog levels in coastal communities occasionally occur when polluted air from the South Coast (Los Angeles) Air Basin drifts seaward and southward at night, and then blows onshore the next day. Such weather patterns are particularly frustrating because no matter what San Diego County does to achieve clean air, such interbasin transport will cause occasionally unhealthy air over much of the County despite its best air pollution control efforts.

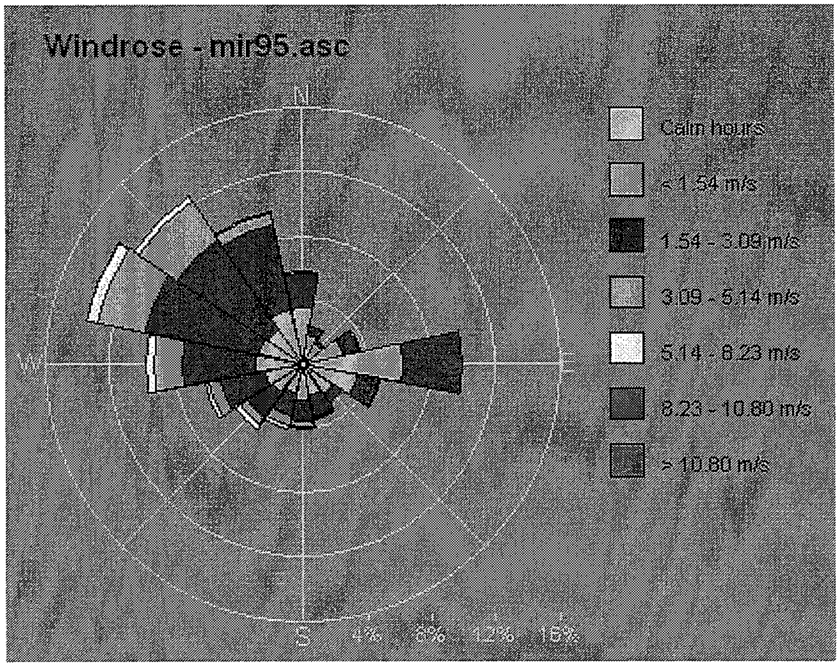

Figure 1. Wind Rose – Miramar Monitoring Station

2.3 Background Air Quality

The APCD operates a network of ambient air monitoring stations throughout San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest ambient monitoring stations to the SDSU campus that measures all pollutants are the San Diego Overland Avenue and El Cajon monitoring stations. The Overland Avenue monitoring station also measures O_3, PM_{10}, $PM_{2.5}$, and NO_2. The other monitoring stations in the project vicinity are the downtown San Diego monitoring station, which measures CO and SO_2. The Overland Avenue monitoring station is more representative of the San Diego State area because the El Cajon monitoring station is located farther inland is and is subject to higher ambient concentrations due to pollutants being trapped in the valley. Ambient concentrations of pollutants over the last three years are presented in Table 2.

The federal 8-hour ozone standard was exceeded at the Overland Avenue monitoring station once in 2006, twice in 2007, and five times in 2008. The Overland Avenue monitoring station measured an exceedance of the state PM_{10} standard in 2007 during the southern California fire events. The data from the monitoring stations indicate that air quality is in attainment of all other ambient air quality standards.

Table 2
Ambient Background Concentrations
(ppm unless otherwise indicated)

Pollutant	Averaging Time	2006	2007	2008	Most Stringent Ambient Air Quality Standard	Monitoring Station
Ozone	8 hour	0.091	0.076	0.093	0.070	Overland Ave.
	1 hour	0.108	0.088	0.100	0.09	Overland Ave.
PM_{10}	Annual	22.6	23.6	23.9	20 $\mu g/m^3$	Overland Ave.
	24 hour	42	65	41	50 $\mu g/m^3$	Overland Ave.
$PM_{2.5}$	Annual	11.0	10.4	11.8	12 $\mu g/m^3$	Overland Ave.
	24 hour	26.3	30.6	27.2	35 $\mu g/m^3$	Overland Ave.
NO_2	Annual	0.017	0.015	0.014	0.030	Overland Ave.
	1 hour	0.091	0.087	0.077	0.18	Overland Ave.
CO	8 hour	3.27	3.01	2.60	9.0	San Diego
	1 hour	5.3	4.4	4.1	20	San Diego
SO_2	Annual	0.004	0.003	0.003	0.03	San Diego
	24 hour	0.009	0.006	0.007	0.04	San Diego
	3 hour	0.030	0.014	0.019	0.5[1]	San Diego
	1 hour	0.034	0.018	0.019	0.25	San Diego

N/A = Not Available
[1]New CAAQS proposed by ARB
[2]Secondary NAAQS

Source: www.arb.ca.gov/aqd/aqd.htm (Measurements of all pollutants at Overland station, except CO and SO_2 from San Diego station)
www.epa.gov/air/data/monvals.html (1-hour and 3-hour SO_2 and 1-hour CO)

3.0 Thresholds of Significance

The State of California has developed guidelines to address the significance of air quality impacts based on Appendix G of the State CEQA Guidelines which provides guidance that a project would have a significant environmental impact if it would:

1. Conflict or obstruct the implementation of the San Diego Regional Air Quality Strategy (RAQS) or applicable portions of the State Implementation Plan (SIP);
2. Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation;
3. Result in a cumulatively considerable net increase of PM_{10} or exceed quantitative thresholds for O_3 precursors, oxides of nitrogen (NO_X) and volatile organic compounds (VOCs);
4. Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations; or
5. Create objectionable odors affecting a substantial number of people.

To determine whether a project would (a) result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation; or (b) result in a cumulatively considerable net increase of PM_{10} or exceed quantitative thresholds for O_3 precursors, oxides of nitrogen (NO_X) and volatile organic compounds (VOCs), project emissions may be evaluated based on the quantitative emission thresholds established by the San Diego APCD. As part of its air quality permitting process, the APCD has established thresholds in Rule 20.2 for the preparation of Air Quality Impact Assessments (AQIA).

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality. Since APCD does not have AQIA thresholds for emissions of VOCs, the use of the threshold for

VOCs from the City of San Diego's Significance Thresholds (City of San Diego 2007) is appropriate. The screening thresholds are included in the table below.

Table 3
SCREENING-LEVEL CRITERIA FOR AIR QUALITY IMPACTS

Pollutant	Total Emissions		
Construction Emissions			
	Lb. per Day		
Respirable Particulate Matter (PM_{10})	100		
Fine Particulate Matter ($PM_{2.5}$)	100		
Oxides of Nitrogen (NOx)	250		
Oxides of Sulfur (SOx)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOCs)[1]	137		
Operational Emissions			
	Lb. Per Hour	Lb. per Day	Tons per Year
Respirable Particulate Matter (PM_{10})	---	100	15
Fine Particulate Matter ($PM_{2.5}$)	---	100	15
Oxides of Nitrogen (NOx)	25	250	40
Oxides of Sulfur (SOx)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOC)[2]	---	137	15

The thresholds listed in Table 3 represent screening-level thresholds that can be used to evaluate whether project-related emissions could cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. In the event that emissions exceed these thresholds, modeling would be required to demonstrate that the project's total air quality impacts result in ground-level concentrations that are below the State and Federal Ambient Air Quality Standards, including appropriate background levels. For nonattainment pollutants (ozone, with ozone precursors NOx and VOCs, and PM_{10}), if emissions exceed the thresholds shown in Table 3, the project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as toxic air contaminants (TACs) or Hazardous Air Pollutants (HAPs). In San Diego County, APCD Regulation XII establishes acceptable risk levels and emission control requirements for new and modified facilities that may emit additional TACs. Under Rule 1210, emissions of TACs that result in a cancer risk of 10 in 1 million or less and a health hazard index of one or less would not be required to notify the public of potential health risks. If a project has the potential to result in emissions of any TAC or HAP which result in a cancer risk of greater than 10 in 1 million, the project would be deemed to have a potentially significant impact.

With regard to evaluating whether a project would have a significant impact on sensitive receptors, air quality regulators typically define sensitive receptors as schools (Preschool-12th Grade), hospitals, resident care facilities, or day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. Any project which has the potential to directly impact a sensitive receptor located within 1 mile and results in a health risk greater than 10 in 1 million would be deemed to have a potentially significant impact.

APCD Rule 51 (Public Nuisance) also prohibits emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health or safety of any person. A project that proposes a use which would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of offsite receptors.

The impacts associated with construction and operation of the project were evaluated for significance based on these significance criteria.

4.0 Impacts

This section presents an evaluation of impacts associated with construction and operations for the Plaza Linda Verde Project.

4.1 Construction Activity Impacts

Construction activities, including soil disturbance dust emissions and combustion pollutants from on-site construction equipment and from off-site trucks hauling dirt, cement or building materials, will create a temporary addition of pollutants to the local airshed. These emissions are quite variable in both time and space and differ considerably among various construction projects. Such emission levels can, therefore, only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts. Because of their temporary nature, construction activity impacts have often been considered as having a less-than-significant air quality impact. However, the cumulative impact from all simultaneous construction in the basin is a contributor to the overall pollution burden. A number of current APCD strategies thus focus on dust control and on using cleaner off-road equipment to reduce the contribution from construction projects.

Three types of dust emissions may be associated with construction. Large particulates are generated that settle out again rapidly in close proximity to the source. A fraction of the material is small enough to remain suspended in the air semi-indefinitely. The size cut-off for these total suspended particulates (TSP) is around 30 microns in diameter. An even lesser fraction of TSP is small enough to enter deep lung tissue. The size cut-off for particulate matter that is deeply respirable is 10 microns or less and is called PM_{10}. The ambient air quality standard is for PM_{10}. The PM_{10} fraction of TSP is assumed to be around 50 percent. Fine particulate matter, which is considered particulate matter that is 2.5 microns or less, is called $PM_{2.5}$. Depending on the type of source, $PM_{2.5}$ is a fraction of the PM_{10} emissions ranging from 21 percent to 99 percent (SCAQMD 2006).

As discussed in Section 1.0, the Plaza Linda Verde Project will be constructed in two phases. Phase I involves the following construction phases:

- Demolition of existing structures at 5178 and 5168 College Avenue, demolition of existing parking lots at 5164 and 5140 College Avenue and parking lot south of Lindo Paseo, and demolition of additional structures in preparation for construction of Student Apartments.
- Construction of Mixed-Use Retail/Student Housing Buildings 1 and 2
- Construction of five-story parking structure with 2,000 GSF of retail and 340 parking spaces.

Phase II involves the following construction phases:

- Demolition of additional structures in preparation for construction of Student Apartments.
- Construction of Mixed-Use Retail/Student Housing Buildings 4 and 5
- Construction of Student Apartments
- Construction of additional underground parking facilities below Buildings 4 and 5

Tables 4a and 4b present the URBEMIS2007 model results for Phase I and Phase II construction. Construction projects at SDSU would be required to implement fugitive dust control measures during grading, which would include watering the site a minimum of twice daily to control dust, as well as reducing speeds on unpaved surfaces to 15 mph or less, replacing ground cover in disturbed areas quickly, and reducing dust during loading/unloading of dirt and other materials. Also, SDSU would utilize low-VOC paints that would not exceed 100 grams of VOC per liter for interior surface and 150 grams of VOC per liter for exterior surfaces, in accordance with the requirements of APCD Rule 67.0 for architectural coatings. The tables present an estimate of the maximum daily construction emissions, assuming that these construction project design features will be employed.

Table 4a
Phase I Construction Emissions
Plaza Linda Verde Project

Construction Project/Phase	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Demolition						
Fugitive Dust	-	-	-	-	11.76	2.45
Off-Road Diesel	1.65	11.52	7.24	0.00	0.85	0.78
On-Road Diesel	0.68	10.20	3.48	0.01	0.44	0.37
Worker Trips	0.05	0.08	1.53	0.00	0.01	0.01
Total	**2.38**	**21.80**	**12.25**	**0.02**	**13.06**	**3.61**
Significance Threshold	137	250	550	250	100	100
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Site Grading						
Fugitive Dust	-	-	-	-	2.13	0.45
Off-Road Diesel	4.61	36.41	20.11	0.00	2.04	1.87
Worker Trips	0.06	0.10	1.78	0.00	0.01	0.01
Total	**4.67**	**36.51**	**21.89**	**0.00**	**4.18**	**2.33**
Significance Threshold	137	250	550	250	100	100
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Building Construction						
Building Construction Off-Road Diesel	6.59	37.88	23.28	0.00	2.76	2.54
Building Construction Vendor Trips	0.24	3.02	2.46	0.01	0.14	0.12
Building Construction Worker Trips	0.45	0.76	14.08	0.01	0.11	0.06
Total	**7.28**	**41.66**	**39.82**	**0.02**	**3.01**	**2.71**
Significance Threshold	137	250	550	250	100	100
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Paving – Parking Structure						
Asphalt Offgassing	0.04	-	-	-	-	-
Paving Off-Road Diesel	4.18	30.11	15.54	0.00	2.00	1.84
Paving On-Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00
Paving Worker Trips	0.09	0.15	2.83	0.00	0.02	0.01
Total	**4.32**	**30.37**	**18.41**	**0.00**	**2.02**	**1.85**
Significance Threshold	137	250	550	250	100	100
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Paving - General						
Asphalt Offgassing	0.03	-	-	-	-	-
Paving Off-Road Diesel	2.34	14.35	8.99	0.00	1.24	1.14
Paving On-Road Diesel	0.01	0.08	0.03	0.00	0.00	0.00
Paving Worker Trips	0.06	0.10	1.89	0.00	0.02	0.01
Total	**2.44**	**14.53**	**10.91**	**0.00**	**1.26**	**1.15**
Significance Threshold	137	250	550	250	100	100
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Architectural Coatings Use						
Architectural Coating Offgassing	32.29	-	-	-	-	-
Architectural Coatings Worker Trips	0.02	0.04	0.78	0.00	0.01	0.00
Total	**32.31**	**0.04**	**0.78**	**0.00**	**0.01**	**0.00**
Significance Threshold	137	250	550	250	100	100
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Maximum Simultaneous Construction Emissions[1]	**45.82**	**83.88**	**68.15**	**0.03**	**13.06**	**3.61**
Significance Threshold	137	250	550	250	100	100
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

[1]Maximum simultaneous emissions for all pollutants except PM_{10} and $PM_{2.5}$ occur during simultaneous building construction, parking structure construction, parking area construction, and architectural coatings application. Maximum simultaneous emissions of PM_{10} and $PM_{2.5}$ occur during demolition activities.

Table 4b
Phase II Construction Emissions
Plaza Linda Verde Project

Construction Project/Phase	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Demolition						
Fugitive Dust	-	-	-	-	48.38	10.06
Off-Road Diesel	1.96	13.52	9.24	0.00	0.91	0.84
On-Road Diesel	2.37	33.10	11.65	0.06	1.46	1.21
Worker Trips	0.07	0.11	2.18	0.00	0.02	0.01
Total	**4.39**	**46.72**	**23.07**	**0.06**	**50.78**	**12.12**
Significance Threshold	137	250	550	250	100	100
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Site Grading						
Fugitive Dust	-	-	-	-	2.98	0.62
Off-Road Diesel	5.63	43.99	26.16	0.00	2.30	2.12
Worker Trips	0.06	0.10	1.97	0.00	0.01	0.01
Total	**5.69**	**44.10**	**28.12**	**0.00**	**5.30**	**2.75**
Significance Threshold	137	250	550	250	100	100
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Building Construction						
Building Construction Off-Road Diesel	4.36	25.13	16.84	0.00	1.61	1.48
Building Construction Vendor Trips	0.32	3.78	3.34	0.01	0.18	0.15
Building Construction Worker Trips	0.56	0.95	18.13	0.02	0.16	0.05
Total	**5.24**	**29.87**	**38.30**	**0.03**	**1.74**	**1.52**
Significance Threshold	137	250	550	250	100	100
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Paving - General						
Asphalt Offgassing	0.04	-	-	-	-	-
Paving Off-Road Diesel	2.06	12.89	8.85	0.00	1.06	0.98
Paving On-Road Diesel	0.01	0.09	0.03	0.00	0.00	0.00
Paving Worker Trips	0.05	0.08	1.62	0.00	0.02	0.01
Total	**2.16**	**13.06**	**10.50**	**0.00**	**1.08**	**0.99**
Significance Threshold	137	250	550	250	100	100
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Architectural Coatings Use						
Architectural Coating Offgassing	48.61	-	-	-	-	-
Architectural Coatings Worker Trips	0.03	0.05	1.01	0.00	0.01	0.01
Total	**48.64**	**0.05**	**1.01**	**0.00**	**0.01**	**0.01**
Significance Threshold	137	250	550	250	100	100
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Maximum Simultaneous Construction Emissions[1]	**55.60**	**47.62**	**47.76**	**0.06**	**50.78**	**12.12**
Significance Threshold	137	250	550	250	100	100
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

[1]Maximum simultaneous emissions for VOC and CO occur during simultaneous building construction, paving, and architectural coatings use. Maximum simultaneous emissions for NOx, SOx, PM_{10} and $PM_{2.5}$ occur during demolition activities.

As shown in the Tables 4a and 4b, emissions of all criteria pollutants would be below the significance thresholds, and no mitigation measures would be required. Emissions during construction would be less than significant.

Under the University-Serving Retail Alternative, neither the parking structure nor the underground parking under Buildings 4 and 5 would be constructed. Construction emissions for this alternative would therefore be lower than for the University/Community-Serving Retail Alternative that are presented in Tables 4a and 4b. Emissions would therefore be lower than emissions presented in Tables 4a and 4b, and would also be less than significant for the University-Serving Retail Alternative.

4.2 Operational Impacts

Operational impacts associated with the Plaza Linda Verde Project would include impacts associated with vehicular traffic, as well as area sources such as energy use, landscaping, consumer products use, and architectural coatings use for maintenance purposes.

The following subsections present an analysis of operational impacts associated with the project, which would include University/Community-Serving Retail uses, and the alternative to the project, which would include University-Serving Retail uses.

University/Community-Serving Retail. The Plaza Linda Verde Traffic Impact Analysis (Linscott, Law and Greenspan 2010) calculated project trip generation rates based on the proposed development with University/Community-Serving Retail, minus decreases in average daily trips (ADT) that would occur based on removal of existing residences and retail land uses. As discussed in Section 1.0, two options for the retail development were considered in the Traffic Impact Analysis. According to the Traffic Impact Analysis, the Project would generate a net traffic increase of 2,396 ADT under this option. These trip generation rates were accounted for within the URBEMIS Model runs for vehicular emissions.

Operational impacts associated with vehicular traffic and area sources including energy use, landscaping, consumer products use, and architectural coatings use for maintenance purposes were estimated using the URBEMIS model, Version 9.2.4. It should be noted that the URBEMIS model does not contain San Diego-specific emission factors; therefore, emissions were based on California statewide averages. The URBEMIS Model calculates vehicle emissions based on emission factors from the EMFAC2007 model. It was assumed that the first year of full occupancy would be 2013 for Phase I, and 2015 for Phase II. Based on the results of the EMFAC2007 model for subsequent years, emissions would decrease on an annual basis from 2013 onward due to phase-out of higher polluting vehicles and implementation of more stringent emission standards that are taken into account in the EMFAC2007 model. The project will incorporate Project Design Features that will reduce emissions associated with area sources. These Project Design Features that were considered in the analysis include the following:

- Building will exceed Title 24 standards by 20%
- Low-VOC architectural coatings

Table 5 presents the results of the emission calculations, in lbs/day, considering the above-listed emission reduction measures, along with a comparison with the significance criteria.

Table 5
Operational Emissions – University/Community-Serving Retail

	VOC	NOx	CO	SO_x	PM_{10}	$PM_{2.5}$
Summer Day, Lbs/day						
Natural Gas Combustion	0.24	3.11	1.61	0.00	0.01	0.01
Landscaping	0.25	0.04	3.09	0.00	0.01	0.01
Consumer Products	19.57	-	-	-	-	-
Architectural Coatings	1.46	-	-	-	-	-
Vehicular Emissions	18.05	20.30	188.29	0.19	33.89	6.57
TOTAL	**39.57**	**23.45**	**192.99**	**0.19**	**33.91**	**6.59**
Significance Screening Criteria	137	250	550	250	100	55
Above Screening Criteria?	*No*	*No*	*No*	*No*	*No*	*No*
Winter Day, Lbs/day						
Natural Gas Combustion	0.24	3.11	1.61	0.00	0.01	0.01
Consumer Products	19.57	-	-	-	-	-
Architectural Coatings	1.46	-	-	-	-	-
Vehicular Emissions	17.00	29.63	202.84	0.17	33.89	6.57
TOTAL	**38.27**	**32.74**	**204.45**	**0.17**	**33.9**	**6.58**
Significance Screening Criteria	137	250	550	250	100	55
Above Screening Criteria?	*No*	*No*	*No*	*No*	*No*	*No*

Projects that involve traffic impacts may have the potential for CO "hot spots" to occur (i.e., high concentrations of CO at intersections). To evaluate the potential for CO "hot spots," the procedures in the Caltrans ITS Transportation Project-Level Carbon Monoxide Protocol were used.

The Traffic Impact Analysis identified intersections for the Near Term and Long Term scenarios for which project-related traffic, in combination with projected future traffic considering cumulative projects, would cause or contribute to a significant impact. CO "hot spots" may occur for intersections that operate at LOS E or F. Intersections that were predicted to operate at LOS E or worse in the Near Term are as follows:

- College Avenue and Eastbound I-8 Ramps (am peak hour)
- College Avenue and Canyon Crest (am and pm peak hours)
- College Avenue and Zura Way (am and pm peak hours)
- College Avenue and Montezuma Road (am and pm peak hour)

- College Avenue/El Cajon Boulevard (pm peak hour)
- Montezuma Road and Campanile Avenue (pm peak hour)

Intersections that were predicted to operate at LOS E or worse in the Long Term are as follows:

- College Avenue and Eastbound I-8 Ramps (pm peak hour)
- College Avenue and Canyon Crest (am and pm peak hours)
- College Avenue and Zura Way (am and pm peak hours)
- College Avenue and Montezuma Road (am and pm peak hour)
- Montezuma Road and 55th Street (am and pm peak hours)
- Montezuma Road and Campanile Avenue (am and pm peak hours)

As recommended in the Protocol, CALINE4 modeling was conducted for the intersections identified above for the Project plus cumulative traffic scenario. Modeling was conducted based on the guidance in Appendix B of the Protocol to calculate maximum predicted 1-hour CO concentrations. Predicted 1-hour CO concentrations were then scaled to evaluate maximum predicted 8-hour CO concentrations using the recommended scaling factor of 0.7 for urban locations.

Inputs to the CALINE4 model were obtained from the Traffic Impact Analysis. As recommended in the Protocol, receptors were located at locations that were approximately 3 meters from the mixing zone, and at a height of 1.8 meters. For conservative purposes, average approach and departure speeds were assumed to be 1 mph, which results in higher CO emission rates and a conservative estimate of potential impacts. For conservative purposes, emission factors from the EMFAC2007 model for the year 2013 (opening year) were used in the CALINE4 model.

In accordance with the Caltrans ITS Transportation Project-Level Carbon Monoxide Protocol, it is also necessary to estimate future background CO concentrations in the project vicinity to determine the potential impact plus background and evaluate the potential for CO "hot spots" due to the project. The existing maximum 1-hour and 8-hour background concentrations of CO that was measured at the San Diego monitoring station for the period 2006 – 2008 of 5.3 and 3.27 ppm were used to represent future maximum background 1-hour and 8-hour CO concentrations. CO concentrations in the future may be lower as inspection and maintenance programs and more stringent emission controls are placed on vehicles.

The CALINE4 model outputs are provided in Appendix A of this report. Table 6 presents a summary of the predicted CO concentrations (impact plus background) for the intersections evaluated for the Near Term and Long Term scenarios. As shown in Table 6, the predicted CO concentrations would be substantially below the 1-hour and 8-hour NAAQS and CAAQS for CO shown in Table 1 of this report. Therefore, no exceedances of the CO standard are predicted, and the project would not cause or contribute to a violation of the air quality standard.

Table 6
CO "Hot Spots" Modeling Results (ppm)

Intersection	Near Term	
Near Term Conditions		
Maximum 1-hour Concentration Plus Background, ppm CAAQS = 20 ppm; NAAQS = 35 ppm; Background 5.3 ppm		
	am	*pm*
College Avenue and EB I-8 Ramps	6.9	N/A
College Avenue and Canyon Crest Drive	6.5	6.6
College Avenue and Zura Way	6.7	6.8
College Avenue and Montezuma Road	6.5	7.0
College Avenue and El Cajon Boulevard	N/A	6.6
Montezuma Road and Campanile Way	N/A	6.3
Maximum 8-hour Concentration Plus Background, ppm CAAQS = 9.0 ppm; NAAQS = 9 ppm; Background 3.27 ppm		
College Avenue and EB I-8 Ramps	4.39	
College Avenue and Canyon Crest Drive	4.18	
College Avenue and Zura Way	4.32	
College Avenue and Montezuma Road	4.46	
College Avenue and El Cajon Boulevard	4.18	
Montezuma Road and Campanile Way	3.97	
Long Term Conditions		
Maximum 1-hour Concentration Plus Background, ppm *CAAQS = 20 ppm; NAAQS = 35 ppm; Background 5.3 ppm*		
	am	*pm*
College Avenue and EB I-8 Ramps	N/A	6.0
College Avenue and Canyon Crest Drive	6.0	5.9
College Avenue and Zura Way	5.9	6.0
College Avenue and Montezuma Road	5.8	6.0
Montezuma Road and 55th Street	5.7	5.8
Montezuma Road and Campanile Way	5.6	5.8
Maximum 8-hour Concentration Plus Background, ppm CAAQS = 9.0 ppm; NAAQS = 9 ppm; Background 3.27 ppm		
College Avenue and EB I-8 Ramps	3.76	
College Avenue and Canyon Crest Drive	3.76	
College Avenue and Zura Way	3.76	
College Avenue and Montezuma Road	3.76	
Montezuma Road and 55th Street	3.62	
Montezuma Road and Campanile Way	3.62	

As shown in Table 6, all impacts, when added to background CO concentrations, would be below the CAAQS for both the 1-hour and 8-hour averaging periods; therefore, the project would not result in a significant impact for CO.

University-Serving Retail. The Plaza Linda Verde Traffic Impact Analysis (Linscott, Law and Greenspan 2010) calculated project trip generation rates based on the proposed development with University-Serving Retail, minus decreases in average daily trips (ADT) that would occur based on removal of existing residences and retail land uses. As discussed in Section 1.0, two options for the retail development were considered in the Traffic Impact Analysis. According to the Traffic Impact Analysis, the Project would generate a net traffic increase of 529 ADT under this option.

Operational impacts associated with area sources including energy use, landscaping, consumer products use, and architectural coatings use for maintenance purposes would be the same as estimated for the project with University/Community-Serving Retail. Table 7 presents the operational emissions for the University-Serving Retail option.

Table 7
Operational Emissions – University-Serving Retail

	VOC	NOx	CO	SO_x	PM_{10}	$PM_{2.5}$
Summer Day, Lbs/day						
Natural Gas Combustion	0.24	3.11	1.61	0.00	0.01	0.01
Landscaping	0.25	0.04	3.09	0.00	0.01	0.01
Consumer Products	19.57	-	-	-	-	-
Architectural Coatings	1.46	-	-	-	-	-
Vehicular Emissions	6.94	5.96	60.31	0.06	10.07	1.96
TOTAL	**28.46**	**9.11**	**65.01**	**0.06**	**10.09**	**1.98**
Significance Screening Criteria	137	250	550	250	100	55
Above Screening Criteria?	*No*	*No*	*No*	*No*	*No*	*No*
Winter Day, Lbs/day						
Natural Gas Combustion	0.24	3.11	1.61	0.00	0.01	0.01
Consumer Products	19.57	-	-	-	-	-
Architectural Coatings	1.46	-	-	-	-	-
Vehicular Emissions	5.01	8.74	63.17	0.05	10.08	1.97
TOTAL	**26.28**	**11.85**	**64.78**	**0.05**	**10.09**	**1.98**
Significance Screening Criteria	137	250	550	250	100	55
Above Screening Criteria?	*No*	*No*	*No*	*No*	*No*	*No*

Emissions of all criteria pollutants would be below the significance thresholds, and no significant air quality impacts would result from the University-Serving Retail Alternative.

As discussed under the University/Community-Serving Retail option, projects that involve traffic impacts may have the potential for CO "hot spots" to occur. Because traffic impacts would be lower for the University-Serving Retail than for the University/Community-Serving Retail, the potential for CO "hot spots" would also be lower. As shown in Table 6, all impacts for the University/Community-Serving Retail option would be below the CAAQS for both the 1-hour and 8-hour averaging periods. The University-Serving Retail option impacts would be lower, and would not result in a significant impact for CO.

