CHAPTER 4.0 ENVIRONMENTAL ANALYSIS

4.1 INTRODUCTION

The purpose of this chapter is to present information on the various environmental topics that are relevant to the proposed project site and region. With this information, analyses of potential project impacts on the environment are provided, thus presenting the reader with information about the project and the potential effects of the project.

Several of these environmental topics are technically oriented and have been examined by experts on those topics. Where applicable and appropriate, technical analyses have been conducted and are provided in the appendices of this document.

To effectively characterize the impacts of the proposed project on the environment, the EIR document adheres to the following sequence:

- Existing Setting
- Impact Significance Criteria
- Impacts and Mitigation Measures
- Level of Significance after Mitigation

In the discussions in each chapter of the Existing Setting, those elements associated with the current site and area conditions have been documented. These conditions help to define constraints to the project, describe previous analyses and assumptions, and outline potential concerns and issue areas.

After documenting the concerns and issues in Existing Setting discussion, the impacts associated with implementing the project are addressed. This analysis includes a format for the Impacts, Mitigation Measures, and Level of Significance that facilitate the reader's understanding of project effects.

At the beginning of each impact section, Impact Significance Criteria are defined in accordance with general CEQA parameters, industry professional standards, and professional judgment. These criteria are evaluated against the project impacts to assess the level of significance prior to mitigation. Also included, where applicable, is a discussion of the potential effects that are not considered significant, followed by the potentially significant effects.

A summary of each impact is included at the beginning of the impact discussion and has been included in the overall Summary Impact Table.

After identifying the potentially significant impacts, the EIR identifies potentially feasible mitigation measures, as needed and where available, to reduce the impacts to a level below significance. Mitigation for each potentially significant impact is presented separately, and conclusions regarding significance are reached prior to discussing other project impacts. At the end of each environmental topic is a summary conclusion of level of significance after mitigation.

4.2 AIR QUALITY

This section includes a summary of applicable regulations, existing air quality conditions, and an analysis of potential short-term and long-term air quality impacts of the proposed project. (See Appendix B for Air Quality modeling and technical data).The methods of analysis for short-term construction, long-term regional (operation), local mobile sources, and toxic air emissions are consistent with the recommendations of the Placer County Air Pollution Control District (PCAPCD). In addition, mitigation measures are recommended, as necessary, to reduce significant air quality impacts.

4.2.1 Existing Setting

The proposed project site is located in the western portion of Placer County, California (western Placer County), which is under the jurisdiction of the PCAPCD. Western Placer County is within the Sacramento Valley Air Basin (SVAB), which also comprises all of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo and Yuba counties, and the eastern portion of Solano County.

The ambient concentrations of air pollutant emissions are determined by the amount of emissions released by pollutant sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and the presence of sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollution sources, as discussed separately below.

Topography, Climate, and Meteorology

The SVAB is relatively flat, bordered by the North Coast Ranges to the west and the Northern Sierra Nevada Mountains to the east. Air flows into the SVAB through the Carquinez Strait, the only breach in the western mountain barrier, and moves across the Sacramento-San Joaquin River Delta from the San Francisco Bay area.

The Mediterranean climate type of the SVAB is characterized by hot, dry summers and cool, rainy winters. During the summer, daily temperatures range from 50°F to more than 100°F. The inland location and surrounding mountains shelter the area from much of the ocean breezes that keep the coastal regions moderate in temperature.

Most precipitation in the area results from air masses that move in from the Pacific Ocean, usually from the west or northwest during the winter months. Most of the total annual precipitation falls during the winter rainy season (November through February); the average winter temperature is a moderate 49°F. Characteristic of SVAB winters are also periods of dense and persistent low-level fog, which are most prevalent between storms. The prevailing winds are moderate in speed and vary from moisture laden breezes from the south to dry land flows from the north.

The mountains surrounding the SVAB create a barrier to airflow, which leads to entrapment of air pollutants when meteorological conditions are unfavorable for transport and dilution. The highest frequency of poor air movement occurs in the fall and winter when high-pressure cells are present over the SVAB. The lack of surface wind during these periods combined with the reduced vertical flow because of less surface heating reduces the influx of air and leads to the concentration of air

pollutants under stable meteorological conditions. Surface concentrations of air pollutant emissions are highest when these conditions occur in combination with agricultural burning activities or temperature inversions which hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground.

May through October is ozone season in the SVAB. This period is characterized by poor air movement in the mornings with the arrival of the delta sea breeze from the southwest in the afternoons. In addition, longer daylight hours provide a plentiful amount of sunlight to fuel photochemical reactions between reactive organic gases (ROG) and nitrogen oxides (NO_x), which result in ozone formation. Typically, the delta breeze transports air pollutants northward out of the SVAB; however, a phenomenon known as the Schultz Eddy prevents this from occurring during approximately half of the time from July to September. The Schultz Eddy phenomenon causes the wind pattern to shift southward resulting in air pollutants being blown back into the SVAB. This phenomenon exacerbates the concentration of air pollutant emissions in the area and contributes to violations of the ambient air quality standards.

Local meteorology of the proposed project site is represented by measurements recorded at the Rocklin station. The normal annual precipitation is approximately 21 inches. January temperatures range from a normal minimum of 34°F to a normal maximum of 54°F. July temperatures range from a normal minimum of 59°F to a normal maximum of 96°F (National Oceanic and Atmospheric Administration 1992). The predominant wind direction and speed is from the south-southwest at 10 mph (California Air Resources Board [ARB] 1994).

Existing Air Quality – Criteria Air Pollutants

Concentrations of the following air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable and fine particulate matter (PM_{10} and $PM_{2.5}$), and lead are used as indicators of ambient air quality conditions. Because these are the most prevalent air pollutants known to be deleterious to human health and extensive health-effects criteria documents are available, they are commonly referred to as “criteria air pollutants”.

A brief description of each criteria air pollutant including source types, health effects, and future trends is provided below along with the current attainment area designations and monitoring data for the project area.

Ozone

Ozone is a photochemical oxidant, a substance whose oxygen combines chemically with another substance in the presence of sunlight, and the primary component of smog. Ozone is not directly emitted into the air, but is formed through complex chemical reactions between precursor emissions of ROG and NO_x in the presence of sunlight. ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_x is a group of gaseous compounds of nitrogen and oxygen that results from the combustion of fuels. Ozone located in the upper atmosphere (stratosphere) acts in a beneficial manner by shielding the earth from harmful ultraviolet radiation that is emitted by the sun. However, ozone located in the lower atmosphere (ground level) is a major health and environmental concern. Meteorology and terrain play a major role in ozone formation.

Generally, low wind speeds or stagnant air coupled with warm temperatures and clear skies provide the optimum conditions for formation. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. Therefore, ozone is a regional pollutant that often affects large areas. In general, ozone concentrations over or near urban and rural areas reflect an interplay of emissions of ozone precursors, transport, meteorology, and atmospheric chemistry (Godish 1991).

The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthmatics and children, but healthy adults as well. Exposure to ambient levels of ozone ranging from 0.10 to 0.40 parts per million (ppm) for 1 to 2 hours has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes, and impairing respiratory mechanics. Ambient levels of ozone above 0.12 ppm are linked to symptomatic responses that include such symptoms as throat dryness, chest tightness, headache, and nausea. In addition to the above adverse health effects, evidence also exists relating ozone exposure to an increase in the permeability of respiratory epithelia; such increased permeability leads to an increase in responsiveness of the respiratory system to challenges, and the interference or inhibition of the immune system's ability to defend against infection (Godish 1991).

Emissions of ozone precursors ROG and NO_x have decreased over the past several years because of more stringent motor vehicle standards and cleaner burning fuels. Consequently, peak 1-hour and 8-hour ozone concentrations in the SVAB have declined overall by about 15% since 1988. However, peak ozone values in the SVAB have not declined as rapidly over the last several years as they have in other urban areas. This can be attributed to influx of pollutants into the SVAB from other urbanized areas, making the region both a transport contributor and a receptor of pollutants (ARB 2006a).

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels, primarily from mobile (transportation) sources. CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (U.S. Environmental Protection Agency [EPA] 2007a).

The highest concentrations are generally associated with cold stagnant weather conditions that occur during the winter. In contrast to ozone, which tends to be a regional pollutant, CO problems tend to be localized.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily

nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2 (EPA 2007a). The combined emissions of NO and NO_2 are referred to as NO_x, which are reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local NO_x emission sources.

Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4 to 12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe, symptomatic NO_2 intoxication after acute exposure has been linked on occasion with prolonged respiratory impairment with such symptoms as chronic bronchitis and decreased lung functions.

Sulfur Dioxide

Sulfur dioxide (SO_2) is produced by such stationary sources as coal and oil combustion, steel mills, refineries, pulp and paper mills. The major adverse health effects associated with SO_2 exposure pertain to the upper respiratory tract. SO_2 is a respiratory irritant with constriction of the bronchioles occurring with inhalation of SO_2 at 5 ppm or more. On contact with the moist mucous membranes, SO_2 produces sulfurous acid, which is a direct irritant. Concentration rather than duration of the exposure is an important determinant of respiratory effects. Exposure to high SO_2 concentrations may result in edema of the lungs or glottis and respiratory paralysis.

Particulate Matter

Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM_{10}. PM_{10} consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by condensation and/or transformation of SO_2 and ROG (EPA 2007a). Fine particulate matter ($PM_{2.5}$) includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less (ARB 2006a).

The adverse health effects associated with PM_{10} depend on the specific composition of the particulate matter. For example, health effects may be associated with metals, polycyclic aromatic hydrocarbons (PAH), and other toxic substances adsorbed onto fine particulate matter, which is referred to as the piggybacking effect, or with fine dust particles of silica or asbestos. Generally, adverse health effects associated with PM_{10} may result from both short-term and long-term exposure to elevated concentrations and may include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, alterations to the immune system, carcinogenesis, and premature death (EPA 2007a). $PM_{2.5}$ poses an increased health risk because the particles can deposit deep in the lungs and may contain substances that are particularly harmful to human health.

Direct emissions of both PM_{10} and $PM_{2.5}$ have increased in the SVAB between 1975 and 2000 and are projected to increase through at least 2020. These emissions are dominated by area-wide sources, primarily because of development (ARB 2006a).

Lead

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, as discussed in detail below, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995 (EPA 2007a).

As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector have declined dramatically (95% between 1980 and 1999), and levels of lead in the air decreased by 94% between 1980 and 1999. Transportation sources, primarily airplanes, now contribute only 13% of lead emissions. A recent National Health and Nutrition Examination Survey reported a 78% decrease in the levels of lead in people's blood between 1976 and 1991. This dramatic decline can be attributed to the move from leaded to unleaded gasoline (EPA 2007a).

Ambient Air Quality – Monitoring Station Data and Attainment Designations

Criteria air pollutant concentrations are measured at several monitoring stations in the SVAB. The Roseville-North Sunrise Boulevard and Auburn-C Avenue stations are the closest in proximity to the proposed project site with recent data for ozone, CO, NO_2, $PM_{2.5}$ and PM_{10}. In general, the ambient air quality measurements from these stations are representative of the air quality in the vicinity of the proposed project site. Table 4.2-1 summarizes the air quality data from the most recent 3 years.

Both ARB and the U.S. Environmental Protection Agency (EPA) use this type of monitoring data to designate areas according to attainment status for criteria air pollutants established by the agencies. The purpose of these designations is to identify those areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. Unclassified is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of the nonattainment designation, called nonattainment-transitional. The nonattainment-transitional designation is given to nonattainment areas that are progressing and nearing attainment. The most current attainment designations for the Placer County portion of the SVAB are shown in Table 4.2-2 for each criteria air pollutant.

Table 4.2-1: Summary of Annual Ambient Air Quality Data (2006-2008)

	2006	2007	2008
Roseville-North Sunrise Boulevard Monitoring Station			
- Ozone			
Maximum concentration (1-hr/8-hr, ppm)	0.121/0.097	0.109/0.100	0.134/0.106
Number of days state standard exceeded (1-hr/8-hr)	16/38	4/20	20/38
Number of days national standard exceeded (8-hr)	25	8	22
- Carbon Monoxide (CO)			
Maximum concentration (1-hr/8-hr, ppm)	7.5/2.7[2]	5.1/1.7	2.3/1.8
Number of days state standard exceeded (1-hr)	0	0	0
Number of days national standard exceeded (1-hr/8-hr)	0	0	0
- Nitrogen Dioxide (NO_2)			
Maximum concentration (1-hr, ppm)	0.063	0.058	0.067
Number of days state standard exceeded (1-hr)	0	0	0
Annual Average (ppm)	0.013	0.012	0.012
- Fine Particulate Matter ($PM_{2.5}$)			
Maximum concentration ($\mu g/m^3$)	45.0	30.0	60.0
Number of days national standard exceeded (measured)	2	0	1
- Respirable Particulate Matter (PM_{10})			
Maximum concentration ($\mu g/m^3$)	54.0	43.0	74.2
Number of days state standard exceeded	1	0	1
Number of days national standard exceeded	0	0	0
Auburn-C Avenue Monitoring Station			
- Ozone			
Maximum concentration (1-hr/8-hr, ppm)	0.129/0.114	0.097/0.081	0.124/0.112
Number of days state standard exceeded (1-hr/8-hr)	25/67	1/21	14/36
Number of days national standard exceeded (8-hr)	56	9	21

1 Where, $\mu g/m^3$ = micrograms per cubic meter and ppm = parts per million

2 No data available at Roseville Monitoring Station. CO data is from North Highlands Monitoring Station.

Sources: ARB 2009, EPA 2009

Table 4.2-2: Ambient Air Quality Standards and Designations for Placer County Portion of SVAB

Pollutant	Averaging Time	California[1]		National[2]		
		Standards	Attainment Status[4]	Primary[3,5]	Secondary[3,6]	Attainment Status[7]
Ozone	1-hour	0.09 ppm (180 µg/m^3)	N	-[8]	Same as Primary Standard	-[8]
	8-hour	0.07 ppm (137 µg/m^3)	-	0.075 ppm (147 µg/m^3)		N (Serious)
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	A	35 ppm (40 mg/m^3)	-	U/A
	8-hour	9 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	-	0.053 ppm (100 µg/m^3)	Same as Primary Standard	U/A
	1-hour	0.18 ppm (339 µg/m^3)	A	-		-
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	-	-	0.030 ppm (80 µg/m^3)	-	U
	24-hour	0.04 ppm (105 µg/m^3)	A	0.14 ppm (365 µg/m^3)	-	
	3-hour	-	-	-	0.5 ppm (1300 µg/m^3)	
	1-hour	0.25 ppm (655 µg/m^3)	A	-	-	
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	N	-[8]	Same as Primary Standard	U
	24-hour	50 µg/m^3		150 µg/m^3		
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	U	15.0 µg/m^3	Same as Primary Standard	U/A
	24-hour	No Separate State Standard	-	35 µg/m^3		
Lead[7]	Rolling 3-Month Average	-	-	0.15 µg/m^3	Same as Primary Standard	-
	30-day Average	1.5 µg/m^3	A	-	-	-
	Calendar Quarter	-	-	1.5 µg/m^3	Same as Primary Standard	-
Sulfates	24-hour	25 µg/m^3	A	No National Standards		
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m^3)	U			
Vinyl Chloride[7]	24-hour	0.01 ppm (26 µg/m^3)	U/A			
Visibility-Reducing Particulate Matter	8-hour	Extinction coefficient of 0.23 per kilometer – visibility of 10 miles or	U			

Pollutant	Averaging Time	California[1]		National[2]		
		Standards	Attainment Status[4]	Primary[3,5]	Secondary[3,6]	Attainment Status[7]
		more (0.07 – 30 miles or more for Lake Tahoe) because of particles when the relative humidity is less than 70%				

Source: ARB 2008

1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Nonattainment (N): any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for that pollutant. Attainment (A): any area that meets the national primary or secondary ambient air quality standard for that pollutant.

Unclassifiable (U): any area that cannot be classified on the basis of available information and meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

8 The 1-hour ozone NAAQS was revoked on June 15, 2005. The annual PM_{10} NAAQS was revoked in October 2006.

Existing Air Quality – Toxic Air Contaminants

Concentrations of toxic air contaminants (TACs) are also used as indicators of ambient air quality conditions. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

According to the California Almanac of Emissions and Air Quality (ARB 2006a), the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being PM from diesel fueled engines (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, the ARB has made preliminary concentration estimates based on a PM exposure method. This method uses ARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, *para*-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene pose the greatest existing ambient risk, for which data are available, in California.

Diesel PM poses the greatest health risk among these ten TACs mentioned. Based on receptor modeling techniques, the ARB estimated its health risk to be 360 excess cancer cases per million people in the SVAB. Since 1990, the diesel PM's health risk has been reduced by 52%. Overall, levels of most TACs have gone down since 1990 except for *para*-dichlorobenzene and formaldehyde (ARB 2006a).

Asbestos

Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Naturally occurring asbestos (NOA), which was identified as a TAC in 1986 by the ARB, is located in many parts of California, including several foothill areas of Placer County, and are commonly associated with serpentine.

For individuals living in areas of NOA, there are many potential pathways for airborne exposure. Exposures to soil dust containing asbestos can occur under a variety of scenarios, including children playing in the dirt, dust raised from unpaved roads and driveways covered with crushed serpentine, uncontrolled quarry emissions, grading and construction associated with development of new housing, gardening and other human activities. For homes built on asbestos outcroppings, asbestos can be tracked into the home and can also enter as fibers suspended in outdoor air. Once such fibers are indoors, they can be entrained into the air by normal household activities, such as vacuuming (as many fibers will simply pass through vacuum cleaner bags).

The general public exposed to low levels of asbestos may be at elevated risk (e.g., above background rates) of lung cancer and mesothelioma. The risk is proportional to the cumulative inhaled dose (number of fibers), and also increases with the time since first exposure. Although there are a number

of factors that influence the disease causing potency of any given asbestos, such as fiber length and width, fiber type, and fiber chemistry, all forms are carcinogens.

Geologic maps prepared by the California Geologic Survey (formerly the California Division of Mines and Geology) show areas of higher probability for asbestos containing rock within the broad zone of faults that follows the low foothills and lay in a south-east to north-west band. The Placer County communities of Auburn, Colfax, Meadow Vista, and Foresthill are among those that are within this fault band. Generally, there are no areas of high probability of occurrence for NOA in Placer County that are the west of Folsom Lake or south of Wise Road. That is, Roseville (and Granite Bay), Rocklin, Lincoln, Loomis, Penryn, and Newcastle lay within geologic areas that have a lower probability for the presence of NOA. There are some isolated areas of higher probability for the presence of NOA within the Tahoe National Forest.

The identification of locations in Placer County has been improved with the development of an enhanced 1:1,100,000 scale map by the California Geological Survey. The map denotes areas of Placer County that are more or less likely to contain NOA that is based on available soil and geologic studies, with some field verification.

The characterization of an area as having a lower overall probability of NOA presence means that although the likelihood is slight, in some instances NOA might be found within such an area. Similarly, a location in the area identified as being most likely to have NOA may not contain NOA.

NOA deposits have been found in rock other than ultramafic and serpentine rock; for example, NOA deposits have been found in metavolcanic rocks such as the Copper Hill Volcanics in the Folsom vicinity. Metavolcanic rock formations are prevalent to the northeast, north, and west of Auburn. Finally in areas of sedimentary of alluvial rock deposits, such as exist in western Placer County; it is possible that analytically detectible NOA may be found.

According to Special Report 190: Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, California (Higgins and Clinkenbeard 2006) and the General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos (Churchill and Hill 2000), the proposed project site is not located in an area that is likely to contain NOA.

4.2.2 Regulatory Setting

Air quality within Placer County is regulated by such agencies as the EPA, ARB, and PCAPCD. Each of these agencies develops rules, regulations, policies, and/or goals to comply with applicable legislation. Although EPA regulations may not be superseded, both state and local regulations may be more stringent.

Federal Plans, Policies, Regulations, and Laws

At the federal level, the EPA has been charged with implementing national air quality programs. The EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress were in 1990.

The CAA required the EPA to establish national ambient air quality standards (NAAQS). As shown in Table 4.2-2, the EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, CO, NO2, SO2, PM_{10}, PM2.5, and Lead.

The primary standards protect the public health and the secondary standards protect public welfare. The CAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The EPA has responsibility to review all state SIPs to determine conformation to the mandates of the CAA, and the amendments thereof, and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

State Plans, Policies, Regulations, and Laws

The ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required the ARB to establish California ambient air quality standards (CAAQS) (Table 4.2-2). The ARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above mentioned criteria air pollutants. In most cases the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

Other ARB responsibilities include, but are not limited to, overseeing local air district compliance with California and federal laws, approving local air quality plans, submitting SIPs to the EPA, monitoring air quality, determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

Local Plans, Policies, Regulations, and Laws

Placer County Air Pollution Control District

The PCAPCD attains and maintains air quality conditions in Placer County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the PCAPCD includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The PCAPCD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the CAA, CAAA, and the CCAA. Air quality plans applicable to the proposed project are discussed separately.

As mentioned above, the PCAPCD adopts rules and regulations. All projects are subject to PCAPCD rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the proposed project may include, but are not limited to:

Rule 202-Visible Emissions. A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated as number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

Rule 205-Nuisances. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause to have a natural tendency to cause injury or damage to business or property.

Rule 217-Cutback and Emulsified Asphalt Paving Materials. A person shall not manufacture for sale nor use for paving, road construction or road maintenance any: rapid cure cutback asphalt; slow cure cutback asphalt containing organic compounds which evaporate at 500°F or lower as determined by current American Society for Testing and Materials (ASTM) Method D402; medium cure cutback asphalt except as provided in Regulation 2 (Prohibitions), Rule 217, Section 1.2 (Exemptions); or emulsified asphalt containing organic compounds which evaporate at 500°F or lower as determined by current ASTM Method D244, in excess of 3% by volume.

Rule 218-Application of Architectural Coatings. No person shall manufacture, blend, or repackage for sale within PCAPCD; supply, sell, or offer for sale within PCAPCD; or solicit for application or apply within the PCAPCD, any architectural coating with a volatile organic carbon (VOC) content in excess of the corresponding specified manufacturer's maximum recommendation.

Rule 228-Fugitive Dust.

- ***Visible Emissions Not Allowed Beyond the Boundary Line:*** A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area (including disturbance as a result of the raising and/or keeping of animals or by vehicle use), such that the presence of such dust remains visible in the atmosphere beyond the boundary line of the emission source.

- ***Visible Emissions from Active Operations:*** In addition to the requirements of Rule 202, Visible Emissions, a person shall not cause or allow fugitive dust generated by active operations, an open storage pile, or a disturbed surface area, such that the fugitive dust is of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as number 2 on the Ringelmann Chart, as published by the United States Bureau of Mines.
- ***Concentration Limit:*** A person shall not cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter ($\mu g/m^3$) (24-hour average) when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other EPA approved equivalent method for PM_{10} monitoring.
- ***Track-Out onto Paved Public Roadways:*** Visible roadway dust as a result of active operations, spillage from transport trucks, and the track-out of bulk material onto public paved roadways shall be minimized and removed.
    - The track-out of bulk material onto public paved roadways as a result of operations, or erosion, shall be minimized by the use of track-out and erosion control, minimization, and preventative measures, and removed within one hour from adjacent streets such material anytime track-out extends for a cumulative distance of greater than 50 feet onto any paved public road during active operations.
    - All visible roadway dust tracked-out upon public paved roadways as a result of active operations shall be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. Wet sweeping or a High Efficiency Particulate Air (HEPA) filter equipped vacuum device shall be used for roadway dust removal.
    - Any material tracked-out, or carried by erosion, and clean-up water, shall be prevented from entering waterways or storm water inlets as required to comply water quality control requirements.
- ***Minimum Dust Control Requirements:*** The following dust mitigation measures are to be initiated at the start and maintained throughout the duration of the construction or grading activity, including any construction or grading for road construction or maintenance.
    - Unpaved areas subject to vehicle traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered.
    - The speed of any vehicles and equipment traveling across unpaved areas must be no more than 15 miles per hour unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 miles per hour from emitting dust exceeding Ringelmann 2 or visible emissions from crossing the project boundary line.
    - Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile.
    - Prior to any ground disturbance, including grading, excavating, and land clearing, sufficient water must be applied to the area to be disturbed to prevent emitting dust exceeding Ringelmann 2 and to minimize visible emissions from crossing the boundary line.
    - Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt, from being released or tracked offsite.

- When wind speeds are high enough to result in dust emissions crossing the boundary line, despite the application of dust mitigation measures, grading and earthmoving operations shall be suspended.
- No trucks are allowed to transport excavated material off-site unless the trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments, and loads are either covered with tarps; or wetted and loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.

- ***Wind-Driven Fugitive Dust Control:*** A person shall take action(s), such as surface stabilization, establishment of a vegetative cover, or paving, to minimize wind-driven dust from inactive disturbed surface areas.

Rule 501-General Permit Requirements. Any person operating an article, machine, equipment or other contrivance, the use of which may cause, eliminate, reduce, or control the issuance of air contaminants, shall first obtain a written permit from the Air Pollution Control Officer (APCO). Stationary sources subject to the requirements of Rule 507, Federal Operating Permit Program, must also obtain a Title V permit pursuant to the requirements and procedures of that rule.

Air Quality Plans

The PCAPCD, in coordination with the air quality management districts and air pollution control districts of El Dorado, Sacramento, Solano, Sutter, and Yolo counties, prepared and submitted the 1991 Air Quality Attainment Plan (AQAP) for the Sacramento nonattainment area, and which specifically addressed the nonattainment status for ozone and to a lesser extent, CO and PM_{10}.

The CCAA requires a triennial assessment of the extent of air quality improvements and emission reductions achieved through the use of control measures. As part of the assessment, the attainment plan must be reviewed and, if necessary, revised to correct for deficiencies in progress and to incorporate new data or projections. The requirement of the CCAA for a first triennial progress report and revision of the 1991 AQAP was fulfilled with the preparation and adoption of the 1994 Ozone Attainment Plan. The 1994 Sacramento Regional Clean Air Plan was developed cooperatively with all the districts in the Sacramento Region. The Clean Air Plan was adopted in 1994 in compliance with the 1990 Amendments to the Federal Clean Air Act.

Additional triennial reports were also prepared in 1997, 2000, and 2003 in compliance with the CCAA that act as incremental updates. CHSC section 40924(a) requires the AQMD to prepare an Annual Progress Report and submit the report to the ARB by December 31 of each year. At a minimum, the Annual Progress Report shall contain the proposed and actual dates for the adoption and implementation of each measure listed in the previous Triennial Plan. The most recent report, the 2007 Annual Progress Report, was developed in October 2008.

As a nonattainment area, the region is also required to submit rate-of-progress milestone evaluations in accordance with the CAAA. Milestone reports were prepared for 1996, 1999, and 2002. These milestone reports include compliance demonstrations that the requirements have been met for the

Sacramento nonattainment area. The air quality attainment plans and reports present comprehensive strategies to reduce ROG, NO_X, and PM_{10} emissions from stationary, area, mobile, and indirect sources. Such strategies include the adoption of rules and regulations; enhancement of CEQA participation; implementation of a new and modified indirect source review program; adoption of local air quality plans; and stationary-, mobile-, and indirect-source control measures.

In July of 1997, the EPA promulgated a new 8-hour ozone standard. This change lowered the standard for ambient ozone from 0.12 ppm (parts per million) averaged over one hour to 0.08 ppm averaged over eight hours. In general, the 8-hour standard is more protective of public health and more stringent than the 1-hour standard. The promulgation of this standard prompted new designations and nonattainment classifications in June 2004, and resulted in the revocation of the 1-hour standard in June 2005.

In 2004, the Sacramento region was classified as a "serious" 8-hour ozone nonattainment area with an attainment deadline of June 15, 2013. However, the region needs to rely on the long-term emission reduction strategies from State and federal mobile source control programs that have not fully realized their emission benefits, and as a result the 2013 attainment date cannot be met. On February 14, 2008, ARB, on behalf of the air districts in the Sacramento region, submitted a letter to EPA requesting a voluntary reclassification ("bump-up") of the Sacramento Federal Nonattainment Area from a "serious" to a "severe" 8-hour ozone nonattainment area with an extended attainment deadline of June 15, 2019.

The air districts in the Sacramento Valley Air Basin (SVAB) held public hearings in early 2009 to consider adoption of the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan dated December 19, 2008. PCAPCD held a public hearing and adopted the plan on February 19, 2009. The Plan shows that the region is meeting minimum emission reduction progress and would reach the air quality standard no later than 2018. In addition, the plan makes commitments to adopt and implement new reasonably-available control measures

Toxic Air Contaminants

Air quality regulations also focus on TACs, or, in federal parlance, hazardous air pollutants (HAPs). In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts may not be expected to occur. This contrasts with the criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 4.2-2). Instead, the EPA and ARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology for toxics (MACT and BACT) to limit emissions. These, in conjunction with additional rules set forth by the PCAPCD, establish the regulatory framework for TACs.

Federal Hazardous Air Pollutant Programs

The EPA has programs for identifying and regulating HAPs. Title III of the CAAA directed the EPA to promulgate national emissions standards for HAPs (NESHAP). The NESHAP may differ for major sources than for area sources of HAPs. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (TPY) of any HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources. The emissions standards are to be promulgated in two phases. In the first phase (1992–2000), the EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring MACT. For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), the EPA is required to promulgate health risk–based emissions standards where deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards.

The CAAA also required the EPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions, at a minimum to benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1-3-butadiene. In addition, Section 219 required the use of reformulated gasoline in selected areas with the most severe ozone nonattainment conditions to further reduce mobile-source emissions.

State and Local Toxic Air Contaminant Programs

TACs in California are primarily regulated through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). AB 1807 sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB can designate a substance as a TAC. To date, ARB has identified over 21 TACs, and adopted the EPA's list of HAPs as TACs. Most recently, diesel PM was added to the ARB list of TACs.

Once a TAC is identified, the ARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate BACT to minimize emissions.

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

The ARB recently adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, the ARB adopted a new public transit bus fleet rule and emission standards for new urban buses. These new rules and standards provide for 1) more stringent emission standards for some new urban bus engines beginning with 2002 model year engines; 2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and 3) reporting requirements with which transit agencies must demonstrate compliance with the urban transit bus fleet rule. Upcoming milestones include the low sulfur diesel fuel requirement, and tighter

emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide. Thus, with the turnover of vehicle fleets, TAC emissions will substantially decrease in the future in comparison to current conditions. Mobile-source emissions of TACs (i.e., benzene, 1-3-butadiene, diesel PM) have been reduced significantly over the last decade, and will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle (LEV)/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With implementation of ARB's Risk Reduction Plan, it is expected that diesel PM concentrations will be reduced by 75% in 2010 and 85% in 2020 from the estimated year 2000 level. Adopted regulations are also expected to continue to reduce formaldehyde emissions from cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

The ARB published the Air Quality and Land Use Handbook: A Community Health Perspective, which provides guidance concerning land use compatibility with TAC sources (ARB 2005). While not a law or adopted policy, the handbook offers advisory recommendations for the sitting of sensitive receptors near uses associated with TACs such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries dry cleaners, gasoline stations, and industrial facilities to help keep children and other sensitive populations out of harm's way. A number of comments on the Handbook were provided to the ARB by air districts, other agencies, real estate representatives, and others. The comments included concern over whether the ARB was playing a role in local land use planning, the validity of relying on static air quality conditions over the next several decades in light of technological improvements, and support for providing information that can be used in local decision making.