4.3 Toxic Air Contaminant Impacts

The threshold concerns whether the project could expose sensitive receptors to substantial pollutant concentrations of TACs. If a project has the potential to result in emissions of any

TAC which result in a cancer risk of greater than 10 in 1 million or substantial non-cancer risk, the project would be deemed to have a potentially significant impact.

Air quality regulators typically define sensitive receptors as schools (Preschool-12th Grade), hospitals, resident care facilities, or day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. Residential land uses may also be considered sensitive receptors. The project is located within the SDSU Campus area, which includes students and residences.

Retail and residential dwelling are not land uses that would emit substantial amounts of toxic air contaminants. Minor amounts of truck traffic would be associated with deliveries to the retail land uses, but truck traffic would be minimal and would not result in substantial emissions of diesel particulate matter that would affect sensitive receptors. Toxic air contaminant impacts would be less than significant.

4.4 Objectionable Odors

Project construction could result in minor amounts of odor compounds associated with diesel heavy equipment exhaust. These compounds would be emitted in various amounts and at various locations during construction. Odors are highest near the source and would quickly dissipate offsite; any odors associated with construction would be temporary. Due to the temporary nature of construction odors and the anticipated dissipation of odors offsite, impacts during construction would be less than significant.

The Project is a residential and retail development and would not include land uses that would be sources of nuisance odors. Thus the potential for odor impacts associated with the project is less than significant.

5.0 Cumulative Impacts

To evaluate the potential for cumulative impacts to air quality, past, present, and planned projects must be included in the evaluation. Past and present project impacts are accounted for in the background ambient air quality data that are presented in Section 2.0, Existing Conditions. The Traffic Impact Analysis identified 33 future cumulative development projects in the vicinity of the Plaza Linda Verde Project.

While several projects listed in the Traffic Impact Analysis are located in the immediate vicinity of the Plaza Linda Verde Project, it is unlikely that major construction on multiple cumulative projects would be occurring simultaneously. Furthermore, the emissions associated with the Plaza Linda Verde Project construction are substantially below the City of San Diego's significance thresholds. Projections of basin-wide emissions from the ARB (ARB 2009) indicate that construction equipment accounts for 3.24 tons per day of ROG, 21.86 tons per day of NOx, and 1.34 tons per day of PM_{10}. Architectural coatings use accounts for 8.94 tons per day of ROG. Emissions of nonattainment pollutants (ozone precursors NOx and ROG, and PM_{10}) are a small percentage of the overall construction emissions within the SDAB; ROG emissions would be 0.23 percent of the basin-wide emissions, NOx emissions would be 0.19 percent of the basin-wide emissions, and PM_{10} would be 1.9 percent of the basin-wide emissions. These emissions would be short-term and temporary and would not result in cumulatively considerable impacts to the ambient air quality.

The purpose of the Plaza Linda Verde Project is to provide housing for students that might otherwise live elsewhere, or commute to SDSU. The University/Community-Serving Retail would provide local retail services in the area; the University-Serving Retail would provide services for the University community. Regardless, the project is consistent with current SANDAG growth forecasts for the area and would not result in an increase in student enrollment. Because the project would not result in growth, emissions are consistent with the attainment demonstration included in the SIP and would not therefore be cumulatively considerable.

6.0 Summary and Conclusions

In summary, the proposed project would result in emissions of air pollutants for both the construction phase and operational phase of the project. The air quality impact analysis evaluated the potential for adverse impacts to the ambient air quality due to construction and operational emissions. Construction emissions would include emissions associated with fugitive dust, heavy construction equipment and construction worker commuting to and from the site. The project would employ dust control measures such as watering to control emissions during construction and use of low-VOC paints. Emissions are less than the significance thresholds for all pollutants.

Operational emissions would include emissions associated with retail operations, including energy use and landscaping, and with vehicle traffic. As discussed in Section 4.0, the impacts would be less than significant.

7.0 References

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Appendix A

URBEMIS Model Output

CALINE4 Model Outputs

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

             JOB: College and I8 EB NTam
             RUN: Hour 1           (WORST CASE ANGLE)
       POLLUTANT: Carbon Monoxide

  I.  SITE VARIABLES

       U=   1.0 M/S              Z0= 100. CM              ALT=      0. (M)
     BRG= WORST CASE             VD=   .0 CM/S
    CLAS=     7 (G)              VS=   .0 CM/S
    MIXH= 1000. M               AMB=   .0 PPM
   SIGTH=   10. DEGREES        TEMP= 37.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. I8 EBRA1	-126	-24	-63	-39	AG	2175	5.5	.0	10.0
B. I8 EBRA2	-63	-39	0	-4	AG	2175	5.5	.0	10.0
C. I8 EBD	0	-4	83	110	AG	222	5.5	.0	10.0
D. I8 EBLA1	-126	-20	-63	-36	AG	309	5.5	.0	10.0
E. I8 EBLA2	-63	-36	0	0	AG	309	5.5	.0	10.0
F. Coll NBA	4	-150	4	0	AG	1210	5.5	.0	10.0
G. Coll SBA	-4	150	-4	0	AG	1307	5.5	.0	10.0
H. Coll NBD	4	0	4	150	AG	1315	5.5	.0	10.0
I. Coll SBD	-4	0	-4	-150	AG	3260	5.5	.0	10.0

□

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

JOB: College and I8 EB NTam
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-20	1.8
2. Recpt 2	-34	-32	1.8
3. Recpt 3	-54	-44	1.8
4. Recpt 4	-14	-40	1.8
5. Recpt 5	-14	-60	1.8
6. Recpt 6	-14	5	1.8
7. Recpt 7	-34	-7	1.8
8. Recpt 8	-54	-19	1.8
9. Recpt 9	-14	25	1.8
10. Recpt 10	-14	45	1.8
11. Recpt 11	14	0	1.8
12. Recpt 12	34	25	1.8
13. Recpt 13	54	50	1.8
14. Recpt 14	14	-20	1.8
15. Recpt 15	14	-40	1.8
16. Recpt 16	14	30	1.8
17. Recpt 17	34	56	1.8
18. Recpt 18	54	82	1.8
19. Recpt 19	14	50	1.8
20. Recpt 20	14	70	1.8

□

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

JOB: College and I8 EB NTam
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	31.	1.6	.0	.5	.0	.0	.0	.0	.1	.2
2. Recpt 2	40.	1.2	.0	.7	.0	.0	.0	.0	.1	.1
3. Recpt 3	290.	1.1	.8	.2	.0	.1	.0	.0	.0	.0
4. Recpt 4	17.	1.3	.0	.2	.0	.0	.0	.0	.1	.2
5. Recpt 5	16.	1.2	.0	.0	.0	.0	.0	.1	.0	.1
6. Recpt 6	164.	1.5	.0	.3	.0	.0	.0	.3	.0	.0
7. Recpt 7	154.	.9	.0	.3	.0	.0	.0	.2	.0	.0
8. Recpt 8	87.	.8	.0	.5	.0	.0	.0	.0	.0	.0
9. Recpt 9	168.	1.3	.0	.2	.0	.0	.0	.3	.0	.0
10. Recpt 10	170.	1.1	.0	.1	.0	.0	.0	.2	.2	.0
11. Recpt 11	247.	1.6	.1	.7	.0	.0	.1	.2	.0	.0
12. Recpt 12	234.	.8	.0	.3	.0	.0	.0	.0	.0	.1
13. Recpt 13	229.	.6	.0	.2	.0	.0	.0	.0	.0	.0
14. Recpt 14	265.	1.2	.2	.3	.0	.0	.0	.2	.0	.0
15. Recpt 15	328.	1.0	.0	.2	.0	.0	.0	.3	.0	.0
16. Recpt 16	200.	1.1	.0	.1	.0	.0	.0	.2	.0	.2
17. Recpt 17	211.	.7	.0	.1	.0	.0	.0	.0	.0	.1
18. Recpt 18	211.	.5	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	195.	1.1	.0	.1	.0	.0	.0	.1	.0	.3
20. Recpt 20	193.	1.0	.0	.1	.0	.0	.0	.0	.1	.3

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

     JOB: College and I8 EB NTam
     RUN: Hour 1          (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	(PPM) I
1. Recpt 1	.6
2. Recpt 2	.1
3. Recpt 3	.0
4. Recpt 4	.6
5. Recpt 5	.8
6. Recpt 6	.9
7. Recpt 7	.4
8. Recpt 8	.2
9. Recpt 9	.7
10. Recpt 10	.5
11. Recpt 11	.4
12. Recpt 12	.2
13. Recpt 13	.1
14. Recpt 14	.4
15. Recpt 15	.5
16. Recpt 16	.5
17. Recpt 17	.2
18. Recpt 18	.2
19. Recpt 19	.4
20. Recpt 20	.3

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

    JOB: College and Cyn Crest NTam
    RUN: Hour 1            (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

I. SITE VARIABLES

```
     U=   1.0 M/S           Z0= 100. CM          ALT=     0. (M)
   BRG= WORST CASE          VD=   .0 CM/S
  CLAS=     7 (G)           VS=   .0 CM/S
  MIXH= 1000. M            AMB=   .0 PPM
 SIGTH=   10. DEGREES     TEMP= 37.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. CC EBTA1	*	-150	-4	-75	-19	*	AG	114	5.5	.0	10.0
B. CC EBLA2	*	-75	-16	0	0	*	AG	49	5.5	.0	10.0
C. CC EBTA2	*	-75	-19	0	-4	*	AG	19	5.5	.0	10.0
D. CC EBRA2	*	-75	-23	0	-7	*	AG	46	5.5	.0	10.0
E. CC EBD1	*	0	-4	55	12	*	AG	634	5.5	.0	10.0
F. CC EBD2	*	55	12	123	-63	*	AG	634	5.5	.0	10.0
G. CC WBTA1	*	130	-63	55	15	*	AG	385	5.5	.0	10.0
H. CC WBLA2	*	55	12	0	0	*	AG	89	5.5	.0	10.0
I. CC WBTA2	*	55	15	0	4	*	AG	144	5.5	.0	10.0
J. CC WBRA2	*	55	19	0	7	*	AG	152	5.5	.0	10.0
K. CC WBD1	*	0	4	-75	-12	*	AG	1002	5.5	.0	10.0
L. CC WBD2	*	-75	-12	-150	4	*	AG	1002	5.5	.0	10.0
M. Coll NBLA	*	59	-142	0	0	*	AG	152	5.5	.0	10.0
N. Coll NBTA	*	63	-142	4	0	*	AG	935	5.5	.0	10.0
O. Coll NBRA	*	66	-142	7	0	*	AG	93	5.5	.0	10.0
P. Coll NBD	*	4	0	4	150	*	AG	1136	5.5	.0	10.0
Q. Coll SBLA	*	0	150	0	0	*	AG	706	5.5	.0	10.0
R. Coll SBTA	*	-4	150	-4	0	*	AG	1265	5.5	.0	10.0
S. Coll SBRA	*	-7	150	-7	0	*	AG	522	5.5	.0	10.0
T. Coll SBD	*	-4	0	56	-142	*	AG	1400	5.5	.0	10.0

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

JOB: College and Cyn Crest NTam
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-20	1.8
2. Recpt 2	-34	-25	1.8
3. Recpt 3	-54	-30	1.8
4. Recpt 4	-6	-40	1.8
5. Recpt 5	3	-60	1.8
6. Recpt 6	22	-12	1.8
7. Recpt 7	30	-32	1.8
8. Recpt 8	38	-52	1.8
9. Recpt 9	42	-5	1.8
10. Recpt 10	-17	13	1.8
11. Recpt 11	-37	8	1.8
12. Recpt 12	-57	3	1.8
13. Recpt 13	-17	33	1.8
14. Recpt 14	-17	53	1.8
15. Recpt 15	14	20	1.8
16. Recpt 16	34	23	1.8
17. Recpt 17	54	26	1.8
18. Recpt 18	14	40	1.8
19. Recpt 19	14	60	1.8

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

JOB: College and Cyn Crest NTam
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	12.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
2. Recpt 2	23.	.7	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	29.	.6	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	4.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	360.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	340.	.8	.0	.0	.0	.0	.0	.0	.0	.0
7. Recpt 7	315.	.7	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	317.	.7	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	275.	.6	.0	.0	.0	.0	.1	.0	.0	.0
10. Recpt 10	144.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	101.	.8	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	95.	.7	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	153.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	157.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	343.	.9	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	246.	.6	.0	.0	.0	.0	.0	.0	.0	.0
17. Recpt 17	247.	.6	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	340.	.9	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	206.	.9	.0	.0	.0	.0	.0	.0	.0	.0

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

    JOB: College and Cyn Crest NTam
    RUN: Hour 1            (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*						CONC/LINK (PPM)						
1. Recpt 1	*	.0	.0	.1	.0	.0	.0	.0	.2	.2	.4	.2	.0
2. Recpt 2	*	.0	.0	.1	.0	.0	.0	.0	.1	.1	.2	.0	.0
3. Recpt 3	*	.0	.0	.1	.0	.0	.0	.0	.1	.0	.1	.0	.0
4. Recpt 4	*	.0	.0	.0	.0	.0	.0	.0	.2	.2	.3	.1	.2
5. Recpt 5	*	.0	.0	.0	.0	.0	.0	.0	.2	.1	.2	.0	.2
6. Recpt 6	*	.0	.0	.0	.0	.0	.0	.0	.2	.1	.2	.0	.0
7. Recpt 7	*	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.1
8. Recpt 8	*	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.2
9. Recpt 9	*	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	*	.0	.0	.2	.0	.0	.2	.0	.0	.0	.0	.0	.4
11. Recpt 11	*	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	*	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	*	.0	.0	.0	.0	.0	.2	.0	.0	.0	.2	.1	.3
14. Recpt 14	*	.0	.0	.0	.0	.0	.2	.0	.1	.1	.3	.2	.2
15. Recpt 15	*	.0	.0	.0	.0	.0	.0	.0	.4	.2	.3	.1	.0
16. Recpt 16	*	.0	.0	.2	.0	.0	.0	.0	.1	.0	.1	.0	.0
17. Recpt 17	*	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	*	.0	.0	.0	.0	.0	.0	.0	.4	.2	.3	.0	.0
19. Recpt 19	*	.0	.0	.0	.0	.0	.0	.0	.3	.2	.2	.0	.0

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

JOB: College and Cyn Crest NTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S	Z0= 100. CM	ALT= 0. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 37.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. CC EBTA1	-150	-4	-75	-19	AG	646	5.5	.0	10.0
B. CC EBLA2	-75	-16	0	0	AG	502	5.5	.0	10.0
C. CC EBTA2	-75	-19	0	-4	AG	56	5.5	.0	10.0
D. CC EBRA2	-75	-23	0	-7	AG	88	5.5	.0	10.0
E. CC EBD1	0	-4	55	12	AG	493	5.5	.0	10.0
F. CC EBD2	55	12	123	-63	AG	493	5.5	.0	10.0
G. CC WBTA1	130	-63	55	15	AG	402	5.5	.0	10.0
H. CC WBLA2	55	12	0	0	AG	108	5.5	.0	10.0
I. CC WBTA2	55	15	0	4	AG	13	5.5	.0	10.0
J. CC WBRA2	55	19	0	7	AG	281	5.5	.0	10.0
K. CC WBD1	0	4	-75	-12	AG	194	5.5	.0	10.0
L. CC WBD2	-75	-12	-150	4	AG	194	5.5	.0	10.0
M. Coll NBLA	59	-142	0	0	AG	66	5.5	.0	10.0
N. Coll NBTA	63	-142	4	0	AG	1725	5.5	.0	10.0
O. Coll NBRA	66	-142	7	0	AG	153	5.5	.0	10.0
P. Coll NBD	4	0	4	150	AG	2508	5.5	.0	10.0
Q. Coll SBLA	0	150	0	0	AG	115	5.5	.0	10.0
R. Coll SBTA	-4	150	-4	0	AG	1447	5.5	.0	10.0
S. Coll SBRA	-7	150	-7	0	AG	284	5.5	.0	10.0
T. Coll SBD	-4	0	56	-142	AG	1643	5.5	.0	10.0

□

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

JOB: College and Cyn Crest NTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
	COORDINATES (M)		
1. Recpt 1	-14	-20	1.8
2. Recpt 2	-34	-25	1.8
3. Recpt 3	-54	-30	1.8
4. Recpt 4	-6	-40	1.8
5. Recpt 5	3	-60	1.8
6. Recpt 6	22	-12	1.8
7. Recpt 7	30	-32	1.8
8. Recpt 8	38	-52	1.8
9. Recpt 9	42	-5	1.8
10. Recpt 10	-17	13	1.8
11. Recpt 11	-37	8	1.8
12. Recpt 12	-57	3	1.8
13. Recpt 13	-17	33	1.8
14. Recpt 14	-17	53	1.8
15. Recpt 15	14	20	1.8
16. Recpt 16	34	23	1.8
17. Recpt 17	54	26	1.8
18. Recpt 18	14	40	1.8
19. Recpt 19	14	60	1.8

□

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

JOB: College and Cyn Crest NTpm
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	14.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
2. Recpt 2	25.	.7	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	30.	.5	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	6.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	1.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	339.	.9	.0	.0	.0	.0	.0	.0	.0	.0
7. Recpt 7	310.	.8	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	316.	.9	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	272.	.6	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	144.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	102.	.7	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	100.	.6	.0	.1	.0	.0	.0	.0	.0	.0
13. Recpt 13	153.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	157.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	341.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	242.	.7	.0	.0	.0	.0	.0	.0	.0	.0
17. Recpt 17	245.	.6	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	340.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	204.	1.1	.0	.0	.0	.0	.0	.0	.0	.0

□

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

JOB: College and Cyn Crest NTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. Recpt 1	.0	.0	.0	.0	.0	.0	.0	.4	.0	.4	.0	.0
2. Recpt 2	.0	.0	.0	.0	.0	.0	.0	.3	.0	.2	.0	.0
3. Recpt 3	.0	.0	.0	.0	.0	.0	.0	.2	.0	.1	.0	.0
4. Recpt 4	.0	.0	.0	.0	.0	.0	.0	.4	.0	.3	.0	.2
5. Recpt 5	.0	.0	.0	.0	.0	.1	.0	.3	.0	.2	.0	.3
6. Recpt 6	.0	.0	.0	.0	.0	.0	.0	.4	.0	.2	.0	.0
7. Recpt 7	.0	.0	.0	.0	.0	.4	.0	.0	.0	.0	.0	.2
8. Recpt 8	.0	.0	.0	.0	.0	.4	.0	.0	.0	.0	.0	.2
9. Recpt 9	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
10. Recpt 10	.0	.0	.0	.0	.0	.4	.0	.0	.0	.0	.0	.5
11. Recpt 11	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.1
13. Recpt 13	.0	.0	.0	.0	.0	.4	.0	.1	.0	.2	.0	.3
14. Recpt 14	.0	.0	.0	.0	.0	.3	.0	.2	.0	.3	.0	.2
15. Recpt 15	.0	.0	.0	.0	.0	.0	.0	.7	.0	.3	.0	.0
16. Recpt 16	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0
17. Recpt 17	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0
18. Recpt 18	.0	.0	.0	.0	.0	.0	.0	.7	.0	.3	.0	.0
19. Recpt 19	.0	.0	.0	.0	.0	.0	.0	.7	.0	.2	.0	.0

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

     JOB: College and Zura Way NTam
     RUN: Hour 1            (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

I. SITE VARIABLES

```
    U=    1.0 M/S              Z0= 100. CM              ALT=      0. (M)
  BRG= WORST CASE              VD=    .0 CM/S
 CLAS=      7 (G)              VS=    .0 CM/S
 MIXH= 1000. M                AMB=    .0 PPM
SIGTH=    10. DEGREES        TEMP= 37.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Zura Way	*	74	-16	0	0	*	AG	100	5.5	.0	10.0
B. Coll NBTA	*	4	-150	4	0	*	AG	1374	5.5	.0	10.0
C. Coll NBRA	*	6	-150	6	0	*	AG	171	5.5	.0	10.0
D. Coll SBLA1	*	-20	71	0	0	*	AG	556	5.5	.0	10.0
E. Coll SBTA1	*	-23	71	-4	0	*	AG	1228	5.5	.0	10.0
F. Coll SBLA2	*	-71	126	-20	71	*	AG	556	5.5	.0	10.0
G. Coll SBTA2	*	-75	126	-23	71	*	AG	1228	5.5	.0	10.0
H. Coll NBD1	*	4	0	-16	71	*	AG	1474	5.5	.0	10.0
I. Coll NBD2	*	-16	71	-67	129	*	AG	1474	5.5	.0	10.0
J. Coll SBD	*	-4	0	-4	-150	*	AG	1228	5.5	.0	10.0
K. Zura WayD	*	0	-4	74	-20	*	AG	727	5.5	.0	10.0

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

     JOB: College and Zura Way NTam
     RUN: Hour 1           (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-60	1.8
2. Recpt 2	-14	-40	1.8
3. Recpt 3	-14	-20	1.8
4. Recpt 4	-14	0	1.8
5. Recpt 5	-19	20	1.8
6. Recpt 6	-24	40	1.8
7. Recpt 7	-29	60	1.8
8. Recpt 8	14	-60	1.8
9. Recpt 9	14	-40	1.8
10. Recpt 10	14	-20	1.8
11. Recpt 11	6	20	1.8
12. Recpt 12	1	40	1.8
13. Recpt 13	-4	60	1.8
14. Recpt 14	34	-22	1.8
15. Recpt 15	54	-24	1.8
16. Recpt 16	14	5	1.8
17. Recpt 17	34	2	1.8
18. Recpt 18	54	-1	1.8

□

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

JOB: College and Zura Way NTam
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	22.	.7	.0	.2	.0	.0	.0	.0	.0	.0
2. Recpt 2	160.	.7	.0	.3	.0	.0	.0	.0	.0	.0
3. Recpt 3	163.	.7	.0	.3	.0	.0	.0	.0	.0	.0
4. Recpt 4	102.	.8	.0	.2	.0	.0	.0	.0	.0	.0
5. Recpt 5	124.	.8	.0	.0	.0	.1	.3	.0	.0	.2
6. Recpt 6	139.	.9	.0	.0	.0	.1	.4	.0	.0	.2
7. Recpt 7	145.	1.0	.0	.0	.0	.2	.4	.0	.0	.3
8. Recpt 8	343.	1.1	.0	.4	.0	.0	.1	.0	.0	.1
9. Recpt 9	339.	1.2	.0	.3	.0	.0	.2	.0	.0	.2
10. Recpt 10	334.	1.4	.0	.2	.0	.1	.3	.0	.0	.3
11. Recpt 11	186.	1.3	.0	.4	.0	.0	.0	.0	.0	.3
12. Recpt 12	182.	1.2	.0	.3	.0	.0	.0	.0	.0	.4
13. Recpt 13	311.	1.3	.0	.0	.0	.0	.0	.2	.3	.3
14. Recpt 14	324.	.8	.0	.0	.0	.0	.1	.0	.0	.2
15. Recpt 15	317.	.7	.0	.0	.0	.0	.0	.0	.0	.1
16. Recpt 16	195.	.9	.0	.4	.0	.0	.0	.0	.0	.0
17. Recpt 17	206.	.5	.0	.2	.0	.0	.0	.0	.0	.0
18. Recpt 18	214.	.4	.0	.1	.0	.0	.0	.0	.0	.0

□

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

     JOB: College and Zura Way NTam
     RUN: Hour 1            (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K
1. Recpt 1	.0	.4	.0
2. Recpt 2	.0	.4	.0
3. Recpt 3	.0	.4	.0
4. Recpt 4	.0	.2	.3
5. Recpt 5	.0	.0	.1
6. Recpt 6	.0	.0	.0
7. Recpt 7	.0	.0	.0
8. Recpt 8	.0	.1	.0
9. Recpt 9	.0	.0	.0
10. Recpt 10	.1	.0	.1
11. Recpt 11	.0	.3	.0
12. Recpt 12	.0	.3	.0
13. Recpt 13	.4	.0	.0
14. Recpt 14	.0	.0	.2
15. Recpt 15	.0	.0	.2
16. Recpt 16	.0	.3	.1
17. Recpt 17	.0	.2	.1
18. Recpt 18	.0	.1	.1

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

    JOB: College and Zura Way NTpm
    RUN: Hour 1           (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

I. SITE VARIABLES

```
     U=    1.0 M/S              Z0= 100. CM           ALT=      0. (M)
   BRG= WORST CASE              VD=    .0 CM/S
  CLAS=      7 (G)              VS=    .0 CM/S
  MIXH= 1000. M                AMB=    .0 PPM
 SIGTH=    10. DEGREES         TEMP= 37.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Zura Way	*	74	-16	0	0	*	AG	444	5.5	.0	10.0
B. Coll NBTA	*	4	-150	4	0	*	AG	1623	5.5	.0	10.0
C. Coll NBRA	*	6	-150	6	0	*	AG	138	5.5	.0	10.0
D. Coll SBLA1	*	-20	71	0	0	*	AG	188	5.5	.0	10.0
E. Coll SBTA1	*	-23	71	-4	0	*	AG	1463	5.5	.0	10.0
F. Coll SBLA2	*	-71	126	-20	71	*	AG	188	5.5	.0	10.0
G. Coll SBTA2	*	-75	126	-23	71	*	AG	1463	5.5	.0	10.0
H. Coll NBD1	*	4	0	-16	71	*	AG	2067	5.5	.0	10.0
I. Coll NBD2	*	-16	71	-67	129	*	AG	2067	5.5	.0	10.0
J. Coll SBD	*	-4	0	-4	-150	*	AG	1463	5.5	.0	10.0
K. Zura WayD	*	0	-4	74	-20	*	AG	326	5.5	.0	10.0

□

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

JOB: College and Zura Way NTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-60	1.8
2. Recpt 2	-14	-40	1.8
3. Recpt 3	-14	-20	1.8
4. Recpt 4	-14	0	1.8
5. Recpt 5	-19	20	1.8
6. Recpt 6	-24	40	1.8
7. Recpt 7	-29	60	1.8
8. Recpt 8	14	-60	1.8
9. Recpt 9	14	-40	1.8
10. Recpt 10	14	-20	1.8
11. Recpt 11	6	20	1.8
12. Recpt 12	1	40	1.8
13. Recpt 13	-4	60	1.8
14. Recpt 14	34	-22	1.8
15. Recpt 15	54	-24	1.8
16. Recpt 16	14	5	1.8
17. Recpt 17	34	2	1.8
18. Recpt 18	54	-1	1.8

□

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

JOB: College and Zura Way NTpm
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	22.	.8	.0	.2	.0	.0	.0	.0	.0	.0
2. Recpt 2	160.	.8	.0	.3	.0	.0	.0	.0	.0	.0
3. Recpt 3	163.	.8	.0	.3	.0	.0	.0	.0	.0	.0
4. Recpt 4	100.	.8	.2	.2	.0	.0	.0	.0	.0	.0
5. Recpt 5	123.	.9	.0	.0	.0	.0	.4	.0	.0	.3
6. Recpt 6	138.	1.0	.0	.0	.0	.0	.4	.0	.0	.3
7. Recpt 7	145.	1.1	.0	.0	.0	.0	.5	.0	.0	.4
8. Recpt 8	342.	1.2	.0	.4	.0	.0	.1	.0	.0	.1
9. Recpt 9	339.	1.3	.0	.4	.0	.0	.2	.0	.0	.2
10. Recpt 10	335.	1.5	.0	.2	.0	.0	.3	.0	.1	.5
11. Recpt 11	186.	1.5	.0	.5	.0	.0	.0	.0	.0	.4
12. Recpt 12	182.	1.4	.0	.3	.0	.0	.1	.0	.0	.6
13. Recpt 13	311.	1.4	.0	.0	.0	.0	.0	.0	.4	.3
14. Recpt 14	324.	.8	.0	.0	.0	.0	.2	.0	.0	.3
15. Recpt 15	317.	.7	.1	.0	.0	.0	.1	.0	.0	.2
16. Recpt 16	196.	1.0	.0	.5	.0	.0	.0	.0	.0	.0
17. Recpt 17	206.	.6	.0	.2	.0	.0	.0	.0	.0	.0
18. Recpt 18	214.	.5	.0	.2	.0	.0	.0	.0	.0	.0

□

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

JOB: College and Zura Way NTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K
1. Recpt 1	.0	.4	.0
2. Recpt 2	.0	.4	.0
3. Recpt 3	.0	.5	.0
4. Recpt 4	.0	.2	.1
5. Recpt 5	.0	.0	.0
6. Recpt 6	.0	.0	.0
7. Recpt 7	.0	.0	.0
8. Recpt 8	.1	.2	.0
9. Recpt 9	.1	.1	.0
10. Recpt 10	.1	.0	.0
11. Recpt 11	.0	.4	.0
12. Recpt 12	.0	.3	.0
13. Recpt 13	.6	.0	.0
14. Recpt 14	.0	.0	.0
15. Recpt 15	.0	.0	.0
16. Recpt 16	.0	.3	.0
17. Recpt 17	.0	.2	.0
18. Recpt 18	.0	.1	.0

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

JOB: College & Montezuma NTam
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