At the local level, air pollution control or management districts may adopt and enforce ARB control measures. Under PCAPCD Rule 501 (General Permit Requirements), Rule 502 (New Source Review), and Rule 507 (Federal Operating Permit), all sources that possess the potential to emit TACs are required to obtain permits from the district. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. The PCAPCD limits emissions and public exposure to TACs through a number of programs. The PCAPCD prioritizes TAC emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

Sources that require a permit are analyzed by the PCAPCD (e.g., health risk assessment) based on their potential to emit toxics. If it is determined that the project will emit toxics in excess of PCAPCD's threshold of significant for TACs, as identified below, sources have to implement the best available control technology for TACs (TBACT) in order to reduce emissions. If a source cannot reduce the risk below the threshold of significance even after TBACT has been implemented, the PCAPCD will deny the permit required by the source. This helps to prevent new problems and reduces emissions from existing older sources by requiring them to apply new technology when retrofitting with respect to TACs. It is important to note that the air quality permitting process applies to stationary sources; and properties that may be exposed to elevated levels of non-stationary type sources of TACs, and the non-stationary type sources themselves (e.g., on-road mobile) are not subject to this process or any requirements of T-BACT implementation. Rather, emissions controls on such sources (e.g., vehicles) are subject to regulations implemented on the state and federal level.

City of Rocklin General Plan

The following General Plan, Circulation Element policy is applicable to the proposed project (City of Rocklin 1991):

- Policy 25. To coordinate and cooperate with the Placer County Air Pollution District in the development of stationary and mobile source control measures affecting the City of Rocklin, to be included in the California Clean Air Act Plan for Placer County (Rocklin Circulation Element).

Existing Sources

Stationary

According to the EPA, the only major stationary sources of TAC emissions located near the project site are Sierra Pine, LTD, and Pacific Manufactured Products Inc., both located approximately 1 mile to the northwest of the project site (EPA 2007d). These industrial facilities are subject to PCAPCD's permit requirements involving Best Available Control Technology for toxics (T-BACT) and offset requirements.

Mobile Sources

Existing sources of TAC's also include mobile sources (i.e., diesel-fueled internal combustion engines) on nearby roadways (e.g., Interstate 80, which borders the north boundary of the project site). According to the ARB, on road diesel-fueled vehicles contribute approximately 24% of the statewide total of TAC emissions, with an additional 71% attributed to other mobile sources such as construction, mining, and agricultural equipment; and transport refrigeration units.

Existing Air Quality – Odors

Typically odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Method of Analysis

Short-term construction-generated criteria air pollutant (e.g., PM_{10}) and ozone precursor emissions (ROG and NO_X) were assessed in accordance with PCAPCD-recommended methods. Emissions were modeled using the URBEMIS 2007 Version 9.2.4 computer model, and other emission factors and recommended methodologies from PCAPCD. Modeling was based on project-specific data (e.g., estimated duration of construction, size and type of proposed land uses) and URBEMIS default settings for the SVAB.

Long-term (i.e., operational) regional criteria air pollutant and precursor emissions, including mobile- and area source emissions, were also quantified using the URBEMIS 2007 Version 9.2.4 computer model. Modeling was based on project-specific data (e.g., size and type of proposed uses), URBEMIS default settings for the SVAB, and trip generation data from the traffic analysis (LSA 2008). Long-term stationary source emissions were qualitatively assessed in accordance with PCAPCD-recommended methodologies.

Other air quality impacts (i.e., local mobile source and odor) were assessed in accordance with ARB and PCAPCD-recommended methodologies. Such methodologies include the use of a screening level procedure for local mobile-source CO concentrations. The Sacramento Metropolitan Air Quality Management District (SMAQMD)-recommended screening level analysis for local CO was used in the absence of such from PCAPCD (SMAQMD 2004, 2007).

4.2.3 Thresholds Of Significance

Per Appendix G of the CEQA Guidelines and PCAPCD recommendations, air quality impacts are considered significant if implementation of the proposed project under consideration would do any of the following:

- Generate (directly or indirectly through vehicle trip generation) criteria air pollutant or precursor emissions in excess of significance thresholds developed by the PCAPCD [i.e., 82 pounds/day (lb/day) of ROG, NO_x, or PM_{10}; or 550 lb/day of CO)];
- Cause or contribute to local CO concentrations exceeding 20 parts per million (ppm) over a one-hour averaging period or 9 ppm over an eight-hour averaging period;
- Conflict with adopted environmental plans, policies, or regulations for air pollutants;

- Conflict with or obstruct implementation of any applicable air quality plans;
- Conflict with City of Rocklin General Plan policies relating to air pollution or air quality;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Expose sensitive receptors to substantial pollutant concentrations. For TACs, the PCAPCD applies a cancer risk significance threshold of 10 in one million for an individual project's contribution to excess lifetime cancer risk (LSA Associates 2007). The risk is defined as "excess" because it is above the background cancer risk to the population. Such a risk is assumed to apply for a continuous exposure to TACs over a 70-year lifetime;
- Create objectionable odors affecting a substantial number of people; or
- Result in a cumulatively considerable net increase of any criteria pollutant for which the region is designated non-attainment under an applicable national or State ambient air quality standard.

4.2.4 Impacts And Mitigation Measures

AQ-1: Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions. *The short-term construction-generated emissions of PM_{10} would exceed PCAPCD's significance threshold of 82 lb/day. Mitigation measures would likely substantially lessen the level of emission, but would not reduce emissions to below the applicable thresholds. This impact would be considered* ***significant and unavoidable.***

Construction emissions are described as "short term" or temporary in duration and have the potential to represent a significant impact with respect to air quality, especially fugitive PM_{10} dust emissions. Fugitive PM_{10} dust emissions are associated primarily with ground disturbance activities during site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT on- and offsite. Exhaust emissions from employee commute trips and construction equipment also contribute to short-term increases in PM_{10} emissions but to a much lesser extent. Emissions of ozone precursor emissions (ROG and NO_X) and CO are primarily associated with exhaust emissions from employee commute trips and construction equipment, application of architectural coatings, and asphalt paving.

With respect to the proposed project, the initial site preparation and building phases of construction would result in the temporary generation of ROG, NO_X, PM_{10}, and CO emissions from ground disturbance activities, use of off-road equipment, employee commute trips, and other miscellaneous activities (e.g., asphalt paving and the application of architectural coatings).

Short-term construction emissions of ROG, NO_X, PM_{10}, and CO were modeled using the ARB-approved URBEMIS 2007 Version 9.2.4 computer program as recommended by the PCAPCD. URBEMIS is designed to model construction emissions for land use development projects and allows for the input of project-specific information. Input parameters were based on default model settings and information provided in the project description. The modeled maximum daily construction emissions are summarized in Table 4.2-3 and described in more detail below and in Appendix B.

Table 4.2-3: Summary Of Modeled Maximum Daily Short-Term Project Construction-generated Emissions

Source	ROG (lb/day)	NO_x (lb/day)	PM_{10} (lb/day)	CO (lb/day)
Construction Year/Phase				
2010 - Phase I	8.53	53.33	198.82	47.67
2011 - Phase I	4.00	18.40	1.35	27.19
2012 – Phase I and II	181.46	50.44	3.74	56.45
2013 – Phase II	12.91	15.07	1.04	17.66
2014 – Phase II	12.65	14.00	0.93	16.72
PCAPCD Significance Threshold	82	82	82	550
Exceed Threshold?	Yes	No	Yes	No

Notes: Emissions modeled using the URBEMIS 2007 (v9.2.4) computer model, based on the proposed land uses and phasing information identified in the project description, default model setting.
-Refer to Appendix B for detailed assumptions and modeling output files.
-Source: Data modeled by LSA 2009

Based on the modeling conducted, project construction would result in worst-case maximum unmitigated daily emissions of approximately 182 lb/day of ROG, 53 lb/day of NO_X, 199 lb/day of PM_{10}, and 56 lb/day of CO. Daily unmitigated construction-generated emissions would not exceed PCAPCD's significance thresholds of 82 lb/day for NO_X or 550 lb/day for CO. However, unmitigated construction-generated emissions of ROG and PM_{10} would exceed PCAPCD's significance threshold of 82 lb/day. Thus, ROG and PM_{10} emissions could violate an air quality standard or contribute substantially to an existing or projected air quality violation, especially considering Placer County's nonattainment status. As a result, this impact is considered ***significant and unavoidable***.

Mitigation Measure

AQ-1: Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions.

In accordance with the PCAPCD, the applicant shall comply with all applicable rules and regulations in addition to implementation of the following recommended mitigation measures during construction of the proposed project.

- The applicant shall submit to the City Engineer and the PCAPCD and receive approval of a Construction Emission / Dust Control Plan prior to groundbreaking. This plan must address how the project meets the minimum requirements of sections 300 and 400 of Rule 228-Fugitive Dust.
- The applicant shall suspend all grading operations when fugitive dust emissions exceed District Rule 228-Fugitive Dust limitations.
- Fugitive dust emissions shall not exceed 40% opacity and not go beyond the property boundary at any time. If lime or other drying agents are utilized to dry out wet grading areas, the project applicant shall ensure such agents are controlled as to not to exceed District Rule 228-Fugitive Dust limitations.

- The project applicant shall ensure that construction equipment exhaust emissions shall not exceed Rule 202-Visible Emission limitations.
- The project applicant shall ensure compliance with all of PCAPCD's dust minimization requirements.
- Water shall be applied to control fugitive dust, as needed, to prevent impacts offsite. Operational water trucks shall be onsite to control fugitive dust. Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt from being released or tracked off-site.
- PCAPCD-approved chemical soil stabilizers, vegetative mats, or other appropriate best management practices, in accordance with manufacturers' specifications, shall be applied to all-inactive construction areas (previously graded areas which remain inactive for 96 hours).
- Soil binders shall be spread on unpaved roads and employee/equipment parking areas, and streets shall be washed (e.g., wet broom) if silt is carried over to adjacent public thoroughfares.
- Open burning of any kind shall be prohibited.
- Idling time shall be minimized to five minutes or less for all diesel-fueled equipment.
- ARB-certified diesel fuel shall be used for all diesel-powered equipment.
- The project applicant, or the prime contractor, shall submit to the District a comprehensive inventory (i.e., make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower or greater) that will be used an aggregate of 40 or more hours for the construction project prior to groundbreaking. The project applicant shall provide the District with the anticipated construction timeline including start date, name, and phone number of the project manager and onsite foreman prior to groundbreaking. The project applicant shall provide a plan for approval by the District demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project-wide fleet-average 20 percent NO_X reduction and 45 percent particulate reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. Contractors can access the Sacramento Metropolitan Air Quality Management District's web site to determine it their off-road fleet meets the requirements listed in this measure. http://www.airquality.org/ceqa/index.shtml#construction. The contractor can provide the calculation spreadsheets to the District in electronic format for review and project compliance.

Level of Significance after Mitigation

Compliance with the above PCAPCD-required control measures would reduce worst-case fugitive PM_{10} dust emissions. It is not anticipated that implementation of the mitigation measures identified above would reduce emissions to below the applicable thresholds; however, these measures would likely substantially lessen the level of emissions. Therefore, this impact would remain ***significant and unavoidable***.

AQ-2: Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions. *The proposed project would increase criteria air pollutant and precursor emissions in the region above significance thresholds. Because feasible mitigation measures are not available to reduce these emissions below the significance thresholds, this impact would be considered* ***significant and unavoidable****.*

Regional area- and mobile-source emissions of ROG, NO_X, PM_{10}, and CO associated with implementation of the proposed project were estimated using URBEMIS 2007 Version 9.2.4 computer program, which is designed to model emissions for land use development projects. URBEMIS allows land use selections that include project location specifics and trip generation rates. URBEMIS accounts for area emissions from the usage of natural gas, wood stoves, fireplaces, landscape maintenance equipment, and consumer products; and mobile sources emissions associated with trip generation. Regional area and mobile source emissions were estimated based on proposed land uses identified in the project description and trip generation rates obtained from the transportation analysis prepared for this project (Section 4.8, Traffic and Circulation). Project implementation would not include the construction or operation of any major stationary sources of emissions.

The modeled maximum daily operational emissions for winter and summer conditions are summarized in Table 4.2-4 and described in more detail below and in Appendix B.

Table 4.2-4: Summary of Modeled Maximum Daily Long-term Operational (Regional) Emissions

Source	ROG (lb/day)	NO_x (lb/day)	PM_{10} (lb/day)	CO (lb/day)
Winter				
Area (Natural Gas and Consumer Product Usage, Landscaping, and Application of Architectural Coatings)	2.72	4.01	0.01	3.37
Motor Vehicle	99.32	130.38	133.51	952.20
Total Unmitigated Emissions (Winter)[1]	102.04	134.39	133.52	955.57
PCAPCD Significance Threshold	82	82	82	550
Exceed Threshold?	Yes	Yes	Yes	Yes
Summer				
Area (Natural Gas and Consumer Product Usage, Landscaping, and Application of Architectural Coatings)	3.21	4.09	0.03	9.55
Motor Vehicle	78.54	91.41	133.51	792.00
Total Unmitigated Emissions (Summer)[1]	81.75	95.50	133.54	801.55
PCAPCD Significance Threshold	82	82	82	550
Exceed Threshold?	No	Yes	Yes	Yes

[1] Emissions modeled using the Urbemis2007 (v9.2.4) computer model, based on trip generation rates obtained from the transportation analysis prepared for this project, proposed land uses and phasing information identified in the project description, and default model settings.
Refer to Appendix B for detailed assumptions and modeling output files.
Source: Data modeled by LSA Associates, Inc. 2009.

Based on the modeling conducted, project operations would result in worst-case maximum unmitigated daily emissions of approximately 102.04 lb/day of ROG, 134.39 lb/day of NO_X, 133.54 lb/day of PM_{10}, and 955.57 lb/day of CO. Daily unmitigated operational emissions would exceed PCAPCD's significance thresholds of 82 lb/day for ROG, NO_X, and PM_{10}, or 550 lb/day. In addition, because PCAPCD's significance thresholds approximately correlate with reductions from heavy-duty vehicles and land use project emission reduction requirements in the SIP, project implementation would also be anticipated to conflict with current air quality planning efforts. As a result, this impact is considered ***significant and unavoidable***. The project would also result in a significant and unavoidable cumulative impact, which is consistent with the 1991 City of Rocklin General Plan EIR. The General Plan EIR concluded that mobile-source emissions associated with General Plan buildout would result in a significant and unavoidable cumulative regional air quality impact despite application of reasonable mitigation measures. A statement of overriding consideration was adopted by the Rocklin City Council in recognition of this cumulative impact.

Area and mobile-source emissions of GHGs would also be generated by the operation of the proposed project. Because there are no established thresholds for analyzing GHG emissions at the project level, and because the effect of GHG emissions as they relate to global climate change is inherently a cumulative and global issue, the impact of project-generated GHGs is discussed in the cumulative impact analysis included in Chapter 4.4 of this document.

Mitigation Measure

AQ-2 Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions.

The City shall require that emission control measures be incorporated into project design and operation. Such measures may include, but are not limited to, the following items:

- The project applicant shall provide transit enhancing infrastructure that includes transit shelters, benches, street lighting, route signs and displays, and/or bus turnouts/bulbs, where determined to be feasible in consultation with City staff and Placer County Transit Agency staff.
- The project applicant shall provide bicycle enhancing infrastructure that includes secure bicycle parking.
- The project applicant, where determined to be feasible in consultation with City staff, shall incorporate measures such as: provide electric maintenance equipment, use solar, low-emissions, or central water heaters, increase wall and attic insulation beyond Title 24 requirements, and orient buildings to take advantage of solar heating and natural cooling, use passive solar designs, energy efficient windows (double pane and/or Low-E), highly reflective roofing materials, cool paving (high albedo pavement) and parking lot tree shading above that required by code, install photovoltaic cells, programmable thermostats for all heating and cooling systems, awnings or other shading mechanisms for windows and walkways, utilize day lighting systems such as skylights, light shelves, interior transom windows.

- Parking lot design shall include clearly marked pedestrian pathways between transit facilities and building entrances included in the design.
- The project applicant shall require that all diesel engines be shut off when not in use for longer than 5 minutes on the premises to reduce idling emissions.

Level of Significance after Mitigation

Due to the size of the project and number of vehicle trips generated, it is not anticipated that implementation of the mitigation measures identified above would reduce emissions to below the applicable thresholds; however, these measures would likely substantially lessen the level of emissions. In addition, because of existing nonattainment conditions of the project area for ozone and PM_{10}, project implementation could still contribute substantially to an existing or projected violation of ambient air quality standards following implementation of the identified mitigation measures. Therefore, this impact would remain ***significant and unavoidable***.

AQ-3: Exposure of Sensitive Receptors to Toxic Air Contaminant Emissions.

*The construction of the proposed commercial uses has the potential to expose existing residents (in the residential neighborhood to the northeast of the project south of Brace Road) to elevated diesel PM emissions, which are categorized as a toxic air contaminant. However, these emissions would occur on short-term, temporary basis and the construction activities would not be atypical in comparison to a similar development project. Therefore, this would be considered a **less-than-significant** impact.*

The exposure of sensitive receptors to emissions of TAC can occur during the construction phase of the project. The closest sensitive receptors to the project site are existing residences to the northeast, which are approximately 1,000 feet from the project site. Those same residences are located within 200 feet of Interstate 80. In addition, existing residences to the south are approximately 800 feet from the project site. Those residences to the south are separated from the project by Interstate 80. Health-related impacts associated with short-term construction emissions are discussed below, as follows:

Short-Term Construction

Construction of the project and associated infrastructure would result in short-term diesel exhaust emissions from on-site heavy duty equipment used in site grading and excavation, paving, and other construction activities. These emissions would be intermittent, vary through the site area, and be of a relatively short duration. Diesel PM was identified as a TAC by the ARB in 1998. According to the ARB, the potential cancer risk from the inhalation of diesel PM, as discussed below, is a more serious risk than the potential non-cancer health impacts (ARB 2003).

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk

assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (Salinas, pers. comm., 2004). Thus, because the use of mobilized equipment would be temporary (i.e., less than 3% of the total exposure period for which risk is based upon) in combination with the fact that project construction activities would not be atypical in comparison to similar development-type projects (i.e., there will be no excessive material transport or associated truck travel), short-term construction activities would not result in the exposure of sensitive receptors to substantial TAC concentrations. This impact is considered ***less-than-significant***.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

AQ-4: Long-term Operational (Local) Mobile-source Carbon Monoxide Emissions.
The proposed project would increase mobile-source carbon monoxide emissions in the local area. However, this increase would not cause local mobile-source CO emissions to exceed applicable standards. Therefore, this impact would be considered ***less-than-significant.***

CO concentration is a direct function of motor vehicle activity (e.g., idling time and traffic flow conditions), particularly during peak commute hours, and meteorological conditions. Under specific meteorological conditions, CO concentrations may reach unhealthy levels with respect to local sensitive land-uses such as residential areas, schools, and hospitals. Typically, high CO concentrations are associated with roadways or intersections operating at deficient levels of service (LOS) or with extremely high traffic volumes. As a result, the PCAPCD also recommends analysis of CO emissions at a local level.

The CALINE4 air pollutant dispersion model was used to evaluate CO concentrations at intersections in the vicinity of the project site. Based on the methodology suggested by the U.S. EPA and the California Department of Transportation, the second highest CO concentrations monitored at the nearest air monitoring station in the past 2 years were used as the background CO concentrations. Emission factors for study scenarios were obtained from the latest confirmed ARB data. Appendix B contains the 1-hour and 8-hour CO concentrations for the existing (2008) conditions at 22 intersections in the project study area. Appendix B shows that all 1-hour and 8-hour CO concentrations for existing conditions are below the federal and State CO standards.

Appendix B lists the concentrations for the existing plus project and existing plus approved projects scenarios. The 1-hour CO levels range from 7.3 ppm to 9.7 ppm, much lower than the State CO standard of 20 ppm. The 8-hour CO levels range from 2.6 ppm to 4.3 ppm, also much lower then the State and federal standard of 9 ppm.

Appendix B shows that the cumulative (2025) analysis both with and without the project would also be below the federal and State CO standards. The 1-hour CO levels range from 7.5 ppm to 8.1 ppm, much lower than the State CO standard of 20 ppm. The 8-hour CO levels range from 2.7 ppm to 3.2 ppm, also much lower then the State and federal standard of 9 ppm.

Results indicate that CO concentrations would increase by less than 0.7 ppm with implementation of the proposed project. Implementation of the proposed project therefore would not cause an exceedance of State or federal CO standards. Therefore, the proposed project would not lead to significant CO impacts, nor would the proposed project, in combination with other cumulative development, lead to CO concentrations that exceed federal or State standards. As a result, the impact of long-term operational emissions of local CO associated with the proposed project would be considered ***less-than-significant***.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

AQ-5: Exposure of Sensitive Receptor to Odorous Emissions.

The proposed project would introduce new odor sources into the area (e.g., trash receptacles). However, these odor sources would not be expected to adversely affect adjacent land uses. Therefore, this impact would be considered ***less-than-significant.***

The occurrence and severity of odor impacts depends on numerous factors, including: the nature, frequency, and intensity of the source; wind speed and direction; the sensitivity of the receptors; and the distance between odor sources and any such receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects which create objectionable odors affecting a substantial number of people would be deemed to have a significant impact.

The construction of the proposed project would result in diesel exhaust emissions from on-site construction equipment. The diesel exhaust emissions would be intermittent and temporary and would dissipate rapidly from the source with an increase in distance. In addition, the project is not anticipated to result in the installation of any major odor emission sources (e.g., food processing plant, landfill, wastewater treatment facility) that would result in a potentially significant impact to the occupants of the proposed or existing off-site land uses. Although specific commercial uses have not yet been identified, uses considered to be minor sources of odors may be developed. Such sources typically include dry cleaning establishments and restaurants. Fast food restaurants have the potential to generate odors from the operation of charbroilers and deep fat fryers. In addition, on-site trash receptacles used by the new commercial land uses have the potential to create odors. However, while there is a potential for odors to occur, trash receptacles that contain odorous materials (e.g., restaurant food waste) are typically picked up on a daily basis, and the nearest sensitive receptors are 800 feet away to the south of the project and approximately 1,000 feet northeast of the project site which is more than sufficient distance for odors to dissipate. Also, the site tenants would be subject to PCAPCD Rule 205 regarding the control of nuisances. Consequently, the operation of the proposed project would not be expected to create objectionable odors that would affect a substantial number of people. This impact would be considered ***less-than-significant***.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

4.3 BIOLOGICAL RESOURCES

This section describes biological resources present on, or with potential to occur on the project site, including biological communities, common plant and wildlife species, and special-status species. It also includes an overview of the federal, State and local laws and regulations pertaining to the protection of the biological resources in the City of Rocklin. Potential impacts on biological resources resulting from implementation of the proposed project are evaluated and mitigation measures are proposed, where appropriate.

The biological resources information presented in this section is based on a review of available background reports, previous studies conducted on the project site, biological resources databases, and aerial photography interpretation. Specific biological resource background reports reviewed in preparing this section are identified in Table 4.3-1.

Table 4.3-1: Biological Resource Background Reports

Title	Author	Date
• Corps of Engineers jurisdictional waters verification letter	ACOE	2/20/2008
• Pre-Construction Notification Under Nationwide Permit (NWP) No. 39 for Rocklin Pavilions	ECORP Consulting, Inc.	4/20/2007
• Wetland Delineation for Rocklin Pavillions	ECORP Consulting, Inc.	2/23/2006
• 90-Day Report of Findings Regarding Federally Listed Branchiopods	ECORP Consulting, Inc.	1/30/2007
• Special Status Plant Survey for Rocklin Pavillions	ECORP Consulting, Inc.	10/12/2006
• Biological Assessment for the 50+/- Acre Rocklin Pavillions Property	Northfork Associates	3/14/2005
• Rocklin Pavillions, Valley Elderberry Longhorn Beetle Survey	ECORP Consulting, Inc.	4/18/2006
• Arborist Report , Rocklin Commons, City of Rocklin	Foothill Associates	8/26/2008
• Natural Environment Study Report, Sierra College Blvd./Interstate 80 Interchange Improvement Project	LSA Associates, Inc.	7/14/2003

In accordance with CEQA Guidelines Section 15125(a), the environmental baseline, as analyzed in this EIR, is the environmental setting as it existed at the time the Notice of Preparation was published, August 29, 2008. Therefore, the following discussion describes the site's biological conditions as they were on August 29, 2008.

4.3.1 Environmental Setting

The project site is located in the Sierra Nevada foothills at the northwest corner of Interstate 80 and Sierra College Boulevard in the City of Rocklin. The project site is bordered by Interstate 80 to the south, Granite Drive to the west, and Sierra College Boulevard to the east. Oak woodlands lie to the north and west. Retail commercial uses, and rural residential uses are located to the east. To the southwest is a motorcycle dealership, and to the west is Granite Drive and undeveloped light industrial property.

Local Setting

The project site is characterized by plant communities typical of the Sierra Nevada foothills. The property is primarily dominated by non-native annual grassland, interspersed with a limited amount of oak woodland. Several wetland features are also present on the site. The site's topography is gently rolling terrain with an elevation range of approximately 310 to 340 feet above mean sea level. Approximately 8 acres in the northeastern portion of the site was recently disturbed for construction of the new I-80/Sierra College Blvd. interchange.

Project Site Habitat types

Habitat types present on the project site are briefly described below.

Annual Grassland

Annual grassland occupies the majority of the project site. This herbaceous plant community is characterized by a dense, tall cover of non-native annual grasses such as ryegrass (*Lolium multiflorum*), curly dock (*Rumex cripus*), rose clover (*Rifolium hirtum*), wild oat (*Avena fatua*), soft brome (*Bromus hordeaceaus*), and prickly lettuce (*Lactuca seriola*). Native forbs observed in the annual grassland include common madia (*Madia elegans*), western ragweed (*Ambrosia psiolostachya*), and fiddleneck (*Amsinckia menziessi*).

Oak Woodland

Portions of the property are characterized by remnants of foothill oak woodland. The oak woodland is comprised of blue oak (*Quercus douglasii*), live oak (*Quercus wislizenii*), and Valley Oak (*Quercus lobata*). Clusters of oak trees are associated with scattered rock outcrops found throughout the property. The trees are interspersed throughout most of the property; however, fairly large open areas occur in the southwest and central portions of the property as shown on the aerial view of the site at previous Figure 3.2-2. The understory of these woodland "islands" is open with occasional poison oak (*Toxicodendron diversilobum*). Herbaceous cover in the understory is similar to the surrounding annual grassland.

While the aesthetic, historical, environmental, and habitat values provided by California oak woodlands are well documented, the value of any particular oak woodland can vary greatly depending on characteristics such as the size of the entire woodland; the size and density of the oak trees that make up the woodland; other habitats that exist within the oak woodland, such as a perennial stream

or other water sources; diversity of understory vegetation, and how it relates to the other oak woodlands and natural communities in the area.

The remnants of oak woodland on the Rocklin Commons site offer less overall ecological value than high value oak woodland habitats, which are characterized by large expanses of open space areas, containing greater densities of oak trees and providing a more contiguous forest canopy with more diverse understory vegetation. In addition, these high ecological value oak woodlands often are associated with some type of substantial water source such as a creek, stream, or spring fed pond. Due to this site's specific characteristics, it offers substantially diminished ecological habitat value. The oak woodland on the Rocklin Commons site is discussed in more detail under the heading of sensitive habitats below.

Seasonal Wetland

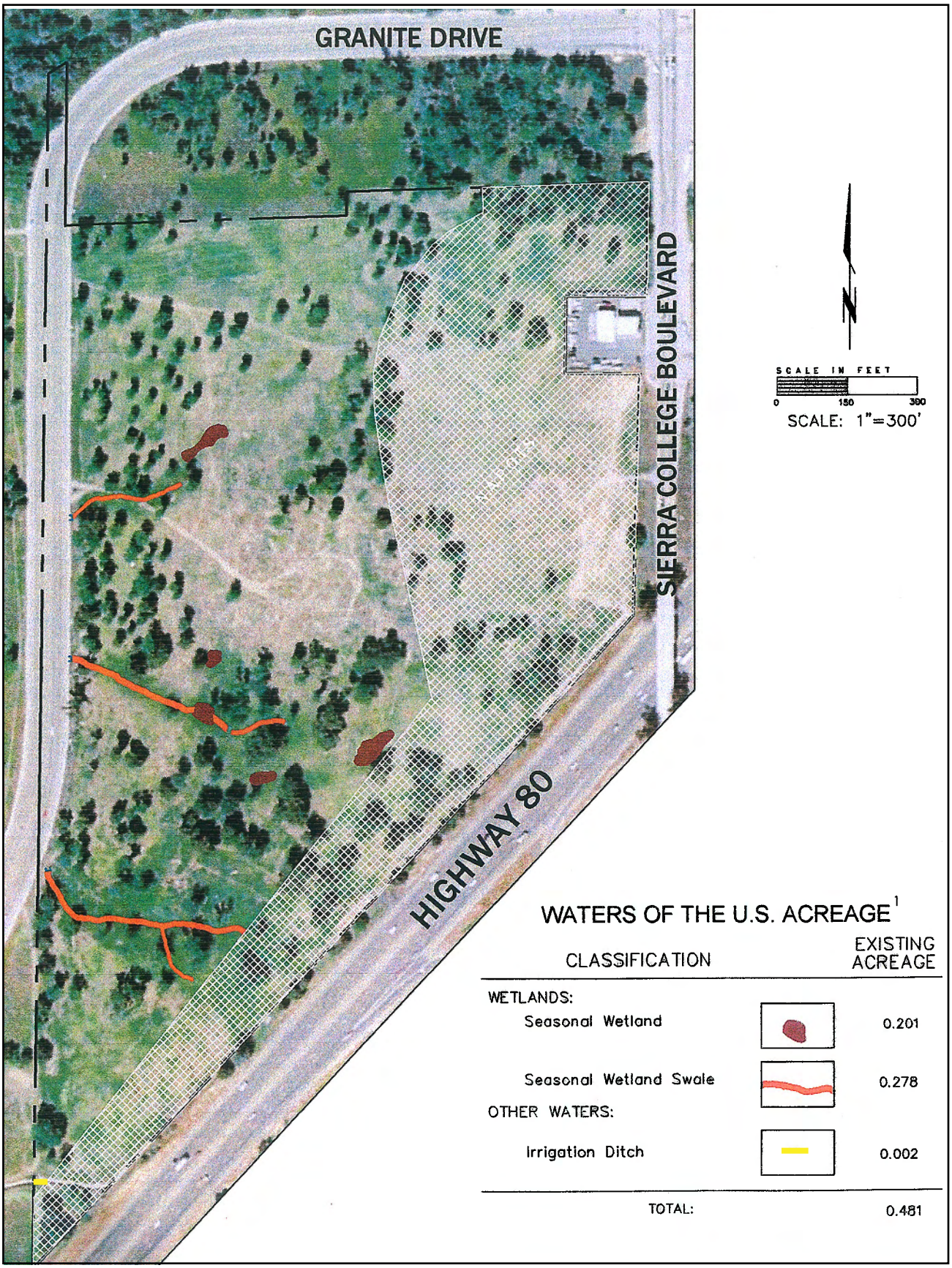
Jurisdictional waters of the United States on the project site include five seasonal wetlands (0.201 acre), three wetland swales (0.278 acre), and an irrigation ditch (0.002 acre) as seen in Figure 4.3-1. The wetlands receive direct rainfall and sheetflow from the surrounding uplands to become inundated during the wet season. The wetlands are dry during typical spring and summer periods. The vegetation composition of these season wetlands includes Italian ryegrass (*Lolim multiflorum*), Mediterranean barley (*Hordeum marinum*), vulpia (*Vulpia bromoides*), and curly dock (*Rumex crispus*).

The seasonal wetland swales are located along the western portion of the property adjacent to Granite Drive. The seasonal wetlands are located adjacent to the seasonal wetland swales.

Special-Status Species

Special-status species are defined as plants and animals that are legally protected or that are other wise considered sensitive by federal, State, or local resource conservation agencies and organizations. For the purposes of this EIR, special-status species are those that fall into one or more of the following categories:

- Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA);
- Species considered as candidates for listing as threatened or endangered under ESA or CESA;
- Species identified by California Department of Fish and Game (DFG) as Species of Special Concern;
- Animals fully protected in California under the California Fish and Game Code;
- Plants on California Native Plant Society (CNPS) List 1B (plants considered by CNPS to be rare, threatened, or endangered in California and elsewhere) or List 2 (plants considered rare, threatened, or endangered in California but more common elsewhere).



LSA

FIGURE 4.3-1

Rocklin Commons
Seasonal Wetlands

SOURCE: ECORP Consulting, Inc. (2006)

P:\RCK0801\Graphics\New 6_2009\Figure4.3-1.ai (7/15/09)

Taxa considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California". The CNPS *Electronic Inventory of Rare and Endangered Vascular Plants of California* (CNPS Inventory) (CNPS 2006) includes five lists for categorizing plant species of concern, which are summarized as follows:

- List 1A – Plants presumed to be extinct in California
- List 1B – Plants that are rare, threatened, or endangered in California and elsewhere
- List 2 – Plants that are rare, threatened, or endangered in California but more common elsewhere
- List 3 – Plants about which more information is needed (review list)
- List 4 – Plants of limited distribution (a watch list)

Plant inventories prepared by CNPS provide one source of substantial evidence that is used by lead agencies to determine what plants meet the definition of endangered, rare, or threatened species, as described in Section 15380 of the State CEQA Guidelines. For purposes of this document, the relevant inventories are List 1B (plants that are rare, threatened, or endangered in California and elsewhere) and List 2 (plants that are rare, threatened, or endangered in California but more common elsewhere). All plants listed in the CNPS Inventory (CNPS 2006) are considered "special plants" by DFG. The term "special plants" is a broad term used by DFG to refer to all of the plant taxa inventoried by the California Natural Diversity Database (CNDDB), regardless of their legal or protection status. Notation as a List 1B or 2 plant species does not automatically qualify the species as endangered, rare, or threatened within the definition of State CEQA Guidelines Section 15380. Rather, CNPS designations are considered along with other available information about the status, threats, and population condition of plant species to determine whether a species warrants evaluation as an endangered, rare, or threatened species under CEQA. Other sources include consultation with biologists from federal, state, responsible, and state trustee agencies with jurisdiction over natural resources of the project site and area; published and unpublished research; field survey records; local and regional plans adopted for the conservation of species (such as habitat conservation plans or natural community conservation plans), other CEQA or National Environmental Policy Act (NEPA) documents; or other relevant information. Plants on Lists 1 A, 1 B, and 2 of the CNPS Inventory may qualify for listing, and DFG recommends – and local governments may require – that these species be addressed in CEQA projects. However, a plant species need not be in the CNPS Inventory to be considered a rare, threatened, or endangered species under CEQA.

CNPS designations are used by both United States Fish and Wildlife Service (USFWS) and DFG when considering formal species protection under ESA and CESA.

The term "California Species of Special Concern" is applied by DFG to animals that are not listed under ESA or CESA but are nonetheless declining at a rate that could result in listing, or that historically occurred in low numbers and currently face known threats to their persistence.

The California Natural Diversity Data Base (CNDDB), CNPS, and Sacramento USFWS databases were queried to determine special-status species that are known from, or have potential to occur in the vicinity of the project site. The following U.S. Geological Survey (USGS) 7.5 minute quadrangles were included in the database searches: Rocklin, Roseville, Lincoln, Gold Hill, Auburn, Pilot Hill,

Clarksville, and Folsom. Although the CNDDB is the most current and reliable tool for tracking occurrences of special-status species, it contains only those records that have been reported to the DFG.

Special-Status Plants

Searches of the CNPS and CNDDB databases identified 21 special-status plant species as occurring in the vicinity of the project site. Nine of these species were identified as having no potential to occur on the project site due to narrow substrate requirements or geographical distributions and were therefore excluded from further analysis. Stebbin's morning glory (*Calystegia stebbinsii*), Pine Hill ceanothus (*Ceanothus roderickii*), Pine Hill flannelbush (*Fremontodendron decumbens*), El Dorado bedstraw (*Galium californicum* ssp. *Sierrae*), and El Dorado County mule ears (*Wyethia reticulate*) are all restricted to gabbro soils in El Dorado and Nevada counties. Red Hills soap root (*Chlorogalum grandiflorum*) and Bisbee Peak rush rose (*Helianthemum suffrutescens*) are restricted to gabbro or Ione formation soils, which do not occur on the project site. Sacramento orcutt grass (*Orcuttia viscida*) is restricted to large, deep vernal pools in eastern Sacramento County, and Hispid bird's-beak (*Cordylanthus mollis* ssp. *Hispidus*) occurs in damp alkaline soils in meadow, playas, and valley and foothill grasslands, which are absent from the project site.

Table 4.3-2 identifies the regulatory status, habitats, and blooming period of the remaining 12 special-status plant species evaluated in this analysis. Table 4.3-2 also provides information on the likelihood of these species to occur on the project site. Habitat and elevation range information for these species was obtained from the California Native Plant Society (CNPS) Electronic Inventory (2006).

Biological studies conducted for the site by ECORP between 2006 and 2008 identified suitable habitat for seven special-status plant species on site: Big-scale balsam-root (*Balsamorhiza macrolepis* var. *marcrolepis*), dwarf downingia (*Downingia pusilla*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Greene's legenere (*Legenere limosa*), pincushion navarretia (*Navarretia myersii* ssp. *myersii*), and Sanford's arrowhead (*Sagittaria sanfordii*). These plants are CNPS List 1B species, considered by the CNPS to be rare, threatened, or endangered in California and elsewhere. In addition, Boggs Lake hedge-hyssop is federally listed as endangered.

Dwarf downingia, Boggs Lake hedge-hyssop, Ahart's dwarf rush, Greene's legenere, and pincushion navarretia are found in vernal pools and seasonally inundated sites. Big-scale balsam-root is typically found in cismontane woodland and valley and foothill grasslands. Sanford's arrowhead is typically found in standing or slow-moving freshwater ponds, marshes, or ditches.

A focused special-status plant survey for the seven species, dwarf downingia, Boggs Lake hedge-hyssop, Ahart's dwarf rush, big scale balsamroot, pincushion navarretia, Greene's Legenere, and Sanford's arrowhead was conducted. Late season, follow-up visits were also conducted. No special-status plant species were found during the special-status plant surveys.

Table 4.3-2 Special-status Plants Potentially Occurring on the Site

Species	Federal	State	CNPS	Habitat and Blooming Period	Potential for Occurrence
Jepson's onion *Allium jepsonii*	-	-	1B	Serpentine soils in cismontane woodland or lower montane coniferous forest; 1,200 to 4,000 feet elevation; blooms May to August	**Unlikely**: the project site is well below the elevation range of the species.
Big-scale balsamroot *Balsamorhiza macrolepis* var. *macrolepis*	-	-	1B	Chaparral, cismontane, woodland, and valley and foothill grassland, sometimes in serpentine soils; 300 to 4,600 feet elevation; blooms March to June	**Could occur**: the foothill grassland and woodland provide marginally suitable habitat; species is known to occur in the vicinity of the project site.
Brandegee's clarkia *Clarkia biloba* ssp.	-	-	1B	Chaparral, cismontane woodland; often in road cuts; 700 to 3,000 feet in elevation; blooms May to July	**Unlikely**: project site is below the elevation range of this species.
Dwarf Downingia *Downingia pusilla*	-	-	2	Vernal lake and pool margins in valley and foothill grasslands; 3 to 1,500 feet elevation; blooms March to May	**Could occur**: the seasonal wetland provides marginal habitat; species was not found during focused special-status plant surveys.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	E	-	1B	Marshes and swamps and clay soils in vernal pools; 30 to 7,800 feet; blooms April to August	**Could occur**: the seasonal wetland on the site provides very marginal habitat; species not found during focused special-status plant surveys.
Aharts's dwarf rush *Juncus leiospermus* var. *ahartii*	-	-	1B	Mesic valley and foothill grassland; restricted to the edges of vernal pools; 100 to 330 feet elevation; blooms March to May	**Could occur**: the seasonal wetland on the site provides very marginal habitat and species was not found during focused special status plant surveys.
Dubious pea *Lathyrus sulphureous*	-	-	3	Cismontane woodland, lower montane coniferous forest; 490-1000 feet elevation;	**Unlikely**: the project site is below the elevation range of this species.

Table 4.3-2 Special-status Plants Potentially Occurring on the Site

Species	Federal	State	CNPS	Habitat and Blooming Period	Potential for Occurrence
var. *argillaceous*				blooms in April	
Legenere *Legenere limosa*	-	-	1B	Vernal pools; in beds of pools; 3 to 3,000 feet elevation; blooms April to June	**Could occur**: the seasonal wetlands on-site provide very marginal habitat; species was not found during special-status plant surveys.
Pincushion navarretia *Navarettia myersii* ssp. *Myersii*	-	-	1B	Vernal pools in valley and foothill grassland; 60 to 1,100 feet elevation; blooms in May	**Could occur**: the seasonal wetlands on-site provide very marginal habitat; species was not found during focused special-status plant surveys.
Sanford's arrowhead *Sagittaria sanfordii*	-	-	1B	In standing or slow-moving freshwater ponds, marshes, or ditches; 0 to 2,000 feet elevation; blooms May to October	**Could occur**: the seasonal wetlands on-site provide very marginal habitat; species was not found during focused special-status plant surveys.
Layne's ragwort *Senecio layneae*	T	R	1B	Rocky serpentine or gabbro soils in chaparral, cismontane woodland or lower montane coniferous forest; 650 to 3,300 feet elevation; blooms April to July	**Unlikely**: the project site is below the elevation range of this species, and serpentine soils are not present on the site.
Oval-leaved viburnum *Viburnum ellipticum*	-	-	2	Chaparral, cismontane woodland or lower montane coniferous forest; 600 to 4,000 feet elevation; blooms May to June	**Unlikely**: the project site is below the elevation range of this species.

Legal Status Definitions
U.S. Fish and Wildlife Service (USFWS):
T = Federal Threatened
E = Federal Endangered

California Department of Fish and Game (DFG):
R = Rare
T = Threatened
E = Endangered

California Native Plant Society (CNPS) Listing Categories
1B = Plants rare, threatened, or endangered in California and elsewhere
2 = Plants rare, threatened, or endangered in California but more common elsewhere
3 = Plants for which more information is needed – a review list
4 = Plants of limited distribution – a watch list
Source: CNPS 2006, CNDDB 2006

The field survey was conducted in accordance with the U.S. Fish and Wildlife Service's guidelines (USFWS 2000), the California Department of Fish and Game's guidelines (CDFG 1983), and the California Native Plant Society's guidelines (CNPS 2001). The determinate-level field surveys were conducted on May 2, and June 14, 2006, which coincided with the optimum blooming period for each of the potentially occurring special-status plants. ECORP botanists walked transects throughout the site to ensure complete coverage of all suitable habitat.

Special-Status Wildlife

A total of 10 special-status wildlife species are known to occur or have the potential to occur on the project site. They include: white-tailed kite (*Elanus leucurus*), a fully protected species under the Fish and Game Code; Swainson's hawk (*Buteo Swainsonii*), California red-legged frog (*ran aurora draytonii*), and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), State and/or federally listed as threatened or endangered; northwestern pond turtle (*Emys marmorata marmorata*), northern harrier (*Circus cyaneus*), sharp-shinned hawk (*Accipiter straitus*), Cooper's hawk (*Accipiter cooperii*), western burrowing owl (*Athene cunicularia hypugea*), and loggerhead shrike (*Lanius ludovicianus*), DFG Species of Special Concern. The project site also has appropriate foraging and nesting habitat for additional raptor species. Table 4.3-3 summarizes the regulatory status, habitat association, and likelihood of occurrence for special-status wildlife species with potential to occur on site.

Several special-status species that are known to occur in the region require specific habitats for foraging and reproduction that are not present within the project site and are therefore not likely to occur. These species include: Central Valley steelhead trout (*Oncorhynchus mykiss*), Central Valley fall/late fall-run Chinook salmon (*Oncorhynchus tshawystscha*), delta smelt (*Hypomesus transpacificus*), winter-run Chinook salmon, Sacramento River and Central Valley spring-run Chinook salmon (*Oncorhynchus tshawystscha*), western spadefoot (*Scaphiopus hammondii*), giant garter snake (*Thamnophis gigas*), double crested-cormorant (*Phalacrocorax auritus*), bald eagle (*Haliaeetus leucocephalus*), bank swallow (*Riparia riparia*), tricolored blackbird (*Agelaius tricolor*), California black rail (*Laterallus jamaicensis coturniculus*), Townsend's big-eared bat (*Corynorhinus townsendi*), and red bat (*Lasiurus blossevillii*).

California black rail was identified within the Clover Valley area of Rocklin during 2006 surveys conducted for the Clover Valley EIR (City of Rocklin 2007). The typical habitat for California black rail includes coastal saltmarsh, delta emergent marsh and interior freshwater emergent marsh. No suitable habitat is present on the site for California black rail.

Wet and dry season protocol surveys and reporting for vernal pool invertebrates were completed on the site in 2006 (ECORP 2006). No vernal pool fairy shrimp, (*Branchinecta lynchi*) or vernal pool tadpole shrimp (*Lepidurus packardi*), were detected during the surveys and these species are not considered further in this document.

Table 4.3-3 Special-status Wildlife Species Potentially Occurring on the Site

Species	Federal	State	Habitat	Potential for Occurrence
Invertebrates Valley elderberry longhorn beetle *Desmocerus californicus dismorphus*	T	-	Elderberry shrubs below 3,000 feet in elevation.	**Unlikely**: no elderberry shrubs are present; nearest documented occurrence of beetles (1991) less than 1.0 mile southwest of the project site along the Sierra College nature trail.
Amphibians and Reptiles Northwestern pond turtle *Emys marmorata marmorata*	-	SSC	Freshwater marsh, ponds, lakes, and rivers	**Known to occur in vicinity**: however, only suitable upland habitat is present. Observed within Croftwood Lake southeast of the project site, approximately 2,600 feet from the project site.
California red-legged frog *Rana aurora draytonii*	T	SSC	Found in a variety of aquatic habitats including streams, ponds, and marshes often with riparian or emergent vegetation. Also utilizes upland habitats adjacent to or between suitable aquatic habitats.	**Unlikely**: to occur; there is no suitable habitat on the project site, the species has been extirpated from the valley floor and few drainages in the Sierra Nevada are known to support the species. The nearest documented occurrence (2005) is approximately 9 miles southeast of the project site.
Birds Northern harrier *Circus cyaneus*	-	SSC	Forage in grasslands, marshes, agricultural land, and open woodlands; nest on ground or in low-growing vegetation	**Could occur**: suitable foraging and nesting habitat present.
White-tailed kite *Elanus leucurus*	SCC	CFP	Forage in grasslands and other open habitat; nest in isolated trees or small woodland patches. Grasslands, woodlands	**Could occur**: suitable nesting and foraging habitat present; observed in 1990 within the proposed Croftwood Subdivision site to the southeast. Nearest CNDDB occurrence (2003) is approximately 2 miles north of the project site
Sharp-shinned hawk *Accipiter straitus*	-	SSC	Nests in dense forests or woodlands near open areas suitable for foraging.	**High. Observed during surveys. Suitable nesting habitat occurs on site.**
Cooper's hawk *Accipiter cooperii*	-	SSC	Forages in broken woodland and habitat edges; nests in second-growth conifer stands, or	**Could occur**: suitable winter foraging habitat is present, but unlikely to nest onsite because the species does not nest in this

Table 4.3-3 Special-status Wildlife Species Potentially Occurring on the Site

Species	Federal	State	Habitat	Potential for Occurrence
			in deciduous riparian areas, usually near streams. Woodlands, generally near water.	region.
Swainson's hawk *Buteo swainsoni*	-	T	Forages in grasslands and agricultural land; nests in riparian and isolated trees.	**Unlikely**: suitable habitat is present, but species typically occurs at lower elevations in this region, nearer to the valley floor; nearest CNDDB occurrence (2005) is approximately 7 miles west of the project site.
Western burrowing owl *Athene cunicularia hypugea*	FSC	SSC	Grasslands, agricultural land, and open woodlands; requires burrows for nesting, typically created by mammals such as ground squirrels.	**Unlikely**: suitable habitat present within the annual grassland, but species typically occurs at lower elevations in this region, nearer to the valley floor.
Loggerhead shrike *Lanius ludovicianus*	FSC	SSC	Open habitats with abundant perches; nests in densely foliaged shrubs or trees	**Could occur**: suitable nesting and foraging habitat present.

Legal Status Definitions

U.S. Fish and Wildlife Service (USFWS)
E = Endangered (legally protected)
T = Threatened (legally protected)
FSC = Federal species of special concern

California Department of Fish and Game (DFG)
T = Threatened (legally protected)
SSC = Species of Special Concern (no formal protection)
FP = Fully protected (legally protected)

Source: CNPS 2006, CNDDB 2006

Central Valley steelhead trout and Central Valley fall/late fall-run Chinook salmon
Secret Ravine Creek, which is part of the Dry Creek Watershed, provides spawning and rearing habitat for the federally threatened Central Valley steelhead (*Oncorhynchus mykiss*) and spawning habitat for fall and late fall-run Chinook salmon (*Oncorhynchus tshawytscha*), a federal candidate species and state species of special concern. Secret Ravine Creek is located across Interstate 80 approximately 1,500 feet southeast of the project site at its closest point. The project site drains from the east to the west and northwest into Sucker Ravine Creek, which hydrologically connects to Secret Ravine Creek approximately 2 miles downstream of the project site. Sucker Ravine does not represent habitat for either of these listed species.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (beetle) is federally listed as threatened pursuant to ESA. It is completely dependent on its host plant, elderberry (*Sambucus* sp.), in California's Central Valley during its entire life cycle. Beetle larvae live only within the soft pith of the elderberry shrub, where they feed for one to two years. Adults merge from pupation inside the wood of elderberry shrubs during the spring, as the plant begins to flower. The adults feed on the elderberry foliage up until they mate. Females lay their eggs in the crevices of elderberry bark. Upon hatching, the larvae tunnel into the stems of the shrub to feed. Beetles typically utilize stems that are greater than one-inch in diameter at ground level. Beetle populations in the State have decreased largely due to the loss of riparian habitat in the Central Valley; however, a five-year review of the species, required by section 4(c)(2)(A) of the Endangered Species Act, was recently completed by USFWS and recommended that the beetle be delisted. No elderberry shrubs were observed on the site (ECORP 2006).

Northwestern Pond Turtle

The northwestern pond turtle is DFG Species of Special Concern. Pond turtles generally occur in streams, ponds, freshwater marshes, and lakes. They require still or slow-moving water with instream emergent woody debris, rocks, or other similar features for basking sites. Nests are typically located on unshaded upland slopes in dry substrates with sandy, clay, or silty soils excavated by the female up to approximately 1,300 feet (usually less) from the aquatic habitats where they occur. Within the vicinity of the project site, the areas that provide suitable aquatic habitat include Secret Ravine Creek, which is across Interstate 80 approximately 1,300 feet from the project site, ponds on the nearby property to the southwest (the proposed Rocklin 60 residential subdivision site), and Croftwood Lake within the approved Croftwood Subdivision east of Secret Ravine Creek (The Planning Center 1991). Secret Ravine Creek and Croftwood Lake are approximately 1,300 feet and 2,600 feet from the project site, respectively. Suitable nesting habitat is not present on the project site suitable nesting habitat is only available at a distance away from the project site and closer to aquatic habitat at Secret Ravine Creek and Croftwood Lake.

California Red-Legged Frog

California red-legged frog is a DFG Species of Special Concern and is federally sited as threatened. The frog utilizes a variety of aquatic and upland habitats throughout its life cycle including ponds, slow-flowing portions of perennial streams, and intermittent streams that maintain water in the summer months. The frog is able to disperse or migrate from breeding sites to forage in upland habitats and is known to move up to two miles (3 km) from aquatic sites, regardless of topography or vegetation, during the wet season. Additionally, during the summer months when aquatic sites tend to dry out, California red-legged frog is known to disperse overland to suitable estivation (dormancy) habitat that can include small mammal burrows, moist leaf litter, riparian corridors, or stream channels with shallow pools. Suitable habitat is present within seasonal wetlands on-site. However, the species has been extirpated from the valley floor and few drainages in the Sierra Nevadas are known to support California red-legged frogs. The closest known occurrence is approximately nine miles southeast of the site near the eastern shore of Folsom Lake (CNDDB 2006). No critical habitat has been designated for this species within 30 miles of the site.

Swainson's Hawk
The Swainson's hawk is State listed as a threatened species and is protected under Section 3503.5 of the California Fish and Game Code. This species prefers to nest in riparian forest or scattered trees adjacent to grasslands and/or agricultural fields that provide suitable foraging habitat. The closest known occurrence of Swainson's hawk is approximately seven miles west of the project site. Although there is adequate habitat onsite, nest sites are typically restricted to lower elevations, primarily on the valley floor (CNDDB 2006). Therefore, Swainson's hawks are unlikely to nest on or near the project site.

Western Burrowing Owl
Western Burrowing Owl is a DFG Species of Special Concern. This species is also protected under Section 3503.5 of the California Fish and Game Code, which prohibits the destruction of raptors and their nests. Burrowing owls prefer dry grasslands and other dry, open habitats. They typically nest and roost in burrow systems created by medium-sized mammals, such as ground squirrels, artificial sites such as drain pipes or culverts, or self-excavated burrows when soil conditions are appropriate. There are no documented records of burrowing owls within five miles of the project area. Although suitable habitat and a few suitable small mammal burrows exist on-site, it is rare to find them nesting in the foothills as far east as the project site. The closest sitting of the species was 8.5 miles from the center of the project site.

Other Special-Status Raptors
Other special-status raptors that could use the project site include white-tailed kite, Cooper's hawk, sharp-shinned hawk, and northern harrier. Cooper's hawk, sharp-shinned hawk, and northern harrier are DFG Species of Special Concern. All of these raptors are also protected under Section 3503.5 of the California Fish and Game Code. White-tailed kite, fully protected under Section 3511 of the California Fish and Game Code, has been observed foraging in the nearby Croftwood Subdivision area (The Planning Center 1991). Annual grassland and oak woodland on the site provide suitable foraging habitat for all three species. Suitable nesting habitat for white-tailed kite and Cooper's hawk is located in the oak woodland habitat on the project site.

Loggerhead Shrike
The loggerhead shrike is a DFG Species of Special Concern. Loggerhead shrike inhabits lowland and foothill areas with scattered shrubs and trees. They nest in shrubs and small trees and typically forage in grasslands and agricultural fields. Suitable foraging and nesting habitat is present throughout the project area.

Sensitive Habitats
Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, Section 404 of CWA, or the State's Porter-Cologne Act, as discussed in the Regulatory Setting section below. Sensitive habitats may be of special concern to these agencies and to conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species. Many of these habitats are tracked in the

CNDDB, a Statewide inventory of the locations and conditions of the State's rarest plant and animal taxa and vegetation types.

The seasonal wetlands present on the project site qualify as jurisdictional waters of the United States. The oak woodland present on the site is considered sensitive habitat by DFG and the City of Rocklin.

Waters of the United States

The project site includes the following jurisdictional waters of the United States: five seasonal wetlands (0.201 acre), three wetland swales (0.278 acre), and an irrigation ditch (0.002 acre). The habitats associated with these wetland features are described above in the Habitat Types section of this chapter.

Oak Woodland

Oak woodland is typically considered a sensitive habitat by DFG and local agencies, although it is not currently tracked in the CNDDB. There is a great deal of concern about oak and other hardwood communities in California due to the rapid rate of urban development in the foothills where these communities are predominantly found. The City of Rocklin has recognized the value of native trees through the adoption of both General Plan policy and the Rocklin Oak Tree Preservation Ordinance, described below under Regulatory Setting.

A tree survey of the project site was completed by Foothill Associates in August 2008. A total of 361 oak trees were located, measured, and evaluated within the project site. Tree species assessed include interior live oak (114), valley oak (219), and blue oak (28). The City defines a heritage tree as any oak tree with a trunk diameter of 24 inches or greater and in good or fair health and structural condition. The City of Rocklin *Oak Tree Preservation Guidelines* (2006) defines Heritage Oaks for the purpose of increasing awareness that this is a special tree that should be preserved. Based on the City's definition, only 9 heritage oak trees were identified on the site. Site improvement plans show 8 oak trees are to be preserved onsite (none of which are heritage oaks). Figure 4.3-2 shows oak tree removal and preservation. Trees on the site excluded from the evaluation include non-native species with a trunk smaller than 6 inches in diameter at breast height (DBH). The trunk diameter of a multi-trunk tree is the measurement of the largest trunk only. (See City of Rocklin *Oak Tree Preservation Guidelines* (2006), p. 1.)

A total of 361 native oak trees are scattered across the approximately 40 acre project site. The trees are interspersed throughout most of the property; however, fairly large open areas occur in the southwest and central portions of the property as shown on the aerial view of the site at Figure 4.3-2. Understory vegetation is comprised mostly of non-native annual grasses and common broad leafed field herbs. The oak woodland on the Rocklin Commons site is now more properly characterized as an oak savanna given that the oak trees are scattered throughout the site with annual non-native grassland habitat dominating the understory and treeless areas.

A savanna is generally defined as a plant community where trees are a component but where their density is "...so low that it allows grasses and other herbaceous vegetation to become the actual dominants of the community." (John Curtis, The Vegetation of Wisconsin, 1959, University of Wisconsin Press, Madison, Wis.) An area with less than 50% tree canopy has been adopted as a

common definition for a savanna. Savannas are found throughout the world, but the dominant trees differ. In North America, a major type of savanna has oaks as the principal trees. The principal trees on this site are Valley Oaks and Live Oaks.

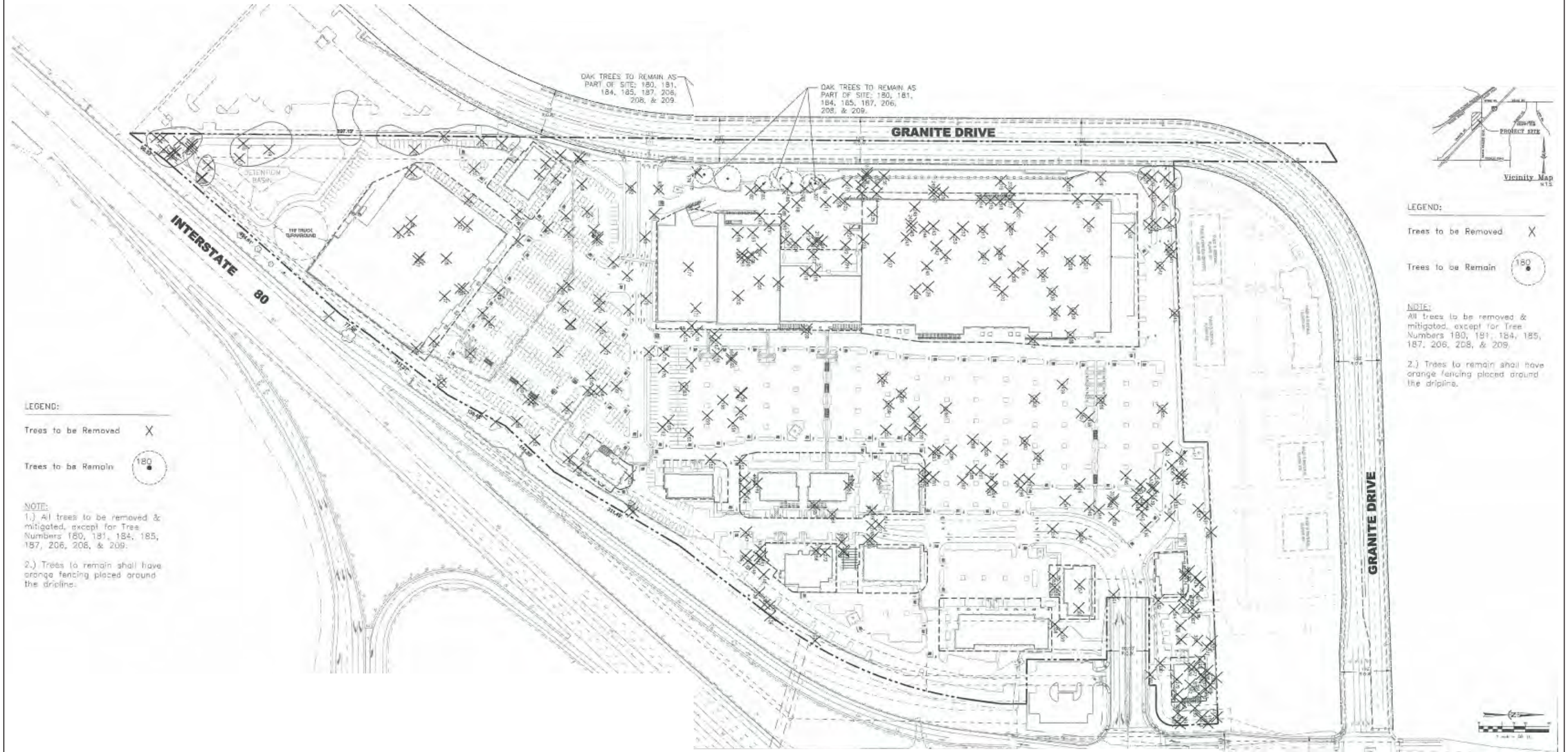
While the aesthetic, historical, environmental, and habitat values provided by California oak woodlands are well documented, the ecological value of any particular oak woodland can vary greatly depending on characteristics such as the size of the entire woodland; the size and density of the oak trees that make up the woodland; other habitats that exist within the oak woodland, such as a perennial stream or other water sources; and the diversity of understory vegetation, and how it relates to the other oak woodlands and natural communities in the area.