```
     U=   1.0 M/S            Z0= 100. CM          ALT=     0. (M)
   BRG= WORST CASE           VD=    .0 CM/S
  CLAS=     7 (G)            VS=    .0 CM/S
  MIXH= 1000. M             AMB=    .0 PPM
 SIGTH=   10. DEGREES      TEMP= 37.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mont EBLA	*	150	0	0	0	*	AG	336	5.5	.0	10.0
B. Mont EBTA	*	150	-4	0	-4	*	AG	413	5.5	.0	10.0
C. Mont EBRA	*	150	-6	0	-6	*	AG	139	5.5	.0	10.0
D. Mont EBD	*	0	-4	-150	-4	*	AG	787	5.5	.0	10.0
E. Mont WBLA	*	-150	0	0	0	*	AG	55	5.5	.0	10.0
F. Mont WBTA	*	-150	4	0	4	*	AG	781	5.5	.0	10.0
G. Mont WBRA	*	-150	6	0	6	*	AG	332	5.5	.0	10.0
H. Mont WBD	*	0	4	150	4	*	AG	1523	5.5	.0	10.0
I. Coll NBLA	*	63	-138	0	0	*	AG	564	5.5	.0	10.0
J. Coll NBTA	*	67	-138	4	0	*	AG	935	5.5	.0	10.0
K. Coll NBRA	*	69	-138	6	0	*	AG	161	5.5	.0	10.0
L. Coll NBD	*	4	0	-4	150	*	AG	1603	5.5	.0	10.0
M. Coll SBLA	*	-8	150	0	0	*	AG	213	5.5	.0	10.0
N. Coll SBTA	*	-12	150	-4	0	*	AG	474	5.5	.0	10.0
O. Coll SBRA	*	-13	150	-6	0	*	AG	178	5.5	.0	10.0
P. Coll SBD	*	-4	0	60	-138	*	AG	668	5.5	.0	10.0

□

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

JOB: College & Montezuma NTam
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. Recpt 1	*	-16	-16	1.8
2. Recpt 2	*	-36	-16	1.8
3. Recpt 3	*	-56	-16	1.8
4. Recpt 4	*	-9	-36	1.8
5. Recpt 5	*	-2	-56	1.8
6. Recpt 6	*	-16	16	1.8
7. Recpt 7	*	-36	16	1.8
8. Recpt 8	*	-56	16	1.8
9. Recpt 9	*	-17	36	1.8
10. Recpt 10	*	-18	56	1.8
11. Recpt 11	*	14	14	1.8
12. Recpt 12	*	13	34	1.8
13. Recpt 13	*	12	54	1.8
14. Recpt 14	*	34	14	1.8
15. Recpt 15	*	54	14	1.8
16. Recpt 16	*	20	-16	1.8
17. Recpt 17	*	30	-36	1.8
18. Recpt 18	*	40	-56	1.8
19. Recpt 19	*	40	-16	1.8
20. Recpt 20	*	60	-16	1.8

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

JOB: College & Montezuma NTam
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	74.	.9	.0	.1	.0	.0	.0	.0	.0	.3
2. Recpt 2	74.	.8	.0	.0	.0	.0	.0	.0	.0	.3
3. Recpt 3	77.	.7	.0	.0	.0	.1	.0	.0	.0	.2
4. Recpt 4	7.	.8	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	3.	.8	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	146.	1.2	.0	.0	.0	.0	.0	.1	.0	.0
7. Recpt 7	105.	.9	.0	.0	.0	.0	.0	.0	.0	.3
8. Recpt 8	103.	.8	.0	.0	.0	.0	.0	.1	.0	.2
9. Recpt 9	153.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	156.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	255.	1.0	.0	.0	.0	.2	.0	.3	.1	.0
12. Recpt 12	202.	.8	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	200.	.8	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	254.	.9	.0	.0	.0	.2	.0	.1	.0	.2
15. Recpt 15	254.	.9	.0	.0	.0	.1	.0	.0	.0	.4
16. Recpt 16	291.	1.0	.0	.0	.0	.2	.0	.2	.0	.0
17. Recpt 17	312.	.9	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	316.	.8	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	286.	.8	.0	.0	.0	.1	.0	.1	.0	.0
20. Recpt 20	286.	.8	.0	.0	.0	.0	.0	.1	.0	.1

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

JOB: College & Montezuma NTam
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P
1. Recpt 1	.0	.1	.0	.0	.0	.0	.0	.0
2. Recpt 2	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	.0	.0	.0	.3	.0	.1	.0	.0
5. Recpt 5	.0	.0	.0	.2	.0	.0	.0	.0
6. Recpt 6	.2	.3	.0	.0	.0	.0	.0	.2
7. Recpt 7	.0	.0	.0	.1	.0	.0	.0	.0
8. Recpt 8	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	.1	.2	.0	.1	.0	.1	.0	.1
10. Recpt 10	.0	.2	.0	.2	.0	.1	.0	.0
11. Recpt 11	.0	.0	.0	.3	.0	.0	.0	.0
12. Recpt 12	.0	.0	.0	.3	.0	.0	.0	.0
13. Recpt 13	.0	.0	.0	.4	.0	.0	.0	.0
14. Recpt 14	.0	.0	.0	.1	.0	.0	.0	.0
15. Recpt 15	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	.1	.2	.0	.0	.0	.0	.0	.1
17. Recpt 17	.1	.3	.0	.0	.0	.0	.0	.1
18. Recpt 18	.1	.3	.0	.0	.0	.0	.0	.1
19. Recpt 19	.0	.0	.0	.0	.0	.0	.0	.0
20. Recpt 20	.0	.0	.0	.0	.0	.0	.0	.0

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

JOB: College & Montezuma NTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S	Z0= 100. CM	ALT= 0. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 37.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
	*	LINK COORDINATES (M)				*					
A. Mont EBLA	*	150	0	0	0	*	AG	778	5.5	.0	10.0
B. Mont EBTA	*	150	-4	0	-4	*	AG	1010	5.5	.0	10.0
C. Mont EBRA	*	150	-6	0	-6	*	AG	572	5.5	.0	10.0
D. Mont EBD	*	0	-4	-150	-4	*	AG	1508	5.5	.0	10.0
E. Mont WBLA	*	-150	0	0	0	*	AG	276	5.5	.0	10.0
F. Mont WBTA	*	-150	4	0	4	*	AG	788	5.5	.0	10.0
G. Mont WBRA	*	-150	6	0	6	*	AG	395	5.5	.0	10.0
H. Mont WBD	*	0	4	150	4	*	AG	1522	5.5	.0	10.0
I. Coll NBLA	*	63	-138	0	0	*	AG	525	5.5	.0	10.0
J. Coll NBTA	*	67	-138	4	0	*	AG	709	5.5	.0	10.0
K. Coll NBRA	*	69	-138	6	0	*	AG	101	5.5	.0	10.0
L. Coll NBD	*	4	0	-4	150	*	AG	1882	5.5	.0	10.0
M. Coll SBLA	*	-8	150	0	0	*	AG	397	5.5	.0	10.0
N. Coll SBTA	*	-12	150	-4	0	*	AG	932	5.5	.0	10.0
O. Coll SBRA	*	-13	150	-6	0	*	AG	209	5.5	.0	10.0
P. Coll SBD	*	-4	0	60	-138	*	AG	1780	5.5	.0	10.0

□

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

JOB: College & Montezuma NTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-16	-16	1.8
2. Recpt 2	-36	-16	1.8
3. Recpt 3	-56	-16	1.8
4. Recpt 4	-9	-36	1.8
5. Recpt 5	-2	-56	1.8
6. Recpt 6	-16	16	1.8
7. Recpt 7	-36	16	1.8
8. Recpt 8	-56	16	1.8
9. Recpt 9	-17	36	1.8
10. Recpt 10	-18	56	1.8
11. Recpt 11	14	14	1.8
12. Recpt 12	13	34	1.8
13. Recpt 13	12	54	1.8
14. Recpt 14	34	14	1.8
15. Recpt 15	54	14	1.8
16. Recpt 16	20	-16	1.8
17. Recpt 17	30	-36	1.8
18. Recpt 18	40	-56	1.8
19. Recpt 19	40	-16	1.8
20. Recpt 20	60	-16	1.8

□

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

JOB: College & Montezuma NTpm
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	75.	1.4	.2	.3	.2	.0	.0	.0	.0	.3
2. Recpt 2	76.	1.2	.2	.2	.1	.1	.0	.0	.0	.3
3. Recpt 3	78.	1.1	.1	.1	.0	.2	.0	.0	.0	.2
4. Recpt 4	7.	1.2	.0	.0	.0	.1	.0	.0	.0	.0
5. Recpt 5	3.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	147.	1.7	.0	.0	.0	.2	.0	.1	.0	.0
7. Recpt 7	105.	1.3	.2	.2	.1	.0	.0	.0	.0	.3
8. Recpt 8	104.	1.2	.1	.2	.0	.0	.0	.1	.1	.2
9. Recpt 9	153.	1.5	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	157.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	255.	1.4	.0	.0	.0	.3	.0	.3	.1	.0
12. Recpt 12	202.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	200.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	254.	1.2	.0	.0	.0	.3	.0	.1	.0	.2
15. Recpt 15	253.	1.2	.1	.1	.0	.2	.0	.0	.0	.4
16. Recpt 16	291.	1.4	.0	.0	.0	.3	.0	.2	.0	.0
17. Recpt 17	312.	1.1	.0	.0	.0	.1	.0	.0	.0	.0
18. Recpt 18	315.	1.0	.0	.0	.0	.1	.0	.0	.0	.0
19. Recpt 19	288.	1.2	.0	.2	.1	.2	.0	.1	.0	.0
20. Recpt 20	287.	1.2	.1	.2	.2	.0	.0	.0	.0	.1

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

JOB: College & Montezuma NTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P
1. Recpt 1	.0	.0	.0	.0	.0	.0	.0	.2
2. Recpt 2	.0	.0	.0	.0	.0	.0	.0	.1
3. Recpt 3	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	.0	.0	.0	.4	.1	.2	.0	.1
5. Recpt 5	.0	.0	.0	.3	.0	.1	.0	.2
6. Recpt 6	.2	.2	.0	.0	.0	.0	.0	.6
7. Recpt 7	.0	.0	.0	.1	.0	.0	.0	.0
8. Recpt 8	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	.1	.2	.0	.1	.0	.2	.0	.3
10. Recpt 10	.0	.1	.0	.2	.0	.2	.0	.2
11. Recpt 11	.0	.0	.0	.3	.0	.1	.0	.0
12. Recpt 12	.0	.0	.0	.4	.0	.0	.0	.1
13. Recpt 13	.0	.0	.0	.5	.0	.1	.0	.0
14. Recpt 14	.0	.0	.0	.2	.0	.0	.0	.0
15. Recpt 15	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	.1	.2	.0	.0	.0	.0	.0	.3
17. Recpt 17	.1	.2	.0	.0	.0	.0	.0	.3
18. Recpt 18	.1	.2	.0	.0	.0	.0	.0	.3
19. Recpt 19	.0	.0	.0	.0	.0	.0	.0	.1
20. Recpt 20	.0	.0	.0	.0	.0	.0	.0	.0

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

JOB: College & El Cajon NTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S	Z0= 100. CM	ALT= 0. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 37.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. EC EBLA	-121	-76	0	0	AG	252	5.5	.0	10.0
B. EC EBTA	-121	-80	0	-4	AG	694	5.5	.0	10.0
C. EC EBRA	-121	-81	0	-6	AG	183	5.5	.0	10.0
D. EC EBD	0	-4	121	72	AG	1304	5.5	.0	10.0
E. EC WBLA	121	76	0	0	AG	331	5.5	.0	10.0
F. EC WBTA	121	80	0	4	AG	543	5.5	.0	10.0
G. EC WBRA	121	81	0	6	AG	298	5.5	.0	10.0
H. EC WBD	0	4	-121	-72	AG	1013	5.5	.0	10.0
I. Coll NBLA1	28	-141	0	-131	AG	237	5.5	.0	10.0
J. Coll NBLA2	0	-131	0	0	AG	237	5.5	.0	10.0
K. Coll NBTA1	31	-141	4	-131	AG	785	5.5	.0	10.0
L. Coll NBTA2	4	-131	4	0	AG	785	5.5	.0	10.0
M. Coll NBRA1	33	-141	6	-131	AG	174	5.5	.0	10.0
N. Coll NBRA2	6	-131	6	0	AG	174	5.5	.0	10.0
O. Coll NBD	4	0	4	150	AG	1335	5.5	.0	10.0
P. Coll SBLA	0	150	0	0	AG	436	5.5	.0	10.0
Q. Coll SBTA	-4	150	-4	0	AG	1065	5.5	.0	10.0
R. Coll SBRA	-6	150	-6	0	AG	233	5.5	.0	10.0
S. Coll SBD1	-4	0	-4	-131	AG	1579	5.5	.0	10.0
T. Coll SBD2	-4	-131	24	-141	AG	1579	5.5	.0	10.0

□

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

JOB: College & El Cajon NTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-25	1.8
2. Recpt 2	-34	-38	1.8
3. Recpt 3	-54	-51	1.8
4. Recpt 4	-14	-45	1.8
5. Recpt 5	-14	-65	1.8
6. Recpt 6	-16	5	1.8
7. Recpt 7	-36	-8	1.8
8. Recpt 8	-56	-21	1.8
9. Recpt 9	-16	25	1.8
10. Recpt 10	-16	45	1.8
11. Recpt 11	16	-5	1.8
12. Recpt 12	36	8	1.8
13. Recpt 13	56	21	1.8
14. Recpt 14	16	-25	1.8
15. Recpt 15	16	-45	1.8
16. Recpt 16	14	25	1.8
17. Recpt 17	34	38	1.8
18. Recpt 18	54	51	1.8
19. Recpt 19	14	45	1.8
20. Recpt 20	14	65	1.8

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

JOB: College & El Cajon NTpm
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	16.	1.3	.0	.2	.0	.0	.0	.0	.0	.2
2. Recpt 2	43.	1.0	.0	.1	.0	.2	.0	.0	.0	.0
3. Recpt 3	45.	.9	.0	.2	.0	.1	.0	.0	.0	.1
4. Recpt 4	15.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	13.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	72.	1.2	.0	.0	.0	.3	.1	.2	.1	.0
7. Recpt 7	71.	1.0	.0	.0	.0	.3	.0	.1	.0	.2
8. Recpt 8	69.	1.0	.0	.0	.0	.2	.0	.0	.0	.3
9. Recpt 9	165.	1.0	.0	.0	.0	.0	.0	.0	.0	.1
10. Recpt 10	165.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	344.	1.2	.0	.0	.0	.3	.0	.0	.0	.0
12. Recpt 12	254.	1.0	.0	.0	.0	.3	.0	.0	.0	.2
13. Recpt 13	252.	1.0	.0	.0	.0	.4	.0	.0	.0	.1
14. Recpt 14	345.	1.0	.0	.0	.0	.1	.0	.0	.0	.0
15. Recpt 15	347.	.9	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	200.	1.3	.0	.0	.0	.2	.0	.1	.0	.0
17. Recpt 17	223.	1.0	.0	.1	.0	.0	.0	.1	.0	.1
18. Recpt 18	225.	.9	.0	.0	.0	.1	.0	.1	.0	.0
19. Recpt 19	196.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
20. Recpt 20	195.	1.1	.0	.0	.0	.0	.0	.0	.0	.0

□

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

JOB: College & El Cajon NTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. Recpt 1	*	.0	.0	.0	.0	.0	.0	.3	.1	.2	.0	.2	.0
2. Recpt 2	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0
3. Recpt 3	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	*	.0	.0	.0	.0	.0	.0	.2	.0	.1	.0	.3	.0
5. Recpt 5	*	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.4	.0
6. Recpt 6	*	.0	.0	.0	.0	.0	.0	.2	.0	.2	.0	.0	.0
7. Recpt 7	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	*	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.3	.0
10. Recpt 10	*	.0	.0	.0	.1	.0	.0	.0	.0	.2	.0	.2	.0
11. Recpt 11	*	.0	.0	.0	.0	.0	.0	.4	.1	.2	.0	.0	.0
12. Recpt 12	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	*	.0	.0	.0	.0	.0	.0	.3	.1	.2	.0	.0	.0
15. Recpt 15	*	.0	.0	.0	.1	.0	.0	.2	.0	.2	.0	.0	.0
16. Recpt 16	*	.0	.0	.0	.1	.0	.0	.2	.0	.0	.0	.3	.0
17. Recpt 17	*	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
18. Recpt 18	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	*	.0	.0	.0	.0	.0	.0	.3	.0	.0	.0	.2	.0
20. Recpt 20	*	.0	.0	.0	.0	.0	.0	.4	.0	.1	.0	.2	.0

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

    JOB: Campanile and Montezuma NT pm
    RUN: Hour 1            (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
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I. SITE VARIABLES

```
     U=   1.0 M/S              Z0= 100. CM          ALT=      0. (M)
   BRG= WORST CASE             VD=   .0 CM/S
  CLAS=     7 (G)              VS=   .0 CM/S
  MIXH= 1000. M               AMB=   .0 PPM
 SIGTH=   10. DEGREES        TEMP= 37.0 DEGREE (C)
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II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mont EBLA	*	-150	0	0	0	*	AG	182	5.5	.0	10.0
B. Mont EBTA	*	-150	-4	0	-4	*	AG	1384	5.5	.0	10.0
C. Mont EBRA	*	-150	-6	0	-6	*	AG	28	5.5	.0	10.0
D. Mont EBD	*	0	-4	150	-4	*	AG	1909	5.5	.0	10.0
E. Mont WBLA	*	150	0	0	0	*	AG	196	5.5	.0	10.0
F. Mont WBTA	*	150	4	0	4	*	AG	880	5.5	.0	10.0
G. Mont WBRA	*	150	6	0	6	*	AG	236	5.5	.0	10.0
H. Mont WBD	*	0	4	-150	4	*	AG	1075	5.5	.0	10.0
I. Camp NBLA	*	0	-150	0	0	*	AG	25	5.5	.0	10.0
J. Camp NBTA	*	4	-150	4	0	*	AG	39	5.5	.0	10.0
K. Camp NBRA	*	6	-150	6	0	*	AG	155	5.5	.0	10.0
L. Camp NBD	*	4	0	4	150	*	AG	457	5.5	.0	10.0
M. Camp SBLA	*	0	150	0	0	*	AG	370	5.5	.0	10.0
N. Camp SBTA	*	-4	150	-4	0	*	AG	38	5.5	.0	10.0
O. Camp SBRA	*	-6	150	-6	0	*	AG	170	5.5	.0	10.0
P. Camp SBD	*	-4	0	-4	-150	*	AG	262	5.5	.0	10.0

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

    JOB: Campanile and Montezuma NT pm
    RUN: Hour 1                (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-16	1.8
2. Recpt 2	-34	-16	1.8
3. Recpt 3	-54	-16	1.8
4. Recpt 4	-14	-36	1.8
5. Recpt 5	-14	-56	1.8
6. Recpt 6	-16	14	1.8
7. Recpt 7	-16	34	1.8
8. Recpt 8	-16	54	1.8
9. Recpt 9	-36	14	1.8
10. Recpt 10	-56	14	1.8
11. Recpt 11	16	-14	1.8
12. Recpt 12	16	-34	1.8
13. Recpt 13	16	-54	1.8
14. Recpt 14	36	-14	1.8
15. Recpt 15	56	-14	1.8
16. Recpt 16	14	16	1.8
17. Recpt 17	34	16	1.8
18. Recpt 18	54	16	1.8
19. Recpt 19	14	36	1.8
20. Recpt 20	14	56	1.8

□

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

JOB: Campanile and Montezuma NT pm
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	74.	.9	.0	.0	.0	.5	.0	.2	.0	.0
2. Recpt 2	75.	.8	.0	.1	.0	.3	.0	.2	.0	.0
3. Recpt 3	76.	.8	.0	.2	.0	.2	.0	.1	.0	.0
4. Recpt 4	12.	.6	.0	.1	.0	.0	.0	.0	.0	.0
5. Recpt 5	11.	.5	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	105.	1.0	.0	.0	.0	.4	.0	.3	.0	.0
7. Recpt 7	116.	.6	.0	.0	.0	.2	.0	.1	.0	.0
8. Recpt 8	124.	.5	.0	.0	.0	.2	.0	.0	.0	.0
9. Recpt 9	104.	.9	.0	.0	.0	.3	.0	.2	.0	.2
10. Recpt 10	102.	.9	.0	.0	.0	.3	.0	.1	.0	.2
11. Recpt 11	73.	.9	.0	.0	.0	.6	.0	.2	.0	.0
12. Recpt 12	348.	.6	.0	.0	.0	.2	.0	.0	.0	.0
13. Recpt 13	350.	.5	.0	.0	.0	.1	.0	.0	.0	.0
14. Recpt 14	290.	.9	.0	.1	.0	.4	.0	.0	.0	.2
15. Recpt 15	286.	.9	.0	.0	.0	.5	.0	.0	.0	.1
16. Recpt 16	253.	.8	.0	.3	.0	.0	.0	.0	.0	.3
17. Recpt 17	254.	.8	.0	.3	.0	.0	.0	.0	.0	.2
18. Recpt 18	255.	.8	.0	.2	.0	.1	.0	.2	.0	.1
19. Recpt 19	244.	.5	.0	.2	.0	.0	.0	.0	.0	.2
20. Recpt 20	201.	.5	.0	.0	.0	.0	.0	.0	.0	.0

□

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

JOB: Campanile and Montezuma NT pm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P
1. Recpt 1	.0	.0	.0	.0	.0	.0	.0	.0
2. Recpt 2	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	.0	.0	.0	.1	.0	.0	.0	.0
5. Recpt 5	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	.0	.0	.0	.0	.0	.0	.0	.0
7. Recpt 7	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	.0	.0	.0	.1	.0	.0	.0	.0
13. Recpt 13	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	.0	.0	.0	.0	.0	.0	.0	.0
17. Recpt 17	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	.0	.0	.0	.0	.0	.0	.0	.0
20. Recpt 20	.0	.0	.0	.1	.0	.0	.0	.0

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

JOB: College and I8 EB LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S	Z0= 100. CM	ALT= 0. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 37.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. I8 EBRA1	-126	-24	-63	-39	AG	1158	2.1	.0	10.0
B. I8 EBRA2	-63	-39	0	-4	AG	1158	2.1	.0	10.0
C. I8 EBD	0	-4	83	110	AG	1080	2.1	.0	10.0
D. I8 EBLA1	-126	-20	-63	-36	AG	834	2.1	.0	10.0
E. I8 EBLA2	-63	-36	0	0	AG	834	2.1	.0	10.0
F. Coll NBA	4	-150	4	0	AG	3528	2.1	.0	10.0
G. Coll SBA	-4	150	-4	0	AG	1700	2.1	.0	10.0
H. Coll NBD	4	0	4	150	AG	2448	2.1	.0	10.0
I. Coll SBD	-4	0	-4	-150	AG	1225	2.1	.0	10.0

□

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

JOB: College and I8 EB LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-20	1.8
2. Recpt 2	-34	-32	1.8
3. Recpt 3	-54	-44	1.8
4. Recpt 4	-14	-40	1.8
5. Recpt 5	-14	-60	1.8
6. Recpt 6	-14	5	1.8
7. Recpt 7	-34	-7	1.8
8. Recpt 8	-54	-19	1.8
9. Recpt 9	-14	25	1.8
10. Recpt 10	-14	45	1.8
11. Recpt 11	14	0	1.8
12. Recpt 12	34	25	1.8
13. Recpt 13	54	50	1.8
14. Recpt 14	14	-20	1.8
15. Recpt 15	14	-40	1.8
16. Recpt 16	14	30	1.8
17. Recpt 17	34	56	1.8
18. Recpt 18	54	82	1.8
19. Recpt 19	14	50	1.8
20. Recpt 20	14	70	1.8

□

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

     JOB: College and I8 EB LTpm
     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	34.	.6	.0	.1	.1	.0	.0	.0	.0	.1
2. Recpt 2	40.	.5	.0	.1	.0	.0	.0	.0	.0	.0
3. Recpt 3	44.	.4	.0	.1	.0	.0	.0	.0	.0	.0
4. Recpt 4	22.	.5	.0	.0	.0	.0	.0	.1	.0	.0
5. Recpt 5	15.	.4	.0	.0	.0	.0	.0	.1	.0	.0
6. Recpt 6	164.	.5	.0	.0	.0	.0	.0	.2	.0	.0
7. Recpt 7	149.	.3	.0	.0	.0	.0	.0	.1	.0	.0
8. Recpt 8	84.	.3	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	164.	.5	.0	.0	.0	.0	.0	.2	.0	.0
10. Recpt 10	165.	.5	.0	.0	.0	.0	.0	.2	.1	.0
11. Recpt 11	249.	.7	.0	.2	.0	.0	.1	.2	.0	.0
12. Recpt 12	237.	.4	.0	.0	.1	.0	.0	.0	.0	.0
13. Recpt 13	233.	.3	.0	.0	.1	.0	.0	.0	.0	.0
14. Recpt 14	337.	.5	.0	.0	.0	.0	.0	.2	.1	.1
15. Recpt 15	340.	.5	.0	.0	.0	.0	.0	.3	.0	.0
16. Recpt 16	195.	.6	.0	.0	.1	.0	.0	.2	.0	.1
17. Recpt 17	201.	.4	.0	.0	.1	.0	.0	.1	.0	.0
18. Recpt 18	204.	.3	.0	.0	.2	.0	.0	.0	.0	.0
19. Recpt 19	194.	.5	.0	.0	.0	.0	.0	.1	.0	.2
20. Recpt 20	195.	.5	.0	.0	.0	.0	.0	.0	.0	.2

□

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

    JOB: College and I8 EB LTpm
    RUN: Hour 1           (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	(PPM) I
1. Recpt 1	*	.0
2. Recpt 2	*	.0
3. Recpt 3	*	.0
4. Recpt 4	*	.1
5. Recpt 5	*	.1
6. Recpt 6	*	.2
7. Recpt 7	*	.0
8. Recpt 8	*	.0
9. Recpt 9	*	.1
10. Recpt 10	*	.0
11. Recpt 11	*	.0
12. Recpt 12	*	.0
13. Recpt 13	*	.0
14. Recpt 14	*	.0
15. Recpt 15	*	.0
16. Recpt 16	*	.0
17. Recpt 17	*	.0
18. Recpt 18	*	.0
19. Recpt 19	*	.0
20. Recpt 20	*	.0

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

JOB: College and Cyn Crest LTam
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S	Z0= 100. CM	ALT= 0. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 37.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. CC EBTA1	*	-150	-4	-75	-19	*	AG	214	2.1	.0	10.0
B. CC EBLA2	*	-75	-16	0	0	*	AG	103	2.1	.0	10.0
C. CC EBTA2	*	-75	-19	0	-4	*	AG	41	2.1	.0	10.0
D. CC EBRA2	*	-75	-23	0	-7	*	AG	70	2.1	.0	10.0
E. CC EBD1	*	0	-4	55	12	*	AG	1002	2.1	.0	10.0
F. CC EBD2	*	55	12	123	-63	*	AG	1002	2.1	.0	10.0
G. CC WBTA1	*	130	-63	55	15	*	AG	499	2.1	.0	10.0
H. CC WBLA2	*	55	12	0	0	*	AG	130	2.1	.0	10.0
I. CC WBTA2	*	55	15	0	4	*	AG	149	2.1	.0	10.0
J. CC WBRA2	*	55	19	0	7	*	AG	220	2.1	.0	10.0
K. CC WBD1	*	0	4	-75	-12	*	AG	1674	2.1	.0	10.0
L. CC WBD2	*	-75	-12	-150	4	*	AG	1674	2.1	.0	10.0
M. Coll NBLA	*	59	-142	0	0	*	AG	228	2.1	.0	10.0
N. Coll NBTA	*	63	-142	4	0	*	AG	1294	2.1	.0	10.0
O. Coll NBRA	*	66	-142	7	0	*	AG	186	2.1	.0	10.0
P. Coll NBD	*	4	0	4	150	*	AG	1617	2.1	.0	10.0
Q. Coll SBLA	*	0	150	0	0	*	AG	747	2.1	.0	10.0
R. Coll SBTA	*	-4	150	-4	0	*	AG	1848	2.1	.0	10.0
S. Coll SBRA	*	-7	150	-7	0	*	AG	1297	2.1	.0	10.0
T. Coll SBD	*	-4	0	56	-142	*	AG	2048	2.1	.0	10.0

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

     JOB: College and Cyn Crest LTam
     RUN: Hour 1           (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-20	1.8
2. Recpt 2	-34	-25	1.8
3. Recpt 3	-54	-30	1.8
4. Recpt 4	-6	-40	1.8
5. Recpt 5	3	-60	1.8
6. Recpt 6	22	-12	1.8
7. Recpt 7	30	-32	1.8
8. Recpt 8	38	-52	1.8
9. Recpt 9	42	-5	1.8
10. Recpt 10	-17	13	1.8
11. Recpt 11	-37	8	1.8
12. Recpt 12	-57	3	1.8
13. Recpt 13	-17	33	1.8
14. Recpt 14	-17	53	1.8
15. Recpt 15	14	20	1.8
16. Recpt 16	34	23	1.8
17. Recpt 17	54	26	1.8
18. Recpt 18	14	40	1.8
19. Recpt 19	14	60	1.8

□

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

JOB: College and Cyn Crest LTam
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	11.	.6	.0	.0	.0	.0	.0	.0	.0	.0
2. Recpt 2	24.	.4	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	29.	.3	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	4.	.6	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	360.	.5	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	339.	.4	.0	.0	.0	.0	.0	.0	.0	.0
7. Recpt 7	315.	.4	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	317.	.4	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	275.	.4	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	143.	.6	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	101.	.4	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	96.	.4	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	153.	.7	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	157.	.6	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	238.	.5	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	247.	.3	.0	.0	.0	.0	.0	.0	.0	.0
17. Recpt 17	250.	.3	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	340.	.5	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	208.	.5	.0	.0	.0	.0	.0	.0	.0	.0

□

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

JOB: College and Cyn Crest LTam
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. Recpt 1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.2	.1	.0
2. Recpt 2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.0	.0
5. Recpt 5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
6. Recpt 6	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.0	.0
7. Recpt 7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.1
9. Recpt 9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	.0	.0	.1	.0	.0	.1	.0	.0	.0	.0	.0	.2
11. Recpt 11	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	.0	.0	.0	.0	.0	.1	.0	.0	.0	.1	.1	.1
14. Recpt 14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0
15. Recpt 15	.0	.0	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0
16. Recpt 16	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. Recpt 17	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	.0	.0	.0	.0	.0	.0	.0	.2	.0	.1	.0	.0
19. Recpt 19	.0	.0	.0	.0	.0	.0	.0	.2	.0	.1	.0	.0

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

     JOB: College and Cyn Crest LTpm
     RUN: Hour 1            (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
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I. SITE VARIABLES