The remnants of oak woodland on the Rocklin Commons site offer less overall ecological value than high value oak woodland habitats which are characterized by large expanses of open space areas, containing greater densities of oak trees and providing a more contiguous forest canopy with more diverse understory vegetation. These high ecological value oak woodlands often are associated with some type of substantial water source such as a creek, stream, or spring fed pond. Further, because of the fragmented nature of the oak woodlands onsite, the woodlands do not provide the same habitats for wildlife as other undisturbed woodland habitats that are part of larger forested areas.

As can be seen from the aerial photo, the Rocklin Commons site is fragmented from other natural habitats by roadways and surrounding urban development. The site is bordered by Interstate 80 on the east, the major east west freeway in northern California, Sierra College Blvd. on the north, a regional connector route, Granite Drive to the west, which is the principal multi-lane through street of the Granite Drive Business District, and on the south, the former Kia car dealership now occupied by Harley Davidson Motorcycles of Rocklin. The site has no on site creeks or streams and was utilized in the mid 1900's for farming activities, including a farmhouse, associated structures and orchards. These features were abandoned, and the components associated with the farmhouse and farming activities have been demolished over time. Recent re-construction of the Sierra College Boulevard/I-80 Interchange modified the north end of the site and oak woodland remnants in that area. Due to these site characteristics, this site offers substantially diminished ecological habitat value.

Wildlife Movement Corridors

A wildlife corridor is generally a topographical/landscape feature or movement area that connects two areas of natural habitat. Wildlife corridors link areas of suitable wildlife habitat that are separated by changed in vegetation, rugged terrain, or human disturbance. No wildlife corridors are present on the project site.



LSA

FIGURE 4.3-2

N

Rocklin Commons

Oak Tree Preservation/Removal Plan

SOURCE: Donahe Schriber (2008)

P:\RCK0801\Graphics\EIR\2009\New 6_2009\Figure4.3-2.ai (05/28/09)

4.3.2 Regulatory Setting

Biological resources in California are protected by a variety of federal, State, and local laws and regulations. Important regulations pertaining to biological resources in the project area are discussed below.

Federal Endangered Species Act

Pursuant to ESA, USFWS and National Marine Fisheries Service (NMFS) have authority over projects that may affect the continued existence of a federally listed (threatened or endangered) species. Section 9 of ESA and federal regulations prohibit the take of federally listed fish or wildlife species (16 United States Code [USC] Section 1538[a][1][B]). "Take" is defined under ESA, in part, as killing, harming, or harassing (16 USC Section 1539[19]). Under federal regulations, take is defined further to include habitat modification or degradation where it actually results or is reasonably expected to result in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

The take prohibition of ESA Section 9 applies only to listed species of fish and wildlife. Section 9(1)(2)(B) describes federal protection for endangered plants. In general, ESA does not protect listed plants located on nonfederal land (i.e., areas not under federal jurisdiction), unless such species are already protected by state law.

Section 7 of ESA outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitat. Section 7(a)(2) requires federal agencies to consult with USFWS to ensure that the federal agencies are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat identifies specific areas that have the physical and biological features that are essential to the conservation of a listed species, and that may require special management considerations or protection.

For projects where federal action is not involved and take of a listed species may occur, the project proponent may seek to obtain an incidental take permit under Section 10(a) of ESA. Section 10 allows USFWS to permit the incidental take of listed species if such a take is accompanied by a Habitat Conservation Plan (HCP) that includes components to minimize and mitigate impacts associated with the take.

Migratory Bird Treaty Act

As part of the Federal Migratory Bird Treaty Act (MBTA), all active nests of migratory birds (e.g., those with eggs or nestlings) are protected under federal law, MBTA (15 USC 703-11), 50 CFR Part 21, 50 CFR part 10, and State law. Under the California Fish and Game Code, Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders Falconiformes (hawks, eagles, and falcons) or Stringiformes (owls). Together, these two orders include all birds considered "raptors", or birds of prey. "Take" includes the disturbance of active nests that result in the abandonment or loss of young. The MBTA prohibits activities that have the potential to disturb all active bird nests or burrows on a project site. A preconstruction survey is required by CDFG and USFWS for birds if

project activities occur within the breeding season window. The breeding season window considered by CDFG is January 1 to August 31. Preconstruction surveys are to be conducted no more than 30 days prior to ground disturbance. Some restrictions on construction activities may be required in the vicinity of the nests or burrows until the site no longer is active, as determined by a qualified biologist. This protection generally ceases once nesting activity is completed.

Clean Water Act

Section 404 of the federal Clean Water Act (CWA) requires a permit before engaging in any activity that involves any discharge of dredged or fill material into "waters of the United States," including wetlands. Fill material means material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land; or changing the bottom elevation of any portion of a water of the United States. Examples of fill material include, but are not limited to: rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and material used to create any structure or infrastructure in waters of the United States. Waters of the United States include navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; tributaries to any of these waters; and, wetlands that meet any of these criteria or that are adjacent to any of these waters or tributaries. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Jurisdictional wetlands must meet three wetland delineation criteria: hydrophytic vegetation; hydric soil types, and wetland hydrology. Many surface waters and wetlands in California meet the criteria for waters of the United States, including intermittent streams and seasonal lakes and wetlands.

Under Section 404, of the CWA, U.S. Army Corps of Engineers (ACOE) regulates and issues permits for activities that involve the discharge of dredged or fill materials into waters of the United States. Fill of less than one-half acre of nontidal waters of the United States for residential, commercial, or institutional development projects can generally be authorized under ACOE's nationwide permit (NWP) program, provided that the project satisfies the terms and conditions of the particular NWP. Fills that do not qualify for a NWP or regional general permit require an individual permit.

California Endangered Species Act

Pursuant to CESA, a permit from DFG is required for projects that could "take" a species that is State listed as threatened or endangered (California Fish and Game Code Section 2080 et seq.). Under CESA, take is defined as an activity that would directly or indirectly kill an individual of a species. The definition does not include "harm" or "harass" as in the federal act. As a result, the threshold for take under CESA is higher than under ESA (i.e., habitat modification is not necessarily considered take under CESA). The take of State-listed species incidental to otherwise lawful activities requires a permit, pursuant to Section 2081(b) of CESA. The State has the authority to issue an incidental take permit under California Fish and Game Code Section 2081, or to coordinate with USFWS during the Section 10(a) process to make the federal permit consistent with CESA.

As under federal law, listed plants have less protection than fish and wildlife under California law. The California Native Plant Protection Act (California Fish and Game Code Section 19000 et seq.) allows landowners to take listed plant species from, among other places, a canal, lateral ditch, building site, road, or other right-of-way, provided that the owner first notifies CDFG and gives the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed.

Section 1602 of the California Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by the DFG, pursuant to Sections 1600-1603 of the California Fish and Game Code. The Code states that it is unlawful for any person or agency to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by DFG, or to use any material from the streambeds, without first notifying DFG of such activity. The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through bed or channel having banks and that supports fish or other aquatic life. This includes watercourses that have a surface or subsurface flow that supports or has supported riparian vegetation. DFG's jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife. A DFG Streambed Alteration Agreement must be obtained for any project that would adversely affect a river, stream, or lake.

Fully Protected Species under the California Fish and Game Code

Four sections of the California Fish and Game Code (Fish and Game Code Sections 3511, 4700, 5050, and 5515) list 37 fully protected species. These statutes prohibit take or possession at any time of fully protected species. DFG is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species. DFG has informed nonfederal agencies and private parties that they must avoid take of any fully protected species in carrying out projects.

California Fish and Game Code Sections 3503-3503.5 – Protection of Bird Nests and Raptors

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e. hawks, owls, eagles, and falcons), including their nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under jurisdiction of Regional Water Quality Control Board (RWQCB). Under the act, RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and ground water, as well as actions to control non-point and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters

must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification under Section 401 of the CWA.

City of Rocklin General Plan

Several policies of the City of Rocklin General Plan (1991) address natural resource protection. Specific action plans and policies included in the Open Space, Conservation, and Recreation Element of the General Plan that apply to the preservation of natural resources include the following:

Policies

- Policy 1. To encourage the protection of natural resource areas, scenic areas, hilltops, open space areas and parks from encroachment or destruction by incompatible development through the use of conservation easements, buffers, setbacks, or other measures. Developments shall be required to provide usable land areas outside of conservation easements or established natural resource buffers.
- Policy 2. To encourage the protection of wetlands, vernal pools, and rare, threatened, and endangered species of both plants and animals through either avoidance of these resources or implementation of appropriate mitigation measures where avoidance is not feasible, as determined by the City of Rocklin.
- Policy 4. To encourage the protection of oak trees, including heritage oaks, and other significant vegetation from destruction.
- Policy 15. To provide adequate yard areas and building setbacks from creeks, riparian habitat, hilltops, and other natural resources.
- Policy 19. To minimize the degradation of water quality through requiring implementation of techniques such as, but not limited to, the prohibition of grading, placement of fill or trash or alteration to vegetation within designated stream setback buffer areas, and requiring the installation of measures which minimize runoff waters containing pollutants and sediments from entering surface waters. Measures for minimizing pollutants and sediments from entering watercourses may include oil/grit separators, detention basins, and flow reduction devices.

Action Plan

- The City will apply open space designations to all lands located within 50 feet from the edge of the bank of all perennial and intermittent streams and creeks providing natural drainage, adjacent to areas consisting of riparian habitat. The City will designate a buffer area greater than 50 feet for perennial streams when it is determined that such a buffer area is necessary to adequately protect drainage and habitat areas. In designating these areas as open space, the City is preserving natural resources and protecting these areas from development.
- The City will require a restricted easement recorded over any property that contains areas designated for preservation, including wetlands, vernal pools, and rare, threatened, and endangered species habitat. Such easements would restrict the use and type of structures located

within them, when such action does not conflict with the permitting requirements of other agencies.

- The City will investigate the availability of, and consider applying for, state and federal grants to be used for the preservation and enhancement of open space, conservation, and recreation areas.
- The City will discourage the premature and unnecessary conversion of open space land to urban uses by requiring development to be contiguous.

Rocklin Oak Tree Preservation Ordinance

The City of Rocklin has recognized the value of native trees through the adoption of the City of Rocklin Oak Tree Preservation Ordinance, Chapter 17.77 of the City of Rocklin Municipal Code. The ordinance contains policy language which is explicitly written to protect native oaks. These policies regulate both the removal of protected trees and the encroachment of construction activities into the protected zones of these trees. Ordinances 17.77.030 and 17.77.050 prohibit the removal of oak trees without the issuance of a permit and require that preservation and removal of healthy oak trees from undeveloped property shall be addressed in the development application review process, and shall be governed by the guidelines adopted under Section 17.77.100. The *Oak Tree Preservation Guidelines* were adopted as required by Section 17.77.100 of the Rocklin Municipal Code, as part of the Oak Tree Preservation Ordinance. They apply to all oak trees located wholly or partially within the City. Protected trees include any oak tree native to the Rocklin area with a diameter at breast height (DBH) of six inches or greater. Heritage oaks are given special protection and are defined as oaks native to the Rocklin area having a DBH of 24 inches or greater. The City of Rocklin *Oak Tree Preservation Guidelines* (2006) defines Heritage Oaks for the purpose of increasing awareness that this is a special tree that should be. They deserve special consideration, and their proposed removal should be scrutinized carefully.

Although the Oak Tree Preservation Ordinance's requirements apply to all zoning designations in the City, the ordinance does not set forth specific mitigation measures for impacts of oak tree loss on property zoned B-P; C-1, 2, 3, 4; C-H; M-1, 2 or an equivalent PD zone. For those projects in which the City has required fees for oak tree removal mitigation, the fees paid are deposited into the City's Oak Tree Preservation Fund. This fund is used by the City to help purchase oak woodland preserves, such as the 21 - acre addition to Johnson Springview Park, acquired in 1998, which preserved many heritage oaks and dense forested areas in the park and along Antelope Creek, and other preserve areas where new oak woodlands are being developed. By pooling together the oak tree preservation fees from various projects, the City is able to purchase and set aside for protection much larger oak woodland habitats than any one project could acquire, thus maximizing the benefit to the environment, since the larger areas of oak woodlands have more ecological value for supporting a diverse ecosystem of plants and animals. To judge the effectiveness of the application of this program the City prepared an extensive report and management plan entitled "Planning for the Future of Rocklin's Urban Forest" prepared by Phytosphere Research. Additional information from this report and a discussion of its findings is presented in the discussion of impacts to oak woodland habitat at Impact BIO-4 below.

Method of Analysis

The analysis included in this section is based on a review of available background reports, previous studies conducted on the project site, biological resource databases, and aerial photography interpretation. Specific biological resource background reports reviewed in preparing this section are identified in Table 4.3-1. Potential impacts on biological resources resulting from implementation of the proposed project were determined by overlaying project plans with the habitat map for the project site, quantifying potential loss of common and sensitive habitats, and evaluating effects to common and special-status species that could result form this habitat loss.

4.3.3 Thresholds Of Significance

Pursuant to Appendix G of the CEQA Guidelines and CEQA Guidelines Section 15065, impacts on biological resources resulting from implementation of the proposed project would be considered significant if the project would:

- Substantially degrade the quality of the environment;
- Substantially reduce the habitat of a fish or wildlife species;
- Cause a fish or wildlife species to drop below self-sustaining levels;
- Threaten to eliminate a plant or animal community;
- Substantially reduce the number or restrict the range of an endangered, rare, or threatened species;
- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act, through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with City of Rocklin General Plan policies protecting biological resources, or conflict with the City of Rocklin Oak Tree Preservation Ordinance;
- Result in a long-term or short-term loss of a substantial number of mature, healthy oak trees; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or State conservation plan.

4.3.4 Impacts And Mitigation Measures

BIO-1: Loss of Wetlands: *Implementation of the proposed project would result in the fill of jurisdictional waters of the United States, including wetlands. This impact is considered* ***potentially significant.***

Implementation of the proposed project would result in the fill of jurisdictional waters of the United States, including wetlands that are subject to ACOE jurisdiction under the Clean Water Act. The project site includes a total of 0.479 acre of seasonal wetland, and 0.002 acre of open water. All of these jurisdictional waters would be removed during project construction. Because the proposed project would result in the direct removal of federally protected wetlands, this impact would be considered ***potentially significant***.

Mitigation Measure BIO-1: Loss of Wetlands

On February 20, 2008, the project applicant secured authorization for the fill of approximately 0.481 acres of jurisdictional waters of the United States (Nationwide Permit No. 39). Prior to commencing any construction activities associated with the proposed project, the project applicant shall comply with all of the general and regional terms and conditions of the Nationwide Permit set forth in 33 CFR Part 330.

To avoid adverse impacts to waters of the United States, and to achieve a goal of no net loss of wetlands functions and values, the project's Nationwide Permit 39, Special Condition 1, states that mitigation for the loss of 0.479 acre of seasonal wetland and 0.002 acre of open water, will be purchased through the Corps' In-lieu fee fund (National Fish and Wildlife Foundation Sacramento District Wetlands Conservation Fund) at a 1:1 ratio.

In addition, the project applicant shall obtain water quality certification pursuant to Section 401 of the Clean Water Act for the project. Any measures required as part of the issuance of water quality certification shall be implemented.

Level of Significance after Mitigation

Under CEQA Guidelines, section 15370, "Mitigation" includes:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.
(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
(c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
(e) Compensating for the impact by replacing or providing substitute resources or environments.

Pursuant to the project's Nationwide Permit 39, Special Condition 1, the project will avoid adverse impacts to waters of the United States, and achieve a goal of no net loss of wetlands functions and values. Therefore, the mitigation stipulated in the project's Nationwide Permit is consistent with both the Clean Water Act and CEQA. With the implementation of the above mitigation measures, impacts on waters of the United States, including wetlands, would be reduced to a ***less-than-significant*** level.

BIO-2: Disturbance of Common Plant and Wildlife Species: *Implementation of the proposed project would result in the removal of common plant and wildlife species. These effects would not substantially reduce the habitat of any common species, cause a species to drop below self-sustaining levels, or threaten to eliminate a plant or animal community. Therefore, this impact is considered* ***less-than-significant.***

Implementation of the proposed project would result in the removal of non-native annual grassland. Annual grassland is considered a common community both locally and regionally. Project construction would also result in the loss of common plants, small mammals, reptiles, amphibians, and other animals of slow mobility that live within the project's direct impact area. More mobile wildlife species now using the project site could potentially move into adjacent rural residential and undeveloped areas. Although habitat for common species and some individuals of these species would be lost, these effects would not substantially reduce the habitat of any common species, cause a species to drop below self-sustaining levels, or threaten to eliminate a plant or animal community. The impacts on common plant and wildlife species resulting from the proposed project are considered ***less-than-significant***.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

BIO-3: Loss of Native Oak and Heritage Trees: *Implementation of the proposed project would result in the removal of the majority of the native oak trees on the site, including 9 heritage trees and other mature, healthy oak trees. This impact can be mitigated to a* ***less than significant*** *level over the long-term through the relocation or replanting of lost trees but would be* ***significant and unavoidabl****e in the short-term because the removed trees would not be immediately replaced with mature oak trees.*

Implementation of the proposed project would result in the removal of native oak trees, including heritage trees. Based on the native oak tree survey conducted by Foothill Associates in 2008, 353 native oak trees (out of a total 361 trees) would be removed with the project implementation including 9 heritage trees. This total includes 37 trees that have been rated as poor health and represent a high probability of failure.

The removal of 353 native oak trees, including 9 heritage trees, associated with project implementation would result in the short-term loss of a substantial number of mature, healthy oak trees. This impact would be considered ***significant and unavoidable*** in the short-term because the removed trees would not be immediately replaced with mature oak trees.

Mitigation Measure BIO-3: Loss of Native Oak and Heritage Trees.

Prior to any grading or construction activity, the project applicant shall prepare, subject to approval by the City's Community Development Director, an oak tree mitigation plan that provides over time for no net loss of mature, healthy oak trees, and which incorporates the following mitigation measures.

3.a. To the maximum extent feasible, the applicant shall preserve and protect all native oak trees which can be incorporated into the project site design. The protection of oak trees not scheduled for removal must comply with pertinent sections of the City Of Rocklin Oak Tree Preservation Ordinance.

3.b. To the maximum extent feasible, the applicant will transplant native oaks with a high probability of survival to suitable areas on site for incorporation into the project landscaping plan. It is estimated that 10 of the oaks trees slated for removal are suitable for transplanting.

3.c. As part of the Project's landscape plan and consistent with the final project site plan approved by the City, the applicant will plant and maintain approximately 704 new trees inclusive of all proposed species, and specifically including approximately 30 trees which are oak species.

3.d. To further mitigate for the loss of native and heritage oak trees and oak woodland habitat, the applicant shall pay a fee to be deposited into the existing City of Rocklin Tree Preservation Fund. Payments shall be calculated using the following formula:

Step 1:

Trunk Diameter at Breast Height (TDBH) of all Surveyed Trees on the Site X 20% = Discount Diameter

Step 2:

TDBH of all Surveyed Trees on the Site to be Removed – Discount Diameter = Total Number Inches of TDBH of Replacement Trees Required

Step 3:

The applicant shall pay a fee of $48 per inch of TDBH of Replacement Trees Required. Such payments shall be made prior to the issuance of building permits, with review and approval by the Community Development Director.

Level of Significance after Mitigation

When devising the mitigation measures, the City has considered such factors as the number, age, and health of oak trees proposed for removal, the habitat value of the trees individually and as a part of a larger oak tree woodland, and whether the trees have been previously disturbed or are surrounded by development so that their environmental value or ecological habitat value is reduced.

The impacts of development under the General Plan as the City built out were analyzed in the Environmental Impact Report prepared for the City of Rocklin General Plan (City of Rocklin 1991). The City's General Plan EIR addressed impacts to biological resources in both a direct impacts and cumulative impacts context. Recognizing the significant and unavoidable cumulative impacts resulting from building out a City where no City had previously existed, as one would expect, a significant and unavoidable cumulative impact to biological resources was found.

However, the City did recognize the need to preserve trees and areas of significant vegetation and at that time adopted Open Space, Conservation and Recreation policy number 4 "to encourage the protection of oak trees, including heritage oaks, and other significant vegetation from destruction." This General Plan policy has been incorporated consistently into the planning and development of the City since adoption. The policy is implemented in two primary ways, the City Of Rocklin Oak Tree Preservation Ordinance, codified at Rocklin Municipal Code Chapter 17.77, and through the planning review and entitlement process requiring significant landscaping, tree planting, oak tree preservation and restoration and open space preservation.

To judge the effectiveness of the application of this policy the City prepared an extensive report and management plan entitled "Planning for the Future of Rocklin's Urban Forest" prepared by Phytosphere Research. This report was presented to and adopted by the Rocklin City Council on October 24, 2006. Section 3.1 of the report presents overall changes in tree canopy levels within the City from 1952 to 2003 and sets forth the following findings:

1. Canopy cover in the currently developed portion of Rocklin has increased from an average of 11.3% in 1952 to 18.5% in 2003.
2. Gains in canopy cover over the past 50 years are due to both canopy growth of conserved native oaks and planting of trees in new developments.
3. Conserved oak canopy accounts for a high percentage of the total tree cover in many parts of Rocklin
4. Tree canopy cover in residential areas is typically much greater than canopy cover at other types of developments.
5. The overall distribution of oak woodlands within Rocklin's current boundaries has not changed substantially since the 1930s.

Section 3.2 of the report, "City-owned oak woodlands" goes on to present the following information. "The City of Rocklin owns lands with substantial stands of native woodlands in at least 11 locations throughout city. Many of these woodland areas are adjacent to traditional multi-use City parks and are used recreationally to varying degrees. These woodland areas provide City residents a nearby connection to the natural environment and Rocklin's natural history. In addition, these areas provide wildlife habitat, protect slopes and watercourses from erosion, moderate storm water runoff, provide shade and evaporative cooling, and contribute to Rocklin's aesthetics and community identity. The woodlands are also important as a source of locally-adapted native tree genetic stock."

Mitigation for oak tree loss resulting from development throughout the City is accomplished at a Citywide level by implementation of Open Space, Conservation and Recreation policy number 4 through the planning review and entitlement process requiring significant landscaping, tree planting, oak tree preservation and restoration, and open space preservation, and implementation of the City Of Rocklin Oak Tree Preservation Ordinance.

With the implementation of the above mitigation measures, all of the mature, healthy oak trees cut down to facilitate development on the project site will be replanted, relocated, and or replaced over time so as to eventually satisfy the performance standard of no net loss of mature, healthy oak trees. On a long-term basis, then, this impact will be ***less than significant*** after mitigation. On a short term basis, however, this impact would be considered ***significant and unavoidable*** because the mitigation

strategy allows for the replanting of trees (either directly or through payments to the City) that will take many years to become as mature as many of the oak trees that will be lost.

BIO-4: Loss of Oak Woodland Habitat: *Implementation of the proposed project would result in the removal of the majority of the native oak trees on the site. This impact would be considered* ***potentially significant*** *due to the specific characteristics of the oak woodland habitat on the proposed project site. This impact can be mitigated to a* ***less than significant*** *level over the long-term through the relocation or replanting of lost trees but would be* ***significant and unavoidable*** *in the short-term because the removed trees would not be immediately replaced with mature oak trees.*

Oak trees support a diverse community of insects and wildlife in both their overstory (branches and leaves) and in their understory (grasses, brush, and limbs on the ground under the trees). Foothill woodlands have been reduced in California to such an extent that the loss of any oak trees must be evaluated as the loss of habitat for many native species. The Rocklin Commons project would involve the removal of nearly all of the 361 oak trees on the approximately 40 acre site. Nine existing oak trees are planned for preservation and 10 are scheduled to be relocated on site.

The extent of an impact on oak woodland habitat relates to its ecological habitat value and the characteristics of the particular oak woodland area. As can be seen from the aerial photo (see Figure 3.2-2), the Rocklin Commons site is fragmented from other natural habitats by roadways and surrounding urban development. The site is bordered by Interstate 80 on the east, the major east west freeway in northern California, Sierra College Blvd. on the north, a regional connector route, Granite Drive to the west, which is the principal multi-lane through street of the Granite Drive Business District, and on the south, the former Kia car dealership now occupied by Harley Davidson Motorcycles of Rocklin. The site has no on site creeks or streams and was utilized in the mid 1900's for farming activities, including a farmhouse, associated structures and orchards. These features were abandoned, and the components associated with the farmhouse and farming activities have been demolished over time. Recent re-construction of the Sierra College Boulevard/I-80 Interchange modified the north end of the site and oak woodland remnants in that area.

Due to the facts that the Rocklin Commons site is isolated from other oak woodland areas by bordering streets, highways and urban development, has little contiguous canopy, but rather a fragmented scattering of trees over the approximately 40 acre site, had prior use as a farm site, rather than being native forest, and lacks any natural water supply on site such as a creek or stream, this oak woodland habitat has diminished ecological habitat value. Further, because of the fragmented nature of the oak woodlands onsite, the woodlands do not provide the same habitats for wildlife as other undisturbed woodland habitats that are part of larger forested areas. For these reasons, it is not clear that removal of the oak woodland habitat on the proposed project site would rise to the level of a significant impact on an oak woodland (as opposed to an impact in the form of a loss of trees). Even so, the City conservatively concludes that the impact is ***potentially significant*** with respect to the oak woodland habitat values of the property.

Mitigation Measure BIO-4: Loss of Oak Woodland Habitat.

Implement Mitigation Measures BIO-3a through 3d.

Level of Significance after Mitigation

Mitigation for oak woodland habitat loss resulting from development throughout the City is accomplished at a Citywide level by implementation of Open Space, Conservation and Recreation policy number 4 through the planning review and entitlement process requiring significant landscaping, tree planting, oak tree preservation and restoration, and open space preservation, and implementation of the City Of Rocklin Oak Tree Preservation Ordinance as explained more fully above.

Payment of the fees to be deposited in the City's Oak Tree Preservation Fund will be used by the City of Rocklin in its oak tree preservation and oak woodland habitat restoration efforts. Specifically these funds will be used for: (1) acquisition of land deemed appropriate for oak tree reforestation; (2) acquisition, planting and maintenance of oak trees; (3) compensation of arborists retained by the city in connection with the administration of the City's Oak Tree Preservation Ordinance and any related program; (4) oak tree preservation educational programs; and/or (5) administration and enforcement of the City's Oak Tree Preservation Ordinance.

With the implementation of the mitigation measures BIO- 3.a through 3.d, the preservation, creation and restoration of the City's urban forest and oak woodlands would take place over time so as to eventually satisfy the performance standard of no net loss of mature, healthy oak trees and woodland habitat ecological value. On a long-term basis, then, this impact will be ***less than significant*** after mitigation. On a short term basis, however, this impact would be considered ***significant and unavoidable*** because the mitigation strategy allows for the replanting of trees (either directly or through payments to the City) that will take many years to become as mature as many of the oak trees that will be lost.

BIO-5: Disturbance or Removal of Special-Status Plant Species: *Implementation of the proposed project would not result in the loss or disturbance of special-status plant species. This would be considered a* ***less-than-significant*** *impact.*

Implementation of the proposed project would not be expected to adversely affect special-status plant species. Protocol-level surveys for the special-status plant species identified as having the potential to occur on the project site were conducted. None of the targeted special-status plants were found on the project site during the protocol-level surveys. Therefore, the proposed project would not be expected to adversely affect, either directly or through habitat modifications, any special-status plant species. This impact would be ***less-than-significant***.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

BIO-6: Disturbance of Valley Elderberry Longhorn Beetle Habitat: *Implementation of the proposed project would not be expected to adversely affect elderberry longhorn beetles due to the lack of elderberry shrubs onsite. Therefore, the projects' potential impacts on this species would be considered* ***less-than-significant.***

The proposed project is not expected to adversely affect valley elderberry longhorn beetle. The lack of elderberry bushes on the project site makes the occurrence of the valley elderberry longhorn beetle and its potential use of the project site highly unlikely. The closest known occurrence of this species is one mile southwest of the project site along the Sierra College nature trail. Because valley elderberry longhorn beetles are unlikely to utilize the project site, implementation of the proposed project would not reduce or restrict the range of this federally threatened species or interfere substantially with its movement. Potential impacts on valley elderberry longhorn beetle are considered ***less-than-significant***.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

BIO-7: Disturbance of California Red-Legged Frog Habitat: *Implementation of the proposed project would not be expected to adversely affect California red-legged frog due to the lack of habitat on the site and distance to known populations. Therefore, the project's potential impacts on this species would be considered* ***less-than-significant.***

The proposed project is not expected to adversely affect California red-legged frog. The lack of breeding habitat on the site, distance to known extant populations of California red-legged frogs, site hydrology, and physical terrain characteristics make the occurrence of the frog and its potential use of the site highly unlikely. The closest known occurrence of the species is nine miles east of the project site and populations in the Sierra Nevada foothills are rare. Upland habitat on the site is flanked by Interstate 80, which presents a physical barrier to the southeast; in addition, the site does not lie between suitable aquatic sites, and therefore, would not be used as a migration corridor by the species. Because red-legged frogs are unlikely to utilize the project site, implementation of the proposed project would not reduce the number or restrict the range of this threatened species or interfere substantially with their movement. Potential impacts on California red-legged frog are considered ***less-than-significant***.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

BIO-8: Disturbance of Western Pond Turtle Habitat: *Implementation of the proposed project would not be expected to adversely affect western pond turtle due to the marginal habitat on the site. Therefore, the project's potential impacts on this species would be considered* ***less-than-significant.***

Project development is not likely to adversely affect western pond turtle. The project site does not contain suitable upland nesting habitat, though suitable nesting habitat is available off-site, at a considerable distance closer to suitable aquatic habitat on adjacent or nearby properties (across Interstate 80 approximately 1,300 feet and 2,600 feet from the project site at Secret Ravine Creek and Croftwood Lake , respectively). The site is flanked by Interstate 80, which presents a physical barrier to the southeast; in addition, the site does not lie between aquatic sites, and therefore, would not be used as a migration corridor by the species. Because northwestern pond turtle are unlikely to utilize

the project site, implementation of the proposed project would not reduce the number or restrict the range of this species or interfere substantially with their movement. Impacts on western pond turtle are considered ***less-than-significant***.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

BIO-9: Disturbance of Burrowing Owl Habitat: *Implementation of the proposed project would not be expected to adversely affect burrowing owls because it is rare to find them nesting in the foothills as far east as the project site and there are no documented records of burrowing owls within five miles of the project area. Therefore, the project's potential impacts on this species would be* ***less-than-significant.***

Project development is not likely to adversely affect burrowing owls. Although the project site contains suitable habitat and few suitable small mammal burrows exist on-site, it is rare to find them nesting in the foothills as far east as the project site and there are no documented records of burrowing owls within five miles of the project area. Therefore, implementation of the proposed project would not reduce the number or restrict the range of this species or interfere substantially with their movement. Impacts on burrowing owls are considered ***less-than-significant***.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

BIO-10: Disturbance of Raptors and Migratory Birds: *Loss of nests of special-status species would be considered* ***potentially significant.***

The oak woodland and non-native annual grassland on the project site provides foraging and nesting habitat for common and special-status bird species. Active raptor nests and nests of other migratory birds are protected by California Fish and Game Code Section 3503.5 and by the Federal Migratory Bird Treaty Act. Special-status birds with potential to nest on-site include Cooper's hawk, white-tailed kite, and loggerhead shrike. Common raptors and migratory birds could also nest on the site. Removal and/or disturbance of active nests of common and special-status nesting birds could result from project implementation. Disturbance of nesting pairs could result in nest abandonment and loss of active nests. Loss of active nests of common species could be a violation of the Federal Migratory Bird Treaty Act and Fish and Game Code, but would not constitute a significant impact under CEQA, because it would not cause the population of a species to drop below self-sustaining levels or threaten to eliminate an animal community. Loss of nests of special-status species would result in substantial adverse effects to local populations. This would be considered a ***potentially significant impact***.

Mitigation Measure BIO-10: Disturbance of Raptors and Migratory Birds.

a. Removal of nesting habitat for raptors and migratory birds shall be timed to avoid nesting season.

b. If vegetation removal and/or project construction occurs during the nesting season for raptors and migratory birds, preconstruction surveys shall be conducted by a qualified biologist approved by the City. The surveys shall cover all areas of suitable nesting habitat within 500 feet of the project activity and shall be conducted within 14 days prior to commencement of project activity. The surveys shall be valid for one construction season. If no active nests are found, no further mitigation shall be required.

c. If active nests are found, impacts shall be avoided by establishment of appropriate buffers. No project activity shall commence within the buffer area until a qualified biologist confirms that the nest is no longer active. DFG guidelines recommend implementation of 500-foot buffers, but the size of the buffer may be adjusted if a qualified biologist determines through consultation with CDFG and/or USFWS that construction activity would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist may be required if the activity has potential to adversely affect the nest.

Level of Significance after Mitigation

With implementation of the above mitigation measures, impacts on raptors and migratory birds would be avoided. Therefore, this impact would be reduced to a ***less-than-significant*** level.

4.4 HYDROLOGY AND WATER QUALITY

This section evaluates information regarding hydrology and water quality. It describes the existing hydrologic conditions at the project site, presents a summary of the regulatory setting, and provides an analysis of the hydrology and water quality impacts of the proposed project. In accordance with CEQA Guidelines Section 15125(a), the environmental baseline, as analyzed in this EIR, is the environmental setting as it existed at the time the Notice of Preparation was published, September 27, 2008. Therefore, the following discussion describes the site's hydrologic conditions as they were on that date.

4.4.1 Existing Setting

Hydrology and Drainage

The proposed project site is located within the northern portion of the Sacramento River Hydrological Region, as defined by the California Department of Water Resources (DWR). The Sacramento River Hydrological Region covers approximately 17.4 million acres (27,200 square miles). The region includes all or large portions of Modoc, Siskiyou, Lassen, Shasta, Tehama, Glenn, Plumas, Butte, Colusa, Sutter, Yuba, Sierra, Nevada, Placer, Sacramento, El Dorado, Yolo, Solano, Lake, and Napa Counties. Small areas of Alpine and Amador Counties are also within the region. Geographically, the region extends south from the Modoc Plateau and Cascade Range at the Oregon border, to the Sacramento-San Joaquin Delta. The Sacramento Valley, which forms the core of the region, is bounded to the east by the crest of the Sierra Nevada and southern Cascades and to the west by the crest of the Coast Range and Klamath Mountains. Other significant features include Mount Shasta and Lassen Peak in the southern Cascades; Sutter Buttes in the south central portion of the valley; and the Sacramento River, which is the longest river system in the State of California with major tributaries being the Pit, Feather, Yuba, Bear, and American Rivers (DWR 2003).

The normal annual precipitation is approximately 21 inches. January temperatures range from a normal minimum of 34°F to a normal maximum of 54°F. July temperatures range from a normal minimum of 59°F to a normal maximum of 96°F (National Oceanic and Atmospheric Administration 1992). The predominant wind direction and speed is from the south-southwest at 10 mph (California Air Resources Board [ARB] 1994).

Surface Hydrology

Dry Creek Watershed

The project is located within the Dry Creek watershed, a tributary to the Sacramento River, in the southwest portion of Placer County. The Dry Creek watershed covers about 101 square miles in Placer and Sacramento Counties. The headwaters of Dry Creek are located in several areas: the upper portions of the Loomis Basin, in the vicinity of Penryn and Newcastle, in unincorporated Placer County; in the Granite Bay area near Folsom Lake, and in Orangevale in Sacramento County.

The Dry Creek watershed is composed of six major subbasins in Sacramento and Placer Counties. Eight named streams are within the Dry Creek watershed and include: Dry Creek, Clover Valley

Creek, Antelope Creek, Secret Ravine Creek, Miners Ravine, Cirby Creek, Linda Creek, and Strap Ravine. Antelope Creek and Clover Valley Creek form the northwest boundary of the watershed, and Secret Ravine Creek and Miners Ravine comprise the northeast portion of the watershed. Antelope Creek and Miners Ravine, after combining with Clover Valley Creek and Secret Ravine Creek, respectively, combine near Interstate 80 and Atlantic Street in the City of Roseville to form Dry Creek (Restoration Resources 2003).

Secret Ravine Creek

Secret Ravine Creek is a perennially flowing stream that drains a 19.7-square-mile basin within the Sierra Nevada foothills of western Placer County. Secret Ravine Creek flows 10.5 miles from its headwaters in the Newcastle area (elevation 1,285 feet) south of the City of Auburn and then southward, roughly parallel to Interstate 80, to its confluence with Miners Ravine Creek (elevation 165 feet) near Atlantic Street in the City of Roseville. Secret Ravine Creek flows within a narrow valley underlain by recent alluvial deposits. The valley width expands in places to over 1,000 feet, likely as the result of geologic movements (Dry Creek Conservancy 2001).

Project Site

Drainage within the City of Rocklin is dominated by a variety of watersheds flowing westward from the Sierra Nevada foothills east of the City, which ultimately discharge into the Sacramento River southwest of the City. The urban drainage system in the City consists of a combination of gutters, underground pipes and drop inlets, and open channels that in turn discharge into a variety of creeks.

The project site occupies approximately 39.16 acres of land at the intersection I-80 and Sierra College Boulevard in the City of Rocklin. The topography is gently sloping to flat with terrain at an elevation of approximately 3105 to 340 feet above mean sea level.

There are seven existing drainage pipe stubs or culverts within Granite Drive that drain the shed area bounded by Granite Drive, I-80 and Sierra College Blvd. Of the seven pipe stubs, three tie directly to the Rocklin Commons property along its Granite Drive frontage. Two of the other four stubs collect drainage from Rocklin Commons after crossing over the adjacent northerly property. The project drains from the east to the west and northwest, into the Granite Drive pipe system, which discharges into the property west or north of Granite Drive, thence to Sucker Ravine Creek, which is located across Granite Drive from the project site. Sucker Ravine Creek hydrologically connects to Secret Ravine Creek on the south side of I-80, west of Rocklin Road, approximately 2 miles downstream of the project site.

Flooding

The Regulatory Base Flood Elevation for Sucker Ravine on the other side of Granite Creek Drive varies from 299 to 308 feet above mean sea level. The project site's lowest existing elevation is approximately 310 feet above mean sea level along its southern boundary. Based on the site topography and the FEMA Base Flood Elevation, the site is not within the designated 100-year floodplain. A 100-year flood has a 1% chance of being equaled or exceeded for any given storm. The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Panel (6061 C0418F)

indicates the site is in an area designated Zone-X, which is defined as "OTHER AREAS, Areas determined to be outside 500-year floodplain." A 500-year flood has a 0.2% chance of being equaled or exceeded in any given storm.

The Placer County Flood Control and Water Conservation District (PCFCD) is a non-regulatory entity with no permitting authority that provides technical support to Placer County, the incorporated cities of the County, the Office of Emergency Services, and developers to help set and meet standards related to stormwater management and flood control. As part of their on-going effort to meet these goals, the PCFCD has developed watershed master plans, hydrologic models, and the Stormwater Management Manual. Additionally, the PCFCD establishes standards for development and performs development review for projects within Placer County and all of the incorporated cities within Placer County.

In an effort to address flooding issues in the Dry Creek watershed; the Dry Creek Watershed Flood Control Plan was sponsored by the PCFCD and the Sacramento County Water Agency (SCWA) (PCFCD and SCWA 1992). This plan covers approximately 101 square miles of the Dry Creek watershed, including the project site.

The Dry Creek Watershed Flood Control Plan provides the PCFCD and other governmental agencies in both Placer and Sacramento Counties with information and recommendations for policies necessary to manage the stormwaters within the Dry Creek watershed. It also includes consideration of required improvements and associated funding programs to accomplish the improvements. The Flood Control Plan was intended to provide an approach for meeting existing and future flood control needs in Dry Creek watershed. The report found that substantial damage would occur under existing conditions during a 100-year flood. The plan determined that many of the bridges and culverts in the watershed are inadequate to pass the 100-year and even 75-year flows for both existing and future conditions.

The Dry Creek Watershed Flood Plan made several recommendations to improve flood control in the watershed. Among these were structural alternatives such as on-site detention and regional detention, channel improvements, levees and floodwalls, and bridge and culvert replacement. The plan also suggested non-structural recommendations such as floodplain management, and regional flood warning systems.

Regional and on-site detention basins for new development were addressed as necessary features for eliminating increased downstream flows for all new development. While detention basins would not eliminate increased flows throughout the watershed due to development, they were determined to reduce the downstream flows by 55% if local detention basins are constructed with all new development.

Groundwater Hydrology

The project area is located within the North American Groundwater Subbasin of the Sacramento Valley Groundwater Basin, as delineated in DWR Bulletin 118, *California's Groundwater* (2003 update) (DWR 2003). The eastern boundary of the North American subbasin is a north-south line extending from the Bear River south to Folsom Lake and represents the approximate edge of the alluvial basin where little or no groundwater flows into or out of the groundwater basin from the

Sierra Nevada. The western portion of the North American subbasin consists of nearly flat flood basin deposits from the Bear, Feather, Sacramento, and American Rivers, and several small eastside tributaries (DWR 2006).

Regional groundwater flows are predicted to be southwesterly. In the vicinity of the proposed project, groundwater elevations and gradients vary considerably. The most recent data for the project site indicates that groundwater in the vicinity of the site is at an approximate elevation 100 to 120 feet above mean sea level, or roughly 200 feet below existing site grades (Wallace-Kuhl & Associates 2005).

According to previous soil investigations from September 1987 and February 2005, water was encountered at several borings at depths ranging from 7 ½ to 11 feet below ground surface. This water is considered "perched water" on top of granodioritic rock as a permanent ground water table was not observed within the test borings drilled on August 16, 2005. (Wallace Kuhl & Associates, 2005). Perched water is the result of the *"…relatively impervious granodiorite rock below the soil surface, which prohibits the vertical percolation and traps surface water within the upper soils."* Given the soil and geologic conditions of the project site, water that percolates through the soil will not recharge groundwater. Water that moves vertically through the soil will eventually reach a point where the underlying bedrock will not allow for further infiltration, and the water will either collect and become "perched" water between the soil and the bedrock, or it will move horizontally towards the closest surface water source, in this case Sucker Ravine.

In summary, because groundwater recharge from the undeveloped project site is limited and probably non-existent, the addition of impervious surfaces associated with the development of the project will not negatively impact groundwater recharge.

Water Quality

Water quality is most affected by land development, agriculture, grazing, and urban runoff. Constituents found in urban runoff vary during a storm event, from event to event within a given area, and from area to area within a given watershed. Variances can be the result of differences in rainfall intensity and occurrence, geographic features, and the land use of the area, as well as vehicle traffic and the percentage of impervious surface. Furthermore, sediment runoff from construction sites without adequate erosion control measures can contribute sediments, pesticides, fertilizers, and other pollutants to receiving waters.

Surface Water Quality

"Receiving waters" is a general term typically used to describe any surface water body, such as a creek, river, lake, bay, or ocean that receives runoff. The Dry Creek watershed conveys drainage water to the Sacramento River southwest of the city. Therefore, the Sacramento River is receiving water for much of the drainage from the Dry Creek watershed.

Water quality in the Sacramento River is regulated primarily by the Central Valley RWQCB. The Central Valley RWQCB's *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (Basin Plan) designates beneficial uses for Sacramento River water that include agricultural supply, contact water recreation, noncontact water recreation, warm freshwater habitat, cold

freshwater habitat, and wildlife habitat (Central Valley RWQCB 2004). The Sacramento River also has the potential beneficial use of coldwater spawning, reproduction, and/or early development for fisheries. In accordance with the requirements of the federal Clean Water Act (CWA), the State Water Resources Control Board (SWRCB) has determined that beneficial uses in the Sacramento River are impaired by high concentrations of diazinon (a pesticide related to agricultural and urban runoff), mercury (related to mining in the upper watershed), and unknown toxicity. Specific beneficial uses and impairments to those uses have not been identified for the Dry Creek watershed.

Groundwater Quality

The Central valley RWQCB Basin Plan considers all groundwater in the Central Valley Region as suitable or potentially suitable, at a minimum, for municipal and domestic water supply, agricultural supply, industrial process supply, and industrial service supply, unless otherwise designated by the Central Valley RWQCB.

As mentioned above under "Groundwater Hydrology", the Secret Ravine Creek Watershed is located within the North American Groundwater Subbasin of the Sacramento Valley Groundwater Basin. An area of the groundwater along the Sacramento River extending from Sacramento International Airport northward to the Bear River has been found to have high levels of TDS, chloride, sodium, bicarbonate, manganese, and arsenic. However, the groundwater in the southern part of the groundwater subbasin is otherwise generally characterized as good quality (DWR 2006). In addition, there are three sites within the North American Groundwater Subbasin with significant groundwater contamination issues: the former McClellan Air Force Base in Sacramento County, Union Pacific Railroad Rail Yard in Roseville, and the Aerojet Superfund Site in the City of Rancho Cordova. Although the Aerojet site lies south of the North American subbasin, a contaminant plume (including TCE and PCE) extends north from Aerojet, under the American River and into the North American subbasin (DWR 2006).

Groundwater in the Dry Creek watershed and the vicinity of the project site is generally of good quality. None of the sites discussed above with significant groundwater contamination issues (the former McClellan Air Force Base, the Union Pacific Railroad Yard, and the Aerojet Superfund site) are located in the Secret Ravine Creek and Watershed (DWR 2006). Furthermore, as described in the Initial Study, no records of on-site contamination, including contaminated groundwater wells were found during the Phase I Environmental Site Assessment for the project site (Wallace-Kuhl & Associates 2005).

4.4.2 Regulatory Setting

Hydrology

Federal Emergency Management Agency

In 1968, Congress created the National Flood Insurance Program (NFIP) in response to the rising cost of taxpayer funded disaster relief for flood victims and the increasing amount of damage caused by floods. FEMA administers the NFIP to provide subsidized flood insurance to communities that comply with FEMA regulations to limit development in floodplains. FEMA also issues Flood

Insurance Rate Maps that identify land areas subject to flooding. These maps provide flood information and identify flood hazard zones in the community. FEMA has established the minimum level of flood protection for new development as the 1-in-100 Annual Exceedance Probability (i.e., 100-year flood event).

City of Rocklin General Plan

The following goal and policies from the Open Space, Conservation, and Recreation Element of the City of Rocklin General Plan (1991) are applicable to the proposed project:

- **Policy 6:** To cooperate in a coordinated regional approach to the management of drainage basins and flood plains with regional agencies such as the Placer County Flood Control and Water Conservation District (PCFCD).
- **Policy 15**: To provide adequate yard areas and building setbacks from creeks, riparian habitat, hilltops, and other natural resources.

The following goal and policies from the Community Safety Element of the City of Rocklin General Plan (1991) are also applicable to the proposed project:

- **Goal:** To minimize the danger of natural and man-made hazards and to protect residents and visitors from the dangers of earthquake, fire, flood, and other natural disasters, and man-made dangers.
    - **Policy 2:** To cooperate with and support the formation of a coordinated city-wide and/or regional approach for the construction, operation, and maintenance of drainage and flood control facilities.
    - **Policy 3**: To require master drainage plans as a condition of approval for large development projects.
    - **Policy 4**: To require new residential construction to have its lowest habitable floor elevated at least two feet (2') above the base flood level elevation (i.e. the 100-year floodplain elevation).
    - **Policy 5:** To ensure that 100-year floodplain elevations, based upon the most current information, both up and downstream are not adversely affected by new development
    - **Policy 6:** To require new developments to detain on-site drainage such that the rate of runoff flow is maintained at pre-development levels and to coordinate with other projects' master plans to ensure no adverse cumulative effects. In lieu of detention, the City may require off-site drainage improvements that are more beneficial to the community's overall drainage system.
    - **Policy 7**: To prohibit development along stream channels that would adversely reduce the stream capacity, increase erosion, or cause deterioration of the channel.

Water Quality

Federal

The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) is the primary federal law that governs and authorizes water quality control activities by EPA as well as the states. Various elements of the CWA address water quality. These are discussed below. Wetland protection elements of the CWA administered by the U.S. Army Corps of Engineers are discussed in Section 4.3 Biological Resources.

Federal Antidegradation Policy

The Federal Antidegradation policy, established in 1968, is designed to protect existing uses and water quality and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- Existing in-stream uses and the water quality necessary to protect those uses shall be maintained and protected;
- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the State finds that allowing lower water quality is necessary for important local economic or social development; and
- Where high-quality waters constitute an outstanding national resource, such as waters of national and State parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

Water Quality Criteria/Standards

Pursuant to federal law, EPA has published water quality regulations under Title 40 of the Code of Federal Regulations (CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the act, water quality standards consist of designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. As described in the discussion of State regulations below, the SWRCB and its nine RWQCBs have designated authority in California to identify beneficial uses and adopt applicable water quality objectives.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. NPDES permit regulations have been established for broad categories of discharges including point source municipal waste discharges and nonpoint source stormwater runoff.

Each NPDES permit identifies limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWQ contain general requirements regarding NPDES permits.

"Nonpoint source" pollution originates over a wide area rather than from a definable point. Nonpoint source pollution often enters receiving water in the form of surface runoff and is not conveyed by way of pipelines or discrete conveyances. Two types of nonpoint source discharges are controlled by the NPDES program: (1) discharges associated with industrial activities including construction activities; and, (2) the general quality of stormwater in municipal stormwater systems. The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters to the maximum extent practicable. The RWQCBs in California are responsible for implementing the NPDES permit system (see the discussion of State regulations below).

Section 303(d) Impaired Waters List

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the State develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of the pollutant that the water body can receive and still be in compliance with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. EPA must either approve a TMDL prepared by the State or disapprove the State's TMDL and issues its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed by the TMDL. After implementation of the TMDL, it is anticipated that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated.

State

In California, the SWRCB has broad authority over water quality issues. The SWRCB is responsible for developing water quality policy and exercises the powers delegated to the State by the federal government under the CWA. Other State agencies with jurisdiction over water quality regulation in California include the California Department of Public Health (DPH) (for drinking water regulations), the California Department of Pesticide Regulation, the California Department of Fish and Game, and the Office of Environmental Health and Hazard Assessment.

Regional authority for planning, permitting, and enforcement is delegated to the nine regional water boards. The regional boards are required to formulate and adopt water quality control plans for all areas in the region and establish water quality objectives in the plans. The Central Valley RWQCB is responsible for the water bodies in the project vicinity.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is California's statutory authority for the protection of water quality. The act sets forth the obligations of the SWRCB and RWQCBs under the CWA to adopt and periodically update water quality control plans, or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation

programs are established for each of the nine regions in California. The Porter-Cologne Act also requires waste dischargers to notify the RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, NPDES permits, Section 401 water quality certifications, and other approvals.

Water Quality Control Plan for the Sacramento and San Joaquin River Basins

The Central Valley RWQCB Basin Plan for the Sacramento River and San Joaquin River Basins adopted by the Central Valley RWQCB (2004) identifies the beneficial uses of water bodies and provides water quality objectives and standards for waters of the Sacramento River and San Joaquin River basins, including the Delta. State and federal laws mandate the protection of designated "beneficial uses" of water bodies.

The Basin Plan contains specific narrative and numeric water quality objectives for a number of physical properties (e.g., temperature, turbidity, and suspended solids), biological constituents (e.g., coliform bacteria), and chemical constituents of concern including inorganic parameters, trace metals, and organic compounds. Water quality objectives for toxic priority pollutants (i.e., select trace metals and synthetic organic compounds) are included in the Basin Plan and the California Toxics Rule.

National Pollutant Discharge Elimination System Permits

The SWRCB and Central Valley RWQCB have required specific NPDES permits for a variety of activities that have potential to discharge pollutants to waters of the State and adversely affect water quality. To receive an NPDES permit, a Notice of Intent to discharge must be submitted to the Central Valley RWQCB and design and operational best management practices (BMPs) must be implemented to reduce the level of contaminated runoff. BMPs can include the development and implementation of regulatory measures (local authority of drainage facility design) and structural measures (filter strips, grass swales, and retention basins). All NPDES permits also have inspection, monitoring, and reporting requirements.

In April 2003, the SWRCB adopted an NPDES Phase II General Permit for the Discharge of Storm Water from small municipal separate storm sewer systems (MS4s) to provide NPDES permit coverage to municipalities that were not covered under the NPDES Phase I Rule for municipalities serving more than 100,000 people. The City of Rocklin is included within the NPDES Phase II General Permit. Under the Phase II General Permit, the City is required to develop, implement, and enforce a stormwater management program. The details of the development, implementation, and enforcement of the Phase II General Permit requirements are provided in the City's stormwater management program, which was approved in 2003.

General Permit For Stormwater Discharges Associated With Construction Activity (General Construction Permit). The SWRCB adopted the statewide NPDES General Construction Permit in August 1999. The State requires that projects disturbing one acre or more of land during construction file a Notice of Intent with the RWQCB to be covered under this permit. Construction activities subject to General Construction Permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and other waters. A SWPPP must be developed and implemented for each site covered by the permit. The SWPPP must include BMPs designed to prevent construction pollutants from contacting

stormwater and keep products of erosion from moving off-site into receiving waters throughout the construction and life of the project. The BMPs must address source control and, if necessary, pollutant control.

General Order For Dewatering And Other Low-Threat Discharges To Surface Waters (General Order For Dewatering). Dewatering during construction is sometimes necessary to keep trenches or excavations free of standing water when improvements or foundations/footings are installed. Clean or relatively pollutant-free wastewater that poses little or no threat to water quality may be discharged directly to surface water under certain conditions. The Central valley RWQCB has adopted a general NPDES permit, the General Order for Dewatering, for short-term discharges of small volumes of wastewater from certain construction-related activities. Discharges may be covered by the General Order for Dewatering provided either that they are four months or less in duration or that the average dry-weather discharge does not exceed 0.25 million gallons per day. Construction dewatering and miscellaneous dewatering/low-threat discharges are among the types of discharges that may be covered by the NDPES permit.

State Nondegradation Policy

In 1968, as required under the federal antidegradation policy described previously, the SWRCB adopted a nondegradation policy aimed at maintaining high quality for waters in California. The nondegradation policy states that the disposal of wastes into State waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the State and to promote the peace, health, safety, and welfare of the people of the State. The policy provides as follows:

- Where the existing quality of water is better than required under existing water quality control plans, such quality would be maintained until it has been demonstrated that any change would be consistent with maximum benefit to the people of the State and would not unreasonably affect present and anticipated beneficial uses of such water.
- Any activity which produces wastes or increases the volume or concentration of waste and which discharges to existing high-quality waters would be required to meet waste discharge requirements.

Safe Drinking Water Act

As mandated by the Safe Drinking Water Act (Public Law 93-523), passed in 1974, EPA regulates contaminants of concern to domestic water supply. Such contaminants are defined as those that pose a public health threat or that impact the aesthetic acceptability of the water. These types of contaminants are regulated by the EPA and categorized as primary and secondary Maximum Contaminant Levels (MCLs). MCLs and the process for setting these standards are reviewed triennially. Amendments to the Safe Drinking Water Act enacted in 1986 established an accelerated schedule for setting drinking water MCLs.

EPA has delegated to the DPH the responsibility for California's drinking water program. DPH is accountable to EPA for program implementation and for adoption of standards and regulations that are at least as stringent as those developed by EPA.

Title 22 of the California Administrative Code (Article 16, Section 64449) defines secondary drinking water standards, which are established primarily for reasons of consumer acceptable (i.e., taste) rather than for health issues.

Local

City of Rocklin General Plan

The following policy from the Open Space, Conservation, and Recreation Element of the City of Rocklin General Plan (1991) is applicable to the proposed project:

- **Policy 19:** To minimize the degradation of water quality through requiring implementation of techniques such as, but not limited to, the prohibition of grading, placement of fill or trash or alternation to vegetation within designated stream setback buffer areas, and requiring the installation of measures which minimize runoff waters containing pollutants and sediments entering surface water. Measures for minimizing pollutants and sediments entering watercourses may include oil/grit separators, detention basins, and flow reduction devices.

Rocklin Municipal Code Title 8, Health and Safety

Chapter 8.30, Stormwater Runoff Pollution Control Ordinance, of the Rocklin Municipal Code prohibits the discharge of any materials or pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater, into the municipal storm drain system or watercourses. Discharges from specified activities that do not cause or contribute to the violation of any plan standard, such as landscape irrigation, lawn watering, and flows from fire suppression activities are exempt from this prohibition.

Rocklin Municipal Code Title 15, Buildings and Construction

Chapter 15.28, Grading and Erosion and Sedimentation Control, of the Rocklin Municipal Code regulates grading on all property within the City of Rocklin; to avoid pollution of watercourses with nutrients, sediments, or other earthen materials generated or caused by surface runoff on or across the permit area; to comply with the City's National Pollution Discharge Elimination System permit issues by the California RWQCB; and to ensure that the intended use of a graded site is consistent with the City of Rocklin General Plan, provisions of the California Building Code as adopted by the City relating to grading activities, City of Rocklin improvement standards, any applicable specific plans or other land use entitlements.

In addition, this chapter establishes rules and regulations to control grading and erosion control activities, including fills and embankments; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspection of grading construction and erosion control plans for all graded sites.

Method of Analysis

The environmental analysis for hydrology and water quality was conducted using existing information from previously completed documents that address water resources in the project vicinity, including the City of Rocklin General Plan (1991), the Rocklin Pavilion (Rocklin Commons) Preliminary Drainage Report (Civil Engineering Solutions, Inc. 2006), and the Placer County Flood Control and Water Conservation District Stormwater Management Manual.

The hydrologic analysis for this project was performed in accordance with the requirements of the Placer County Flood Control and Water Conservation District Stormwater Management Manual. The Kinematic Wave Method within the Army Corps of Engineers HEC-1 program and Placer County's Precipitation Distribution Program (PDP) were used to create the hydrologic models. The Kinematic Wave Method is the prescribed methodology for Placer County.

4.4.3 Thresholds Of Significance

An impact is considered significant, as identified by Appendix G of the State CEQA Guidelines, if the proposed project would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate or pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion, siltation, or flooding on- or off-site;
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
- Cause the potential for inundation by seiche, tsunami, or mudflow; or
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or a dam.

The project would not rely on groundwater to serve the proposed development (see Section 4.9 Utilities and Public Services) and would not place housing or other structures in a 100-year floodplain or in the vicinity of a levee or dam or interfere substantially with groundwater recharge. The project is

not within an inundation area for seiches, tsunamis, or mudflows and would not expose people to these events. These impacts are not evaluated further in the EIR.

4.4.4 Impacts And Mitigation Measures

WQ-1: Increased Runoff and Potential for Localized or Downstream Flooding.

Implementation of the proposed project would result in an increase in impervious surfaces on the project site, which would lead to an increase in stormwater runoff compared to existing conditions. The increased surface runoff could result in a greater potential for on- and off-site flooding. The proposed project includes a stormwater runoff collection and detention system pursuant to the guidelines set forth in the Stormwater Management Manual that would reduce the post-project peak flows to pre-project levels. This impact would be ***less than significant****.*

Implementation of the proposed project would create additional impervious surfaces (e.g., buildings, sidewalks, paved parking areas) on the project site. The additional runoff caused by the increase in impervious surfaces would lead to an increase in localized stormwater runoff. If not properly accommodated on the project site, increased stormwater runoff could result in localized flooding on the site and adjacent lands. In addition, if stormwater runoff from the project site were discharged in sufficient quantities during severe storm events, lands downstream of the project site could be exposed to greater flooding risk because of increased peak flows.

A preliminary drainage report for the project was prepared in accordance with Placer County Flood Control and Water Conservation District's Stormwater Management Manual methodology. The purpose of the preliminary drainage report was to determine how peak stormwater flows would be managed on the project site.

The preliminary drainage report identified the installation of a detention basin that would be located near the southwest corner of the site, north of and adjacent to Interstate-80. The preliminary drainage report identified the detention volume and outlet configuration required to attenuate the post-project peak flows to pre-project levels. The preliminary drainage report's recommendations regarding detention basin sizing and outlet configurations were developed by modeling the system under pre- and post project conditions using the U.S. Army Corps of Engineers HEC-1 model. This modeling software is designed to identify peak flow conductions during a variety of storm events and site conditions. The model was used to calculate the peak flows for the 2-year through 100-year storm events (Civil Engineering Solutions, Inc. 2006).

The pre-project modeling adopted and incorporated the drainage shed areas from the existing and proposed Cal Trans Right of Way that drains to the site along with the project shed areas that drain to each of the existing culverts. With few exceptions, flows travel to the west and northwest toward Sucker Ravine Creek. The total pre-project watershed area is approximately78.94 acres. The resultant 10-year and 100-year peak flows for pre-project watershed are 77 cubic feet per second (cfs) and 149 cfs, respectively.

As with the pre-project model, the post-project model for Rocklin Commons consists of five sub watersheds that drain to existing culverts in Granite Drive. The post-project watersheds have been adjusted to route a majority of the Rocklin Commons site through the proposed detention basin. This

allows the flow rate from each sub watershed to be kept equal to or lower than the pre-project discharge flow rate to each culvert in Granite Drive.

The post-project model watershed area is approximately 79.48 acres. For the 79.48 acres, the 10-year and 100-year peak flows decrease to 75 cfs and 137 cfs respectively. The decrease is due to the routing of a significant portion of the Rocklin Commons site through the detention basin. The mitigated 10-year and 100-year flows decrease under post-project conditions by 2 cfs from the 10-year pre-project flows and 12 cfs from the 100-year pre-project flows.

The preliminary drainage report indicates that the proposed detention basin will reduce 10 and 100-year peak flows from the proposed project site to less than or equal to existing, pre-project flows. The proposed basin is located in the southwest corner of the site. Based on the hydrologic and hydraulic analyses, a detention basin storage volume of 2.6 ac-ft will attenuate the project flows to pre-project conditions. The detention basin will include a passive gravity outlet system.