```
     U=    1.0 M/S              Z0= 100. CM          ALT=      0. (M)
   BRG= WORST CASE              VD=    .0 CM/S
  CLAS=      7 (G)              VS=    .0 CM/S
  MIXH= 1000. M                AMB=    .0 PPM
 SIGTH=    10. DEGREES        TEMP= 37.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
		LINK COORDINATES (M)									
A. CC EBTA1	*	-150	-4	-75	-19	*	AG	833	2.1	.0	10.0
B. CC EBLA2	*	-75	-16	0	0	*	AG	642	2.1	.0	10.0
C. CC EBTA2	*	-75	-19	0	-4	*	AG	70	2.1	.0	10.0
D. CC EBRA2	*	-75	-23	0	-7	*	AG	121	2.1	.0	10.0
E. CC EBD1	*	0	-4	55	12	*	AG	630	2.1	.0	10.0
F. CC EBD2	*	55	12	123	-63	*	AG	630	2.1	.0	10.0
G. CC WBTA1	*	130	-63	55	15	*	AG	774	2.1	.0	10.0
H. CC WBLA2	*	55	12	0	0	*	AG	207	2.1	.0	10.0
I. CC WBTA2	*	55	15	0	4	*	AG	24	2.1	.0	10.0
J. CC WBRA2	*	55	19	0	7	*	AG	543	2.1	.0	10.0
K. CC WBD1	*	0	4	-75	-12	*	AG	319	2.1	.0	10.0
L. CC WBD2	*	-75	-12	-150	4	*	AG	319	2.1	.0	10.0
M. Coll NBLA	*	59	-142	0	0	*	AG	106	2.1	.0	10.0
N. Coll NBTA	*	63	-142	4	0	*	AG	2345	2.1	.0	10.0
O. Coll NBRA	*	66	-142	7	0	*	AG	187	2.1	.0	10.0
P. Coll NBD	*	4	0	4	150	*	AG	2668	2.1	.0	10.0
Q. Coll SBLA	*	0	150	0	0	*	AG	373	2.1	.0	10.0
R. Coll SBTA	*	-4	150	-4	0	*	AG	1821	2.1	.0	10.0
S. Coll SBRA	*	-7	150	-7	0	*	AG	189	2.1	.0	10.0
T. Coll SBD	*	-4	0	56	-142	*	AG	2149	2.1	.0	10.0

□

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

JOB: College and Cyn Crest LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-20	1.8
2. Recpt 2	-34	-25	1.8
3. Recpt 3	-54	-30	1.8
4. Recpt 4	-6	-40	1.8
5. Recpt 5	3	-60	1.8
6. Recpt 6	22	-12	1.8
7. Recpt 7	30	-32	1.8
8. Recpt 8	38	-52	1.8
9. Recpt 9	42	-5	1.8
10. Recpt 10	-17	13	1.8
11. Recpt 11	-37	8	1.8
12. Recpt 12	-57	3	1.8
13. Recpt 13	-17	33	1.8
14. Recpt 14	-17	53	1.8
15. Recpt 15	14	20	1.8
16. Recpt 16	34	23	1.8
17. Recpt 17	54	26	1.8
18. Recpt 18	14	40	1.8
19. Recpt 19	14	60	1.8

□

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

JOB: College and Cyn Crest LTpm
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	14.	.5	.0	.0	.0	.0	.0	.0	.0	.0
2. Recpt 2	26.	.3	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	30.	.2	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	6.	.5	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	1.	.5	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	276.	.4	.0	.0	.0	.0	.0	.0	.0	.0
7. Recpt 7	308.	.4	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	314.	.4	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	271.	.3	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	144.	.6	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	105.	.3	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	100.	.3	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	152.	.6	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	157.	.6	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	341.	.5	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	241.	.3	.0	.0	.0	.0	.0	.0	.0	.0
17. Recpt 17	244.	.3	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	340.	.5	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	203.	.5	.0	.0	.0	.0	.0	.0	.0	.0

□

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

JOB: College and Cyn Crest LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. Recpt 1	.0	.0	.0	.0	.0	.0	.0	.2	.0	.2	.0	.0
2. Recpt 2	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0
3. Recpt 3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	.0	.0	.0	.0	.0	.0	.0	.2	.0	.1	.0	.0
5. Recpt 5	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.1
6. Recpt 6	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.1
7. Recpt 7	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.1
8. Recpt 8	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.1
9. Recpt 9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.2
11. Recpt 11	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	.0	.0	.0	.0	.0	.2	.0	.0	.0	.1	.0	.1
14. Recpt 14	.0	.0	.0	.0	.0	.1	.0	.0	.0	.1	.0	.0
15. Recpt 15	.0	.0	.0	.0	.0	.0	.0	.3	.0	.1	.0	.0
16. Recpt 16	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. Recpt 17	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	.0	.0	.0	.0	.0	.0	.0	.3	.0	.1	.0	.0
19. Recpt 19	.0	.0	.0	.0	.0	.0	.0	.3	.0	.1	.0	.0

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

JOB: College and Zura Way LTam
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S	Z0= 100. CM	ALT= 0. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 37.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Zura Way	74	-16	0	0	AG	128	2.1	.0	10.0
B. Coll NBTA	4	-150	4	0	AG	1564	2.1	.0	10.0
C. Coll NBRA	6	-150	6	0	AG	200	2.1	.0	10.0
D. Coll SBLA1	-20	71	0	0	AG	580	2.1	.0	10.0
E. Coll SBTA1	-23	71	-4	0	AG	1475	2.1	.0	10.0
F. Coll SBLA2	-71	126	-20	71	AG	580	2.1	.0	10.0
G. Coll SBTA2	-75	126	-23	71	AG	1475	2.1	.0	10.0
H. Coll NBD1	4	0	-16	71	AG	1692	2.1	.0	10.0
I. Coll NBD2	-16	71	-67	129	AG	1692	2.1	.0	10.0
J. Coll SBD	-4	0	-4	-150	AG	1475	2.1	.0	10.0
K. Zura WayD	0	-4	74	-20	AG	780	2.1	.0	10.0

□

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

JOB: College and Zura Way LTam
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-60	1.8
2. Recpt 2	-14	-40	1.8
3. Recpt 3	-14	-20	1.8
4. Recpt 4	-14	0	1.8
5. Recpt 5	-19	20	1.8
6. Recpt 6	-24	40	1.8
7. Recpt 7	-29	60	1.8
8. Recpt 8	14	-60	1.8
9. Recpt 9	14	-40	1.8
10. Recpt 10	14	-20	1.8
11. Recpt 11	6	20	1.8
12. Recpt 12	1	40	1.8
13. Recpt 13	-4	60	1.8
14. Recpt 14	34	-22	1.8
15. Recpt 15	54	-24	1.8
16. Recpt 16	14	5	1.8
17. Recpt 17	34	2	1.8
18. Recpt 18	54	-1	1.8

□

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

JOB: College and Zura Way LTam
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	22.	.3	.0	.0	.0	.0	.0	.0	.0	.0
2. Recpt 2	160.	.3	.0	.1	.0	.0	.0	.0	.0	.0
3. Recpt 3	163.	.3	.0	.1	.0	.0	.0	.0	.0	.0
4. Recpt 4	102.	.3	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	124.	.4	.0	.0	.0	.0	.1	.0	.0	.0
6. Recpt 6	139.	.4	.0	.0	.0	.0	.2	.0	.0	.1
7. Recpt 7	145.	.4	.0	.0	.0	.0	.2	.0	.0	.1
8. Recpt 8	342.	.5	.0	.2	.0	.0	.0	.0	.0	.0
9. Recpt 9	339.	.5	.0	.1	.0	.0	.0	.0	.0	.0
10. Recpt 10	334.	.6	.0	.0	.0	.0	.1	.0	.0	.1
11. Recpt 11	186.	.6	.0	.2	.0	.0	.0	.0	.0	.1
12. Recpt 12	183.	.5	.0	.0	.0	.0	.0	.0	.0	.2
13. Recpt 13	311.	.5	.0	.0	.0	.0	.0	.0	.1	.1
14. Recpt 14	324.	.3	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	317.	.3	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	196.	.4	.0	.2	.0	.0	.0	.0	.0	.0
17. Recpt 17	206.	.2	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	214.	.2	.0	.0	.0	.0	.0	.0	.0	.0

□

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

JOB: College and Zura Way LTam
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K
1. Recpt 1	.0	.2	.0
2. Recpt 2	.0	.2	.0
3. Recpt 3	.0	.2	.0
4. Recpt 4	.0	.0	.1
5. Recpt 5	.0	.0	.0
6. Recpt 6	.0	.0	.0
7. Recpt 7	.0	.0	.0
8. Recpt 8	.0	.0	.0
9. Recpt 9	.0	.0	.0
10. Recpt 10	.0	.0	.0
11. Recpt 11	.0	.1	.0
12. Recpt 12	.0	.1	.0
13. Recpt 13	.2	.0	.0
14. Recpt 14	.0	.0	.0
15. Recpt 15	.0	.0	.0
16. Recpt 16	.0	.1	.0
17. Recpt 17	.0	.0	.0
18. Recpt 18	.0	.0	.0

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

     JOB: College and Zura Way LTpm
     RUN: Hour 1            (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

I. SITE VARIABLES

```
   U=   1.0 M/S          Z0= 100. CM          ALT=      0. (M)
 BRG= WORST CASE         VD=    .0 CM/S
CLAS=      7 (G)         VS=    .0 CM/S
MIXH= 1000. M           AMB=    .0 PPM
SIGTH=   10. DEGREES   TEMP= 37.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Zura Way	*	74	-16	0	0	*	AG	664	2.1	.0	10.0
B. Coll NBTA	*	4	-150	4	0	*	AG	1974	2.1	.0	10.0
C. Coll NBRA	*	6	-150	6	0	*	AG	204	2.1	.0	10.0
D. Coll SBLA1	*	-20	71	0	0	*	AG	315	2.1	.0	10.0
E. Coll SBTA1	*	-23	71	-4	0	*	AG	1834	2.1	.0	10.0
F. Coll SBLA2	*	-71	126	-20	71	*	AG	315	2.1	.0	10.0
G. Coll SBTA2	*	-75	126	-23	71	*	AG	1834	2.1	.0	10.0
H. Coll NBD1	*	4	0	-16	71	*	AG	2638	2.1	.0	10.0
I. Coll NBD2	*	-16	71	-67	129	*	AG	2638	2.1	.0	10.0
J. Coll SBD	*	-4	0	-4	-150	*	AG	1834	2.1	.0	10.0
K. Zura WayD	*	0	-4	74	-20	*	AG	519	2.1	.0	10.0

□

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

JOB: College and Zura Way LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-60	1.8
2. Recpt 2	-14	-40	1.8
3. Recpt 3	-14	-20	1.8
4. Recpt 4	-14	0	1.8
5. Recpt 5	-19	20	1.8
6. Recpt 6	-24	40	1.8
7. Recpt 7	-29	60	1.8
8. Recpt 8	14	-60	1.8
9. Recpt 9	14	-40	1.8
10. Recpt 10	14	-20	1.8
11. Recpt 11	6	20	1.8
12. Recpt 12	1	40	1.8
13. Recpt 13	-4	60	1.8
14. Recpt 14	34	-22	1.8
15. Recpt 15	54	-24	1.8
16. Recpt 16	14	5	1.8
17. Recpt 17	34	2	1.8
18. Recpt 18	54	-1	1.8

□

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

JOB: College and Zura Way LTpm
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	22.	.4	.0	.1	.0	.0	.0	.0	.0	.0
2. Recpt 2	160.	.4	.0	.1	.0	.0	.0	.0	.0	.0
3. Recpt 3	160.	.4	.0	.1	.0	.0	.0	.0	.0	.0
4. Recpt 4	100.	.4	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	123.	.4	.0	.0	.0	.0	.2	.0	.0	.1
6. Recpt 6	137.	.5	.0	.0	.0	.0	.2	.0	.0	.2
7. Recpt 7	143.	.5	.0	.0	.0	.0	.2	.0	.0	.2
8. Recpt 8	342.	.5	.0	.2	.0	.0	.0	.0	.0	.0
9. Recpt 9	340.	.6	.0	.2	.0	.0	.0	.0	.0	.1
10. Recpt 10	335.	.7	.0	.1	.0	.0	.1	.0	.0	.2
11. Recpt 11	186.	.7	.0	.2	.0	.0	.0	.0	.0	.2
12. Recpt 12	183.	.7	.0	.1	.0	.0	.0	.0	.0	.3
13. Recpt 13	311.	.7	.0	.0	.0	.0	.0	.0	.2	.2
14. Recpt 14	324.	.4	.0	.0	.0	.0	.0	.0	.0	.1
15. Recpt 15	317.	.3	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	196.	.5	.0	.2	.0	.0	.0	.0	.0	.0
17. Recpt 17	206.	.3	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	256.	.2	.0	.0	.0	.0	.0	.0	.0	.0

□

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

JOB: College and Zura Way LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	CONC/LINK (PPM) I	J	K
1. Recpt 1	*	.0	.2	.0
2. Recpt 2	*	.0	.2	.0
3. Recpt 3	*	.0	.2	.0
4. Recpt 4	*	.0	.1	.0
5. Recpt 5	*	.0	.0	.0
6. Recpt 6	*	.0	.0	.0
7. Recpt 7	*	.0	.0	.0
8. Recpt 8	*	.0	.0	.0
9. Recpt 9	*	.0	.0	.0
10. Recpt 10	*	.0	.0	.0
11. Recpt 11	*	.0	.2	.0
12. Recpt 12	*	.0	.1	.0
13. Recpt 13	*	.3	.0	.0
14. Recpt 14	*	.0	.0	.0
15. Recpt 15	*	.0	.0	.0
16. Recpt 16	*	.0	.1	.0
17. Recpt 17	*	.0	.0	.0
18. Recpt 18	*	.0	.0	.0

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

JOB: College & Montezuma LTam
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S	Z0= 100. CM	ALT=	0. (M)
BRG= WORST CASE	VD= .0 CM/S		
CLAS= 7 (G)	VS= .0 CM/S		
MIXH= 1000. M	AMB= .0 PPM		
SIGTH= 10. DEGREES	TEMP= 37.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mont EBLA	*	150	0	0	0	*	AG	451	2.1	.0	10.0
B. Mont EBTA	*	150	-4	0	-4	*	AG	406	2.1	.0	10.0
C. Mont EBRA	*	150	-6	0	-6	*	AG	158	2.1	.0	10.0
D. Mont EBD	*	0	-4	-150	-4	*	AG	816	2.1	.0	10.0
E. Mont WBLA	*	-150	0	0	0	*	AG	58	2.1	.0	10.0
F. Mont WBTA	*	-150	4	0	4	*	AG	740	2.1	.0	10.0
G. Mont WBRA	*	-150	6	0	6	*	AG	310	2.1	.0	10.0
H. Mont WBD	*	0	4	150	4	*	AG	1391	2.1	.0	10.0
I. Coll NBLA	*	63	-138	0	0	*	AG	679	2.1	.0	10.0
J. Coll NBTA	*	67	-138	4	0	*	AG	1099	2.1	.0	10.0
K. Coll NBRA	*	69	-138	6	0	*	AG	170	2.1	.0	10.0
L. Coll NBD	*	4	0	-4	150	*	AG	1860	2.1	.0	10.0
M. Coll SBLA	*	-8	150	0	0	*	AG	240	2.1	.0	10.0
N. Coll SBTA	*	-12	150	-4	0	*	AG	550	2.1	.0	10.0
O. Coll SBRA	*	-13	150	-6	0	*	AG	272	2.1	.0	10.0
P. Coll SBD	*	-4	0	60	-138	*	AG	766	2.1	.0	10.0

□

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

     JOB: College & Montezuma LTam
     RUN: Hour 1              (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
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III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-16	-16	1.8
2. Recpt 2	-36	-16	1.8
3. Recpt 3	-56	-16	1.8
4. Recpt 4	-9	-36	1.8
5. Recpt 5	-2	-56	1.8
6. Recpt 6	-16	16	1.8
7. Recpt 7	-36	16	1.8
8. Recpt 8	-56	16	1.8
9. Recpt 9	-17	36	1.8
10. Recpt 10	-18	56	1.8
11. Recpt 11	14	14	1.8
12. Recpt 12	13	34	1.8
13. Recpt 13	12	54	1.8
14. Recpt 14	34	14	1.8
15. Recpt 15	54	14	1.8
16. Recpt 16	20	-16	1.8
17. Recpt 17	30	-36	1.8
18. Recpt 18	40	-56	1.8
19. Recpt 19	40	-16	1.8
20. Recpt 20	60	-16	1.8

□

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

     JOB: College & Montezuma LTam
     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	74.	.4	.0	.0	.0	.0	.0	.0	.0	.1
2. Recpt 2	75.	.3	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	77.	.3	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	7.	.4	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	3.	.3	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	146.	.5	.0	.0	.0	.0	.0	.0	.0	.0
7. Recpt 7	105.	.4	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	103.	.3	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	153.	.5	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	156.	.4	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	255.	.4	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	202.	.3	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	201.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	254.	.4	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	254.	.3	.0	.0	.0	.0	.0	.0	.0	.1
16. Recpt 16	291.	.4	.0	.0	.0	.0	.0	.0	.0	.0
17. Recpt 17	312.	.4	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	316.	.4	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	286.	.3	.0	.0	.0	.0	.0	.0	.0	.0
20. Recpt 20	286.	.3	.0	.0	.0	.0	.0	.0	.0	.0

□

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

     JOB: College & Montezuma LTam
     RUN: Hour 1           (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	I	J	K	L	M	N	O	P
	CONC/LINK (PPM)							
1. Recpt 1	.0	.0	.0	.0	.0	.0	.0	.0
2. Recpt 2	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	.0	.0	.0	.1	.0	.0	.0	.0
5. Recpt 5	.0	.0	.0	.1	.0	.0	.0	.0
6. Recpt 6	.0	.1	.0	.0	.0	.0	.0	.0
7. Recpt 7	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	.0	.0	.0	.1	.0	.0	.0	.0
12. Recpt 12	.0	.0	.0	.1	.0	.0	.0	.0
13. Recpt 13	.0	.0	.0	.2	.0	.0	.0	.0
14. Recpt 14	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	.0	.1	.0	.0	.0	.0	.0	.0
17. Recpt 17	.0	.1	.0	.0	.0	.0	.0	.0
18. Recpt 18	.0	.1	.0	.0	.0	.0	.0	.0
19. Recpt 19	.0	.0	.0	.0	.0	.0	.0	.0
20. Recpt 20	.0	.0	.0	.0	.0	.0	.0	.0

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

JOB: College & Montezuma LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S	Z0= 100. CM	ALT= 0. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 37.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mont EBLA	*	150	0	0	0	*	AG	1302	2.1	.0	10.0
B. Mont EBTA	*	150	-4	0	-4	*	AG	967	2.1	.0	10.0
C. Mont EBRA	*	150	-6	0	-6	*	AG	657	2.1	.0	10.0
D. Mont EBD	*	0	-4	-150	-4	*	AG	1469	2.1	.0	10.0
E. Mont WBLA	*	-150	0	0	0	*	AG	290	2.1	.0	10.0
F. Mont WBTA	*	-150	4	0	4	*	AG	776	2.1	.0	10.0
G. Mont WBRA	*	-150	6	0	6	*	AG	384	2.1	.0	10.0
H. Mont WBD	*	0	4	150	4	*	AG	1789	2.1	.0	10.0
I. Coll NBLA	*	63	-138	0	0	*	AG	707	2.1	.0	10.0
J. Coll NBTA	*	67	-138	4	0	*	AG	782	2.1	.0	10.0
K. Coll NBRA	*	69	-138	6	0	*	AG	63	2.1	.0	10.0
L. Coll NBD	*	4	0	-4	150	*	AG	2468	2.1	.0	10.0
M. Coll SBLA	*	-8	150	0	0	*	AG	439	2.1	.0	10.0
N. Coll SBTA	*	-12	150	-4	0	*	AG	1084	2.1	.0	10.0
O. Coll SBRA	*	-13	150	-6	0	*	AG	306	2.1	.0	10.0
P. Coll SBD	*	-4	0	60	-138	*	AG	2031	2.1	.0	10.0

□

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

JOB: College & Montezuma LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. Recpt 1	*	-16	-16	1.8
2. Recpt 2	*	-36	-16	1.8
3. Recpt 3	*	-56	-16	1.8
4. Recpt 4	*	-9	-36	1.8
5. Recpt 5	*	-2	-56	1.8
6. Recpt 6	*	-16	16	1.8
7. Recpt 7	*	-36	16	1.8
8. Recpt 8	*	-56	16	1.8
9. Recpt 9	*	-17	36	1.8
10. Recpt 10	*	-18	56	1.8
11. Recpt 11	*	14	14	1.8
12. Recpt 12	*	13	34	1.8
13. Recpt 13	*	12	54	1.8
14. Recpt 14	*	34	14	1.8
15. Recpt 15	*	54	14	1.8
16. Recpt 16	*	20	-16	1.8
17. Recpt 17	*	30	-36	1.8
18. Recpt 18	*	40	-56	1.8
19. Recpt 19	*	40	-16	1.8
20. Recpt 20	*	60	-16	1.8

□

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

JOB: College & Montezuma LTpm
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	75.	.6	.1	.1	.0	.0	.0	.0	.0	.1
2. Recpt 2	76.	.5	.0	.0	.0	.0	.0	.0	.0	.1
3. Recpt 3	78.	.5	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	8.	.5	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	3.	.5	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	147.	.7	.0	.0	.0	.0	.0	.0	.0	.0
7. Recpt 7	104.	.6	.0	.0	.0	.0	.0	.0	.0	.1
8. Recpt 8	103.	.5	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	153.	.6	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	156.	.6	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	224.	.6	.0	.0	.0	.0	.0	.0	.0	.1
12. Recpt 12	202.	.5	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	200.	.5	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	245.	.5	.0	.0	.0	.0	.0	.0	.0	.2
15. Recpt 15	249.	.5	.0	.0	.0	.0	.0	.0	.0	.2
16. Recpt 16	338.	.6	.0	.0	.0	.0	.0	.0	.0	.0
17. Recpt 17	315.	.5	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	315.	.4	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	298.	.5	.0	.0	.0	.0	.0	.0	.0	.0
20. Recpt 20	292.	.5	.0	.0	.0	.0	.0	.0	.0	.0

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

JOB: College & Montezuma LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P
	*				CONC/LINK (PPM)				
1. Recpt 1	*	.0	.0	.0	.0	.0	.0	.0	.1
2. Recpt 2	*	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	*	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	*	.0	.0	.0	.2	.0	.0	.0	.0
5. Recpt 5	*	.0	.0	.0	.1	.0	.0	.0	.0
6. Recpt 6	*	.0	.0	.0	.0	.0	.0	.0	.2
7. Recpt 7	*	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	*	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	*	.0	.0	.0	.0	.0	.0	.0	.1
10. Recpt 10	*	.0	.0	.0	.1	.0	.1	.0	.0
11. Recpt 11	*	.0	.0	.0	.2	.0	.0	.0	.0
12. Recpt 12	*	.0	.0	.0	.2	.0	.0	.0	.0
13. Recpt 13	*	.0	.0	.0	.2	.0	.0	.0	.0
14. Recpt 14	*	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	*	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	*	.0	.0	.0	.2	.0	.0	.0	.0
17. Recpt 17	*	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	*	.0	.0	.0	.0	.0	.0	.0	.1
19. Recpt 19	*	.0	.0	.0	.0	.0	.0	.0	.0
20. Recpt 20	*	.0	.0	.0	.0	.0	.0	.0	.0

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

     JOB: 55th and Montezuma LTam
     RUN: Hour 1           (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

I. SITE VARIABLES

```
    U=   1.0 M/S              Z0= 100. CM          ALT=     0. (M)
  BRG= WORST CASE             VD=    .0 CM/S
 CLAS=     7 (G)              VS=    .0 CM/S
 MIXH= 1000. M               AMB=    .0 PPM
SIGTH=   10. DEGREES        TEMP= 37.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mont EBLA	*	-150	0	0	0	*	AG	1114	2.1	.0	10.0
B. Mont EBTA	*	-150	-4	0	-4	*	AG	625	2.1	.0	10.0
C. Mont EBRA	*	-150	-6	0	-6	*	AG	26	2.1	.0	10.0
D. Mont EBD	*	0	-4	150	-4	*	AG	778	2.1	.0	10.0
E. Mont WBLA	*	150	0	0	0	*	AG	20	2.1	.0	10.0
F. Mont WBTA	*	150	4	0	4	*	AG	1194	2.1	.0	10.0
G. Mont WBRA	*	150	6	0	6	*	AG	375	2.1	.0	10.0
H. Mont WBD	*	0	4	-150	4	*	AG	1446	2.1	.0	10.0
I. 55th NBLA	*	0	-150	0	0	*	AG	50	2.1	.0	10.0
J. 55th NBTA	*	4	-150	4	0	*	AG	15	2.1	.0	10.0
K. 55th NBRA	*	6	-150	6	0	*	AG	10	2.1	.0	10.0
L. 55th NBD	*	4	0	4	150	*	AG	1504	2.1	.0	10.0
M. 55th SBLA	*	0	150	0	0	*	AG	143	2.1	.0	10.0
N. 55th SBTA	*	-4	150	-4	0	*	AG	10	2.1	.0	10.0
O. 55th SBRA	*	-6	150	-6	0	*	AG	202	2.1	.0	10.0
P. 55th SBD	*	-4	0	-4	-150	*	AG	56	2.1	.0	10.0