An outlet structure from the detention basin would consist of an 8-inch diameter "weephole" to ensure that the detention basin drains after storm events. In addition, the detention basin would include a 15-inch riser 4 feet above the invert of the basin that would control releases from the detention basin during larger storm events. A 36-inch diameter downstream conduit would convey the flows from the outlet structure/detention basin. The downstream conduit will connect to a junction structure/manhole upstream of the existing 30-inch stormdrain/culvert crossing at Granite Drive. The conduit that carries storm water runoff from the Cal-Trans system will combine at the junction structure.

With construction of the detention basin, the mitigated 10-year and 100-year flows decrease under post-project conditions by 2 cfs for the 10-year pre-project flows and 12 cfs for the 100-year pre-project flows. Because the proposed project includes a stormwater runoff collection and detention system pursuant to the guidelines set forth in the Stormwater Management Manual that would be sufficient to reduce the post-project peak flows to below pre-project levels, the project would not be expected to substantially alter the course of a stream or river, or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. Therefore, this impact would be **less than significant**.

Mitigation Measure

No mitigation measures are required for impacts considered **less than significant.**

WQ-2: Potential for Short-Term Construction-Related Water Quality Degradation.

Implementation of the proposed project could cause short-term water quality degradation associated with construction activities. Construction activities (grading, excavation, etc.) could result in substantial stormwater discharges of suspended solids and other nonpoint source pollutants, which could drain to off-site areas, potentially suspending solids and other nonpoint source pollutants, which could drain to off-site areas, potentially degrading local surface water quality. Further, areas of exposed or stockpiled soils could be subject to sheet erosion during rain events. This impact would be considered ***potentially significant****.*

Grading, earthmoving, excavation, and utility installation, infrastructure development, and building construction would disturb the existing vegetation cover, soil, and drainage systems over the entire project site and some off-site areas (e.g., water and wastewater infrastructure). Therefore, the site would be exposed to wind and water erosion, which could adversely affect water quality.

The subsurface conditions on the site generally consist of variably weathered granodiorite rock. Infiltrating surface runoff water could create saturated surface conditions because of the impervious nature of the underlying bedrock. In addition, intense rainfall and associated stormwater runoff could result in short periods of sheet erosion within areas of exposed or stockpiled soils. If uncontrolled, these soil materials would flow off of the site and into local drainages. Further, the compaction of soils by heavy equipment may reduce the infiltration capacity of soils and increase the potential for runoff and downstream sedimentation.

Construction activities could result in substantial stormwater discharges of suspended solids and other pollutants into local drainage channels from the project construction site. Construction-related chemicals (fuels, paints, adhesives, etc.) could be washed into surface waters by stormwater runoff. The deposition of pollutants (gas, oil, etc.) onto the ground surface by construction vehicles could similarly result in the transportation of pollutants to surface waters by stormwater runoff or in seepage of such pollutants into groundwater. Increased turbidity could result in adverse impacts on fish and wildlife species within local water courses.

Non-stormwater discharges could result from activities such as construction dewatering procedures, or discharge or accidental spills of hazardous substances such as fuels, oils, concrete, paints, solvents, cleaners, or other construction materials. Because of the shallow depth to bedrock and sloping terrain of the site, it is likely that perched water could be as shallow as three feet below existing grading depending on the time of year. If perched water is encountered during excavation, dewatering activities would be necessary (Wallace-Kuhl & Associates 2005). Dewatering discharges may contain elevated levels of suspended sediment or other construction-related contaminants.

Because the project could contribute substantial additional sources of polluted runoff and could substantially degrade water quality during proposed construction activities, the project would result in ***potentially significant*** construction-related water quality impacts.

Mitigation Measure WQ-2 Potential for Short-Term Construction-Related Water Quality Degradation

- The project applicant shall demonstrate compliance, through its erosion control plan and SWPPP, with all requirements of the City's Stormwater Runoff Pollution Control Ordinance (Title 8, Chapter 8.30 of the City Code) and the Grading and Erosion and Sedimentation Control Ordinance (Title 15, Chapter 15.28 of the City Code), which regulate stormwater and prohibit non-stormwater discharges except where regulated by an NPDES permit. This includes preparing erosion, sediment, and pollution control plans for the entire construction site. The project's grading plans shall be approved by the City of Rocklin, Engineering Division prior to the initiation of site grading activities. The project applicant shall implement measures including the use of soil stabilizers, fiber rolls, inlet filters, and gravel bags to prevent pollutants from being carried off-site in stormwater generated on the project site. These measures shall be designed to

accommodate stormwater discharges associated with proposed measures that would be implemented to control on-site dust generation (e.g., wheel washing, active watering).

- As required under the NPDES stormwater permit for general construction activity, the project applicant shall prepare and submit the appropriate Notice of Intent and prepare the SWPPP and the erosion control plan for pollution prevention and control prior to initiating site construction activities. The SWPPP shall identify and specify the use of erosion sediment control BMPs, means of waste disposal, implementation of approved local plans, non-stormwater management controls, and inspection and maintenance responsibilities. The SWPPP shall also specify the pollutants that are likely to be used during construction and that could be present in stormwater drainage and non-stormwater discharges. A sampling and monitoring program shall be included in the SWPPP that meets the requirements of SWRCB Order 99-08-DWQ to ensure the BMPs are effective.
- Construction techniques shall be identified that would reduce the potential runoff and the SWPPP shall identify the erosion and sedimentation control measures to be implemented. The SWPPP shall also specify spill prevention and contingency measures, identify the types of materials used for equipment operation, and identify measures to prevent or clean up spills of hazardous materials used for equipment operation and hazardous waste. Emergency procedures for responding to spills shall also be identified. BMPs identified in the SWPPP shall be used in subsequent site development activities. The SWPPP shall identify personnel training requirements and procedures that would be used to ensure that workers are aware of permit requirements and proper installation and performance inspection methods for BMPs specified in the SWPPP. The SWPPP shall also identify the appropriate personnel responsible for supervisory duties related to implementation of the SWPPP. All construction contractors shall retain a copy of the approved SWPPP on the construction site.
- Any dewatering necessary during construction shall be carried out in accordance with the General Order for Dewatering, which allows discharges of water from construction sites provided either that the discharges are four months or less in duration or that the average dry-weather discharge does not exceed 0.25 million gallons per day.

Level of Significance after Mitigation

With implementation of the above mitigation measures, the project's runoff, erosion and subsequent sedimentation issues would be minimized or eliminated, through the preparation of an erosion control plan and stormwater pollution prevention plan (SWPPP) and the installation of appropriate best management practices (BMPs) for compliance with all the requirements of the City's Stormwater Runoff Pollution Control Ordinance (Title 8, Chapter 8.30 of the City Code) and the Grading and Erosion and Sedimentation Control Ordinance (Title 15, Chapter 15.28 of the City Code), which regulate stormwater and prohibit non-stormwater discharges except where regulated by an NPDES permit.

The BMPs proposed to be implemented during construction include: the use of soil stabilizers, fiber rolls, inlet filters, and gravel bags to prevent pollutants from being carried off-site in stormwater generated on the project site. The erosion control plan would ensure that proper control of siltation, sedimentation, and other pollutants would be implemented per the NPDES permit requirements and City ordinance standards. Debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings,

petroleum products or other organic or earthen material would not be allowed to enter into or be placed where it may be washed by rainfall or runoff into Sucker Ravine Creek. Furthermore, the SWPPP would specify the pollutants that are likely to be used during construction and that could be present in stormwater drainage and non-stormwater discharges; and to ensure the BMPs are effective, a sampling and monitoring program would be included in the SWPPP that meets the requirements of SWRCB Order 99-08-DWQ. Also, the implementation of identified spill prevention and cleanup plans would limit the potential for hazardous material spills to adversely affect storm water quality. Therefore, the project's construction-related water quality impacts would be reduced to a ***less-than-significant*** level.

WQ-3: Potential for Long-Term Degradation of Water Quality. *The conversion of the site from vacant to commercial uses would introduce new stormwater pollutant sources. These pollutant sources would include oils and greases, petroleum hydrocarbons (gas and diesel fuels), nitrogen, phosphorus, and heavy metals. Pesticides, herbicides, and other landscape maintenance products typically used in landscape maintenance also could be present. These pollutants could adversely affect the water quality of the site's stormwater discharges. The potential water quality degradation associated with site operations would be considered* ***potentially significant****.*

The project site is currently vacant and undeveloped. The development of the project site with commercial land uses would alter the types, quantities, and timing of contaminant discharges in stormwater runoff relative to existing conditions. If this stormwater runoff is uncontrolled and not treated, the water quality of the discharge could affect off-site drainage channels and downstream waterbodies. The untreated stormwater runoff generated within the project site would ultimately discharge to the City's storm drain system which discharges to a swale that drains to Sucker Ravine Creek, which is hydrologically connected to Secret Ravine Creek approximately 2 miles downstream of the project site.

Water quality degradation from the discharge of urban runoff occurs when stormwater or landscaping irrigation runoff enters the storm drain system carrying contaminants found in urban environments. Stormwater may encounter oil, grease, or fuel that has collected on roadways and parking lots and convey these contaminants to the storm drain system. Water used for irrigation of landscaped areas may encounter pesticides, herbicides, and fertilizer. Water that has encountered these chemicals but that has not been absorbed by plants and soil can enter the storm drain system and be conveyed to receiving waters. The potential discharges of contaminated urban runoff from paved and landscaped areas could increase or could cause or contribute to adverse effects on aquatic organisms and/or beneficial uses in receiving waters. Urban contaminants typically accumulate during the dry season and may be washed off when adequate rainfall returns in the fall to produce a "first flush" of runoff.

The amount of contaminants discharged in stormwater drainage from development areas varies based on a variety of factors, including the intensity of urban uses such as vehicle traffic, types of activities occurring on-site (e.g., office, commercial, industrial), types of chemicals used on-site (e.g., pesticides, herbicides, cleaning agents, petroleum byproducts), the pollutants on street surfaces, and the amount of rainfall. The project is divided into five sub watersheds that drain to five of the seven existing drainage pipe stubs or culverts within Granite Drive that serve the shed area bounded by Granite Drive, I-80 and Sierra College Blvd. The project drains from the east to the west and

northwest, into that Granite Drive pipe system, which discharges into the property west or north of Granite Drive, thence to Sucker Ravine Creek, which is located across Granite Drive from the project site.

The largest of the five sub watersheds consists of approximately 26 acres and includes a storm water detention basin. This storm water detention basin includes approximately three quarters of an acre foot of storage volume that will be utilized as part of a treatment train for storm water quality treatment of the sub watershed. This third step of the water quality treatment train would take place after the first-step BMPs that consist of administrative controls such as signage at inlets to prevent illicit discharges into storm drains, parking lot and other pavement area sweeping, public education, and hazardous waste management and disposal programs, and second-step BMPs that may include underground hydrodynamic separators or catch basin filters, or, upon approval of the City of Rocklin, a substitute device of equal or greater effectiveness. The second-step BMPs would contain a media or structure designed to remove oil and grease. The third-step water quality basin BMP would be designed according to the Guidance Documents for Volume and Flowbased Sizing of Permanent Post-Construction Best Management Practices for Stormwater Quality Protection published by the Placer Regional Stormwater Coordination Group (PRSCG) (May 2005).

The four remaining sub watersheds vary in size from approximately 1.7 acres to 5.4 acres in size for the remaining 13 acres of the 39 acre project. Each of these sub watersheds will incorporate a treatment train that consists of administrative controls such as signage at inlets to prevent illicit discharges into storm drains, parking lot and other pavement area sweeping, public education, and hazardous waste management and disposal programs, second-step BMP's that would include charcoal catch basin insets, or, upon approval of the City of Rocklin, a substitute device of equal or greater effectiveness and the third-step water quality BMP's that would consist of a CDS unit to complete the treatment train for each sub watershed.

Mitigation Measure WQ-3 Potential Long-Term Degradation of Water Quality

- Before issuance of a grading permit for the site, the project applicant shall submit a Notice of Intent to comply with the NPDES General Permit for Construction Related Activities and shall comply with all of the permit requirements in order to minimize storm water discharges associated with site operations. In addition, the project applicant shall prepare a SWPPP and implement Best Management Practices designed to minimize sedimentation and release of products used during site operations.
- Before approval of the project improvement plans, the project applicant shall submit the final BMP design for each of the five sub watershed areas to the City of Rocklin. The submittal shall include the final detention basin design and detention water quality design along with supporting calculations. The BMP design shall conform to the requirements of the City's Stormwater Runoff Pollution Control Ordinance (Title 8, Chapter 8.30 of the City Code) and the Grading and Erosion and Sedimentation Control Ordinance (Title 15, Chapter 15.28 of the City Code), which regulate stormwater and prohibit non-stormwater discharges except where regulated by an NPDES permit. The BMPs shall be reviewed for adequacy by the City of Rocklin, Engineering Division prior to approval of the onsite improvement plans for the site to ensure that they will effectively remove pollutants from the site's stormwater runoff. Long-term functionality of the stormwater quality BMPs shall be provided for through a maintenance and inspection program. Prior to issuance of

the first occupancy permit, the applicant shall submit to the city of Rocklin Department of Public Works a Maintenance and Monitoring Plan for all stormwater BMPs. The Maintenance and Monitoring Plan shall 1) identify a schedule for the inspection and maintenance of each BMP, 2) identify methods and materials for maintenance of each BMP, 3) and include provisions for the repair or replacement of BMPs.

Level of Significance after Mitigation

With the implementation of the BMPs identified above, stormwater discharge from the project site would be captured within the project's drainage systems and would be filtered by the BMPs identified for each sub watershed prior to being discharged into the Granite Drive storm drain system or culverts. Long-term functionality of the BMPs would be provided for through a maintenance and monitoring program. The implementation of these BMPs, consistent with the requirements of the site's NPDES permit and the SWPPP, and design criteria identified by PRSCG, would ensure that the quality of the water entering Sucker Ravine Creek, and ultimately Secret Ravine Creek two miles downstream, would not be substantially degraded. With implementation of the above mitigation measures, the project's operational water quality impacts would be reduced to a ***less-than-significant level***.

4.5 ENERGY

In some instances, the California Environmental Quality Act (CEQA) requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Specifically, subdivision (b)(3) of Public Resources Code section 21100, which lists the normal contents of EIRs, includes as an EIR topic "mitigation measures proposed to minimize the significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy." Likewise, CEQA Guidelines section 15126.4, subdivision (a)(1)(c), states that "Energy conservation measures, as well as other appropriate mitigation measures, shall be discussed when relevant. "Appendix F of the CEQA Guidelines, "Energy Conservation" recommends content for EIRs, including project description content, mitigation measures, and content for evaluating alternatives. Although the City does not believe that the project as proposed would, without further mitigation, lead to the "wasteful, inefficient, and unnecessary consumption of energy," the City has nevertheless prepared this Chapter in order to further explore and disclose energy issues related to the proposed project.

4.5.1 Environmental Setting

Energy use is a component of everyday life and its efficient use has become more important over the past several years as energy supplies have diminished and prices have increased. In addition to its economic costs, energy production and consumption can have direct and indirect environmental impacts. As examples, impacts can include loss of sensitive resources from energy excavation (e.g., coal mining), air quality degradation from energy combustion, and water pollution from energy generation (e.g., thermal pollution). However, energy use is a common necessity and will continue to be so into the future.

Energy resources currently used through the project area consist of petroleum products (fossil fuels) used by vehicles traveling along Interstate 80, Sierra College Boulevard, and Granite Drive. Other energy sources are electricity used for signals and illumination at nearby intersections, and electricity and natural gas used at the current commercial uses proximate to the project site.

Electricity/Natural Gas

The plan area is within a Pacific Gas & Electric Company (PG&E) service area. PG&E currently serves the existing commercial developments adjacent to the project site; PG&E will serve the Rocklin Commons development.

PG&E provides electricity to all or part of 47 counties in California, comprising most of the northern and central portions of the State. PG&E obtains 40 percent of electricity from its own generation sources and the remaining 60 percent from outside sources. PG&E's owned-generating capacity includes nuclear, fossil fuel-fired, and hydroelectric facilities. Outside suppliers to PG&E include the State Department of Water Resources, irrigation districts, renewable energy suppliers, and other fossil fuel-fired suppliers.

PG&E operates approximately 158,700 circuit miles of transmission and distribution lines. PG&E is interconnected with electric power systems in the Western Electricity Coordinating Council, which

includes 14 western states, Alberta and British Columbia, Canada, and parts of Mexico. In 2006, PG&E delivered 84,310 gigawatt hours of electricity to its customers. Commercial customers accounted for the largest segment of demand, with 40 percent of the total.

Two 60 KV lines supply three electric substations that serve the Rocklin planning area electric distribution load. The substation responsible for providing electrical power to the area around the proposed project is the Del Mar Substation on Corporation Yard Road off Sierra Meadows Drive.

PG&E provides natural gas to all or part of 38 counties in California, comprising most of the northern and central portions of the State. PG&E obtains approximately 62 percent of its natural gas supplies from western Canada, 32 percent from the southwestern United States, and the balance from in-state sources. PG&E operates approximately 47,000 miles of transmission and distribution pipelines. In 2006, PG&E delivered 836 billion cubic feet (Bcf) of natural gas to its customers. Commercial customers accounted for 12 percent of the total.

In its 2006 Annual Report, PG&E reports that it has proposed construction on a number of additional gas and electric transmission arteries to create access to new supplies of renewable energy and new sources of natural gas. In addition to ongoing investment in their existing hydroelectric and nuclear facilities, PG&E also owns and operates new power plants. As part of their long-term resource plan for customers, construction recently began on the first of three state-of-the-art facilities (Gateway Generating Station in Antioch, Colusa Power Plant and Humboldt Bay Power Plant). The plants will be on-line between 2009 and 2010 and will generate enough power for 950,000 homes. Currently, PG&E uses Diablo Canyon which uses nuclear and steam generators to produce power. More than 50% of the power delivered by PG&E comes from resources that produce no global warming emissions. PG&E's sources of renewable resources grew by more than 400 megawatts last year, which will be enough energy for more than 300,000 customers (PG&E executed a number of contracts for new supplies of wind, solar, geothermal, and other renewable power).

4.5.2 Regulatory Setting

Title 24

Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was promulgated by the California Energy Commission (CEC) in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and to provide energy efficiency standards for residential and nonresidential buildings. In 2005, the CEC updated the Title 24 standards with more stringent requirements. All projects pursuing building permits after October 2005 must adhere to the new 2005 standards. The 2005 Standards (for residential and nonresidential buildings) are expected to reduce the growth in electricity use by 478 gigawatt-hours per year (GWh/y) and reduce the growth in natural gas use by 8.8 million therms per year (therms/y). The savings attributable to new nonresidential buildings are 163.2 GWh/y of electricity savings and 0.5 million therms. Additional savings result from the application of the Standards on building alterations. In particular, requirements for cool roofs, lighting, and air distribution ducts are expected to save about 175 GWh/y of electricity. These savings are cumulative, doubling in two years, tripling in three, etc.

The 2005 Energy Efficiency Standards include the following measures:

- **Time Dependent Variation (TDV).** Source energy was replaced with TDV energy. TDV energy values energy savings greater during periods of likely peak demand, such as hot summer weekday afternoons, and values energy saving less during off-peak hours. TDV gives more credit to measures such as daylighting and thermal energy storage that are more effective during peak periods.
- **New Federal Standards.** Coincident with the 2005 Standards, new standards for water heaters and air conditioners took effect. These changes affect all residential buildings, but they also affect many nonresidential buildings that use water heaters and/or "residential size" air conditioners.
- **New Lighting in Historic Buildings.** The exception to the Standards requirements for historic buildings has changed relative to lighting requirements so that only those historic or historic replica components are exempt.
- **Cool Roofs**. The nonresidential prescriptive standards require "cool roofs" (high-reflectance, high-emittance roof surfaces, or exceptionally high reflectance and low-emittance surfaces) in all low-slope applications. The cool roof requirements also apply to roof replacements for existing buildings.
- **Acceptance Requirements.** Basic "building commissioning," at least on a component basis, is required for electrical and mechanical equipment that is prone to improper installation.
- **Demand Control Ventilation.** Controls that measure carbon dioxide concentrations and vary outside air ventilation are required for spaces such as conference rooms, dining rooms, lounges, and gyms.
- **T-bar Ceilings.** Placing insulation directly over suspended ceilings is not permitted as a means of compliance, except for limited applications.
- **Relocatable Public School Buildings.** Special compliance approaches are added for relocatables so they can be moved anywhere statewide.
- **Duct Efficiency.** R-8 duct insulation and duct sealing with field verification is required for ducts in unconditioned spaces in new buildings. Duct sealing is also required in existing buildings when the air conditioner is replaced. Performance method may be used to substitute a high-efficiency air conditioner in lieu of duct sealing.
- **Indoor Lighting.** The lighting power limits for indoor lighting are reduced in response to advances in lighting technology.
- **Skylights for Daylighting in Buildings.** The prescriptive standards require that skylights with controls to shut off the electric lights are required for the top story of large, open spaces (spaces larger than 25,000 square feet with ceilings higher than 15 feet).
- **Thermal Breaks for Metal Building Roofs.** Continuous insulation or thermal blocks at the supports are required for metal building roofs.
- **Efficient Space Conditioning Systems.** A number of measures are required that improve the efficiency of heating, ventilation and air conditioning (HVAC) systems, including variable-speed drives for fan and pump motors greater than 10 hp, electronically commutated motors for series fan boxes, better controls, efficient cooling towers, and water cooled chillers for large systems.

- **Unconditioned Buildings.** New lighting standards – lighting controls and power limits – apply to unconditioned buildings, including warehouses and parking garages. Lighting power tradeoffs are not permitted between conditioned and unconditioned spaces.
- **Compliance Credits.** Procedures are added for gas cooling, underfloor ventilation.
- **Lighting Power Limits.** The Standards set limits on the power than can be used for outdoor lighting applications, such as parking lots, driveways, pedestrian areas, sales canopies, and car lots. The limits vary by lighting zones or ambient lighting levels. Lighting power tradeoffs are not permitted between outdoor lighting and indoor lighting.
- **Shielding.** Luminaires in hardscape areas larger than 175 W are required to be cutoff luminaries, which will save energy by reducing glare.
- **Bi-level Controls.** In some areas, outdoor lighting controls are required, including the capability to reduce lighting levels to 50 percent.
- **Lighting Power Limits.** Lighting power limits (or alternative equipment efficiency requirements) apply to externally and internally illuminated signs used either indoors or outdoors.

The proposed project's structures would incorporate the applicable 2005 Title 24 standards listed above.

CEQA

As mentioned above, Public Resources Code Section 21100, subdivision (b)(3), and CEQA Guidelines Section 15126.4, subdivision (a)(1), require EIRs to describe feasible measures that could minimize significant adverse impacts, including, where relevant, inefficient and unnecessary consumption of energy. Appendix F of the State CEQA Guidelines provides advisory direction regarding the analysis of energy impacts by stating that potentially significant energy implications of a project should be considered in an EIR, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy. Appendix F suggests that the EIR evaluate the energy consuming equipment and process that would be used during project construction and operation, the total energy requirements of the project, energy conservation equipment and design features, and the total estimated daily trips to be generated by the project.

City of Rocklin General Plan

The following policy from the Open Space, Conservation and Recreation Element of the City General Plan (1991) is applicable to the proposed project:

- **Policy 5:** To encourage energy conservation in new developments.

Method of Analysis

The examination of energy conditions in this section is based on a review of the anticipated energy uses associated with the proposed project and the effects of these uses on national energy supplies. A discussion of the specific energy infrastructure (i.e., electrical power lines and natural gas line) that would be required to meet the site's energy demands is included in the Utilities and Public Services section of the project's Initial Study.

4.5.3 Thresholds Of Significance

An energy impact is considered significant if the proposed project would:

- cause the inefficient, wasteful and unnecessary consumption of energy

4.5.4 Impacts and Mitigation Measures

EN-1: Project implementation would increase energy demand during both construction and operation of the proposed project. Construction and operation of the proposed buildings on the project site would be required to comply with the energy efficiency standards included in Title 24 and with air quality mitigation measures identified in mitigation measure AQ-2 that would effectively reduce the project's energy demands. Therefore, the project would not be expected to cause the inefficient, wasteful or unnecessary consumption of energy. This impact is considered ***less-than-significant.***

Project implementation would increase the consumption of energy within the City of Rocklin for the duration of the project's construction and operation. The primary energy demands during construction would be associated with construction vehicle fueling over the approximately four-year construction period. Energy in the form of fuel and electricity would be consumed during this period by construction vehicles and equipment operating on the site, trucks delivering equipment and supplies to the site, and construction workers driving to and from the site. Following construction, the primary energy demand on the project site would be associated with building heating and cooling requirements. Energy would also be used to move materials within individual stores (e.g., forklifts), to provide hot water to meet restroom and food preparation requirements, to meet the site's lighting requirements, and to meet other miscellaneous energy requirements of the individual buildings.

Pacific Gas and Electric Company (PG&E) provides electrical and natural gas services to the City of Rocklin and is required by the State Public Utilities Commission to update the systems to meet any additional demand. PG&E builds infrastructure on an as-needed basis. PG&E's general interest is to ensure that the company and City cooperate to ensure that infrastructure is developed in a timely manner and that the company continues to have adequate access for operation and maintenance activities. Therefore, the impacts will be ***less-than-significant.***

Electricity and natural gas would be used for the project's commercial/retail land uses, as well as parking lot lighting and maintenance. The estimated average monthly electric and gas demand for the proposed Rocklin Commons development is presented in Table 4.5-1 and Table 4.5-2, respectively.

Table 4.5-1: Average Yearly Electric Demand for Rocklin Commons

Land Use	Usage Generation Rate	Proposed Square Feet	Estimated Electrical Demand (MW)
Commercial/Retail	0.014 MW/year/ft^2	415,000	5,810
Project Total			**5,810 MW per year**

Source: Energy Information Administration, March 2002
MW=Megawatts

Table 4.5-2: Average Yearly Gas Demand for Rocklin Commons

Land Use	Usage Generation Rate	Proposed Square Feet	Estimated Natural Gas Demand (cubic feet)
Commercial/Retail	0.09 cf/day/ft^2	415,000	37,350 cf
Project Total			**37,350 cf per year**

Source: Energy Information Administration, March 2002

As shown in Tables 4.5-1 and 4.5-2, at build-out the proposed project will require, on average, approximately 5,810 megawatts of electricity and 37,350 cubic feet of natural gas per year. While this will increase consumption of electricity and natural gas, utility providers have indicated that existing systems have the capacity to accommodate these increases. PG&E has provided a letter indicating it will serve the project site with gas and electricity. (PG&E, June 2, 2007.) Construction and operation of the proposed buildings on the site would be required to comply with Title 24 of the California Code of Regulations. Title 24 identifies specific energy efficiency requirements for building construction and systems operations that are intended to ensure efficient energy usage over the long-term life of the building.

The compliance with the energy efficiency standards included in Title 24 in the construction and operation of the proposed buildings on the site would help ensure that energy is efficiently used at the project site. Therefore, the proposed site construction and operations would not be expected to cause the inefficient, wasteful or unnecessary consumption of energy.

Energy would also be used both on and off the project site in vehicles delivering materials or providing services to the site, and store employees and patrons commuting to and from the site. As indicated in Section 4.7, Transportation and Circulation, the proposed project is forecast to generate 15,414 daily vehicle trips during its operations. Mitigation measures have been identified in Sections 4.2, Air Quality, and Section 6.0, Cumulative and Growth Inducing Impacts, that are intended to minimize air quality impacts associated with the project. In addition to reducing the project's air quality impacts, these measures would also reduce the project's overall energy consumption through efforts such as reducing construction vehicle idling times, encouraging transit, providing bicycle facilities, and meeting Title 24 requirements. Therefore, the generation of vehicle trips at the project

site would not be expected to cause the inefficient, wasteful or unnecessary consumption of energy. This impact is considered ***less-than-significant***.

Mitigation

No mitigation measures are required for impacts considered **less than significant.**

4.6 NOISE

This section includes a description of ambient noise conditions, a summary of the applicable noise regulations, and an analysis of potential noise impacts of the proposed project. Mitigation measures are recommended, as necessary, to reduce significant noise impacts. A technical noise study was prepared by J.C. Brennan & Associates, Inc dated September 5, 2008. (See Appendix C.). The noise analysis examined the potential project generated noise levels associated with project-related increased traffic on the local street system, as well as on-site activities which include loading dock use, on-site truck circulation, drive-through lanes, parking lot movements, parking lot cleaning, and HVAC mechanical equipment. The analysis also indicated that no noise mitigation measures are necessary as noise levels caused by project activities are predicted to be below the applicable City of Rocklin noise level criteria.

4.6.1 Environmental Setting

Acoustic Fundamentals

Noise is generally defined as sound that is loud, disagreeable, unexpected, or unwanted. Sound, as described in more detail below, is mechanical energy transmitted in the form of a wave because of a disturbance or vibration, and as any pressure variation in air that the human ear can detect.

Sound Properties

A sound wave is introduced into a medium (air) by a vibrating object. The vibrating object (e.g., vocal chords, the string and sound board of a guitar, or the diaphragm of a radio speaker) is the source of the disturbance that moves through the medium. Regardless of the type of source creating the sound wave, the particles of the medium through which the sound moves are vibrating in a back and forth motion at a given frequency. The frequency of a wave refers to how often the particles vibrate when a wave passes through the medium. The frequency of a wave is measured as the number of complete back-and-forth vibrations of a particle per unit of time. If a particle of air undergoes 1,000 longitudinal vibrations in 2 seconds, then the frequency of the wave would be 500 vibrations per second. A commonly used unit for frequency is cycles per second, called hertz (Hz).

A wave is an energy transport phenomenon that transports energy along a medium. The amount of energy carried by a wave is related to the amplitude (loudness) of the wave. A high-energy wave is characterized by high amplitude; a low-energy wave is characterized by low amplitude. The amplitude of a wave refers to the maximum amount of displacement of a particle from its rest position. The energy transported by a wave is directly proportional to the square of the amplitude of the wave. This means that a doubling of the amplitude of a wave is indicative of a quadrupling of the energy transported by the wave.

Sound and the Human Ear

Because of the ability of the human ear to detect a wide range of sound-pressure fluctuations, sound-pressure levels are expressed in logarithmic units called decibels (dB) to avoid a very large and awkward range in numbers. The sound-pressure level in decibels is calculated by taking the log of the

ratio between the actual sound pressure and the reference sound pressure squared. The reference sound pressure is considered the absolute hearing threshold (Caltrans 1998). Use of this logarithmic scale reveals that the total sound from two individual 65-dBA sources is 68 dBA, not 130 dBA (i.e., doubling the source strength increases the sound pressure by 3 dBA).

Because the human ear is not equally sensitive to all sound frequencies, a specific frequency-dependent rating scale was devised to relate noise to human sensitivity. An A-weighted dB (dBA) scale performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. The basis for compensation is the faintest sound audible to the average ear at the frequency of maximum sensitivity. This dBA scale has been chosen by most authorities for the purpose of regulating environmental noise.

With respect to how humans perceive and react to changes in noise levels, a 1 dBA increase is imperceptible, a 3 dBA increase is barely perceptible, a 6 dBA increase is clearly noticeable, and a 10 dBA increase is subjectively perceived as approximately twice as loud (Egan 1988). Table 4.6-1 was developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50 to 70 dBA, as this is the usual range of voice and interior noise levels. For these reasons, a permanent noise level increase of 3 dBA or more is typically considered significant and/or substantial in terms of the degradation of the existing noise environment.

Table 4.6-1: Subjective Reaction to Changes in Noise Levels of Similar Sources

Change in Level, dBA	Subjective Reaction	Factor Change in Acoustical Energy
1	Imperceptible (Except for Tones)	1.3
3	Just Barely Perceptible	2.0
6	Clearly Noticeable	4.0
10	About Twice (or Half) as Loud	10.0

Source: Egan 1998

Sound Propagation

As sound (noise) propagates from the source to the receptor, the attenuation, or manner of noise reduction in relation to distance, is dependent on surface characteristics, atmospheric conditions, and the presence of physical barriers. The inverse-square law describes the attenuation caused by the pattern in which sound travels from the source to receptor. Sound travels uniformly outward from a point source in a spherical pattern with an attenuation rate of 6 dBA per doubling of distance (dBA/DD). However, from a line source (e.g., a road), sound travels uniformly outward in a cylindrical pattern with an attenuation rate of 3 dBA/DD. The surface characteristics between the source and the receptor may result in additional sound absorption and/or reflection. Atmospheric conditions such as wind speed, temperature, and humidity may affect noise levels. Furthermore, the presence of a barrier between the source and the receptor may also attenuate noise levels. The actual amount of attenuation is dependent upon the size of the barrier and the frequency of the noise. A

noise barrier may be any natural or human-made feature such as a hill, tree, building, wall, or berm (Caltrans 1998).

All buildings provide some exterior-to-interior noise reduction. A building constructed with a wood frame and a stucco or wood sheathing exterior typically provides a minimum exterior-to-interior noise reduction of 25 dBA with its windows closed, whereas a building constructed of a steel or concrete frame, a curtain wall or masonry exterior wall, and fixed plate glass windows of one-quarter-inch thickness typically provides an exterior-to-interior noise reduction of 30–40 dBA with its windows closed (Paul S. Veneklasen & Associates 1973, cited in Caltrans 2002).

Noise Descriptors

The selection of a proper noise descriptor for a specific source is dependent upon the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise are defined below (Caltrans 1998, Lipscomb and Taylor 1978).

- **L_{max}** (Maximum Noise Level): The maximum instantaneous noise level during a specific period of time. The L_{max} may also be referred to as the "peak (noise) level."
- **L_{min}** (Minimum Noise Level): The minimum instantaneous noise level during a specific period of time.
- **LX** (Statistical Descriptor): The noise level exceeded X% of a specific period of time.
- **L_{eq}** (Equivalent Noise Level): The energy mean (average) noise level. The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. From the sum of the relative energy values, an average energy value is calculated, which is then converted back to dBA to determine the L_{eq}. In noise environments determined by major noise events, such as aircraft overflights, the L_{eq} value is heavily influenced by the magnitude and number of single events that produce the high noise levels.
- **L_{dn}** (Day-Night Noise Level): The 24-hour L_{eq} with a 10 dBA "penalty" for noise events that occur during the noise-sensitive hours between 10:00 p.m. and 7:00 a.m. In other words, 10 dBA is "added" to noise events that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The L_{dn} attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.
- **CNEL** (Community Noise Equivalent Level): The CNEL is similar to the L_{dn} described above, but with an additional 5 dBA "penalty" added to noise events that occur during the noise-sensitive hours between 7:00 p.m. to 10:00 p.m., which are typically reserved for relaxation, conversation, reading, and television. If using the same 24-hour noise data, the reported CNEL is typically approximately 0.5 dBA higher than the L_{dn}.
- **SEL** (Sound Exposure Level): The SEL describes a receiver's cumulative noise exposure from a single impulsive noise event, which is defined as an acoustical event of short duration (0.5 second), such as a backup beeper, the sound of an airplane traveling overhead, or a train whistle, and involves a change in sound pressure above a defined reference value (usually approximately 40 dBA).

- **L_{50}** (50 percentile-exceeded sound level): The L_{50} describes the A-weighted sound level happening at 50 percent or more of the time of the measurement.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level, L_{eq}, which corresponds to a steady-state A weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptors such as L_{dn} and CNEL, as defined above, and shows very good correlation with community response to noise.

Negative Effects of Noise on Humans

Negative effects of noise exposure include physical damage to the human auditory system, interference, and disease. Exposure to noise may result in physical damage to the auditory system, which may lead to gradual or traumatic hearing loss. Gradual hearing loss is caused by sustained exposure to moderately high noise levels over a period of time; traumatic hearing loss is caused by sudden exposure to extremely high noise levels over a short period. Gradual and traumatic hearing loss both may result in permanent hearing damage. In addition, noise may interfere with or interrupt sleep, relaxation, recreation, and communication. Although most interference may be classified as annoying, the inability to hear a warning signal may be considered dangerous. Noise may also be a contributor to diseases associated with stress, such as hypertension, anxiety, and heart disease. The degree to which noise contributes to such diseases depends on the frequency, bandwidth, and level of the noise, and the exposure time (Caltrans 1998).

Vibration

Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure borne noise. Sources of ground borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground borne vibrations may be described by amplitude and frequency.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS), as in RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (FTA 2006, Caltrans 2002).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2006). This is based on a reference value of 1 μ inch/second.

The typical background vibration-velocity level in residential areas is approximately 50 VdB. Ground borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2006).

Typical outdoor sources of perceptible ground borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Construction activities can generate ground borne vibrations, which can pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2006).

Construction vibrations can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 4.6-2 describes the general human response to different levels of ground borne vibration-velocity levels.

Table 4.6-2: Human Response to Different Levels of Ground borne Noise and Vibration

Vibration-Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception
75 VdB	Approximate dividing line between perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Source: FTA 2006
Note: VdB = vibration decibels referenced to 1 μ inch/second and based on the root mean square (RMS) velocity amplitude.

Existing Noise Environment

The project site is currently vacant. A small commercial center containing gas stations, a convenience store, and a fast food restaurant is located east of the project site on the east side of Sierra College Boulevard. The project site has frontage along I-80 on its southern edge. Sierra College Boulevard runs along the east side of the project. Granite Drive runs along the west side of the project. Existing noise sensitive land uses nearest to the project site include: an abandoned residence which is approximately 850 feet from the site and across Interstate 80 to the south; a church which is approximately 1,200 feet from the site and across Interstate 80 to the south; single family residences, which are approximately 1,000 feet to the northeast, and multi-family residences which are located approximately 1,400 feet northeast of the project site on Brace Road.

To generally quantify the existing ambient noise environment in the project vicinity, continuous hourly noise level measurements were conducted on the project site for a period of 24 hours on July 1st and 2nd 2008. A Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meter was used for the noise level measurement survey. The meter was calibrated before and after use with an LDL Model CA200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI 51.4).

The noise level measurement survey results are summarized in Table 4.6-3.

Table 4.6-3: Summary of Measured 24-hour Noise Levels

Location	Date-Time	Average Measured Hourly Noise Levels, dBA						
		24-hour L_{dn}	Daytime (7:00 a.m. – 10 p.m.)			Nighttime (10:00 p.m. – 7:00 a.m.		
			L_{eq}	L_{50}	L_{max}	L_{eq}	L_{50}	L_{max}
Continuous 24 hour Measurement Locations								
Southern portion of the project site, 490' east of Granite Dr.	July 1-2, 2008	62.6	56.8	55.4	73.7	56.1	53.9	68.5
Northern portion of project site, 345' south of Granite Dr.	July 1-2, 2008	60.7	50.7	49.1	66.7	54.7	52.8	68.8
Short-term Measurement Locations								
Northwest corner of project site	July 1, 2008	-	49.1	46.9	62.9	10 minute interval @ 11:01 a.m.		
Northwest corner of project site	July 2, 2008	-	49.5	48.1	60.5	10 minute interval @ 11:40 a.m.		
Center of project site	July 1, 2008	-	49.1	48.7	56.4	10 minute interval @ 11:30 a.m.		
Center of project site	July 2, 2008	-	47.1	46.3	57.1	10 minute interval @ 11:59 a.m.		

Source: Monitoring performed by J.C. Brennan & Associates, 2008

Existing Noise Sources

Non-Transportation (Stationary)

The closest occupied residential dwellings are located approximately 1,000 feet from the western border of the project site. There are no major stationary sources of noise in the vicinity of the proposed project. Transportation noise sources associated with Interstate 80 would dominate the existing noise environment, as discussed below.

Transportation

The ambient noise environment in the immediate project vicinity is dominated by traffic on Interstate 80. Traffic on Sierra College Boulevard also contributes to the ambient noise environment in the project vicinity, but to a far lesser extent than I-80.

Existing Noise Levels

To determine the existing traffic noise levels adjacent to the local roadways within the project vicinity, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used with the California Vehicle Noise Emission Levels. The FHWA Model is based upon the California Department of Transportation Sound 32 Traffic Noise Prediction Model reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. Traffic volumes and roadway segment information were obtained from LSA Transportation Engineers (see Appendix E).

Table 4.6-4 shows the predicted existing traffic noise levels in terms of the Day/Night Average Level descriptor (Ldn) at a standard distance from the centerlines of the existing immediate project-area roadways for existing conditions, as well as distances to existing traffic noise contours. The extent by which existing land uses in the project vicinity are affected by existing traffic noise depends on their respective proximity to the roadways and their individual sensitivity to noise.

Table 4.6-4: Existing No Project Traffic Noise Levels

Roadway	Segment	Distance[1]	Traffic Noise Level, Ldn (dBA)	Distance to Contours (feet)		
				70 Ldn	65 Ldn	60 Ldn
Sierra College	Brace to Granite	100	61	25	55	118
Sierra College	Granite to WB I-80 Ramps	100	62	27	58	126
Sierra College	EB I-80 Ramps to Dominguez (future intersection)	100	61	26	57	122
Brace Road	East of Sierra College	100	55	10	22	48
Granite Drive	South of Dominguez	100	57	15	31	67
Granite Drive	Dominguez to Sierra College	100	57	14	31	67
Dominguez Road	Pacific to Granite	100	52	7	15	31

[1] Distances are reference distances from centerline or roadway.

4.6.2 Regulatory Setting

To limit population exposure to physically and/or psychologically damaging noise levels, the State of California, various county governments, and most municipalities in the State have established standards and ordinances to control noise. The Rocklin General Plan Noise Element provides standards regarding noise levels for uses relevant to the proposed project. In addition, noise

thresholds can be derived from the CEQA guidelines. The following provides a general overview of the existing regulations which would be pertinent to this project.

State Plans, Policies, Regulations, and Laws

The State of California has adopted noise standards in areas of regulation not preempted by the federal government. State standards regulate noise levels of motor vehicles and freeway noise affecting classrooms, set standards for sound transmission control and occupational noise control, and identify noise insulation standards. The State has also developed land use compatibility guidelines for community noise environments as discussed below.

Title 24 of the California Code of Regulations establishes standards governing interior noise levels that apply to all new multi-family residential units in California. These standards require that acoustical studies be performed before construction at building locations where the existing L_{dn} exceeds 60 dBA. Such acoustical studies are required to establish mitigation measures that will limit maximum L_{dn} levels to 45 dBA in any habitable room. Although there are no generally applicable interior noise standards pertinent to all uses, many communities in California have adopted an L_{dn} of 45 as an upper limit on interior noise in all residential units.

The State of California General Plan Guidelines (State of California 2003), published by the State Governor's Office of Planning and Research (OPR), provides guidance for the acceptability of projects within specific CNEL/L_{dn} contours. Table 4.6-5 presents the City of Rocklin's acceptable and unacceptable community noise exposure limits for various land use categories. Generally, residential uses are considered to be acceptable in areas where exterior noise levels do not exceed 60 dBA CNEL/L_{dn}. Residential uses are normally unacceptable in areas exceeding 70 dBA L_{dn} and conditionally acceptable within 60 to 70 dBA L_{dn} (65-70 dBA Ldn for multi-family residential) Schools are normally acceptable in areas up to 65 dBA CNEL and normally unacceptable in areas exceeding 70 dBA CNEL. Commercial uses are normally acceptable in areas up to 70 dBA CNEL. Between 70 and 75 dBA CNEL, commercial uses are conditionally acceptable. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

Local Plans, Policies, Regulations, and Laws

The City of Rocklin General Plan Noise Element contains quantitative noise level limits for different types of land uses, as shown in Table 4.6-5. The following includes the existing policies, laws, and regulations established in the City of Rocklin General Plan, as applicable to the proposed project.

Goal: To protect residents from health hazards and annoyance associated with excessive noise levels.

- **Policy 1.** To use adopted noise compatibility guidelines to evaluate compatibility of proposed new development.
- **Policy 2.** To require noise analysis of proposed development projects as part of the environmental review process and to require mitigation measures that reduce noise impacts to acceptable levels.

Table 4.6-5: City of Rocklin General Plan Noise Compatibility Guidelines

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Residential – Single Family, Duplex, Mobile Home	<60	60-70	70-75	75+
Residential – Multiple Family	<65	65-70	70-75	75+
Transient Lodging, Motel, Hotel	<65	65-70	70-80	80+
School, Library, Church, Hospital, Nursing Home	<65	65-70	70-80	80+
Auditorium, Concert Hall, Amphitheater		<70		70+
Sports Arenas – Outdoor Spectator Sports		<75		75+
Playground, Neighborhood Park	<70		70-75	75+
Golf Courses, Stable, Water Recreation, Cemetery	<75		75-80	80+
Office Building, Business Commercial and Professional	<70	70-75	75+	
Industrial, Manufacturing, Utilities, Agriculture	<75	75-80	75+	

1 Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
2 New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
3 New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
4 New construction or development should generally not be undertaken.
Source: State of California Governor's Office of Planning and Research 2003

- **Policy 3.** To require noise buffering or insulation in new development along major streets and highways, and along railroad tracks.
- **Policy 4.** To control noise sources in residential areas by restricting truck traffic to designated truck routes.
- **Policy 5.** To monitor noise generating land uses to assure compliance with acceptable noise levels.

- **Policy 6.** To encourage sound mitigation, including but not limited to sound walls, along existing highways where noise is determined to exceed adopted standards.

Method of Analysis

To assess potential construction-, area-, and stationary-source noise impacts, sensitive receptors and potential sensitive receptors and their relative exposure were identified. Noise (and vibration) levels of specific equipment expected to be used in project construction or operation were determined and resultant noise levels at sensitive receptors were calculated assuming documented noise (and vibration) attenuation rates. The FHWA traffic noise prediction model was used to model traffic noise levels along affected roadways, based on the trip distribution estimates obtained from the traffic analysis prepared for this project (LSA 2007), Caltrans, and site reconnaissance data (LSA 2007; J.C. Brennan & Associates, 2008). The project's contribution to the baseline traffic noise levels along area roadways was determined by comparing the predicted noise levels from the centerline of the near travel lane with and without project-generated traffic. The significance of short-term and long-term noise impacts was determined based on comparisons with applicable standards. Mitigation measures along with their relative effectiveness were provided for significant or potentially significant noise impacts.

4.6.3 Thresholds Of Significance

In accordance with CEQA Guidelines Appendix G and the City of Rocklin Noise Element, noise impacts are considered significant if implementation of the proposed project under consideration would result in any of the following:

- Exposure of persons to or generation of noise levels in excess of applicable standards. Specifically, exterior and interior noise levels of 60 dBA L_{dn} and 45 dBA L_{dn}, respectively, for residential uses exposed to noise sources.
- Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, typically defined as 3 dBA or greater.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- Conflict with any policy, law or regulation stated within the City of Rocklin General Plan Noise Element.

4.6.4 Impacts And Mitigation Measures

NOI-1: Construction-Generated Temporary Increases in Ambient Noise Levels: *Construction activities would result in temporary increases in ambient noise levels. However, the nearest*

sensitive receiver on the south side of Interstate 80 is approximately 850 feet from the project site and the nearest sensitive receiver on the north side of Interstate 80 is approximately 1,000 feet from the project site. Both sensitive receivers are not expected to be affected by project related construction noise levels. As such the impacts of the project related to construction-generated temporary increases in ambient noise levels are considered ***less-than-significant.***

Construction at the project site would include site grading, clearing, and excavation associated with the site preparation phase, paving, building construction, and the application of architectural coatings, in addition to other miscellaneous activities. The specific on-site equipment required for construction is not known at this time, but is anticipated to include scrapers, excavators, loaders, backhoes, haul trucks, and other miscellaneous construction equipment. Noise would also be generated during the construction phase by increased truck traffic onsite. A project-generated noise source would include onsite truck traffic associated with the transport of heavy materials and equipment to and from internal construction sites and the movement of heavy construction equipment on the project site.

During the construction phases of the project, noise from construction activities would contribute to the noise environment in the immediate project vicinity. Construction activities would generate maximum noise levels of 85 to 90 dBA Lmax at a distance of 50 feet. The nearest occupied sensitive receptors are located approximately 1,000 feet from the southern project boundary and across Interstate 80. At this distance, these construction related noise levels would range from 65 to 70 dBA Lmax. When averaged over a 24 hour period, the resulting ambient noise levels would be clearly less than 70 dBA Ldn at the nearest noise sensitive land uses in the project vicinity.

Although the City's General Plan Noise Element does not identify a short-term, construction-noise-level threshold, the Noise Compatibility Guidelines included in the Noise Element identify the normally acceptable single-family residential noise level for existing uses as up to 60 dBA Ldn, and the conditionally acceptable single-family residential noise level as up to 70 dBA Ldn. Therefore, the project's short-term construction noise impacts at the nearest existing single family residential receiver would be considered conditionally acceptable under the City's Noise Compatibility Guidelines. The distinction between short-term and long-term noise sources is a typical one in both CEQA documents and local noise ordinances, which generally recognize the reality that short-term noise from construction is inevitable and cannot be mitigated beyond a certain level. Thus, local agencies frequently tolerate short-term noise at levels that they would not accept for permanent noise sources. A more severe approach would be impractical, and might preclude the kind of construction activities that are inevitable from time to time in urban environments. Most residents of urban areas recognize this reality, and expect to hear construction activities on occasion. In addition, the project must comply with the City's Construction Noise Guidelines, including compliance with the hours of construction. According to the City's construction noise guidelines,[1] noise generating construction activities are restricted on weekdays to the hours of 7:00 a.m. to 7:00 p.m., and on weekends from 8:00 a.m. to 7:00 p.m. Due to the short-term nature of the construction noise exposure, the intermittent frequency of construction noise, and the required compliance with the City's Construction Noise Guidelines, the existing receivers are unlikely to experience excessive noise

[1] Rocklin, City of, 2009. Construction Noise Guidelines. http://www.rocklin.ca.gov/government/development/building_n_code_compliance/code_compliance/construction_noise_guidelines.asp. Accessed on April 28, 2009.

levels during project construction. As such, impacts from the project related to construction-generated temporary increases in ambient noise levels are considered ***less–than-significant***.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

NOI-2: Construction Blasting Noise: *If construction activities include blasting, the intermittent noise levels could be considered excessive for adjacent land uses, if the blasting activities are unexpected. As a result, this impact is considered* ***potentially significant.***

Construction at the site could require blasting activities if hard rock areas cannot be easily excavated with typical construction equipment. Blasting activities could generate intermittent noise in excess of the normally acceptable levels identified in the City's Noise Compatibility Guidelines. These blasting noise levels could be considered excessive if they occur during sensitive hours. Therefore, this impact would be considered ***potentially significant***.

Mitigation Measure NOI-2 Construction Blasting Noise

If blasting activities are to occur in conjunction with the improvements, the contractor shall conduct the blasting activities in compliance with state and local regulations. The contractor shall obtain a blasting permit from the City of Rocklin prior to commencing any on-site blasting activities. The permit application shall include a description of the work to be accomplished and a statement of the necessity for blasting as opposed to other methods considered including avoidance of hard rock areas and safety measures to be implemented such as blast blankets. The contractor shall coordinate any blasting activities with Police and Fire Departments to insure proper site access and traffic control, and public notification including media, nearby residents and businesses, as determined appropriate by the Rocklin Police and Fire Departments. Blasting specifications and plans shall include a schedule that outlines the time frame in which blasting will occur in order to limit noise and traffic inconvenience.

Level of Significance after Mitigation

With implementation of the identified mitigation measures, the exposure of residents to high noise levels associated with blasting activities would be minimized. As with other sources of short-term noise events (the use of saws and other equipment at construction sites), CEQA documents and local noise ordinances typically allow greater noise levels from temporary blasting activities than would be acceptable from permanent noise sources. Because certain properties, to support planned urban land uses, cannot be developed without blasting, some level of intermittent noise from blasting is considered an unavoidable aspect of the urban environment in areas where development is coming on-line. A more severe approach would be impractical, and might preclude the kind of construction activities that are inevitable from time to time in urban environments. Here, the time of day restrictions should ensure that noise impacts from blasting would occur when the vast majority of people are awake, and many residents are away at their jobs. For all of these reasons, the project's short-term construction blasting noise impacts would be reduced to a less-than-significant level.

NOI-3: Traffic-Generated Permanent Increases in Ambient Noise Levels: *The proposed project would not result in a noticeable increase in traffic noise levels at off-site sensitive receptors. Therefore, this impact is considered* ***less-than-significant.***

The increase in daily traffic volumes resulting from implementation of the proposed project would generate increased noise levels along nearby roadway segments. To assess noise impacts due to project-related traffic increases on the existing local roadway network, traffic noise levels were predicted at a representative distance for both baseline (all approved future projects) with and without project conditions.

As indicated on Tables 4.6-6 through 4.6-9, the proposed project would not result in traffic noise level increases exceeding 2 dBA on project-area roadways, when compared to no-project conditions. With respect to how humans perceive and react to changes in noise levels, a 2 dBA increase is considered barely perceptible. Therefore, the proposed project would not result in a substantial increase in traffic noise levels at off-site sensitive receptors and this impact would be considered ***less-than-significant***.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

NOI-4: Exposure of Sensitive Receptors to Excessive Stationary- or Area-Source Noise Levels: *The truck deliveries, HVAC equipment, trash pickup, and parking sweeping associated with the proposed project would not generate noise that exceeds the most restrictive daytime and nighttime noise level criteria utilized by the City of Rocklin and as such is* ***less-than-significant.***

To determine noise levels associated with trucks circulating on the project site combined with loading dock activities, noise level data was collected from the Natomas Marketplace in Sacramento, California. The Natomas Marketplace is a large commercial center, and is somewhat larger in size to the proposed project but comparable to the project. Noise measurements were conducted during the morning hours between 7:00 a.m. and 10 a.m. on January 6, 2006. During the noise measurement survey, the primary noise sources associated with the Natomas Marketplace were loading dock activities, heavy and medium delivery trucks circulating on the site, trash compactors, pallet jacks, trash pick-up activities and truck air brakes. During the noise measurement periods, the measured hourly noise levels ranged between 60 dB and 64 dB Leq and between 79 dB and 85 dB Lmax, at a distance of approximately 40 feet from the center of the truck circulation service road.

Based upon the site plan for the proposed project, the nearest occupied residences are a minimum of 1,000 feet from the unloading docks of the nearest proposed buildings. Based upon the noise measurement data, the predicted loading dock and truck circulation noise levels are predicted to be less than 45 dB Leq, and less than 65 dB Lmax at the nearest residences, without accounting for shielding from the proposed building facades. Therefore, the predicted noise levels associated with the loading docks and on-site truck circulation would comply with the most restrictive daytime and nighttime noise level criteria utilized by the City of Rocklin for evaluating on-site noise sources. As such, impacts to noise from the proposed project for area-source noise associated with loading dock activities are ***less-than-significant***.

Table 4.6-6: Predicted Existing and Existing + Project Traffic Noise Levels

			Traffic Noise Levels (Ldn dBA)			Distance to contours (feet) Existing			Distance to contours (feet) Existing + Project		
Roadway	**Segment**	**Distance**	**Existing**	**Existing + Project**	**Change**	**70 Ldn**	**65 Ldn**	**60 Ldn**	**70 Ldn**	**65 Ldn**	**60 Ldn**
Sierra College Blvd.	Brace to Granite	100	61	62	1	25	55	118	31	67	144
Sierra College Blvd.	Granite to WB I-80 Ramps	100	62	63	1	27	58	126	32	69	149
Sierra College Blvd.	EB I-80 Ramps to Dominguez	100	61	62	1	26	57	122	31	66	142
Brace Road	East of Sierra College	100	55	57	2	10	22	48	13	29	62
Granite Drive	South of Dominguez	100	57	58	1	15	31	67	16	34	74
Granite Drive	Dominguez to Project Drive #2 (No Project: Dominguez to Sierra College)	100	57	58	1	14	31	67	16	34	74
Granite Drive	Project Drive #2 to Sierra College	100	-	58	-	-	-	-	15	32	69
Dominguez Road	Pacific to Granite	100	52	53	1	7	15	31	7	15	33

- Indicates that the roadway segment does not contain noise level data under that scenario
Source: J.C. Brennan & Associates 2008

Table 4.6-7: Baseline and Baseline + Project Traffic Noise Levels

			Traffic Noise Levels (Ldn dBA)			Distance to contours (feet) Existing			Distance to contours (feet) Existing + Project		
Roadway	**Segment**	**Distance**	**Baseline**	**Baseline + Project**	**Change**	**70 Ldn**	**65 Ldn**	**60 Ldn**	**70 Ldn**	**65 Ldn**	**60 Ldn**
Sierra College Blvd.	Brace to Granite	100	62	63	1	31	67	145	36	78	169
Sierra College Blvd.	Granite to WB I-80 Ramps	100	63	64	1	36	78	167	40	87	187
Sierra College Blvd.	EB I-80 Ramps to Dominguez	100	63	64	1	36	78	169	40	86	186
Brace Road	East of Sierra College	100	56	58	2	12	26	55	15	32	68
Granite Drive	South of Dominguez	100	58	59	1	17	37	79	18	39	85
Granite Drive	Dominguez to Project Drive #2 (No Project: Dominguez to Sierra College)	100	59	59	0	17	38	81	17	37	81
Granite Drive	Project Drive #2 to Sierra College	100	-	59	-	-	-	-	19	40	87
Dominguez Road	Pacific to Granite	100	53	54	1	8	16	36	8	17	37

- Indicates that the roadway segment does not contain noise level data under that scenario
Source: J.C. Brennan & Associates 2008

Table 4.6-8: Projected 2025 No Project Without and With Dominguez Road Extension Traffic Noise Levels

			Traffic Noise Levels (Ldn dBA)			Distance to contours (feet) Existing			Distance to contours (feet) Existing + Project		
Roadway	**Segment**	**Distance**	**Without**	**With**	**Change**	**70 Ldn**	**65 Ldn**	**60 Ldn**	**70 Ldn**	**65 Ldn**	**60 Ldn**
Sierra College Blvd.	Brace to Granite	100	64	64	0	39	85	182	38	83	178
Sierra College Blvd.	Granite to WB I-80 Ramps	100	64	64	0	42	91	196	40	87	187
Sierra College Blvd.	EB I-80 Ramps to Dominguez	100	65	65	0	45	98	211	43	94	201
Brace Road	East of Sierra College	100	60	60	0	21	44	95	20	44	94
Granite Drive	South of Dominguez	100	60	61	1	23	49	106	25	55	118
Granite Drive	Dominguez to Sierra College	60	60	0	0	23	49	105	22	48	103
Dominguez Road	Pacific to Granite	100	56	58	2	12	25	54	15	33	72
Dominguez Road	Granite to Sierra College	100	-	59	-	-	-	-	18	38	82

- Indicates that the roadway segment does not contain noise level data under that scenario
Source: J.C. Brennan & Associates 2008

Table 4.6-9: Projected 2025 + Project Without and With Dominguez Road Extension Traffic Noise Levels

			Traffic Noise Levels (Ldn dBA)			Distance to contours (feet) Existing			Distance to contours (feet) Existing + Project		
Roadway	**Segment**	**Distance**	**Without**	**With**	**Change**	**70 Ldn**	**65 Ldn**	**60 Ldn**	**70 Ldn**	**65 Ldn**	**60 Ldn**
Sierra College Blvd.	Brace to Granite	100	65	65	0	44	95	204	43	93	200
Sierra College Blvd.	Granite to WB I-80 Ramps	100	65	65	0	46	100	215	44	96	206
Sierra College Blvd.	EB I-80 Ramps to Dominguez	100	65	65	0	49	105	226	47	101	217
Brace Road	East of Sierra College	100	60	60	0	23	49	105	23	49	105
Granite Drive	South of Dominguez	100	61	61	0	24	52	111	26	57	123
Granite Drive	Dominguez to Project Drive #2	100	61	61	0	24	51	111	24	51	109
Granite Drive	Project Drive #2 to Sierra College	100	60	60	0	23	50	108	21	46	98
Dominguez Road	Pacific to Granite	100	56	58	2	12	26	56	16	34	73
Dominguez Road	Granite to Sierra College	100	-	59	-	-	-	-	18	38	82

- Indicates that the roadway segment does not contain noise level data under that scenario
Source: J.C. Brennan & Associates 2008

Removal of solid waste and recyclable materials from the project site would also result in brief periods of elevated ambient noise levels. However, due to the distance from the proposed garbage storage site to the nearest residential land uses, and provided these solid waste removal operations occur during daytime hours, the noise levels associated with these activities would be no greater than that occurring during normal residential solid waste and recycling removal activities in those residential neighborhoods. As a result, noise impacts associated with solid waste removal activities on the project site would be ***less-than-significant***.

Potential noise from parking lot sweepers and other maintenance equipment varies considerably based on the type of equipment used. However, due to the distance from the proposed parking areas to the nearest residential land uses, the noise levels associated with these activities would likely be no greater than existing background noise levels in those residential neighborhoods. Thus, noise impacts from parking lot sweeper and maintenance activities would be ***less-than-significant***.

Potential HVAC equipment noise levels were based upon typical roof-top mechanical plans for a medium sized commercial use consisting of an evaporative condenser and two large air conditioning units. Noise level data for the evaporative condenser is 64 dBA at a distance of 50 feet. The two air conditioning units have a sound power rating of approximately 95 dBA. The overall noise level for each air conditioning unit at 50 feet is expected to be 61 dBA. The cumulative noise level from the HCAC units is expected to be 67 dBA Leq at 50 feet. The nearest occupied sensitive receptor is located approximately 1,000 feet from the project site. The predicted noise levels from HVAC equipment at the nearest sensitive receptors are not expected to exceed 30 dBA. Therefore, the noise levels associated with the HVAC equipment would comply with the most restrictive daytime and nighttime noise level criteria utilized by the City of Rocklin for evaluating on-site noise sources. As such, impacts to noise from the proposed project for stationary noise associated with HVAC equipment is ***less-than-significant***.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

NOI-5: Exposure of Sensitive Uses to Vibration Levels: *The vibration levels generated by the proposed construction activities would not expose persons to excessive vibration levels and the project's operations would not generate any vibration sources. Therefore, this impact is considered* ***less-than-significant.***

Construction activities have the potential to result in varying degrees of temporary ground borne vibration, depending on the specific construction equipment used and operations involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. Table 4.6-10 displays vibration levels for typical construction equipment.