□

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

    JOB: 55th and Montezuma LTam
    RUN: Hour 1           (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-16	1.8
2. Recpt 2	-34	-16	1.8
3. Recpt 3	-54	-16	1.8
4. Recpt 4	-14	-36	1.8
5. Recpt 5	-14	-56	1.8
6. Recpt 6	-16	14	1.8
7. Recpt 7	-16	34	1.8
8. Recpt 8	-16	54	1.8
9. Recpt 9	-36	14	1.8
10. Recpt 10	-56	14	1.8
11. Recpt 11	16	-14	1.8
12. Recpt 12	16	-34	1.8
13. Recpt 13	16	-54	1.8
14. Recpt 14	36	-14	1.8
15. Recpt 15	56	-14	1.8
16. Recpt 16	14	16	1.8
17. Recpt 17	34	16	1.8
18. Recpt 18	54	16	1.8
19. Recpt 19	14	36	1.8
20. Recpt 20	14	56	1.8

□

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

JOB: 55th and Montezuma LTam
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	15.	.3	.0	.0	.0	.0	.0	.0	.0	.0
2. Recpt 2	50.	.3	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	66.	.3	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	12.	.3	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	10.	.2	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	104.	.4	.0	.0	.0	.0	.0	.1	.0	.0
7. Recpt 7	115.	.2	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	135.	.2	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	104.	.3	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	104.	.3	.0	.0	.0	.0	.0	.0	.0	.1
11. Recpt 11	345.	.3	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	349.	.2	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	351.	.2	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	284.	.3	.0	.0	.0	.0	.0	.0	.0	.1
15. Recpt 15	284.	.3	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	252.	.4	.0	.0	.0	.0	.0	.0	.0	.1
17. Recpt 17	256.	.4	.0	.0	.0	.0	.0	.0	.0	.1
18. Recpt 18	259.	.3	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	244.	.3	.0	.0	.0	.0	.0	.0	.0	.0
20. Recpt 20	205.	.3	.0	.0	.0	.0	.0	.0	.0	.0

□

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

JOB: 55th and Montezuma LTam
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P
	*				CONC/LINK (PPM)				
1. Recpt 1	*	.0	.0	.0	.1	.0	.0	.0	.0
2. Recpt 2	*	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	*	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	*	.0	.0	.0	.1	.0	.0	.0	.0
5. Recpt 5	*	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	*	.0	.0	.0	.0	.0	.0	.0	.0
7. Recpt 7	*	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	*	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	*	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	*	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	*	.0	.0	.0	.2	.0	.0	.0	.0
12. Recpt 12	*	.0	.0	.0	.1	.0	.0	.0	.0
13. Recpt 13	*	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	*	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	*	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	*	.0	.0	.0	.1	.0	.0	.0	.0
17. Recpt 17	*	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	*	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	*	.0	.0	.0	.1	.0	.0	.0	.0
20. Recpt 20	*	.0	.0	.0	.2	.0	.0	.0	.0

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

JOB: 55th and Montezuma LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S	Z0= 100. CM	ALT= 0. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 37.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mont EBLA	*	-150	0	0	0	*	AG	571	2.1	.0	10.0
B. Mont EBTA	*	-150	-4	0	-4	*	AG	1395	2.1	.0	10.0
C. Mont EBRA	*	-150	-6	0	-6	*	AG	117	2.1	.0	10.0
D. Mont EBD	*	0	-4	150	-4	*	AG	1990	2.1	.0	10.0
E. Mont WBLA	*	150	0	0	0	*	AG	30	2.1	.0	10.0
F. Mont WBTA	*	150	4	0	4	*	AG	1613	2.1	.0	10.0
G. Mont WBRA	*	150	6	0	6	*	AG	217	2.1	.0	10.0
H. Mont WBD	*	0	4	-150	4	*	AG	2236	2.1	.0	10.0
I. 55th NBLA	*	0	-150	0	0	*	AG	60	2.1	.0	10.0
J. 55th NBTA	*	4	-150	4	0	*	AG	15	2.1	.0	10.0
K. 55th NBRA	*	6	-150	6	0	*	AG	20	2.1	.0	10.0
L. 55th NBD	*	4	0	4	150	*	AG	803	2.1	.0	10.0
M. 55th SBLA	*	0	150	0	0	*	AG	575	2.1	.0	10.0
N. 55th SBTA	*	-4	150	-4	0	*	AG	20	2.1	.0	10.0
O. 55th SBRA	*	-6	150	-6	0	*	AG	563	2.1	.0	10.0
P. 55th SBD	*	-4	0	-4	-150	*	AG	167	2.1	.0	10.0

□

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

JOB: 55th and Montezuma LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-16	1.8
2. Recpt 2	-34	-16	1.8
3. Recpt 3	-54	-16	1.8
4. Recpt 4	-14	-36	1.8
5. Recpt 5	-14	-56	1.8
6. Recpt 6	-16	14	1.8
7. Recpt 7	-16	34	1.8
8. Recpt 8	-16	54	1.8
9. Recpt 9	-36	14	1.8
10. Recpt 10	-56	14	1.8
11. Recpt 11	16	-14	1.8
12. Recpt 12	16	-34	1.8
13. Recpt 13	16	-54	1.8
14. Recpt 14	36	-14	1.8
15. Recpt 15	56	-14	1.8
16. Recpt 16	14	16	1.8
17. Recpt 17	34	16	1.8
18. Recpt 18	54	16	1.8
19. Recpt 19	14	36	1.8
20. Recpt 20	14	56	1.8

□

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

JOB: 55th and Montezuma LTpm
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	14.	.4	.0	.0	.0	.0	.0	.0	.0	.1
2. Recpt 2	45.	.4	.0	.1	.0	.0	.0	.0	.0	.1
3. Recpt 3	66.	.4	.0	.1	.0	.0	.0	.0	.0	.1
4. Recpt 4	10.	.3	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	9.	.3	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	106.	.5	.0	.0	.0	.1	.0	.2	.0	.0
7. Recpt 7	116.	.3	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	149.	.3	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	105.	.5	.0	.0	.0	.1	.0	.0	.0	.1
10. Recpt 10	105.	.5	.0	.0	.0	.0	.0	.0	.0	.2
11. Recpt 11	286.	.4	.0	.2	.0	.0	.0	.0	.0	.2
12. Recpt 12	348.	.3	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	350.	.2	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	286.	.4	.0	.0	.0	.1	.0	.0	.0	.1
15. Recpt 15	285.	.4	.0	.0	.0	.2	.0	.0	.0	.0
16. Recpt 16	253.	.5	.0	.1	.0	.0	.0	.0	.0	.2
17. Recpt 17	256.	.5	.0	.0	.0	.0	.0	.0	.0	.1
18. Recpt 18	257.	.4	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	244.	.3	.0	.0	.0	.0	.0	.0	.0	.1
20. Recpt 20	209.	.3	.0	.0	.0	.0	.0	.0	.0	.0

□

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

JOB: 55th and Montezuma LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P
1. Recpt 1	.0	.0	.0	.0	.0	.0	.0	.0
2. Recpt 2	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	.0	.0	.0	.0	.0	.0	.0	.0
7. Recpt 7	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	.0	.0	.0	.0	.0	.0	.0	.0
17. Recpt 17	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	.0	.0	.0	.0	.0	.0	.0	.0
20. Recpt 20	.0	.0	.0	.0	.0	.0	.0	.0

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

     JOB: Campanile and Montezuma LT am
     RUN: Hour 1            (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

I. SITE VARIABLES

```
    U=   1.0 M/S              Z0= 100. CM            ALT=      0. (M)
  BRG= WORST CASE             VD=    .0 CM/S
 CLAS=      7 (G)             VS=    .0 CM/S
 MIXH= 1000. M               AMB=    .0 PPM
SIGTH=   10. DEGREES        TEMP= 37.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mont EBLA	-150	0	0	0	AG	191	2.1	.0	10.0
B. Mont EBTA	-150	-4	0	-4	AG	784	2.1	.0	10.0
C. Mont EBRA	-150	-6	0	-6	AG	38	2.1	.0	10.0
D. Mont EBD	0	-4	150	-4	AG	1015	2.1	.0	10.0
E. Mont WBLA	150	0	0	0	AG	99	2.1	.0	10.0
F. Mont WBTA	150	4	0	4	AG	1321	2.1	.0	10.0
G. Mont WBRA	150	6	0	6	AG	271	2.1	.0	10.0
H. Mont WBD	0	4	-150	4	AG	1550	2.1	.0	10.0
I. Camp NBLA	0	-150	0	0	AG	34	2.1	.0	10.0
J. Camp NBTA	4	-150	4	0	AG	30	2.1	.0	10.0
K. Camp NBRA	6	-150	6	0	AG	105	2.1	.0	10.0
L. Camp NBD	4	0	4	150	AG	492	2.1	.0	10.0
M. Camp SBLA	0	150	0	0	AG	126	2.1	.0	10.0
N. Camp SBTA	-4	150	-4	0	AG	25	2.1	.0	10.0
O. Camp SBRA	-6	150	-6	0	AG	195	2.1	.0	10.0
P. Camp SBD	-4	0	-4	-150	AG	162	2.1	.0	10.0

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

JOB: Campanile and Montezuma LT am
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-14	-16	1.8
2. Recpt 2	-34	-16	1.8
3. Recpt 3	-54	-16	1.8
4. Recpt 4	-14	-36	1.8
5. Recpt 5	-14	-56	1.8
6. Recpt 6	-16	14	1.8
7. Recpt 7	-16	34	1.8
8. Recpt 8	-16	54	1.8
9. Recpt 9	-36	14	1.8
10. Recpt 10	-56	14	1.8
11. Recpt 11	16	-14	1.8
12. Recpt 12	16	-34	1.8
13. Recpt 13	16	-54	1.8
14. Recpt 14	36	-14	1.8
15. Recpt 15	56	-14	1.8
16. Recpt 16	14	16	1.8
17. Recpt 17	34	16	1.8
18. Recpt 18	54	16	1.8
19. Recpt 19	14	36	1.8
20. Recpt 20	14	56	1.8

□

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

JOB: Campanile and Montezuma LT am
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	74.	.3	.0	.0	.0	.1	.0	.0	.0	.0
2. Recpt 2	74.	.3	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	75.	.3	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	12.	.2	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	10.	.2	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	105.	.4	.0	.0	.0	.0	.0	.1	.0	.0
7. Recpt 7	113.	.2	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	120.	.2	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	102.	.3	.0	.0	.0	.0	.0	.1	.0	.0
10. Recpt 10	102.	.3	.0	.0	.0	.0	.0	.0	.0	.1
11. Recpt 11	285.	.3	.0	.0	.0	.0	.0	.0	.0	.1
12. Recpt 12	348.	.2	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	350.	.2	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	286.	.3	.0	.0	.0	.0	.0	.0	.0	.1
15. Recpt 15	285.	.3	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	253.	.3	.0	.0	.0	.0	.0	.0	.0	.2
17. Recpt 17	254.	.3	.0	.0	.0	.0	.0	.0	.0	.1
18. Recpt 18	255.	.3	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	244.	.2	.0	.0	.0	.0	.0	.0	.0	.0
20. Recpt 20	203.	.2	.0	.0	.0	.0	.0	.0	.0	.0

□

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

JOB: Campanile and Montezuma LT am
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P
1. Recpt 1	.0	.0	.0	.0	.0	.0	.0	.0
2. Recpt 2	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	.0	.0	.0	.0	.0	.0	.0	.0
7. Recpt 7	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	.0	.0	.0	.0	.0	.0	.0	.0
17. Recpt 17	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	.0	.0	.0	.0	.0	.0	.0	.0
20. Recpt 20	.0	.0	.0	.0	.0	.0	.0	.0

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

     JOB: Campanile & Montezuma LTpm
     RUN: Hour 1              (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

I. SITE VARIABLES

```
    U=   1.0 M/S            Z0= 100. CM            ALT=      0. (M)
  BRG= WORST CASE           VD=    .0 CM/S
 CLAS=       7 (G)          VS=    .0 CM/S
 MIXH= 1000. M             AMB=    .0 PPM
SIGTH=   10. DEGREES      TEMP= 37.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mont EBLA	*	150	0	0	0	*	AG	263	2.1	.0	10.0
B. Mont EBTA	*	150	-4	0	-4	*	AG	1744	2.1	.0	10.0
C. Mont EBRA	*	150	-6	0	-6	*	AG	35	2.1	.0	10.0
D. Mont EBD	*	0	-4	-150	-4	*	AG	2277	2.1	.0	10.0
E. Mont WBLA	*	-150	0	0	0	*	AG	250	2.1	.0	10.0
F. Mont WBTA	*	-150	4	0	4	*	AG	1202	2.1	.0	10.0
G. Mont WBRA	*	-150	6	0	6	*	AG	337	2.1	.0	10.0
H. Mont WBD	*	0	4	150	4	*	AG	1860	2.1	.0	10.0
I. Coll NBLA	*	63	-138	0	0	*	AG	32	2.1	.0	10.0
J. Coll NBTA	*	67	-138	4	0	*	AG	41	2.1	.0	10.0
K. Coll NBRA	*	69	-138	6	0	*	AG	155	2.1	.0	10.0
L. Coll NBD	*	4	0	-4	150	*	AG	641	2.1	.0	10.0
M. Coll SBLA	*	-8	150	0	0	*	AG	378	2.1	.0	10.0
N. Coll SBTA	*	-12	150	-4	0	*	AG	76	2.1	.0	10.0
O. Coll SBRA	*	-13	150	-6	0	*	AG	626	2.1	.0	10.0
P. Coll SBD	*	-4	0	60	-138	*	AG	361	2.1	.0	10.0

□

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

JOB: Campanile & Montezuma LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-16	-16	1.8
2. Recpt 2	-36	-16	1.8
3. Recpt 3	-56	-16	1.8
4. Recpt 4	-9	-36	1.8
5. Recpt 5	-2	-56	1.8
6. Recpt 6	-16	16	1.8
7. Recpt 7	-36	16	1.8
8. Recpt 8	-56	16	1.8
9. Recpt 9	-17	36	1.8
10. Recpt 10	-18	56	1.8
11. Recpt 11	14	14	1.8
12. Recpt 12	13	34	1.8
13. Recpt 13	12	54	1.8
14. Recpt 14	34	14	1.8
15. Recpt 15	54	14	1.8
16. Recpt 16	20	-16	1.8
17. Recpt 17	30	-36	1.8
18. Recpt 18	40	-56	1.8
19. Recpt 19	40	-16	1.8
20. Recpt 20	60	-16	1.8

□

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

JOB: Campanile & Montezuma LTpm
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	13.	.4	.0	.0	.0	.1	.0	.0	.0	.0
2. Recpt 2	68.	.4	.0	.0	.0	.1	.0	.0	.0	.0
3. Recpt 3	73.	.4	.0	.0	.0	.2	.0	.0	.0	.0
4. Recpt 4	5.	.3	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	1.	.3	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	107.	.5	.0	.1	.0	.0	.0	.0	.0	.2
7. Recpt 7	106.	.4	.0	.1	.0	.0	.0	.0	.0	.1
8. Recpt 8	105.	.4	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	151.	.3	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	155.	.3	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	255.	.5	.0	.0	.0	.2	.0	.1	.0	.0
12. Recpt 12	244.	.3	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	236.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	256.	.5	.0	.0	.0	.1	.0	.0	.0	.0
15. Recpt 15	257.	.4	.0	.0	.0	.1	.0	.0	.0	.1
16. Recpt 16	287.	.4	.0	.0	.0	.2	.0	.0	.0	.0
17. Recpt 17	332.	.3	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	330.	.2	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	286.	.4	.0	.0	.0	.1	.0	.0	.0	.0
20. Recpt 20	286.	.4	.0	.1	.0	.0	.0	.0	.0	.0

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

JOB: Campanile & Montezuma LTpm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P
1. Recpt 1	.0	.0	.0	.0	.0	.0	.0	.0
2. Recpt 2	.0	.0	.0	.0	.0	.0	.0	.0
3. Recpt 3	.0	.0	.0	.0	.0	.0	.0	.0
4. Recpt 4	.0	.0	.0	.0	.0	.0	.0	.0
5. Recpt 5	.0	.0	.0	.0	.0	.0	.0	.0
6. Recpt 6	.0	.0	.0	.0	.0	.0	.0	.0
7. Recpt 7	.0	.0	.0	.0	.0	.0	.0	.0
8. Recpt 8	.0	.0	.0	.0	.0	.0	.0	.0
9. Recpt 9	.0	.0	.0	.0	.0	.0	.0	.0
10. Recpt 10	.0	.0	.0	.0	.0	.0	.0	.0
11. Recpt 11	.0	.0	.0	.0	.0	.0	.0	.0
12. Recpt 12	.0	.0	.0	.0	.0	.0	.0	.0
13. Recpt 13	.0	.0	.0	.0	.0	.0	.0	.0
14. Recpt 14	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	.0	.0	.0	.0	.0	.0	.0	.0
16. Recpt 16	.0	.0	.0	.0	.0	.0	.0	.0
17. Recpt 17	.0	.0	.0	.0	.0	.0	.0	.0
18. Recpt 18	.0	.0	.0	.0	.0	.0	.0	.0
19. Recpt 19	.0	.0	.0	.0	.0	.0	.0	.0
20. Recpt 20	.0	.0	.0	.0	.0	.0	.0	.0

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Urbemis\Urbemis 9.2.2\Projects\Plaza Linda Verde Phase I Construction.urb924

Project Name: SDSU Plaza Linda Verde

Project Location: California State-wide

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	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (lbs/day unmitigated)	7.28	41.66	39.82	0.02	30.61	2.91	32.65	6.39	2.68	8.27	5,803.39
2011 TOTALS (lbs/day mitigated)	7.28	41.66	39.82	0.02	11.82	2.91	13.06	2.47	2.68	3.61	5,803.39
2012 TOTALS (lbs/day unmitigated)	84.65	83.88	68.15	0.03	0.12	5.94	6.06	0.04	5.46	5.50	10,728.57
2012 TOTALS (lbs/day mitigated)	45.82	83.88	68.15	0.03	0.12	5.94	6.06	0.04	5.46	5.50	10,728.57

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

Time Slice 1/3/2011-3/31/2011 Active Days: 64	2.38	21.80	12.25	0.02	11.82	1.24	13.06	2.47	1.14	3.61	2,820.55
Demolition 01/01/2011-03/31/2011	2.38	21.80	12.25	0.02	11.82	1.24	13.06	2.47	1.14	3.61	2,820.55
Fugitive Dust	0.00	0.00	0.00	0.00	11.76	0.00	11.76	2.45	0.00	2.45	0.00
Demo Off Road Diesel	1.65	11.52	7.24	0.00	0.00	0.85	0.85	0.00	0.78	0.78	1,101.59
Demo On Road Diesel	0.68	10.20	3.48	0.01	0.05	0.39	0.44	0.02	0.35	0.37	1,565.67
Demo Worker Trips	0.05	0.08	1.53	0.00	0.01	0.00	0.01	0.00	0.00	0.01	153.29
Time Slice 4/1/2011-6/30/2011 Active Days: 65	4.66	36.50	21.89	0.00	**30.61**	2.04	**32.65**	**6.39**	1.88	**8.27**	3,746.48
Mass Grading 04/01/2011-06/30/2011	4.66	36.50	21.89	0.00	30.61	2.04	32.65	6.39	1.88	8.27	3,746.48
Mass Grading Dust	0.00	0.00	0.00	0.00	30.60	0.00	30.60	6.39	0.00	6.39	0.00
Mass Grading Off Road Diesel	4.61	36.41	20.11	0.00	0.00	2.04	2.04	0.00	1.87	1.87	3,567.64
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.10	1.78	0.00	0.01	0.00	0.01	0.00	0.00	0.01	178.84
Time Slice 7/1/2011-12/30/2011 Active Days: 131	7.28	41.66	39.82	0.02	0.09	2.91	3.01	0.03	2.68	2.71	5,803.39
Building 07/01/2011-12/31/2012	7.28	41.66	39.82	0.02	0.09	2.91	3.01	0.03	2.68	2.71	5,803.39
Building Off Road Diesel	6.59	37.88	23.28	0.00	0.00	2.76	2.76	0.00	2.54	2.54	3,760.90
Building Vendor Trips	0.24	3.02	2.46	0.01	0.02	0.12	0.14	0.01	0.11	0.12	631.42
Building Worker Trips	0.45	0.76	14.08	0.01	0.07	0.04	0.11	0.02	0.03	0.06	1,411.07

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Time Slice 1/2/2012-6/29/2012 Active Days: 130	11.07	69.31	56.46	0.02	0.11	4.69	4.79	0.04	4.31	4.34	9,153.40
Asphalt 01/01/2012-12/31/2012	4.32	30.37	18.41	0.00	0.02	2.01	2.02	0.01	1.85	1.85	3,349.51
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	4.18	30.11	15.54	0.00	0.00	2.00	2.00	0.00	1.84	1.84	3,024.61
Paving On Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.22
Paving Worker Trips	0.09	0.15	2.83	0.00	0.01	0.01	0.02	0.01	0.01	0.01	306.68
Building 07/01/2011-12/31/2012	6.75	38.94	38.05	0.02	0.09	2.68	2.77	0.03	2.46	2.49	5,803.89
Building Off Road Diesel	6.12	35.55	22.72	0.00	0.00	2.54	2.54	0.00	2.33	2.33	3,760.90
Building Vendor Trips	0.22	2.70	2.29	0.01	0.02	0.10	0.13	0.01	0.10	0.10	631.46
Building Worker Trips	0.41	0.70	13.04	0.01	0.07	0.04	0.11	0.02	0.03	0.06	1,411.53

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Time Slice 7/2/2012-9/28/2012 Active Days: 65	13.50	83.84	67.37	0.02	0.12	5.94	6.05	0.04	5.45	5.50	10,643.72
Asphalt 01/01/2012-12/31/2012	4.32	30.37	18.41	0.00	0.02	2.01	2.02	0.01	1.85	1.85	3,349.51
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	4.18	30.11	15.54	0.00	0.00	2.00	2.00	0.00	1.84	1.84	3,024.61
Paving On Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.22
Paving Worker Trips	0.09	0.15	2.83	0.00	0.01	0.01	0.02	0.01	0.01	0.01	306.68
Asphalt 07/01/2012-12/31/2012	2.44	14.53	10.91	0.00	0.01	1.25	1.26	0.00	1.15	1.15	1,490.32
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.35	8.99	0.00	0.00	1.24	1.24	0.00	1.14	1.14	1,272.04
Paving On Road Diesel	0.01	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.83
Paving Worker Trips	0.06	0.10	1.89	0.00	0.01	0.01	0.02	0.00	0.00	0.01	204.45
Building 07/01/2011-12/31/2012	6.75	38.94	38.05	0.02	0.09	2.68	2.77	0.03	2.46	2.49	5,803.89
Building Off Road Diesel	6.12	35.55	22.72	0.00	0.00	2.54	2.54	0.00	2.33	2.33	3,760.90
Building Vendor Trips	0.22	2.70	2.29	0.01	0.02	0.10	0.13	0.01	0.10	0.10	631.46
Building Worker Trips	0.41	0.70	13.04	0.01	0.07	0.04	0.11	0.02	0.03	0.06	1,411.53

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Time Slice 10/1/2012-12/31/2012 Active Days: 66	84.65	83.88	68.15	0.03	0.12	5.94	6.06	0.04	5.46	5.50	10,728.57
Asphalt 01/01/2012-12/31/2012	4.32	30.37	18.41	0.00	0.02	2.01	2.02	0.01	1.85	1.85	3,349.51
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	4.18	30.11	15.54	0.00	0.00	2.00	2.00	0.00	1.84	1.84	3,024.61
Paving On Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.22
Paving Worker Trips	0.09	0.15	2.83	0.00	0.01	0.01	0.02	0.01	0.01	0.01	306.68
Asphalt 07/01/2012-12/31/2012	2.44	14.53	10.91	0.00	0.01	1.25	1.26	0.00	1.15	1.15	1,490.32
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.35	8.99	0.00	0.00	1.24	1.24	0.00	1.14	1.14	1,272.04
Paving On Road Diesel	0.01	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.83
Paving Worker Trips	0.06	0.10	1.89	0.00	0.01	0.01	0.02	0.00	0.00	0.01	204.45
Building 07/01/2011-12/31/2012	6.75	38.94	38.05	0.02	0.09	2.68	2.77	0.03	2.46	2.49	5,803.89
Building Off Road Diesel	6.12	35.55	22.72	0.00	0.00	2.54	2.54	0.00	2.33	2.33	3,760.90
Building Vendor Trips	0.22	2.70	2.29	0.01	0.02	0.10	0.13	0.01	0.10	0.10	631.46
Building Worker Trips	0.41	0.70	13.04	0.01	0.07	0.04	0.11	0.02	0.03	0.06	1,411.53
Coating 10/01/2012-12/31/2012	71.15	0.04	0.78	0.00	0.00	0.00	0.01	0.00	0.00	0.00	84.85
Architectural Coating	71.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.78	0.00	0.00	0.00	0.01	0.00	0.00	0.00	84.85

Phase Assumptions

Phase: Demolition 1/1/2011 - 3/31/2011 - Phase I Demolition

Building Volume Total (cubic feet): 280000

Building Volume Daily (cubic feet): 28000

On Road Truck Travel (VMT): 388.89

Off-Road Equipment:

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1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 4/1/2011 - 6/30/2011 - Phase I Site Grading

Total Acres Disturbed: 6.11

Maximum Daily Acreage Disturbed: 1.53

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

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

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/1/2012 - 12/31/2012 - Phase I Parking Structure Construction

Acres to be Paved: 4

Off-Road Equipment:

1 Aerial Lifts (60 hp) operating at a 0.46 load factor for 8 hours per day

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

2 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

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

Phase: Paving 7/1/2012 - 12/31/2012 - Phase I Paving

Acres to be Paved: 1.53

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

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

Phase: Building Construction 7/1/2011 - 12/31/2012 - Phase I Building Construction

Off-Road Equipment:

4 Aerial Lifts (60 hp) operating at a 0.46 load factor for 8 hours per day

2 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day

2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

2 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

4 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 10/1/2012 - 12/31/2012 - Phase I Painting

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

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

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Time Slice 1/3/2011-3/31/2011 Active Days: 64	2.38	21.80	12.25	0.02	<u>11.82</u>	1.24	<u>13.06</u>	<u>2.47</u>	1.14	<u>3.61</u>	2,820.55
Demolition 01/01/2011-03/31/2011	2.38	21.80	12.25	0.02	11.82	1.24	13.06	2.47	1.14	3.61	2,820.55
Fugitive Dust	0.00	0.00	0.00	0.00	11.76	0.00	11.76	2.45	0.00	2.45	0.00
Demo Off Road Diesel	1.65	11.52	7.24	0.00	0.00	0.85	0.85	0.00	0.78	0.78	1,101.59
Demo On Road Diesel	0.68	10.20	3.48	0.01	0.05	0.39	0.44	0.02	0.35	0.37	1,565.67
Demo Worker Trips	0.05	0.08	1.53	0.00	0.01	0.00	0.01	0.00	0.00	0.01	153.29
Time Slice 4/1/2011-6/30/2011 Active Days: 65	4.66	36.50	21.89	0.00	2.14	2.04	4.18	0.45	1.88	2.33	3,746.48
Mass Grading 04/01/2011-06/30/2011	4.66	36.50	21.89	0.00	2.14	2.04	4.18	0.45	1.88	2.33	3,746.48
Mass Grading Dust	0.00	0.00	0.00	0.00	2.13	0.00	2.13	0.45	0.00	0.45	0.00
Mass Grading Off Road Diesel	4.61	36.41	20.11	0.00	0.00	2.04	2.04	0.00	1.87	1.87	3,567.64
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.10	1.78	0.00	0.01	0.00	0.01	0.00	0.00	0.01	178.84
Time Slice 7/1/2011-12/30/2011 Active Days: 131	<u>7.28</u>	<u>41.66</u>	<u>39.82</u>	<u>0.02</u>	0.09	<u>2.91</u>	3.01	0.03	<u>2.68</u>	2.71	<u>5,803.39</u>
Building 07/01/2011-12/31/2012	7.28	41.66	39.82	0.02	0.09	2.91	3.01	0.03	2.68	2.71	5,803.39
Building Off Road Diesel	6.59	37.88	23.28	0.00	0.00	2.76	2.76	0.00	2.54	2.54	3,760.90
Building Vendor Trips	0.24	3.02	2.46	0.01	0.02	0.12	0.14	0.01	0.11	0.12	631.42
Building Worker Trips	0.45	0.76	14.08	0.01	0.07	0.04	0.11	0.02	0.03	0.06	1,411.07

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Time Slice 1/2/2012-6/29/2012 Active Days: 130	11.07	69.31	56.46	0.02	0.11	4.69	4.79	0.04	4.31	4.34	9,153.40
Asphalt 01/01/2012-12/31/2012	4.32	30.37	18.41	0.00	0.02	2.01	2.02	0.01	1.85	1.85	3,349.51
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	4.18	30.11	15.54	0.00	0.00	2.00	2.00	0.00	1.84	1.84	3,024.61
Paving On Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.22
Paving Worker Trips	0.09	0.15	2.83	0.00	0.01	0.01	0.02	0.01	0.01	0.01	306.68
Building 07/01/2011-12/31/2012	6.75	38.94	38.05	0.02	0.09	2.68	2.77	0.03	2.46	2.49	5,803.89
Building Off Road Diesel	6.12	35.55	22.72	0.00	0.00	2.54	2.54	0.00	2.33	2.33	3,760.90
Building Vendor Trips	0.22	2.70	2.29	0.01	0.02	0.10	0.13	0.01	0.10	0.10	631.46
Building Worker Trips	0.41	0.70	13.04	0.01	0.07	0.04	0.11	0.02	0.03	0.06	1,411.53

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Time Slice 7/2/2012-9/28/2012 Active Days: 65	13.50	83.84	67.37	0.02	0.12	5.94	6.05	0.04	5.45	5.50	10,643.72
Asphalt 01/01/2012-12/31/2012	4.32	30.37	18.41	0.00	0.02	2.01	2.02	0.01	1.85	1.85	3,349.51
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	4.18	30.11	15.54	0.00	0.00	2.00	2.00	0.00	1.84	1.84	3,024.61
Paving On Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.22
Paving Worker Trips	0.09	0.15	2.83	0.00	0.01	0.01	0.02	0.01	0.01	0.01	306.68
Asphalt 07/01/2012-12/31/2012	2.44	14.53	10.91	0.00	0.01	1.25	1.26	0.00	1.15	1.15	1,490.32
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.35	8.99	0.00	0.00	1.24	1.24	0.00	1.14	1.14	1,272.04
Paving On Road Diesel	0.01	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.83
Paving Worker Trips	0.06	0.10	1.89	0.00	0.01	0.01	0.02	0.00	0.00	0.01	204.45
Building 07/01/2011-12/31/2012	6.75	38.94	38.05	0.02	0.09	2.68	2.77	0.03	2.46	2.49	5,803.89
Building Off Road Diesel	6.12	35.55	22.72	0.00	0.00	2.54	2.54	0.00	2.33	2.33	3,760.90
Building Vendor Trips	0.22	2.70	2.29	0.01	0.02	0.10	0.13	0.01	0.10	0.10	631.46
Building Worker Trips	0.41	0.70	13.04	0.01	0.07	0.04	0.11	0.02	0.03	0.06	1,411.53

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Time Slice 10/1/2012-12/31/2012 Active Days: 66	45.82	83.88	68.15	0.03	0.12	5.94	6.06	0.04	5.46	5.50	10,728.57
Asphalt 01/01/2012-12/31/2012	4.32	30.37	18.41	0.00	0.02	2.01	2.02	0.01	1.85	1.85	3,349.51
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	4.18	30.11	15.54	0.00	0.00	2.00	2.00	0.00	1.84	1.84	3,024.61
Paving On Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.22
Paving Worker Trips	0.09	0.15	2.83	0.00	0.01	0.01	0.02	0.01	0.01	0.01	306.68
Asphalt 07/01/2012-12/31/2012	2.44	14.53	10.91	0.00	0.01	1.25	1.26	0.00	1.15	1.15	1,490.32
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.35	8.99	0.00	0.00	1.24	1.24	0.00	1.14	1.14	1,272.04
Paving On Road Diesel	0.01	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.83
Paving Worker Trips	0.06	0.10	1.89	0.00	0.01	0.01	0.02	0.00	0.00	0.01	204.45
Building 07/01/2011-12/31/2012	6.75	38.94	38.05	0.02	0.09	2.68	2.77	0.03	2.46	2.49	5,803.89
Building Off Road Diesel	6.12	35.55	22.72	0.00	0.00	2.54	2.54	0.00	2.33	2.33	3,760.90
Building Vendor Trips	0.22	2.70	2.29	0.01	0.02	0.10	0.13	0.01	0.10	0.10	631.46
Building Worker Trips	0.41	0.70	13.04	0.01	0.07	0.04	0.11	0.02	0.03	0.06	1,411.53
Coating 10/01/2012-12/31/2012	32.32	0.04	0.78	0.00	0.00	0.00	0.01	0.00	0.00	0.00	84.85
Architectural Coating	32.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.78	0.00	0.00	0.00	0.01	0.00	0.00	0.00	84.85

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 4/1/2011 - 6/30/2011 - Phase I Site Grading

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 10/1/2012 - 12/31/2012 - Phase I Painting

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 40%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 60%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 40%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 60%

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Urbemis\Urbemis 9.2.2\Projects\Plaza Linda Verde Phase II Construction.urb924

Project Name: SDSU Plaza Linda Verde

Project Location: California State-wide

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	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (lbs/day unmitigated)	5.69	46.72	38.30	0.06	48.62	2.31	50.78	10.14	2.12	12.12	8,204.69
2013 TOTALS (lbs/day mitigated)	5.69	46.72	38.30	0.06	48.62	2.31	50.78	10.14	2.12	12.12	8,204.69
2014 TOTALS (lbs/day unmitigated)	114.06	40.65	47.76	0.03	0.16	2.67	2.83	0.06	2.45	2.51	7,696.05
2014 TOTALS (lbs/day mitigated)	55.60	40.65	47.76	0.03	0.16	2.67	2.83	0.06	2.45	2.51	7,696.05

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

Time Slice 1/1/2013-3/29/2013 Active Days: 64	4.39	**46.72**	23.07	**0.06**	**48.62**	2.15	**50.78**	**10.14**	1.98	**12.12**	**8,204.69**
Demolition 01/01/2013-03/31/2013	4.39	46.72	23.07	0.06	48.62	2.15	50.78	10.14	1.98	12.12	8,204.69
Fugitive Dust	0.00	0.00	0.00	0.00	48.38	0.00	48.38	10.06	0.00	10.06	0.00
Demo Off Road Diesel	1.96	13.51	9.24	0.00	0.00	0.91	0.91	0.00	0.84	0.84	1,507.43
Demo On Road Diesel	2.37	33.10	11.65	0.06	0.23	1.23	1.46	0.07	1.13	1.21	6,441.61
Demo Worker Trips	0.07	0.11	2.18	0.00	0.01	0.01	0.02	0.00	0.01	0.01	255.65
Time Slice 4/1/2013-6/28/2013 Active Days: 65	5.69	44.10	28.12	0.00	42.81	2.31	45.12	8.94	2.12	11.07	5,018.44
Mass Grading 04/01/2013-06/30/2013	5.69	44.10	28.12	0.00	42.81	2.31	45.12	8.94	2.12	11.07	5,018.44
Mass Grading Dust	0.00	0.00	0.00	0.00	42.80	0.00	42.80	8.94	0.00	8.94	0.00
Mass Grading Off Road Diesel	5.63	43.99	26.16	0.00	0.00	2.30	2.30	0.00	2.12	2.12	4,788.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.10	1.97	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.08
Time Slice 7/1/2013-12/31/2013 Active Days: 132	5.24	29.87	38.30	0.03	0.14	1.81	1.95	0.05	1.66	1.71	6,071.51
Building 07/01/2013-12/31/2014	5.24	29.87	38.30	0.03	0.14	1.81	1.95	0.05	1.66	1.71	6,071.51
Building Off Road Diesel	4.36	25.13	16.84	0.00	0.00	1.61	1.61	0.00	1.48	1.48	2,953.95
Building Vendor Trips	0.32	3.78	3.34	0.01	0.04	0.15	0.18	0.01	0.13	0.15	995.47
Building Worker Trips	0.56	0.95	18.13	0.02	0.10	0.06	0.16	0.04	0.05	0.08	2,122.09
Time Slice 1/1/2014-6/30/2014 Active Days: 129	4.80	27.54	36.25	0.03	0.14	1.60	1.74	0.05	1.47	1.52	6,072.27
Building 07/01/2013-12/31/2014	4.80	27.54	36.25	0.03	0.14	1.60	1.74	0.05	1.47	1.52	6,072.27
Building Off Road Diesel	4.00	23.33	16.39	0.00	0.00	1.41	1.41	0.00	1.30	1.30	2,953.95
Building Vendor Trips	0.29	3.33	3.09	0.01	0.04	0.13	0.17	0.01	0.12	0.13	995.55
Building Worker Trips	0.51	0.87	16.77	0.02	0.10	0.06	0.16	0.04	0.05	0.08	2,122.76

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Time Slice 7/1/2014-9/30/2014 Active Days: 66	6.96	40.60	46.75	0.03	0.15	2.67	2.82	0.05	2.45	2.50	7,568.24
Asphalt 07/01/2014-12/31/2014	2.16	13.06	10.50	0.00	0.01	1.07	1.08	0.00	0.98	0.99	1,495.97
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.06	12.89	8.85	0.00	0.00	1.06	1.06	0.00	0.98	0.98	1,272.04
Paving On Road Diesel	0.01	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.35
Paving Worker Trips	0.05	0.08	1.62	0.00	0.01	0.01	0.02	0.00	0.00	0.01	204.58
Building 07/01/2013-12/31/2014	4.80	27.54	36.25	0.03	0.14	1.60	1.74	0.05	1.47	1.52	6,072.27
Building Off Road Diesel	4.00	23.33	16.39	0.00	0.00	1.41	1.41	0.00	1.30	1.30	2,953.95
Building Vendor Trips	0.29	3.33	3.09	0.01	0.04	0.13	0.17	0.01	0.12	0.13	995.55
Building Worker Trips	0.51	0.87	16.77	0.02	0.10	0.06	0.16	0.04	0.05	0.08	2,122.76
Time Slice 10/1/2014-12/31/2014 Active Days: 66	**114.06**	40.65	**47.76**	0.03	0.16	**2.67**	2.83	0.06	**2.45**	2.51	7,696.05
Asphalt 07/01/2014-12/31/2014	2.16	13.06	10.50	0.00	0.01	1.07	1.08	0.00	0.98	0.99	1,495.97
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.06	12.89	8.85	0.00	0.00	1.06	1.06	0.00	0.98	0.98	1,272.04
Paving On Road Diesel	0.01	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.35
Paving Worker Trips	0.05	0.08	1.62	0.00	0.01	0.01	0.02	0.00	0.00	0.01	204.58
Building 07/01/2013-12/31/2014	4.80	27.54	36.25	0.03	0.14	1.60	1.74	0.05	1.47	1.52	6,072.27
Building Off Road Diesel	4.00	23.33	16.39	0.00	0.00	1.41	1.41	0.00	1.30	1.30	2,953.95
Building Vendor Trips	0.29	3.33	3.09	0.01	0.04	0.13	0.17	0.01	0.12	0.13	995.55
Building Worker Trips	0.51	0.87	16.77	0.02	0.10	0.06	0.16	0.04	0.05	0.08	2,122.76
Coating 10/01/2014-12/31/2014	107.10	0.05	1.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	127.82
Architectural Coating	107.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	1.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	127.82

Phase Assumptions

Phase: Demolition 1/1/2013 - 3/31/2013 - Phase II Demolition

Building Volume Total (cubic feet): 1152000

Building Volume Daily (cubic feet): 115200

On Road Truck Travel (VMT): 1600

Off-Road Equipment:

4 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 4/1/2013 - 6/30/2013 - Phase II Site Grading

Total Acres Disturbed: 8.55

Maximum Daily Acreage Disturbed: 2.14

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

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

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 7/1/2014 - 12/31/2014 - Phase II Paving

Acres to be Paved: 2.14

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

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

Phase: Building Construction 7/1/2013 - 12/31/2014 - Phase II Building Construction

Off-Road Equipment:

2 Aerial Lifts (60 hp) operating at a 0.46 load factor for 8 hours per day

2 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

4 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 10/1/2014 - 12/31/2014 - Phase II Painting

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

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

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Time Slice 1/1/2013-3/29/2013 Active Days: 64	4.39	**46.72**	23.07	**0.06**	**48.62**	2.15	**50.78**	**10.14**	1.98	**12.12**	**8,204.69**
Demolition 01/01/2013-03/31/2013	4.39	46.72	23.07	0.06	48.62	2.15	50.78	10.14	1.98	12.12	8,204.69
Fugitive Dust	0.00	0.00	0.00	0.00	48.38	0.00	48.38	10.06	0.00	10.06	0.00
Demo Off Road Diesel	1.96	13.51	9.24	0.00	0.00	0.91	0.91	0.00	0.84	0.84	1,507.43
Demo On Road Diesel	2.37	33.10	11.65	0.06	0.23	1.23	1.46	0.07	1.13	1.21	6,441.61
Demo Worker Trips	0.07	0.11	2.18	0.00	0.01	0.01	0.02	0.00	0.01	0.01	255.65
Time Slice 4/1/2013-6/28/2013 Active Days: 65	5.69	44.10	28.12	0.00	2.99	2.31	5.30	0.63	2.12	2.75	5,018.44
Mass Grading 04/01/2013-06/30/2013	5.69	44.10	28.12	0.00	2.99	2.31	5.30	0.63	2.12	2.75	5,018.44
Mass Grading Dust	0.00	0.00	0.00	0.00	2.98	0.00	2.98	0.62	0.00	0.62	0.00
Mass Grading Off Road Diesel	5.63	43.99	26.16	0.00	0.00	2.30	2.30	0.00	2.12	2.12	4,788.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.10	1.97	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.08
Time Slice 7/1/2013-12/31/2013 Active Days: 132	5.24	29.87	38.30	0.03	0.14	1.81	1.95	0.05	1.66	1.71	6,071.51
Building 07/01/2013-12/31/2014	5.24	29.87	38.30	0.03	0.14	1.81	1.95	0.05	1.66	1.71	6,071.51
Building Off Road Diesel	4.36	25.13	16.84	0.00	0.00	1.61	1.61	0.00	1.48	1.48	2,953.95
Building Vendor Trips	0.32	3.78	3.34	0.01	0.04	0.15	0.18	0.01	0.13	0.15	995.47
Building Worker Trips	0.56	0.95	18.13	0.02	0.10	0.06	0.16	0.04	0.05	0.08	2,122.09
Time Slice 1/1/2014-6/30/2014 Active Days: 129	4.80	27.54	36.25	0.03	0.14	1.60	1.74	0.05	1.47	1.52	6,072.27
Building 07/01/2013-12/31/2014	4.80	27.54	36.25	0.03	0.14	1.60	1.74	0.05	1.47	1.52	6,072.27
Building Off Road Diesel	4.00	23.33	16.39	0.00	0.00	1.41	1.41	0.00	1.30	1.30	2,953.95
Building Vendor Trips	0.29	3.33	3.09	0.01	0.04	0.13	0.17	0.01	0.12	0.13	995.55
Building Worker Trips	0.51	0.87	16.77	0.02	0.10	0.06	0.16	0.04	0.05	0.08	2,122.76

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Time Slice 7/1/2014-9/30/2014 Active Days: 66	6.96	40.60	46.75	0.03	0.15	2.67	2.82	0.05	2.45	2.50	7,568.24
Asphalt 07/01/2014-12/31/2014	2.16	13.06	10.50	0.00	0.01	1.07	1.08	0.00	0.98	0.99	1,495.97
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.06	12.89	8.85	0.00	0.00	1.06	1.06	0.00	0.98	0.98	1,272.04
Paving On Road Diesel	0.01	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.35
Paving Worker Trips	0.05	0.08	1.62	0.00	0.01	0.01	0.02	0.00	0.00	0.01	204.58
Building 07/01/2013-12/31/2014	4.80	27.54	36.25	0.03	0.14	1.60	1.74	0.05	1.47	1.52	6,072.27
Building Off Road Diesel	4.00	23.33	16.39	0.00	0.00	1.41	1.41	0.00	1.30	1.30	2,953.95
Building Vendor Trips	0.29	3.33	3.09	0.01	0.04	0.13	0.17	0.01	0.12	0.13	995.55
Building Worker Trips	0.51	0.87	16.77	0.02	0.10	0.06	0.16	0.04	0.05	0.08	2,122.76
Time Slice 10/1/2014-12/31/2014 Active Days: 66	55.60	40.65	**47.76**	0.03	0.16	**2.67**	2.83	0.06	**2.45**	2.51	7,696.05
Asphalt 07/01/2014-12/31/2014	2.16	13.06	10.50	0.00	0.01	1.07	1.08	0.00	0.98	0.99	1,495.97
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.06	12.89	8.85	0.00	0.00	1.06	1.06	0.00	0.98	0.98	1,272.04
Paving On Road Diesel	0.01	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.35
Paving Worker Trips	0.05	0.08	1.62	0.00	0.01	0.01	0.02	0.00	0.00	0.01	204.58
Building 07/01/2013-12/31/2014	4.80	27.54	36.25	0.03	0.14	1.60	1.74	0.05	1.47	1.52	6,072.27
Building Off Road Diesel	4.00	23.33	16.39	0.00	0.00	1.41	1.41	0.00	1.30	1.30	2,953.95
Building Vendor Trips	0.29	3.33	3.09	0.01	0.04	0.13	0.17	0.01	0.12	0.13	995.55
Building Worker Trips	0.51	0.87	16.77	0.02	0.10	0.06	0.16	0.04	0.05	0.08	2,122.76
Coating 10/01/2014-12/31/2014	48.64	0.05	1.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	127.82
Architectural Coating	48.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	1.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	127.82

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 4/1/2013 - 6/30/2013 - Phase II Site Grading

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 10/1/2014 - 12/31/2014 - Phase II Painting

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 40%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 60%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 40%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 60%

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Urbemis\Urbemis 9.2.2\Projects\Plaza Linda Verde template construction.urb924

Project Name: SDSU Plaza Linda Verde

Project Location: California State-wide

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	23.33	3.93	5.10	0.00	0.02	0.02	4,900.66
TOTALS (lbs/day, mitigated)	21.52	3.15	4.70	0.00	0.02	0.02	3,921.65
Percent Reduction	7.76	19.85	7.84	NaN	0.00	0.00	19.98

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	18.05	20.30	188.29	0.19	33.89	6.57	19,770.41

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	41.38	24.23	193.39	0.19	33.91	6.59	24,671.07

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.30	3.89	2.01	0.00	0.01	0.01	4,895.04
Hearth							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	19.57						
Architectural Coatings	3.21						
TOTALS (lbs/day, unmitigated)	23.33	3.93	5.10	0.00	0.02	0.02	4,900.66

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.24	3.11	1.61	0.00	0.01	0.01	3,916.03
Hearth							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	19.57						
Architectural Coatings	1.46						
TOTALS (lbs/day, mitigated)	21.52	3.15	4.70	0.00	0.02	0.02	3,921.65

Area Source Changes to Defaults

6/23/2009 3:08:16 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments mid rise	13.46	14.58	137.26	0.14	24.39	4.73	14,267.91
Strip mall	4.59	5.72	51.03	0.05	9.50	1.84	5,502.50
TOTALS (lbs/day, unmitigated)	18.05	20.30	188.29	0.19	33.89	6.57	19,770.41

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 85 Season: Summer

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
Apartments mid rise	10.53	4.13	dwelling units	400.00	1,652.00	14,124.11
Strip mall		8.27	1000 sq ft	90.00	744.30	5,502.61
					2,396.30	19,626.72

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	48.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.9	1.8	93.6	4.6
Light Truck 3751-5750 lbs	21.9	0.5	99.5	0.0
Med Truck 5751-8500 lbs	9.6	1.0	99.0	0.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	76.5	23.5
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	42.9	57.1
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	54.3	45.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	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)						
Strip mall				2.0	1.0	97.0

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Urbemis\Urbemis 9.2.2\Projects\Plaza Linda Verde template construction.urb924

Project Name: SDSU Plaza Linda Verde

Project Location: California State-wide

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	23.08	3.89	2.01	0.00	0.01	0.01	4,895.04
TOTALS (lbs/day, mitigated)	21.27	3.11	1.61	0.00	0.01	0.01	3,916.03
Percent Reduction	7.84	20.05	19.90	NaN	0.00	0.00	20.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	17.00	29.63	202.84	0.17	33.89	6.57	17,180.30

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	40.08	33.52	204.85	0.17	33.90	6.58	22,075.34

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.30	3.89	2.01	0.00	0.01	0.01	4,895.04
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	19.57						
Architectural Coatings	3.21						
TOTALS (lbs/day, unmitigated)	23.08	3.89	2.01	0.00	0.01	0.01	4,895.04

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.24	3.11	1.61	0.00	0.01	0.01	3,916.03
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	19.57						
Architectural Coatings	1.46						
TOTALS (lbs/day, mitigated)	21.27	3.11	1.61	0.00	0.01	0.01	3,916.03

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments mid rise	12.22	21.30	146.64	0.12	24.39	4.73	12,403.97
Strip mall	4.78	8.33	56.20	0.05	9.50	1.84	4,776.33
TOTALS (lbs/day, unmitigated)	17.00	29.63	202.84	0.17	33.89	6.57	17,180.30

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 40 Season: Winter

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
Apartments mid rise	10.53	4.13	dwelling units	400.00	1,652.00	14,124.11
Strip mall		8.27	1000 sq ft	90.00	744.30	5,502.61
					2,396.30	19,626.72

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	48.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.9	1.8	93.6	4.6
Light Truck 3751-5750 lbs	21.9	0.5	99.5	0.0
Med Truck 5751-8500 lbs	9.6	1.0	99.0	0.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	76.5	23.5
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	42.9	57.1
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	54.3	45.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	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)						
Strip mall				2.0	1.0	97.0

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Urbemis\Urbemis 9.2.2\Projects\Plaza Linda Verde USR Operations.urb924

Project Name: SDSU Plaza Linda Verde

Project Location: California State-wide

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	22.61	3.04	2.83	0.00	0.02	0.02	3,853.85
TOTALS (lbs/day, mitigated)	21.10	2.43	2.58	0.00	0.01	0.01	3,083.64
Percent Reduction	6.68	20.07	8.83	NaN	50.00	50.00	19.99

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	13.46	14.58	137.26	0.14	24.39	4.73	14,267.91

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	36.07	17.62	140.09	0.14	24.41	4.75	18,121.76

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.23	3.02	1.28	0.00	0.01	0.01	3,851.04
Hearth							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	19.57						
Architectural Coatings	2.69						
TOTALS (lbs/day, unmitigated)	22.61	3.04	2.83	0.00	0.02	0.02	3,853.85

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.19	2.41	1.03	0.00	0.00	0.00	3,080.83
Hearth							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	19.57						
Architectural Coatings	1.22						
TOTALS (lbs/day, mitigated)	21.10	2.43	2.58	0.00	0.01	0.01	3,083.64

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments mid rise	13.46	14.58	137.26	0.14	24.39	4.73	14,267.91
TOTALS (lbs/day, unmitigated)	13.46	14.58	137.26	0.14	24.39	4.73	14,267.91

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 85 Season: Summer

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
Apartments mid rise	10.53	4.13	dwelling units	400.00	1,652.00	14,124.11
					1,652.00	14,124.11

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	48.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.9	1.8	93.6	4.6
Light Truck 3751-5750 lbs	21.9	0.5	99.5	0.0
Med Truck 5751-8500 lbs	9.6	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	76.5	23.5
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	42.9	57.1

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	54.3	45.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	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)

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Urbemis\Urbemis 9.2.2\Projects\Plaza Linda Verde USR Operations.urb924

Project Name: SDSU Plaza Linda Verde

Project Location: California State-wide

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	22.49	3.02	1.28	0.00	0.01	0.01	3,851.04
TOTALS (lbs/day, mitigated)	20.98	2.41	1.03	0.00	0.00	0.00	3,080.83
Percent Reduction	6.71	20.20	19.53	NaN	100.00	100.00	20.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	12.22	21.30	146.64	0.12	24.39	4.73	12,403.97

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	34.71	24.32	147.92	0.12	24.40	4.74	16,255.01

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.23	3.02	1.28	0.00	0.01	0.01	3,851.04
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	19.57						
Architectural Coatings	2.69						
TOTALS (lbs/day, unmitigated)	22.49	3.02	1.28	0.00	0.01	0.01	3,851.04

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.19	2.41	1.03	0.00	0.00	0.00	3,080.83
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	19.57						
Architectural Coatings	1.22						
TOTALS (lbs/day, mitigated)	20.98	2.41	1.03	0.00	0.00	0.00	3,080.83

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments mid rise	12.22	21.30	146.64	0.12	24.39	4.73	12,403.97
TOTALS (lbs/day, unmitigated)	12.22	21.30	146.64	0.12	24.39	4.73	12,403.97

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 40 Season: Winter

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
Apartments mid rise	10.53	4.13	dwelling units	400.00	1,652.00	14,124.11
					1,652.00	14,124.11

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	48.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.9	1.8	93.6	4.6
Light Truck 3751-5750 lbs	21.9	0.5	99.5	0.0
Med Truck 5751-8500 lbs	9.6	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	76.5	23.5
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	42.9	57.1

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	54.3	45.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	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)

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Urbemis\Urbemis 9.2.2\Projects\Plaza Linda Verde USR Retail Operations.urb924

Project Name: SDSU Plaza Linda Verde

Project Location: California State-wide

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.71	0.89	2.28	0.00	0.01	0.01	1,046.81
TOTALS (lbs/day, mitigated)	0.41	0.72	2.13	0.00	0.01	0.01	838.01
Percent Reduction	42.25	19.10	6.58	NaN	0.00	0.00	19.95

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	6.52	8.62	76.95	0.08	14.32	2.77	8,297.00

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	7.23	9.51	79.23	0.08	14.33	2.78	9,343.81

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.06	0.87	0.73	0.00	0.00	0.00	1,044.00
Hearth							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	0.00						
Architectural Coatings	0.53						
TOTALS (lbs/day, unmitigated)	0.71	0.89	2.28	0.00	0.01	0.01	1,046.81

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.05	0.70	0.58	0.00	0.00	0.00	835.20
Hearth							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	0.00						
Architectural Coatings	0.24						
TOTALS (lbs/day, mitigated)	0.41	0.72	2.13	0.00	0.01	0.01	838.01

Area Source Changes to Defaults

6/23/2009 3:29:15 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	6.52	8.62	76.95	0.08	14.32	2.77	8,297.00
TOTALS (lbs/day, unmitigated)	6.52	8.62	76.95	0.08	14.32	2.77	8,297.00

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 85 Season: Summer

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
Strip mall		12.47	1000 sq ft	90.00	1,122.30	8,297.16
					1,122.30	8,297.16

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	48.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.9	1.8	93.6	4.6
Light Truck 3751-5750 lbs	21.9	0.5	99.5	0.0
Med Truck 5751-8500 lbs	9.6	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	76.5	23.5
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	42.9	57.1

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	54.3	45.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	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)						
Strip mall				2.0	1.0	97.0

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Urbemis\Urbemis 9.2.2\Projects\Plaza Linda Verde USR Retail Operations.urb924

Project Name: SDSU Plaza Linda Verde

Project Location: California State-wide

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.59	0.87	0.73	0.00	0.00	0.00	1,044.00
TOTALS (lbs/day, mitigated)	0.29	0.70	0.58	0.00	0.00	0.00	835.20
Percent Reduction	50.85	19.54	20.55	NaN	NaN	NaN	20.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	7.21	12.56	84.75	0.07	14.32	2.77	7,202.04

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	7.80	13.43	85.48	0.07	14.32	2.77	8,246.04

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.06	0.87	0.73	0.00	0.00	0.00	1,044.00
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.53						
TOTALS (lbs/day, unmitigated)	0.59	0.87	0.73	0.00	0.00	0.00	1,044.00

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.05	0.70	0.58	0.00	0.00	0.00	835.20
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.24						
TOTALS (lbs/day, mitigated)	0.29	0.70	0.58	0.00	0.00	0.00	835.20

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	7.21	12.56	84.75	0.07	14.32	2.77	7,202.04
TOTALS (lbs/day, unmitigated)	7.21	12.56	84.75	0.07	14.32	2.77	7,202.04

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 40 Season: Winter

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
Strip mall		12.47	1000 sq ft	90.00	1,122.30	8,297.16
					1,122.30	8,297.16

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	48.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.9	1.8	93.6	4.6
Light Truck 3751-5750 lbs	21.9	0.5	99.5	0.0
Med Truck 5751-8500 lbs	9.6	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	76.5	23.5
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	42.9	57.1

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	54.3	45.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	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)						
Strip mall				2.0	1.0	97.0

Global Climate Change
Technical Report

for

Plaza Linda Verde
San Diego State University

Submitted To:

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1525 Faraday Avenue
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Prepared By:

Scientific Resources Associated
1328 Kaimalino Lane
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June 1, 2010

Table of Contents

List of Acronyms

APCD	Air Pollution Control District
AB	Assembly Bill
AB 32	Assembly Bill 32, Global Warming Solutions Act of 2006
ARB	Air Resources Board
ASTM	American Society of Testing and Materials
CAPCOA	California Air Pollution Control Officers Association
CAT	Climate Action Team
CCAP	Center for Clean Air Policy
CCAR	California Climate Action Registry
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
DWR	Department of Water Resources
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
EPIC	University of San Diego School of Law Energy Policy Initiative Center
EV	Electric Vehicles
GCC	Global Climate Change
GHG	Greenhouse Gas
GGEP	Greenhouse Gas Emissions Policy
GGRP	Greenhouse Gas Reduction Plan
GP	General Plan
GWP	Global Warming Potential
HFCs	Hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
LEED	Leadership in Energy and Environmental Design
MMT	Million Metric Tons
MW	Megawatts
N_2O	Nitrous Oxide
NOx	Oxides of Nitrogen
OPR	State Office of Planning and Research
PFCs	Perfluorocarbons
PM	Particulate Matter
ROG	Reactive Organic Gas
RPS	Renewable Portfolio Standards
S-3-05	Executive Order S-3-05
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SDCGHGI	San Diego County Greenhouse Gas Inventory
SRI	Solar Reflective Index
THC	Total Hydrocarbon

UNFCCC	United Nations Framework Convention on Climate Change
URBEMIS	Urban Emissions Model
USBGC	U.S. Green Building Council
VMT	Vehicle Miles Traveled

1.0 INTRODUCTION

This report presents an assessment of potential global climate change-related impacts associated with the Plaza Linda Verde Project (the Proposed Project) at San Diego State University.

The Proposed Project includes five land use types: (1) Mixed-Use Retail/Student Housing; (2) Student Apartments; (3) Parking Structure; (4) Campus Green; and (5) Pedestrian Malls. As a mixed-use development, the Project would provide additional student housing and retail uses south of the SDSU Transit Center and Aztec Walk in the San Diego College Area community. The Project would be developed in two phases and, at buildout, would include approximately 400 apartments to house approximately 1,600 students, with approximately 90,000 square feet of retail space. The Project will also include parking to accommodate up to 560 vehicles, a Campus Green that will feature both active and passive recreation areas for public use, and pedestrian malls in place of existing streets/alleys. The Project would require demolition of existing structures on the Project site and a revision to the SDSU Campus Master Plan boundary.

The Proposed Project will be designed as a pedestrian/bicycle friendly, open-air, sustainable urban village that will utilize "green" building practices, drought-tolerant landscaping, and other environmentally sustainable measures. CSU/SDSU will seek Leadership in Energy and Environmental Design (LEED) certification for the Project.

Methodology. To gauge the potential significance of global climate change impacts associated with the Proposed Project, emissions associated with construction and operation of the Project were estimated. With respect to operational-related activities, the emissions inventory considered electricity use, natural gas use, water use, and vehicles. Emissions were evaluated based on their consistency with the goals of Assembly Bill (AB) 32.

1.1 General Principles and Existing Conditions

Global Climate Change (GCC) refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation and storms. GCC may result from natural factors, natural processes, and/or human activities that change the composition of the atmosphere and alter the surface and features of land. Historical records indicate that global climate changes have occurred in the past due to natural phenomena (such as during previous ice ages). Some data indicate that the current global conditions differ from past climate changes in rate and magnitude.

Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O), which are known as greenhouse gases (GHGs). These gases allow solar radiation (sunlight) into the Earth's atmosphere, but prevent radiative heat from escaping, thus warming the Earth's atmosphere, much like a greenhouse. GHGs are emitted by both natural processes and human activities. Without these natural GHGs, the Earth's temperature would be about 61° Fahrenheit cooler (California Environmental Protection Agency 2006). Emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere. For example, data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years; however, concentrations of CO_2 have increased in the atmosphere since the industrial revolution.

GCC and GHGs have been at the center of a widely contested political, economic, and scientific debate. Although the conceptual existence of GCC is generally accepted, the extent to which GHGs generally and anthropogenic-induced GHGs (mainly CO_2, CH_4 and N_2O) contribute to it remains a source of debate. The State of California has been at the forefront of developing solutions to address GCC.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The IPCC concluded that a stabilization of GHGs at 400 to 450 ppm CO_2 equivalent concentration is required to keep global mean warming below 35.6° Fahrenheit (2° Celsius), which is assumed to be necessary to avoid dangerous climate change (Association of Environmental Professionals 2007).

State law defines greenhouse gases as any of the following compounds: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) (California Health and Safety Code Section 38505(g).) CO_2, followed by CH_4 and N_2O, are the most common GHGs that result from human activity.

1.2 Sources and Global Warming Potentials of GHG

Anthropogenic sources of CO_2 include combustion of fossil fuels (coal, oil, natural gas, gasoline and wood). CH_4 is the main component of natural gas and also arises naturally from anaerobic decay of organic matter. Accordingly, anthropogenic sources of CH_4 include landfills, fermentation of manure and cattle farming. Anthropogenic sources of N_2O include combustion of fossil fuels and industrial processes such as nylon production and production of nitric acid. Other GHGs are present in trace amounts in the atmosphere and are generated from various industrial or other uses.

GHGs have varying global warming potential (GWP). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere; it is the "cumulative radiative forcing effect of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas" (USEPA 2006). The reference gas for GWP is CO_2; therefore, CO_2 has a GWP of 1. The other main greenhouse gases that have been attributed to human activity include CH_4, which has a GWP of 21, and N_2O, which has a GWP of 310. Table 1 presents the GWP and atmospheric lifetimes of common GHGs. In order to account for each GHG's respective GWP, all types of GHG emissions are expressed in terms of CO_2 equivalents (CO_2e) and are typically quantified in metric tons (MT) or millions of metric tons (MMT).

Table 1

Global Warming Potentials and Atmospheric Lifetimes of GHGs

GHG	Formula	100-Year Global Warming Potential	Atmospheric Lifetime (Years)
Carbon Dioxide	CO_2	1	Variable
Methane	CH_4	21	12 ± 3
Nitrous Oxide	N_2O	310	120
Sulfur Hexafluoride	SF_6	23,900	3,200
Hydrofluorocarbons	HFCs	140 to 11,700	3.7 to 264
Perfluorocarbons	PFCs	6,500 to 9,200	2,600 to 50,000
Nitrogen Trifluoride	NF_3	17,200	740
Source:UNFCCC Global Warming Potentials, http://unfccc.int/ghg_data/items/3825.php			

The California Air Resources Board (ARB) compiled a statewide inventory of anthropogenic GHG emissions and sinks that includes estimates for CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs. The current inventory covers the years 1990 to 2004, and is summarized in Table 2. Data sources used to calculate this GHG inventory include California and federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the IPCC. The 1990 emissions level is the sum total of sources and sinks from all sectors and categories in the inventory. The inventory is divided into seven broad sectors and categories in the inventory. These sectors include: Agriculture; Commercial; Electricity Generation; Forestry; Industrial; Residential; and Transportation.

Table 2
State of California GHG Emissions by Sector

Sector	Total 1990 Emissions ($MMTCO_2e$)	Percent of Total 1990 Emissions	Total 2004 Emissions ($MMTCO_2e$)	Percent of Total 2004 Emissions
Agriculture	23.4	5%	27.9	6%
Commercial	14.4	3%	12.8	3%
Electricity Generation	110.6	26%	119.8	25%
Forestry (excluding sinks)	0.2	<1%	0.2	<1%
Industrial	103.0	24%	96.2	20%
Residential	29.7	7%	29.1	6%
Transportation	150.7	35%	182.4	38%
Forestry Sinks	(6.7)		(4.7)	
Source: California Air Resources Board, see http://www.arb.ca.gov/cc/inventory/archive/archive.htm.				

In addition to the statewide GHG inventory prepared by the ARB, a GHG inventory was prepared by the University of San Diego School of Law Energy Policy Initiative Center (EPIC) for the San Diego region (University of San Diego 2008). The San Diego County Greenhouse Gas Inventory (SDCGHGI) takes into account the unique characteristics of the region when estimating emissions, and estimated emissions for years 1990, 2006, and 2020. Based on this inventory and the emission projections for the region, EPIC found that GHG emissions must be reduced by 33 percent below business as usual conditions for year 2020 in order for San Diego County to return to 1990 emission levels. "Business as usual" is defined as the emissions that would occur without any greenhouse gas reduction measures[1]. For example, construction of buildings using 2005 Title 24 building standards, and not subsequently enacted more rigorous standards, would create "business as usual" emissions.

Areas where feasible reductions could occur and the strategies for achieving those reductions are outlined in the SDCGHGI. A summary of the various sectors that contribute GHG emissions in

[1] As defined in the California Air Resources Board's *Climate Change Proposed Scoping Plan*, October 2008, page 11.

San Diego County for year 2006 is provided in Table 3. Total GHGs in San Diego County are estimated at 34 $MMTCO_2e$.

Table 3
San Diego County 2006 GHG Emissions by Category

Sector	Total Emissions ($MMTCO_2e$)	Percent of Total Emissions
On-Road Transportation	16	46%
Electricity	9	25%
Natural Gas Consumption	3	9%
Civil Aviation	1.7	5%
Industrial Processes & Products	1.6	5%
Other Fuels/Other	1.1	4%
Off-Road Equipment & Vehicles	1.3	4%
Waste	0.7	2%
Agriculture/Forestry/Land Use	0.7	2%
Rail	0.3	1%
Water-Born Navigation	0.13	0.4%
Source: EPIC's SDCGHGI, 2008.		

According to the SDCGHGI, a majority of the region's emissions are attributable to on-road transportation, with the next largest source of GHG emissions attributable to electricity generation. The SDCGHGI states that emission reductions from on-road transportation will be achieved in a variety of ways, including through regulations aimed at increasing fuel efficiency standards and decreasing vehicle emissions. These regulations are outside the control of project applicants for land use development. The SDCGHGI also indicates that emission reductions from electricity generation will be achieved in a variety of ways, including through a 10 percent reduction in electricity consumption, implementation of the renewable portfolio standard (RPS), cleaner electricity purchases by San Diego Gas & Electric, replacement of the Boardman Contract (which allows the purchase of electricity from coal-fired power plants), and implementation of 400 MW of photovoltaics. Many of these measures are also outside the control of project applicants.

1.3 Regulatory Framework

All levels of government have some responsibility for the protection of air quality, and each level (Federal, State, and regional/local) has specific responsibilities relating to air quality regulation. GHG emissions and the regulation of GHGs is a relatively new component of this air quality regulatory framework.

1.3.1 National and International Efforts

In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis for human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports of the IPCC have emphasized the scientific consensus that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable.

On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change (UNFCCC). Under the Convention, governments agreed to gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of GCC.

Fairly recently, the United States Supreme Court decided, in the case of *Massachusetts et al. v. Environmental Protection Agency et al.* (2007) that the U.S. Environmental Protection Agency (EPA) does have the ability to regulate GHG emissions. This ruling, arguably, has triggered a number of regulatory developments at the federal level, as summarized below.

Endangerment Finding. On April 17, 2009, EPA issued its proposed endangerment finding for GHG emissions. On December 7, 2009, the EPA Administrator signed and finalized two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)--in the atmosphere threaten the public health and welfare of current and future generations.

Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite to finalizing the EPA's proposed greenhouse gas emission standards for light-duty vehicles, which were jointly proposed by EPA and the Department of Transportation's National Highway Safety Administration on September 15, 2009 and adopted on April 1, 2010. As finalized in April 2010, the emissions standards rule for vehicles will improve average fuel economy standards to 35.5 miles per gallon by 2016. In addition, the rule will require model year 2016 vehicles to meet an estimated combined average emission level of 250 grams of carbon dioxide per mile.

Mandatory GHG Reporting Rule. On March 10, 2009, in response to the FY2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), the EPA proposed a rule that requires mandatory reporting of greenhouse gas (GHG) emissions from large sources in the United States. On September 22, 2009, the Final Mandatory Reporting of Greenhouse Gases Rule was signed, and was published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. The rule will collect accurate and comprehensive emissions data to inform future policy decisions.

The EPA is requiring suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to EPA. The gases covered by the proposed rule are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF_6), and other fluorinated gases, including nitrogen trifluoride (NF_3) and hydrofluorinated ethers (HFE).

1.3.2 State Regulations and Standards

The following subsections describe regulations and standards that have been adopted by the State of California to address GCC issues.

Assembly Bill 32, the California Global Warming Solutions Act of 2006. In September 2006, Governor Schwarzenegger signed AB 32 into law. AB 32 directs the ARB to do the following:

- Make publicly available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit.
- Make publicly available a GHG inventory for the year 1990 and determine target levels for 2020.
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures.
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and non-monetary incentives that reduce GHG emissions from any sources or categories of sources that ARB finds necessary to achieve the statewide GHG emissions limit.
- Monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

AB 32 required that, by January 1, 2008, the ARB determine what the statewide GHG emissions level was in 1990, and approve a statewide GHG emissions limit that is equivalent to that level, to be achieved by 2020. The ARB adopted its Scoping Plan in December 2008, which provided estimates of the 1990 GHG emissions level and identified sectors for the reduction of GHG emissions. The ARB has estimated that the 1990 GHG emissions level was 427 MMT net CO_2e (ARB 2007b). The ARB estimates that a reduction of 173 MMT net CO_2e emissions below business-as-usual would be required by 2020 to meet the 1990 levels (ARB 2007b). This amounts to roughly a 30 percent reduction from projected business-as-usual levels in 2020 (ARB 2008a).

Senate Bill 97. Senate Bill (SB) 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. SB 97 directed the Governor's Office of Planning and Research (OPR) to develop draft CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" by July 1, 2009, and directed the California Natural Resources Agency (CNRA) to certify and adopt the CEQA guidelines by January 1, 2010.

OPR published a technical advisory on CEQA and climate change on June 19, 2008. The guidance did not include a suggested threshold, but stated that the OPR had asked the ARB to "recommend a method for setting thresholds which will encourage consistency and uniformity in the CEQA analysis of greenhouse gas emissions throughout the state." The OPR technical advisory does recommend that CEQA analyses include the following components:

- Identification of greenhouse gas emissions;
- Determination of significance; and
- Mitigation of impacts, as needed and as feasible.

On December 31, 2009, the CNRA adopted the proposed amendments to the State CEQA Guidelines. These amendments became effective on March 18, 2010.

Executive Order S-3-05. Executive Order S-3-05, signed by Governor Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions below 1990 levels by 2050. Executive Order S-3-05 also calls for the California EPA (CalEPA) to prepare biennial science reports on the potential impact of continued GCC on certain sectors of the California economy. The first of these reports, "Our Changing Climate: Assessing Risks to California", and its supporting document "Scenarios of Climate Change in California: An Overview" were published by the California Climate Change Center in 2006.

Executive Order S-21-09. Executive Order S-21-09 was enacted by the Governor on September 15, 2009. Executive Order S-21-09 requires that the ARB, under its AB 32 authority, adopt a regulation by July 31, 2010 that sets a 33 percent renewable energy target. Under Executive Order S-21-09, the ARB will work with the Public Utilities Commission and California Energy Commission to encourage the creation and use of renewable energy sources, and will regulate all California utilities. The ARB will also consult with the Independent System Operator and other load balancing authorities on the impacts on reliability, renewable integration requirements, and interactions with wholesale power markets in carrying out the provisions of the Executive Order. The order requires the ARB to establish highest priority for those resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health.

California Code of Regulations Title 24. Although not originally intended to reduce greenhouse gas emissions, Title 24 of the California Code of Regulations, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow for the consideration and possible incorporation of new energy efficiency technologies and methods. Energy efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in greenhouse gas emissions. Therefore, increased energy efficiency results in decreased greenhouse gas emissions.

The GHG emission inventory was based on Title 24 standards as of October 2005; however, Title 24 has been updated as of 2008 and standards are currently being phased in.

State Standards Addressing Vehicular Emissions. California Assembly Bill 1493 (Pavley) enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. Regulations adopted by ARB would apply to 2009 and later model year vehicles. ARB estimated that the regulation would reduce climate change emissions from light duty passenger vehicle fleet by an estimated 18% in 2020 and by 27% in 2030 (AEP 2007). Once implemented, emissions from new light-duty vehicles are expected to be reduced in San Diego County by up to 21 percent by 2020[2].

The ARB has adopted amendments to the Pavley regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments, approved by the ARB Board on September 24, 2009, are part of California's commitment toward a nation-wide program to reduce new passenger vehicle GHGs from 2012 through 2016, and prepare California to harmonize its rules with the federal rules for passenger vehicles.

Executive Order S-01-07. Executive Order S-01-07 was enacted by the Governor on January 18, 2007, and mandates that: 1) a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and 2) a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California. According to the SDCGHGI, the effects of the LCFS would be a 10% reduction in GHG emissions from fuel use by 2020[3]. On April 23, 2009, the ARB adopted regulations to implement the LCFS.

Senate Bill 375. SB 375 finds that GHG from autos and light trucks can be substantially reduced by new vehicle technology, but even so "it will be necessary to achieve significant additional greenhouse gas reductions from changed land use patterns and improved transportation. Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." Therefore, SB 375 requires that regions with metropolitan planning organizations adopt sustainable communities strategies, as part of their regional

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[2] SDCGHGI, An Analysis of Regional Emissions and Strategies to Achieve AB 32 Targets, On-Road Transportation Report. Sean Tanaka, Tanaka Research and Consulting, September 2008, Page 7.

[3] SDCGHGI, An Analysis of Regional Emissions and Strategies to Achieve AB 32 Targets, On-Road Transportation Report. Sean Tanaka, Tanaka Research and Consulting, September 2008, Page 7.

transportation plans, which are designed to achieve certain goals for the reduction of GHG emissions from mobile sources.

SB 375 also includes CEQA streamlining provisions for "transit priority projects" that are consistent with an adopted sustainable communities strategy. As defined in SB 375, a "transit priority project" shall: (1) contain at least 50 percent residential use, based on total building square footage and, if the project contains between 26 and 50 percent nonresidential uses, a floor area ratio of not less than 0.75; (2) provide a maximum net density of at least 20 dwelling units per acre; and (3) be within 0.5 mile of a major transit stop or high quality transit corridor.

2.0 POTENTIAL CLIMATE CHANGE IMPACTS TO PROJECT SITE

2.1 Existing Conditions

The site is currently developed with individual residences and retail buildings. Specific information on the existing land uses was obtained from the *Traffic Impact Study – Plaza Linda Verde* (Linscott, Law and Greenspan 2010). The site as currently developed is a source of GHG emissions due to emissions from energy use and vehicles.

2.2 Typical Adverse Effects

The Climate Scenarios Report (CCCC 2006) uses a range of emissions scenarios developed by the IPCC to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21st century. Three warming ranges were identified: lower warming range (3.0 to 5.5 degrees Fahrenheit (°F)); medium warming range (5.5 to 8.0 °F); and higher warming range (8.0 to 10.5 °F). The Climate Scenarios Report then presents an analysis of the future projected climate changes in California under each warming range scenario.

According to the report, substantial temperature increases would result in a variety of impacts to the people, economy, and environment of California. These impacts would result from a projected increase in extreme conditions, with the severity of the impacts depending upon actual future emissions of GHGs and associated warming. These impacts are described below.

Public Health. Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to O_3 formation are projected to increase by 25 to 35 percent under the lower warming range and 75 to 85 percent under the medium warming range. In addition, if global background O_3 levels increase as is predicted in some scenarios, it may become impossible to meet local air quality standards. An increase in wildfires could also occur, and the corresponding increase in the release of pollutants including $PM_{2.5}$ could further compromise air quality. The Climate Scenarios Report indicates that large wildfires could become up to 55 percent more frequent of GHG emissions are not significantly reduced.

Potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems (e.g., heat rash and heat stroke). In addition, climate sensitive diseases (such as malaria, dengue fever, yellow fever, and encephalitis) may increase, such as those spread by mosquitoes and other disease-carrying insects.

Water Resources. A vast network of reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada mountain snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages. In addition, if temperatures continue to rise more precipitation would fall as rain instead of snow, further reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. The State's water resources are also at risk from rising sea levels. An influx of seawater would degrade California's estuaries, wetlands, and groundwater aquifers.

Agriculture. Increased GHG and associated increases in temperature are expected to cause widespread changes to the agricultural industry, reducing the quantity and quality of agricultural products statewide. Significant reductions in available water supply to support agriculture would also impact production. Crop growth and development will change as will the intensity and frequency of pests and diseases.

Ecosystems/Habitats. Continued global warming will likely shift the ranges of existing invasive plants and weeds, thus alternating competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Continued global warming is also likely to increase the populations of and types of pests. Continued global warming would also affect natural ecosystems and biological habitats throughout the State.

Wildland Fires. Global warming is expected to increase the risk of wildfire and alter the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State.

Rising Sea Levels. Rising sea levels, more intense coastal storms, and warmer water temperatures will increasing threaten the State's coastal regions. Under the high warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. A sea level risk of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten levees and inland water systems, and disrupt wetlands and natural habitats.

2.3 California Climate Adaptation Strategy

As part of its climate change planning process, the CNRA prepared its California Climate Adaptation Strategy (CNRA 2009) to summarize the best known science on climate change impacts in California, with the goal of assessing vulnerability to climate change impacts. The Climate Adaptation Strategy also outlines possible solutions that can be implemented within and across state agencies to promote resiliency.

The California Climate Adaptation Strategy takes into account the long-term, complex, and uncertain nature of climate change and establishes a proactive foundation for an ongoing adaptation process. The strategy made preliminary recommendations as a first step in addressing responses to impacts of global climate change within the state. Key recommendations include:

1. A Climate Adaptation Advisory Panel (CAAP) will be appointed to assess the greatest risks to California from climate change and recommend strategies to reduce those risks building on California's Climate Adaptation Strategy.
2. Identify necessary changes to California's water management and uses.

3. Consider project alternatives that avoid significant new development in areas that cannot be adequately protected (planning, permitting, development, and building) from flooding, wildfire and erosion due to climate change.
4. All state agencies responsible for the management and regulation of public health, infrastructure or habitat subject to significant climate change should prepare as appropriate agency-specific adaptation plans, guidance, or criteria by September 2010.
5. To the extent required by CEQA Guidelines Section 15126.2, all significant state projects, including infrastructure projects, must consider the potential impacts of locating such projects in areas susceptible to hazards resulting from climate change.
6. The California Emergency Management Agency (Cal EMA) will collaborate with the California Natural Resources Agency, the Climate Action Team, the Energy Commission, and the CAAP to assess California's vulnerability to climate change, identify impacts to state assets, and promote climate adaptation/mitigation awareness through the Hazard Mitigation Web Portal and My Hazards Website as well as other appropriate sites.
7. Using existing research the state should identify key California land and aquatic habitats that could change significantly during this century due to climate change. Based on this identification, the state should develop a plan for expanding existing protected areas or altering land and water management practices to minimize adverse effects from climate change induced phenomena.
8. The best long-term strategy to avoid increased health impacts associated with climate change is to ensure communities are healthy to build resilience to increased spread of disease and temperature increases.
9. Communities with General Plans and Local Coastal Plans should begin, when possible, to amend their plans to assess climate change impacts, identify areas most vulnerable to these impacts, and develop reasonable and rational risk reduction strategies using the CAS as guidance.
10. State fire fighting agencies should begin immediately to include climate change impact information into fire program planning to inform future planning efforts.
11. State agencies should meet projected population growth and increased energy demand with greater energy conservation and an increased use of renewable energy.

12. Existing and planned climate change research can and should be used for state planning and public outreach purposes; new climate change impact research should be broadened and funded.

3.0 CLIMATE CHANGE SIGNIFICANCE CRITERIA

According to the California Natural Resources Agency[4], "due to the global nature of GHG emissions and their potential effects, GHG emissions will typically be addressed in a cumulative impacts analysis.. According to Appendix G of the CEQA Guidelines, the following criteria may be considered to establish the significance of GCC emissions:

Would the project:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As discussed in Section 15064.4 of the CEQA Guidelines, the determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency, consistent with the provisions in Section 15064. Section 15064.4 further provides that a lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

(1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or

(2) Rely on a qualitative analysis or performance based standards.

Section 15064.4 also advises a lead agency to consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

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[4] California Natural Resources Agency, Initial Statement of Reasons for Regulatory Action, Proposed Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gases Pursuant to SB 97. July 2009.

(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

Based on the ARB's analysis that statewide 2020 business as usual GHG emissions would be 596 $MMTCO_2e$ and that 1990 emissions were 427 $MMTCO_2e$, local lead agencies have estimated that a reduction of 28.35% below business as usual is required to achieve the AB 32 reduction mandate (ARB 2010).

Recently, other lead agencies such as the South Coast Air Quality Management District (SCAQMD) and the Bay Area Air Quality Management District (BAAQMD) have proposed significance thresholds based on GHG emission levels. The SCAQMD (SCAQMD 2009) is proposing a significance threshold of 3,000 metric tons of CO_2e emissions for mixed use projects like the Plaza Linda Verde Project, based on a 90% capture rate (i.e., 90% of projects would be subject to evaluation, further analysis, and potential mitigation measures based on a GHG emission threshold). The BAAQMD is proposing a significance threshold of 1,100 metric tons of CO_2e, or a threshold of 4.6 MT CO_2e/service population/yr (residents + employees), for projects other than stationary sources.

According to the ARB (ARB 2010), "ARB staff estimated 2020 business-as-usual GHG emissions, which represent the emissions that would be expected to occur in the absence of any GHG reductions actions. ARB staff estimates the statewide 2020 business-as-usual greenhouse gas emissions will be 596 $MMTCO_2E$. Emission reductions from the recommended measures in the Scoping Plan total 169 $MMTCO_2E$, allowing California to attain the 2020 emissions limit of 427 $MMTCO_2E$.

The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors. For the purposes of the Scoping Plan, ARB used three-year average emissions, by sector, for 2002-2004 to forecast emissions to 2020. At the time the Scoping Plan process was initiated, 2004 was the most recent year for which actual data were available."

According to the ARB (ARB 2010), "Growth factors are sector-specific and are derived from several sources, including the energy demand models generated by California Energy Commission (CEC) for their 2007 Integrated Energy Policy Report (IEPR), business economic growth data developed for ARB's criteria pollutant forecast system (CEFS), population growth data from the California Department of Finance, and projections of vehicle miles traveled from ARB's on-road mobile source emissions model, EMFAC2007. For the electricity and other energy sectors, ARB consulted with CEC to select the most appropriate growth factor."

Given that the ARB's growth projections were based on 2007 data, prior to implementation of the 2008 Title 24 energy efficiency standards but after adoption of the 2005 Title 24 energy efficiency standards, the projections for BAU GHG emissions are based on Title 24 as of 2005. For energy efficiency, therefore, "business as usual" is considered to be the equivalent of Title 24 as of 2005.

4.0 GREENHOUSE GAS IMPACTS

GHG emissions associated with the Plaza Linda Verde Project were estimated for four categories of emissions: (1) construction; (2) energy use, including electricity and natural gas usage; (3) water consumption; and (4) transportation. The analysis also includes a baseline estimate that assumes Title 24-compliant buildings, which is considered business as usual for the Project. Emissions were estimated based on emission factors from the California Climate Action Registry General Reporting Protocol (CCAP 2008). The complete emissions inventory is summarized below and included in the Appendix.

4.1 Existing Conditions

The site is currently developed with 31 residential dwelling units and approximately 30,000 square feet of retail uses. The Traffic Impact Analysis (Linscott, Law, and Greenspan 2010) indicates that existing average daily trips generated from current uses average 3,113 ADT. In addition to GHGs generated by vehicles, indirect GHG emissions are generated from electricity, natural gas, and water use.

Baseline energy use was calculated as a function of kWh per square foot based on average performance for southern California residences and commercial buildings, according to the *California Statewide Residential Appliance Saturation Survey* (CEC 2004) and the *California Commercial End-Use Survey* (CEC 2006). The energy use figures in these reports represent current state-wide average uses for all land uses, including those that are compliant with 2005 Title 24 standards. Because the Historic Resource Inventory (ASM Affiliates 2009) indicated that the existing buildings were constructed from 1937 through 1991, with most structures constructed in the period from 1940 through 1960, it is likely that energy efficiency is lower and that average energy use figures underestimate energy use for these buildings. Thus the baseline energy use provides a conservative estimate of current energy requirements relative to future energy requirements.

The *California Statewide Residential Appliance Saturation Survey* provided estimated energy use for older homes versus newer homes, which indicated that newer homes used more electricity (7,035 kWh annually versus 5,846 kWh annually for older homes) due to their larger size (2,061 square feet for newer homes, on average, versus 1,448 square feet for older homes). On a per square foot basis, however, older homes used more electricity than newer homes, with a rate of 4.037 kWh/square foot versus 3.413 kWh/square foot for newer homes. For the purpose of estimating electricity use for the existing residential dwellings, the average size of 1,448 square feet was used with an average electricity use of 4.037 kWh/square foot. Natural gas usage rates were reported as 370 therms per year for newer homes and 355 therms per year for older homes, which equates to an average natural gas usage rate of 0.18 therms/square foot for newer homes and 0.25 therms/square foot for older homes. For the purpose of estimating natural gas use for the existing residential dwellings, the average size of 1,448 square feet was used with an average natural gas usage of 0.25 therms/square foot.

Electricity usage rates for the retail space were calculated based on estimated annual rates of 14.06 kilowatt-hours (kWh) per square foot from the *California Commercial End-Use Survey* (CEC 2006) for retail space. Emissions associated with natural gas usage were calculated based on the CEC's estimated natural gas usage per square foot of 0.5 therms per square foot of retail space per month. Emissions were calculated based on emission factors in the California Climate Action Registry General Reporting Protocol, Version 3.1 (CCAR 2009).

Water use and energy use are often closely linked. The provision of potable water to commercial users consumes large amounts of energy associated with five stages: source and conveyance, treatment, distribution, end use, and wastewater treatment. This inventory estimated that delivered water for the project will have an embodied energy of 3,519 kWh/acre foot or 0.0108 kWh/gallon (Wilkinson and Wolfe 2005). Water usage was estimated from the existing land uses to be 9,494 gallons per day. Total existing water usage would therefore be 3,463,310 gallons per year.

Emissions from vehicles were estimated using the EMFAC2007 model (ARB 2007a) emission factors, assuming an average trip length of 5.8 miles based on data for average trip lengths within

San Diego County estimated by the San Diego Association of Governments (SANDAG). Estimated GHG emissions from vehicles associated with existing uses are presented in Table 4.

Table 4 SUMMARY OF ESTIMATED EXISTING OPERATIONAL GREENHOUSE GAS EMISSIONS				
Emission Source	**Annual Emissions (Metric tons/year)**			
	CO_2	**CH_4**	**N_2O**	**CO_2e**
Operational Emissions				
Electricity Use	241	0.0018	0.0010	241
Natural Gas Use	138	0.0154	0.0003	138
Water Use	15	0.0001	0.0001	15
Vehicle Emissions	3,575	0.20	0.28	3,666
Global Warming Potential Factor	**1**	**21**	**310**	
CO_2 Equivalent Emissions	3,969	5	87	4,060
TOTAL CO_2 Equivalent Emissions	**4,060**			

4.2 Construction Greenhouse Gas Emissions

Construction GHG emissions include emissions from heavy construction equipment, truck traffic, and worker trips. Emissions were calculated using the URBEMIS Model, Version 9.2.4, for completed and proposed construction. The URBEMIS Model contains emission factors from the OFFROAD2007 model for heavy construction equipment (ARB 2007), and from the EMFAC2007 model for on-road vehicles. Table 5 presents the construction-related emissions associated with Phase I and Phase II of the Proposed Project.

Table 5
Construction GHG Emissions
Metric tons/year

Construction Phase	CO_2 Emissions, metric tons
Phase I Construction	1,712
Phase II Construction	1,864
TOTAL	3,576

Under the University-Serving Retail Alternative (an alternative to the Proposed Project), considered below, neither the parking structure nor the underground parking under Buildings 4 and 5 would be constructed. Construction emissions for this alternative would therefore be lower than for the University/Community-Serving Retail Alternative (i.e., the Proposed Project) that are presented in Table 5.

The ARB issued a 7,000 MT draft threshold for industrial projects, such that projects with emissions below that level could be allowed to proceed without mitigation under CEQA (ARB 2008b). Of note, the Proposed Project's total emissions from construction would be less than the draft significance threshold for industrial projects proposed by the ARB. Because the 7,000 metric ton threshold is proposed for application to industrial projects with continuing emissions, and because the construction emissions associated with the Proposed Project would be temporary and below 7,000 MT, it is reasonable to conclude that the construction-related emissions would not be significant under the ARB's draft significance threshold.

Recent guidance from the SCAQMD[5] suggests amortizing construction emissions over a 30-year period to account for the contribution of construction emissions over the lifetime of the project. Amortizing the emissions from construction of the Proposed Project over a 30-year period would result in an annual contribution of 119 metric tons of CO_2e. Of note, if the construction emissions are amortized, the emissions are below the 900 metric tons of CO_2e threshold identified by CAPCOA as one potential threshold for use by lead agencies when considering whether further analysis is required.

In summary, because the construction emissions are temporary and would be below both the ARB's proposed and CAPCOA's recommended thresholds, emissions from construction would be less than significant.

4.3 Operational Greenhouse Gas Emissions

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[5] South Coast Air Quality Management District, Interim GHG Significance Threshold, as adopted December 5, 2008. http://www.aqmd.gov/hb/2008/December/081231a.htm

Two options are under consideration for development of the retail space: (1) University/Community-Serving Retail, which would provide services to both the SDSU community and the surrounding community; and (2) University-Serving Retail, which would focus services on primarily serving the SDSU students, faculty, and staff. The following subsections present an analysis of operational impacts associated with the Proposed Project, which would include University/Community-Serving Retail uses, and an alternative to the Proposed Project, which would include University-Serving Retail uses.

4.3.1 University/Community-Serving Retail Option

This subsection presents an evaluation of emissions and impacts associated with the University/Community-Serving Retail option.

Energy Use Emissions. As discussed above, energy use generates GHG through emissions from power plants that generate electricity as well as emissions from natural gas usage at the facility itself.

As discussed above, under existing conditions, baseline energy use was calculated as a function of kWh per square foot based on average performance for southern California residences and commercial buildings compliant with 2005 Title 24 standards. Energy use was calculated based on usage rates from the *California Statewide Residential Appliance Saturation Survey* (CEC 2004) and the *California Commercial End-Use Survey* (CEC 2006). The *California Statewide Residential Appliance Saturation Survey* provided estimated electricity use for newer homes of 7,035 kWh annually, for an average sized home of 2,061 square feet. The student housing proposed for the Plaza Linda Verde Project will average 1,025 square feet. On a per square foot basis, electricity use is estimated at 3.413 kWh/square foot for newer homes based on the Survey. On a per square foot basis, natural gas usage rates are 0.18 therms/square foot for newer homes. These values were used to calculate "business as usual" electricity and natural gas usage, based on average residential square footage for the Project of 1,025 square feet; annual electricity use was therefore estimated at 3,498 kWh and annual natural gas usage was estimated at 184.5 therms under "business as usual" conditions.

Electricity usage rates for the retail space were calculated based on estimated annual rates of 14.06 kilowatt-hours (kWh) per square foot from the *California Commercial End-Use Survey* (CEC 2006) for retail space. Emissions associated with natural gas usage were calculated based on the CEC's estimated natural gas usage per square foot of 0.5 therms per square foot of retail space per month. Emissions were calculated based on emission factors in the California Climate Action Registry General Reporting Protocol, Version 3.1 (CCAR 2009).

Water. As discussed above, water use results in indirect energy use, which results in GHG emissions. This inventory estimated that delivered water for the project will have an embodied energy of 3,519 kWh/acre foot or 0.0108 kWh/gallon (Wilkinson and Wolfe 2005). Water usage was estimated from the Project to be 68,050 gallons per day. Total existing water usage would therefore be 24,838,250 gallons per year.

Transportation. As discussed in Section 1.2, on-road vehicle emissions account for 46% of existing GHG emissions in San Diego County. The Traffic Impact Analysis (Linscott, Law, and Greenspan 2010) indicated that the total gross projected ADT generated by the Proposed Project would be 5,508. Emissions from vehicles under "business as usual" conditions were calculated using the EMFAC2007 model. The EMFAC2007 model does not take into account any of the GHG reduction measures proposed by the state or federal government. Emissions from vehicles were estimated using the EMFAC2007 model emission factors, assuming an average trip length of 5.8 miles based on data for average trip lengths within San Diego County estimated by the San Diego Association of Governments (SANDAG). Estimated GHG emissions from vehicles associated with existing uses are presented in Table 6.

The results of the inventory for operational emissions for business as usual are presented in Table 6. These include GHG emissions associated with buildings (natural gas, purchased electricity) and water consumption (energy embodied in potable water). Table 6 summarizes projected emissions using the methodologies noted above.

Table 6 SUMMARY OF ESTIMATED OPERATIONAL GREENHOUSE GAS EMISSIONS BUSINESS AS USUAL SCENARIO COMMUNITY-SERVING RETAIL				
Emission Source	**Annual Emissions (Metric tons/year)**			
	CO_2	**CH_4**	**N_2O**	**CO_2e**
Operational Emissions				
Electricity Use	1,062	0.0081	0.0045	1,064
Natural Gas Use	630	0.0701	0.0012	632
Water Use	107	0.0008	0.0005	107
Vehicle Emissions	6,326	0.36	0.49	6,485
Global Warming Potential Factor	**1**	**21**	**310**	
CO_2 Equivalent Emissions	8,125	9	154	8,288
TOTAL CO_2 Equivalent Emissions	**8,288**			

4.3.2 University-Serving Retail Option

This subsection presents an evaluation of emissions and impacts associated with the University-Serving Retail option.

Energy Use Emissions. Energy use emissions (electricity and natural gas) would be the same for the University-Serving Retail and University/Community-Serving Retail options.

Water. Water usage would be the same for the University-Serving Retail and University/Community-Serving Retail options.

Transportation. The Traffic Impact Analysis (Linscott, Law, and Greenspan 2010) indicated that the total gross projected ADT generated by the University-Serving Retail option would be 3,642. Emissions from vehicles under "business as usual" conditions were calculated using the EMFAC2007 model. The EMFAC2007 model does not take into account any of the GHG reduction measures proposed by the state or federal government. Emissions from vehicles were estimated using the EMFAC2007 model emission factors, assuming an average trip length of 5.8 miles based on data for average trip lengths within San Diego County estimated by the San Diego Association of Governments (SANDAG).

The results of the inventory for operational emissions for business as usual are presented in Table 7. These include GHG emissions associated with buildings (natural gas, purchased electricity) and water consumption (energy embodied in potable water). Table 7 summarizes projected emissions using the methodologies noted above.

Table 7 SUMMARY OF ESTIMATED OPERATIONAL GREENHOUSE GAS EMISSIONS BUSINESS AS USUAL SCENARIO UNIVERSITY-SERVING RETAIL				
Emission Source	**Annual Emissions (Metric tons/year)**			
	CO_2	**CH_4**	**N_2O**	**CO_2e**
Operational Emissions				
Electricity Use	1,062	0.0081	0.0045	1,064
Natural Gas Use	630	0.0701	0.0012	632
Water Use	107	0.0008	0.0005	107
Vehicle Emissions	4,182	0.24	0.32	4,286
Global Warming Potential Factor	**1**	**21**	**310**	
CO_2 Equivalent Emissions	5,981	7	101	6,089
TOTAL CO_2 Equivalent Emissions	**6,089**			

5.0 SUMMARY OF PROJECT DESIGN FEATURES, IMPACTS, AND MITIGATION MEASURES

As discussed in Section 3.0, a significance threshold of 28.35% below "business as usual" levels is considered to demonstrate that a project would be consistent with the goals of AB 32.

The Plaza Linda Verde Project will meet the requirements of the California State University's Sustainability and Energy Efficiency Goals. These goals include SDSU's commitment to achieve LEED Silver certification for the Proposed Project's buildings. As such, the buildings that would be constructed would be more energy-efficient than existing buildings located on the Project site. In addition, Energy Star appliances would be used in the project. According to the EPA and U.S. Department of Energy (USEPA 2010), Energy Star appliances are 10 to 30 percent more energy efficient than the minimum federal standard for appliances. To account for energy efficiency of Energy Star appliances, as well as accounting for energy efficiency associated with non-plug loads that will be achieved through meeting the California State University's Sustainability and Energy Efficiency Goals, it was assumed that 20% less energy (electricity and natural gas) would be used than under "business as usual" conditions. This reduction accounts for the 15% improvement over Title 24 standards as of 2005 that is attributable to Title 24 standards as of 2008, with an additional 5% reduction attributable to meeting LEED Silver Certification.

As shown in Tables 6 and 7, and as discussed in the ARB's *Staff Report, California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit* (ARB 2007b), vehicular emissions are the greatest contributor to GHG emissions. Because CSU/SDSU does not have direct control over the types of vehicles or emission/fuel standards, the effect of California programs to reduce GHG emissions from vehicles was evaluated. Based on the SDCGHGI, the percent reductions in GHG emissions anticipated through implementation of the Federal CAFE standards, LCFS, and Pavley fuel efficiency standard (analogous to the Federal CAFE standard), as well as the effect of light/heavy vehicle efficiency/hybridization programs can be estimated. Based on that study, emissions from vehicles would be reduced by 20 percent through implementation of the Federal CAFE standard/Pavley standard, 10 percent through LCFS, and 3 percent by the light/heavy vehicle efficiency/hybridization standard. Emissions from vehicles would therefore be reduced by as much as 33 percent from state and federal programs by the year 2020. In this analysis, it was assumed that emissions from vehicles would be reduced by 30 percent to account for reductions in GHG emissions from the Federal CAFE/Pavley standard and the LCFS.

In addition to the energy efficiency and mobile source emissions reductions discussed above, reductions attributable to California's RPS (SB 1078; 2002) were included in the emission calculations for electricity use. SB 1078 initially set a target of 20% of energy to be sold from renewable sources by the year 2017. The schedule for implementation of the RPS was accelerated in 2006 with the Governor's signing of SB 107, which accelerated the 20% RPS goal from 2017 to 2010. On November 17, 2008, the Governor signed Executive Order S-14-08, which requires all retail sellers of electricity to serve 33 percent of their load with renewable energy by 2020. The Governor signed Executive Order S-21-09 on September 15, 2009, which directs ARB to implement a regulation consistent with the 2020 33% renewable energy target by July 31, 2010.

According to the SDCGHGI, implementation of the 20% RPS goal by 2010 would reduce GHG emissions by a further 14% from 2006 levels; the inventory estimated that San Diego Gas and Electric was providing 6% of its electricity from renewable resource in 2006. To account for the implementation of the 20% RPS, a 14% reduction in GHG emissions was assumed. While implementation of Executive Order S-21-09 (i.e., the 33% RPS) will result in additional GHG reductions of 27% below 2006 levels, no additional credit was taken for these reductions because they have not yet been promulgated or adopted by the ARB.

While water conservation measures, Energy Star appliances, and the RPS will reduce GHG emissions associated with water usage, for conservative purposes no credit was taken for these measures in the calculation of GHG from water consumption.

As discussed in Section 4.1, existing conditions associated with the current development at the Project site have 4,060 metric tons of GHG emissions. These emissions will be eliminated upon development of the Plaza Linda Verde Project, accounting for some reduction in GHG emissions.

Further reductions will be achieved through the energy efficiency measures associated with the LEED Silver rating and the CSU Sustainability Programs that are designed to reduce energy needs and thereby reduce GHG emissions. The purpose of the Plaza Linda Verde Project is to provide housing for students that might otherwise live elsewhere, or commute to SDSU. The University/Community-Serving Retail would provide local retail services in the area; the University-Serving Retail would provide services for the University community. Regardless, the Project is consistent with current growth forecasts and would not result in an increase in student enrollment.

Table 8 presents the estimated GHG emissions for the Community-Serving Retail option, with implementation of the GHG reduction measures summarized above (i.e., LEED Silver rating; federal and state mobile source regulatory framework; 20% RPS).

Table 8
SUMMARY OF ESTIMATED OPERATIONAL GREENHOUSE GAS EMISSIONS WITH GHG REDUCTION MEASURES
COMMUNITY-SERVING RETAIL

Emission Source	Annual Emissions (Metric tons/year)			
	CO_2	CH_4	N_2O	CO_2e
Operational Emissions				
Electricity Use	731	0.0056	0.0031	732
Natural Gas Use	504	0.0561	0.0010	506
Water Use	107	0.0008	0.0005	107
Vehicle Emissions	4,428	0.25	0.34	4,539
Global Warming Potential Factor	**1**	**21**	**310**	
CO_2 Equivalent Emissions	5,770	7	107	5,884
TOTAL CO_2 Equivalent Emissions, with GHG Reductions	**5,884**			
Business As Usual CO_2 Equivalent Emissions	**8,288**			
Percent Below Business As Usual	**29.0%**			
Existing CO_2 Equivalent Emissions	**4,060**			
Net CO_2 Equivalent Emissions	**1,824**			

Table 9 presents the estimated GHG emissions for the University-Serving Retail option, with implementation of GHG reduction measures summarized above (i.e., LEED Silver rating; federal and state mobile source regulatory framework; 20% RPS).

Table 9 SUMMARY OF ESTIMATED OPERATIONAL GREENHOUSE GAS EMISSIONS WITH GHG REDUCTION MEASURES UNIVERSITY-SERVING RETAIL				
Emission Source	**Annual Emissions (Metric tons/year)**			
	CO_2	**CH_4**	**N_2O**	**CO_2e**
Operational Emissions				
Electricity Use	731	0.0056	0.0031	732
Natural Gas Use	504	0.0561	0.0010	506
Water Use	107	0.0008	0.0005	107
Vehicle Emissions	2,927	0.17	0.22	3,000
Global Warming Potential Factor	**1**	**21**	**310**	
CO_2 Equivalent Emissions	4,269	5	70	4,345
TOTAL CO_2 Equivalent Emissions, with GHG Reductions	**4,345**			
Business As Usual CO_2 Equivalent Emissions	**6,089**			
Percent Below Business As Usual	**28.6%**			
Existing CO_2 Equivalent Emissions	**4,060**			
Net CO_2 Equivalent Emissions	**285**			

As shown in Tables 8 and 9, emissions for both the Community-Serving Retail Alternative and the University-Serving Retail Alternative would be both below "business as usual" emission levels with implementation of the GHG emission reduction measures summarized above (i.e., LEED Silver rating; federal and state mobile source regulatory framework; 20% RPS) by more than 28.35%, . Additionally, net emissions for the Community-Serving Retail Alternative would be 1,824 metric tons of CO_2e, which is above the screening-level threshold of 900 metric tons of CO_2e identified by CAPCOA as one potential threshold for use by lead agencies when considering whether further analysis is required, but below the SCAQMD's draft significance threshold for mixed-use projects of 3,000 metric tons of CO_2e. Net emissions for the University-Serving Retail Alternative would be both below the screening-level threshold of 900 metric tons of CO_2e, and below the SCAQMD's SCAQMD's draft significance threshold for mixed-use projects of 3,000 metric tons of CO_2e. Accordingly, the Plaza Linda Verde Project will meet the goals of AB 32 and would not result in significant global climate impacts.

900 metric tons of CO_2e threshold identified by CAPCOA as one potential threshold for use by lead agencies when considering whether further analysis is required

6.0 CONCLUSIONS

Emissions of GHGs were quantified for both construction and operation of the Plaza Linda Verde Project. Operational emissions were calculated for existing conditions, and for both the University/Community-Serving Retail scenario and the University-Serving Retail scenario. Through the CSU Sustainability Program, and the mobile source emission regulatory framework and RPS, emissions will be reduced for the Proposed Project to a level that is consistent with the goals of AB 32. Therefore, the Proposed Project would not result in a significant global climate change impact.

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Appendix A

Greenhouse Gas Emission Calculations

Table A-1
Electricity Greenhouse Gas Emissions - Existing Conditions
Plaza Linda Verde Project

Electricity

Land Use	1,000 Sqft	Usage Rate [a] (kWh\sq.ft\yr)	(KWh\year)	MWh\year
Project			0	0.00
Retail	30.2	14.06	424,190	424.19
Residential (SF and MF, Dwelling Unit	31.0	5,846	181,226	181.23
Total Project			**605,416**	**605.42**

[a] Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

GHG	lbs/MWh[b]	lbs	metric tons	CO_2E
Project				
CO_2	878.71	531985.2691	241.3042622	241.3042622
CH_4	0.0067	4.05628854	0.0018399	0.038637901
N_2O	0.0037	2.24003994	0.001016064	0.314979901
				241.66

[b] Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.1, January 2009

Table A-2
Natural Gas Greenhouse Gas Emissions - Existing Conditions
Plaza Linda Verde Project

Natural Gas

Land Use	1,000 Sqft	Usage Rate per SF or unit Therms/Year	Total Natural Gas Usage Therms/Year	Total Natural Gas Usage (MMBTU\year)
Project				
Retail	30.2	0.5	15,085	1,509
Residential (SF and MF, Dwelling Units)	31.0	355	11,005	1,101
Total Project			26,090	**2,609**

[a] Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.

GHG	Kg/MMBtu[b]	Kg	metric tons	CO_2E (Metric Tons)
Project				
CO_2	53.06	138,433.54	138.43	138.43
CH_4	0.0059	15.39	0.0154	0.32
N_2O	0.0001	0.26	0.0003	0.08
				138.84

[b] Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.1, January 2009

Table A-3
Water Use Greenhouse Gas Emissions - Existing Conditions
Plaza Linda Verde Project

Water Usage

Land Use	GPY	Usage Rate (kWh\MMgal)	(KWh\year)	MWh\year
Project	3465310	10800	37,425	37.43
Total Project			**37,425**	**37.43**

[a] Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

GHG	lbs/MWh[b]	lbs	metric tons	CO_2E
Project				
CO_2	878.71	32886.02754	14.916839	14.916839
CH_4	0.0067	0.250749832	0.000113738	0.0023885
N_2O	0.0037	0.138473788	6.28106E-05	0.019471287
				14.94

[b] Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.1, January 2009

Table A-4
On-Road Mobile Source Greenhouse Gas Emissions - Existing Conditions
Plaza Linda Verde Project

On Road Mobile Source

Land Use	Daily VMT	Annual VMT[a]
Total Project	18,055	6,590,221.00

[a] Multiplied Daily VMT by 365 to get Annual VMT
[b] Factors dervied from URBEMIS2002

San Diego County CO_2 2012 AVG Gram/Mile[c]	**542.4161429**
San Diego County CH_4 2012 AVG Gram/Mile[c]	**0.0305**
N_2O Gram/Mile	**0.042**

GHG	Gram/Mile	Gram	metric tons	CO_2E (Metric Tons)
Project				
CO_2	542.41614	3,574,642,255.40	3,574.64	3,574.64
CH_4	0.0305	201,001.74	0.20	4.22
N_2O	0.042	276,789.28	0.28	85.80
				3664.67

[c] Averaged EMFAC2007 fleet values for 0-65mph
[d] Emission Factor for N_2O based on EPA Tier 0 emission factoı

Table A-5
Electricity Greenhouse Gas Emissions - Business As Usual
Plaza Linda Verde Project

Electricity

Land Use	1,000 Sqft or units	Usage Rate [a] (kWh\sq.ft\yr)	(KWh\year)	MWh\year
Project			0	0.00
Retail	90.0	14.06	1,265,400	1265.40
Residential (DU)	400.0	3,498	1,399,200	1399.20
Total Project			**2,664,600**	**2664.60**

[a] Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

GHG	lbs/MWh [b]	lbs	metric tons	CO_2E
Project				
CO_2	878.71	2341410.666	1062.045147	1062.045147
CH_4	0.0067	17.85282	0.008097896	0.170055823
N_2O	0.0037	9.85902	0.004471973	1.386311506
				1063.60

[b] Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 2.2, March 2007

Table A-6
Natural Gas Greenhouse Gas Emissions - Business As Usual
Plaza Linda Verde Project

Natural Gas

Land Use	1,000 Sqft	Usage Rate per SF or unit Therms/Year	Total Natural Gas Usage Therms/Year	Total Natural Gas Usage (MMBTU\year)
Project				
Retail	90.0	0.5	45,000	4,500
Residential (DU)	400.0	185	73,800	7,380
Total Project			118,800	**11,880**

[a] Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.

GHG	Kg/MMBtu[b]	Kg	metric tons	CO_2E (Metric Tons)
Project				
CO_2	53.06	630,352.80	630.35	630.35
CH_4	0.0059	70.09	0.0701	1.47
N_2O	0.0001	1.19	0.0012	0.37
				632.19

[b] Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 2.2, March 2007

Table A-7
Water Use Greenhouse Gas Emissions - Business As Usual
Plaza Linda Verde Project

Water Usage

Land Use	GPY	Usage Rate (kWh\MMgal)	(KWh\year)	MWh\year
Project	24838250	10800	268,253	268.25
Total Project			**268,253**	**268.25**

[a] Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

GHG	lbs/MWh[b]	lbs	metric tons	CO_2E
Project				
CO_2	878.71	235716.6815	106.919201	106.919201
CH_4	0.0067	1.79729577	0.000815239	0.017120019
N_2O	0.0037	0.99253647	0.000450207	0.139564047
				107.08

[b] Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 2.2, March 2007

Table A-8
On-Road Mobile Source Greenhouse Gas Emissions - Business As Usual
Plaza Linda Verde Project

On Road Mobile Source - Community-Serving Retail

Land Use	Daily VMT	Annual VMT[a]
Total Project	31,952	11,662,553.00

[a] Multiplied Daily VMT by 365 to get Annual VMT
[b] Factors dervied from URBEMIS2002

San Diego County CO_2 2012 AVG Gram/Mile[c]	542.4161429
San Diego County CH_4 2012 AVG Gram/Mile[c]	0.0305
N_2O Gram/Mile	0.042

GHG	Gram/Mile	Gram	metric tons	CO_2E (Metric Tons)
Project				
CO_2	542.41614	6,325,957,014.13	6,325.96	6,325.96
CH_4	0.0305	355,707.87	0.36	7.47
N_2O	0.042	489,827.23	0.49	151.85
				6485.27

[c] Averaged EMFAC2007 fleet values for 0-65mph
[d] Emission Factor for N_2O based on EPA Tier 0 emission factoı

Table A-9
On-Road Mobile Source Greenhouse Gas Emissions - Business As Usual
Plaza Linda Verde Project

On Road Mobile Source - University-Serving Retail

Land Use	Daily VMT	Annual VMT[a]
Total Project	**21,124**	**7,710,114.00**

[a] Multiplied Daily VMT by 365 to get Annual VMT
[b] Factors dervied from URBEMIS2002

San Diego County CO_2 2012 AVG Gram/Mile[c]	**542.4161429**
San Diego County CH_4 2012 AVG Gram/Mile[c]	**0.0305**
N_2O Gram/Mile	**0.042**

GHG	Gram/Mile	Gram	metric tons	CO_2E (Metric Tons)
Project				
CO_2	542.41614	4,182,090,296.87	4,182.09	4,182.09
CH_4	0.0305	235,158.48	0.24	4.94
N_2O	0.042	323,824.79	0.32	100.39
				4287.41

[c] Averaged EMFAC2007 fleet values for 0-65mph
[d] Emission Factor for N_2O based on EPA Tier 0 emission factoı

Table A-10
Electricity Greenhouse Gas Emissions - with GHG Reductions
Plaza Linda Verde Project

Electricity

Land Use	1,000 Sqft	Usage Rate [a] (kWh\sq.ft\yr)	(KWh\year)	MWh\year
Project			0	0.00
Retail	90.0	11.25	1,012,320	1012.32
Residential (DU)	400.0	2,798	1,119,360	1119.36
Total Project			**2,131,680**	**2131.68**

[a] Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

GHG	lbs/MWh[b]	lbs	metric tons	CO_2E
Project				
CO_2	755.6906	1610890.538	730.687061	730.687061
CH_4	0.005762	12.28274016	0.005571353	0.116998406
N_2O	0.003182	6.78300576	0.003076717	0.953782316
				731.76

[b] Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 2.2, March 2007

Table A-11
Natural Gas Greenhouse Gas Emissions - with GHG Reductions
Plaza Linda Verde Project

Natural Gas

Land Use	1,000 Sqft	Usage Rate per SF or unit Therms/Year	Total Natural Gas Usage Therms/Year	Total Natural Gas Usage (MMBTU\year)
Project				
Retail	90.0	0.4	36,000	3,600
Residential (DU)	400.0	148	59,040	5,904
Total Project			95,040	9,504

[a] Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.

GHG	Kg/MMBtu[b]	Kg	metric tons	CO_2E (Metric Tons)
Project				
CO_2	53.06	504,282.24	504.28	504.28
CH_4	0.0059	56.07	0.0561	1.18
N_2O	0.0001	0.95	0.0010	0.29
				505.75

[b] Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 2.2, March 2007