Table 4.6-10: Typical Construction-Equipment Vibration Levels

Equipment	PPV at 25 feet (in/sec)[1]	Approximate L_v at 25 feet[2]
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

[1] Where PPV is the peak particle velocity
[2] Where L_v is the velocity level in decibels (VdB) references to 1 µ inch/second and based on the root mean square (RMS) velocity amplitude.
Source: Federal Transit Administration 2006.

The FTA's construction vibration impact criteria[1] threshold for potential damage from ground borne vibration for buildings of normal construction is 0.2 in/sec PPV. Thus, the nearest occupied sensitive receptor, which is located approximately 1,000 feet from the project boundary, would not be exposed to ground borne vibration levels from construction activities that could result in damage to any existing structures. Therefore, project construction would not be expected to expose offsite sensitive receptors to vibration levels that would be considered excessive. The long-term operation of the proposed project would not include any vibration sources. Thus, short-term construction and long-term operations would not expose people to excessive groundborne vibration levels. Therefore, project-related ground borne vibration impacts would be considered ***less-than-significant***.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

NOI-6: Land Use compatibility with On-Site Noise Levels: *The project would not result in exposure of sensitive land uses to noise levels in excess of the applicable land-use compatibility noise standards. In addition, the project site is not located near an airport and would not expose people to excessive aircraft-generated noise. Therefore, land use compatibility impacts associated with on-site noise levels would be* ***less-than-significant.***

Noise levels within the project site are influenced largely by vehicle traffic on Interstate 80. The compatibility of proposed land uses with respect to vehicle traffic and aircraft noise under the proposed project is discussed below.

The highest measured noise levels on the project site are 63 dBA Ldn (see previous Table 4.6-3). Because the on-site noise levels that the active area of the proposed commercial buildings would be below the 75 dBA Ldn acceptable noise level for the proposed land use, the proposed project would not expose people to noise levels in excess of the applicable standards. This impact would be considered ***less-than-significant***.

The project is not located within 2 miles of an airport land use plan or a public airport, or in the vicinity of an active private airport. The Holsclaw's short take-off and landing airstrip, located

[1] Federal Transit Administration, 2006.*Transit Noise and Vibration Impact Assessment*. May.

parallel to I-80 to the northeast, is the nearest private airstrip, but is inactive. Finally, the proposed project does not involve the sitting of any sensitive land use. Thus, the project would not expose people residing in the project area to excessive noise levels. As a result, no impact is anticipated to occur.

Mitigation Measure

No mitigation measures are required for impacts considered ***less-than-significant***.

4.7 TRANSPORTATION AND CIRCULATION

This section summarizes the results of the traffic report prepared by LSA Associates in January 2009 for the proposed project. Technical peer review of the traffic report was conducted by the traffic engineering firm, DKS Associates, for the City. This analysis examines the traffic impacts expected to result from the addition of vehicle traffic generated by the proposed project on the existing conditions, existing plus approved projects (baseline) conditions (consisting of existing conditions as altered by approved projects in the study area), , and cumulative (year 2025) traffic condition at surrounding intersections and roadway segments. "Approved projects," in this context, are land use projects that have received all discretionary approvals requiring environmental review and infrastructure projects that have received all discretionary approvals requiring environmental review and are fully funded. "Traffic volumes and levels of service (LOS) for year 2025 conditions were determined using the City of Rocklin Traffic Model. The Rocklin traffic analysis model is a detailed version (within Rocklin and surrounding areas) of the Placer County Travel Demand Model. The model has a baseline year of 2001 and a future forecast year of 2025. The model was used in the Rocklin Crossings traffic analysis to analyze the General Plan traffic conditions for the City of Rocklin. The model forecasts traffic for future conditions based on General Plan build-out land uses within the City of Rocklin and takes into account the anticipated traffic growth (based on new development in the region (including Lincoln, Roseville, Penryn, Loomis, Rocklin, and unincorporated Placer County). Potential mitigation measures for facilities significantly impacted by the project are identified in this study.

This analysis has been prepared in consultation with City staff and is consistent with the objectives and methodologies set forth in the City's General Plan Transportation Element and applicable provisions of the CEQA. This analysis also recommends mitigation measures based on the project's effects under the existing plus approved projects and cumulative (2025) scenarios. (See Appendix E for full Traffic Impact Analysis Report.)

4.7.1 Environmental Setting

Study Area

The study area was developed in consultation with the City, based on recent nearby projects, professional judgment, and input on the Notice of Preparation. Of the 21 study area intersections, 7 are located in Rocklin within 0.5 mi from direct access to an interstate freeway. Levels of service will be analyzed at the following study area intersections for the a.m., p.m., and Saturday peak hours for each development scenario. Intersections within 0.5 mi from a freeway access location (where the LOS D standard would apply) are noted with an asterisk (*). All intersections within the Town of Loomis or located in Placer County have an LOS C standard. The jurisdiction of intersections located outside of the City of Rocklin are indicated in parentheses after the intersection name.

- Pacific Street/Rocklin Road
- Granite Drive/Rocklin Road*
- I-80 Westbound ramp/Rocklin Road*
- I-80 Eastbound ramp/Rocklin Road*

- Dominguez Road (Del Mar Avenue)/Pacific Street
- Granite Drive/Dominguez Road
- Sierra College Boulevard/Taylor Road (Loomis)
- Sierra College Boulevard/Brace Road (Loomis)
- Sierra College Boulevard/Granite Drive*
- Sierra College Boulevard/I-80 Westbound Ramp*
- Sierra College Boulevard/I-80 Eastbound Ramp*
- Sierra College Boulevard/Dominguez Road* (Future Intersection)
- Sierra College Boulevard/Rocklin Road
- Horseshoe Bar Road/Taylor Road (Loomis)
- Horseshoe Bar Road/I-80 Westbound Ramp (Loomis)
- Horseshoe Bar Road/I-80 Eastbound Ramp (Loomis)
- Barton Road/Brace Road (Loomis)
- Barton Road/Rocklin Road (Loomis)
- Sierra College Boulevard/King Road (Loomis)
- Sierra College Boulevard/English Colony Way (Placer County)
- Taylor Road/King Road (Loomis)

The following roadway segments were included in the study area. Roadway segments located within 0.5 mi of direct access to an interstate freeway, where LOS D is considered satisfactory, are noted with an asterisk (*).

- Taylor Road between King Road and Horseshoe Bar Road (Loomis)
- Taylor Road between Horseshoe Bar Road and Sierra College Boulevard (Loomis)
- Pacific Street between Sierra College Boulevard and Dominguez Road
- Pacific Street between Dominguez Road and Rocklin Road
- Rocklin Road between Pacific Street and Granite Drive*
- Rocklin Road between I-80 and Sierra College Boulevard*
- Rocklin Road between Sierra College Boulevard and Barton Road (Loomis)
- Barton Road between Rocklin Road and Brace Road (Loomis)
- Horseshoe Bar Road between I-80 and Brace Road (Loomis)
- Brace Road between I-80 and Barton Road (Loomis)
- Brace Road between I-80 and Sierra College Boulevard (Loomis)

- Sierra College Boulevard between English Colony Way and King Road (Placer County)
- Sierra College Boulevard between King Road and Taylor Road (Loomis)
- Sierra College Boulevard between Taylor Road and I-80*
- Sierra College Boulevard between I-80 and Dominguez Road (Future Intersection)*
- Sierra College Boulevard between Dominguez Road (Future Intersection) and Rocklin Road
- Granite Drive between Dominguez Road and Sierra College Boulevard
- Granite Drive between Dominguez Road and Rocklin Road
- Dominguez Road between Taylor Road and Granite Drive
- King Road between Sierra College Boulevard and Taylor Road (Loomis)

Further analysis for a roadway segment where the forecast volumes exceed the daily capacities at LOS C or D includes an analysis of the a.m. and p.m. peak-hour directional volumes. The a.m. and p.m. peak-hour v/c ratios, which are the critical LOS threshold, were evaluated based on per-lane capacity of 1,650 vehicles per hour. The location of the study intersections and study roadway segments are illustrated in Figure 4.7-1 and Figure 4.7-2.

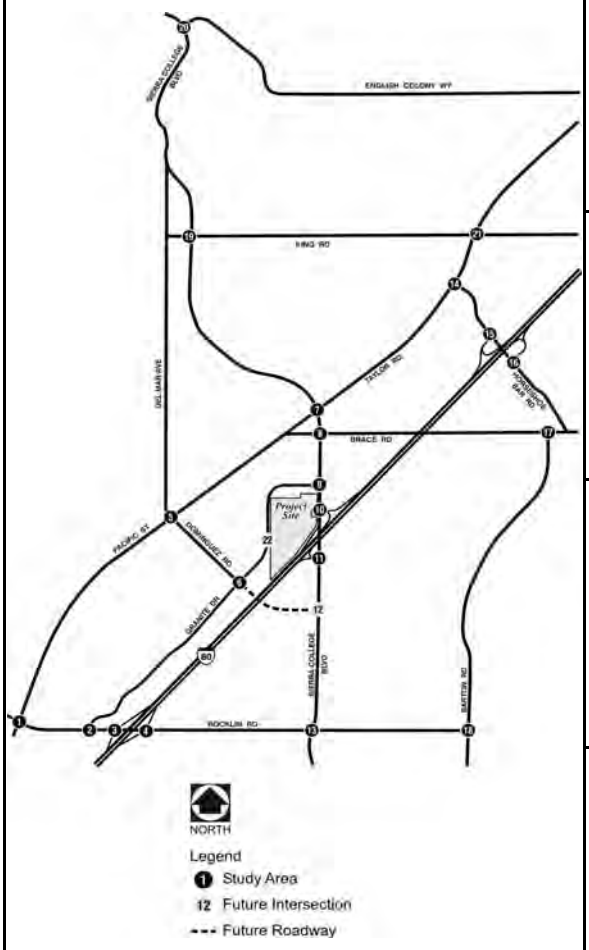
Roadway Network

The existing intersection geometrics and traffic control at study area intersections are illustrated in Figure 4.7-1. The roadways that will provide access to the project are described below:

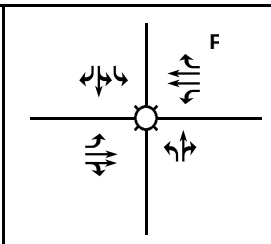
- **Sierra College Boulevard.** Sierra College Boulevard is a north-south roadway that forms the eastern boundary of the project site. This roadway is classified as an Arterial roadway with an ultimate six-lane cross-section in the City's General Plan Circulation Element. Sierra College Boulevard is designated as a Truck Route by the City. Within the study area, Sierra College Boulevard is a two-lane roadway north of Rocklin Road and a four-lane roadway immediately south of Rocklin Road. Based on the Town of Loomis General Plan, Sierra College Boulevard is proposed to have an ultimate cross-section of six lanes between I-80 and Bankhead Road and a four-lane cross-section north of Bankhead Road. Primary access to the project will be provided via one location on Sierra College Boulevard.
- **Granite Drive.** Granite Drive is a four-lane southwest-northeast roadway located west of I-80. Granite Drive is classified as an Arterial in the City General Plan Circulation Element. Granite Drive runs from Rocklin Road in the south and terminates at Sierra College Boulevard just north of the project site. Granite Drive is classified as a Truck Route from Dominguez Road to Sierra College Boulevard. Secondary access to the project will be provided via two locations on Granite Drive.

Other roads in the vicinity of the project are described below:

- **Interstate 80 (I-80).** I-80 is an interstate highway providing interregional access in the vicinity of the project. Throughout the study area, I-80 generally travels in a southwest to northeast direction. Interchanges along I-80 near the project site are provided at Rocklin Road, Sierra

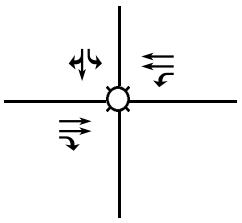


1. Pacific St/Rocklin Rd

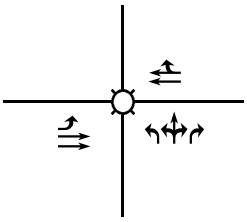


2. Granite Dr/Rocklin Rd

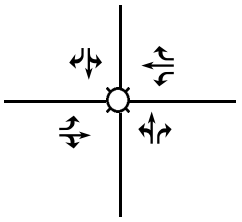
3. I-80 WB Ramp/Rocklin Rd



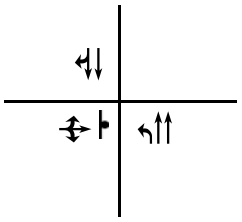
4. I-80 EB Ramp/Rocklin Rd



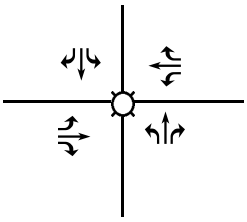
5. Dominguez Rd/Pacific St



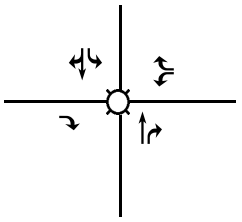
6. Granite Dr/Dominguez Rd



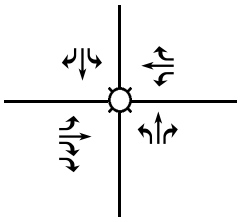
7. Sierra College Blvd/Taylor Rd



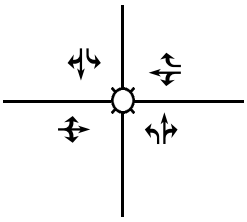
8. Sierra College Blvd/Brace Rd



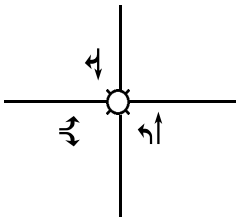
9. Sierra College Blvd/Granite Dr



10. Sierra College/I-80 WB Ramp

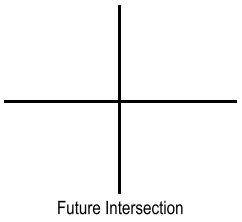


11. Sierra College/I-80 EB Ramp

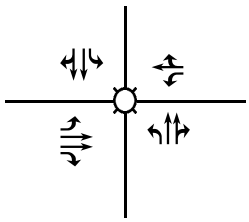


Future Intersection

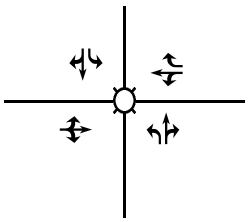
12. Sierra College/Dominguez Rd



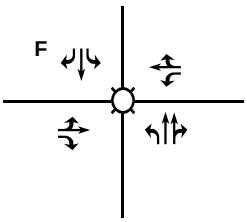
13. Sierra College Blvd/Rocklin Rd



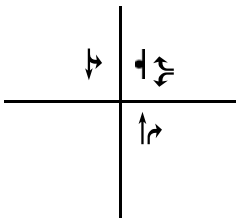
14. Horseshoe Bar Rd/Taylor Rd



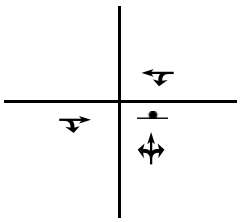
15. Horseshoe Bar/I-80 WB Ramp



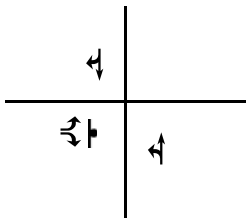
16. Horseshoe Bar/I-80 EB Ramp



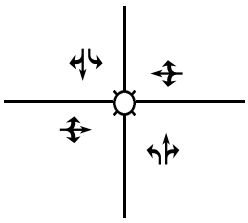
17. Barton Rd/Brace Rd



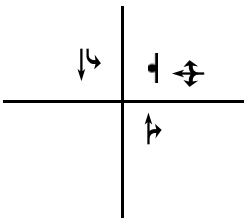
18. Barton Rd/Rocklin Rd



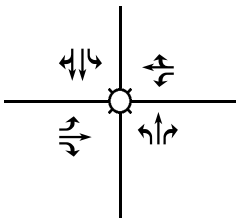
19. Sierra College Blvd/King Rd



20. Sierra College/English Colony Way



21. Taylor Rd/King Rd



Future Intersection

22. Granite Dr/Project Driveway #2

LSA

FIGURE 4.7-1

Legend

Signal

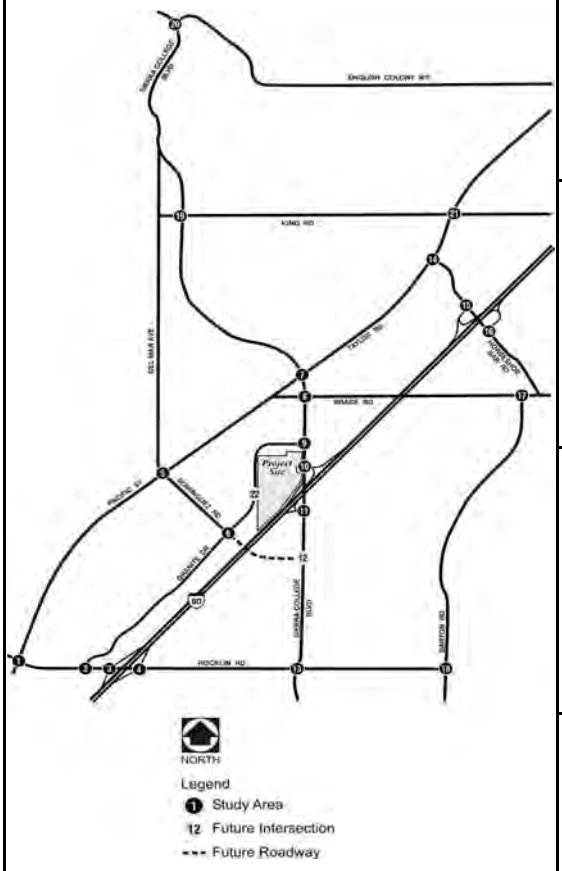
Stop Sign

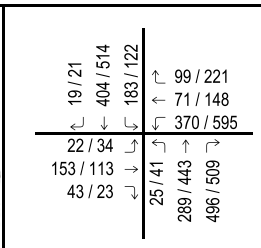
F Free Right Turn

Rocklin Commons

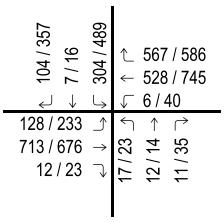
Existing Geometrics and Traffic Control

P:\RCK0801\Graphics\EIR\New 6_2009\Figure4.7-1.ai (06/26/09)

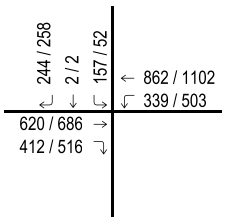




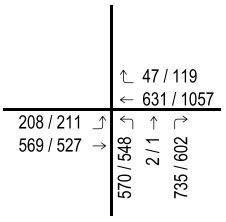
1 Pacific St/Rocklin Rd



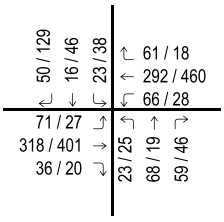
2 Granite Dr/Rocklin Rd



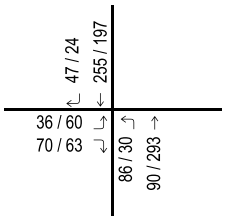
3 I-80 WB Ramp/Rocklin Rd



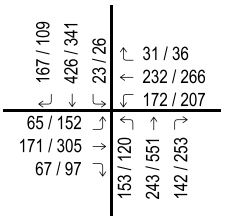
4 I-80 EB Ramp/Rocklin Rd



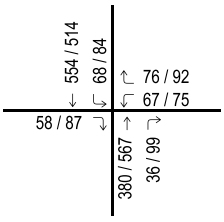
5 Dominguez Rd/Pacific St



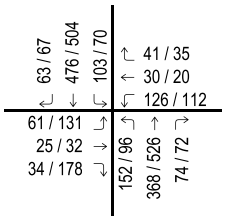
6 Granite Dr/Dominguez Rd



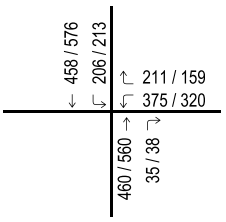
7 Sierra College Blvd/Taylor Rd



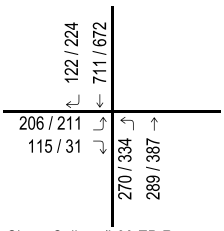
8 Sierra College Blvd/Brace Rd



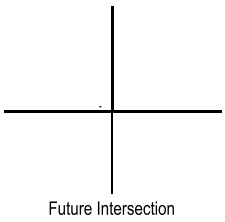
9 Sierra College Blvd/Granite Dr



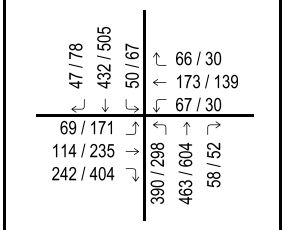
10 Sierra College/I-80 WB Ramp



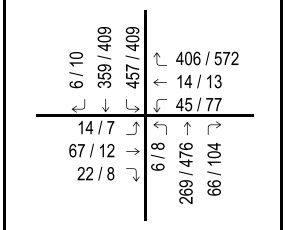
11 Sierra College/I-80 EB Ramp



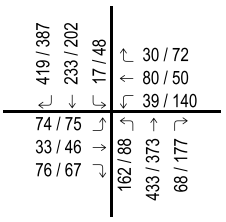
12 Sierra College/Dominguez Rd



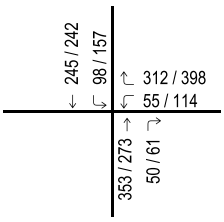
13 Sierra College/Rocklin Rd



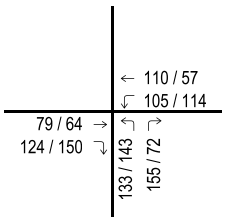
14 Horseshoe Bar Rd/Taylor Rd



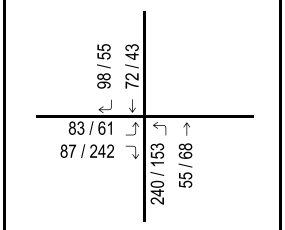
15 Horseshoe Bar/I-80 WB Ramp



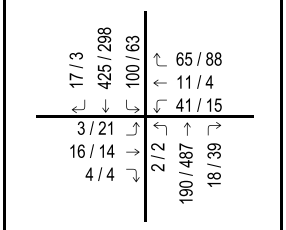
16 Horseshoe Bar/I-80 EB Ramp



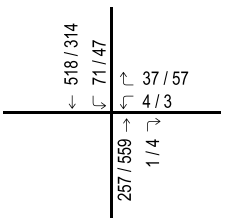
17 Barton Rd/Brace Rd



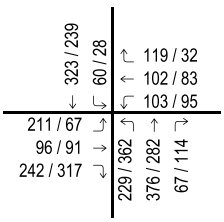
18 Barton Rd/Rocklin Rd



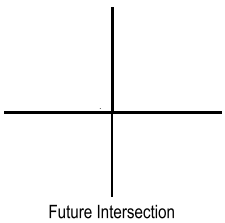
19 Sierra College Blvd/King Rd



20 Sierra College/English Colony



21 Taylor Rd/King Rd



22 Granite Dr/Project Driveway #2

LSA

FIGURE 4.7-2

Rocklin Commons

Existing Peak Hour Traffic Volumes

P:\RCK0801\Graphics\EIR\New 6_2009\Figure4.7-1.ai (06/26/09)

College Boulevard, and Horseshoe Bar Road. Direct access to the project site will be provided from the I-80 westbound ramps at Sierra College Boulevard.

- **State Route 65 (SR-65).** SR-65 provides regional access in the vicinity of the project. SR-65 runs generally northwest from I-80 and joins State Route 70 (SR-70) near the town of Marysville. Near the I-80 connector, SR-65 is a four-lane expressway with interchanges at Galleria Boulevard/Stanford Ranch Road, Pleasant Grove Boulevard, and Blue Oaks Boulevard/Washington Boulevard.
- **Pacific Street.** Pacific Street is a four-lane roadway from the Rocklin/Roseville city limits to Sierra Meadows Drive, and a two-lane roadway north of Sierra Meadows Drive. Pacific Street is classified as an Arterial in the City General Plan Circulation Element and is classified as a Truck Route by the City. This roadway provides travel throughout the entire City limits. Pacific Street becomes Taylor Road east of Sierra College Drive.
- **Rocklin Road.** Rocklin Road is an east-west roadway located south of the project site. West of Sierra College Boulevard, Rocklin Road is a four-lane roadway. Immediately east of Sierra College Boulevard, there are two eastbound and one westbound travel lanes. Farther east, Rocklin Road becomes a two-lane roadway and terminates at Barton Road.
- **Dominguez Road.** Dominguez Road is classified as a Collector roadway on the City's General Plan. North of Pacific Street, Dominguez Road becomes Del Mar Avenue. Dominguez Road/ Del Mar Avenue is currently a two-lane undivided roadway. Currently, Dominguez Road terminates at Granite Drive, west of I-80. Dominguez Road is planned to be extended across I-80 and will terminate at Sierra College Boulevard. The Dominguez Road extension is included in the City's Traffic Impact Fee and Capital Improvement Program (CIP).
- **Brace Road.** Brace Road is a two-lane east-west roadway located north of the project site. This roadway is located within the Town of Loomis.
- **Horseshoe Bar Road.** This roadway is located within the Town of Loomis and provides access to I-80. Horseshoe Bar Road is a two-lane roadway running in a northwest-southeast direction and is located north of the project site.

Existing Sierra College Boulevard I-180 Interchange Reconstruction Project

The construction of the Sierra College Boulevard/I-80 interchange reconstruction project is underway and will be completed prior to the opening of the proposed project. The interchange reconstruction project is currently anticipated to be completed in the spring of 2009. Although this interchange reconstruction project is not part of the proposed project, it will directly affect access to the project site. The Sierra College Boulevard/I-80 interchange project includes the following improvements:

- Reconstruct the I-80 eastbound off-ramp/Sierra College Boulevard intersection approximately 269 feet south of its present location from centerline to centerline. Provide for a separate westbound right turn with direct connector to the eastbound on-ramp.
- Reconstruct the I-80 westbound off-ramp/Sierra College Boulevard intersection approximately 230 feet north of its present location from centerline to centerline.
- Intersections would be signalized and would operate in multi-phases.

- Provide a third northbound through lane on the Sierra College Boulevard segment between the I-80 westbound off-ramp intersection and Granite Drive. With this improvement, the northbound approach at the Sierra College Boulevard/Granite Drive intersection would have one left-turn lane, two through lanes, and one shared through-right turn lane.
- Provide an exclusive eastbound right-turn lane at the I-80 eastbound off-ramp approach to Sierra College Boulevard. With this improvement, the eastbound off-ramp approach at the Sierra College Boulevard/I-80 eastbound ramps intersection would have two left-turn lanes, two through lanes, and one right-turn lane.
- Reconstruct the Sierra College Boulevard overcrossing of I-80 to provide for a new 5-lane overcrossing structure (two southbound lanes and three northbound lanes).
- Widen the inside shoulders on I-80 (both directions of travel) at the new overcrossing to provide 9.8-foot shoulders to the Type 50E Barrier facing the new structure's median columns. This improvement requires shifting the freeway mainline 2.7 feet away from the inside shoulders (both directions of travel) and widening the mainline on the outside for a distance of approximately 1,312 feet.
- Reconstruct both the eastbound and westbound hook on-ramps to I-80 so the ramps would be a free right turn configuration.
- Construct new eastbound and new westbound Sierra College Boulevard direct connecting on-ramps to I-80. Relocate the park-and-ride lot. (See *Sierra College Boulevard/Interstate 80 Interchange Improvement Project Draft EIS/EA*, pp. v, xxvii.)

The main access into Rocklin Commons has been constructed as part of the Sierra College Boulevard overcrossing project and dedicated as a City right-of-way. As a project design feature, the eastbound right-turn lane of the Sierra College Boulevard/I-80 westbound ramps intersection has been constructed with an overlap signal phase. The Sierra College Boulevard/I-80 interchange reconstruction project will be completed in the spring of 2009, prior to the opening of Rocklin Commons. Access to the proposed Rocklin Commons project will be provided via three driveways; one full-access driveway from Sierra College Boulevard at the interchange with I-80 westbound, a second full-access driveway from Granite Drive, and a right-in/left-in/right-out access from Granite Drive. The project driveways along Granite Drive provide an alternative route to access I-80 via Granite Drive to the Rocklin Road/I-80 interchange.

4.7.2 Regulatory Setting

City of Rocklin General Plan

The Circulation Element of the City of Rocklin General Plan (1991) includes the following relevant goal and policies related to traffic and circulation.

Goal: To provide and maintain a safe and efficient system of streets, highways, and public transportation to meet community needs and promote sound land use.

- **Policy 1.** To maintain existing streets in a safe condition and require that new streets be built to City standards.
- **Policy 2.** To ensure that streets and highways will be available to serve new development by requiring detailed traffic studies as a part of all major development proposals.
- **Policy 6:** To promote pedestrian convenience through development conditions requiring sidewalks, walking paths, or hiking trails that connect residential areas with commercial, shopping, and employment centers.
- **Policy 7:** To require landscaping and tree planting along major new streets and highways, and along existing streets as appropriate.
- **Policy 8:** To encourage a variety of building sites, building types, and land use treatments along major streets and highways.
- **Policy 10:** To promote the use of public transit through development conditions requiring park-and-ride lots, bus turnouts and passenger shelters along major streets.
- **Policy 11:** To enforce the transportation system management requirements of the existing ridesharing ordinance.
- **Policy 13:** To maintain a minimum traffic level of service "C" for all streets and intersections, except for intersections located within ½ mile from direct access to an interstate freeway where a level of service "D" will be acceptable. Exceptions may be made for peak hour traffic where not all movements exceed the acceptable level of service.

City of Rocklin Capital Improvement Program

The City's Traffic Impact Fee and Capital Improvement Program (CIP) defines the roadway and intersection improvements needed to maintain the Level of Service (LOS) policy adopted in the City's General Plan. (See Rocklin General Plan Circulation Element, Policy 13.) The City regularly monitors traffic on City streets to include in the City's CIP those improvements needed to maintain an acceptable LOS through the use of traffic fees and other financing mechanisms. The City updated its CIP and traffic impact fees in 2005, and extended the horizon year for the CIP from 2020 to 2025.

On May 22, 2007, the Rocklin City Council adopted Resolution No. 2007-126, increasing the Citywide traffic impact fee based on increased construction costs for all developments within the City. In conjunction with this fee increase, the City also updated its CIP. The updated CIP includes the following improvements in the vicinity of the proposed project:

- widen Rocklin Road to 4-lanes from the Loomis Town limits to east of Sierra College Boulevard;
- widen Rocklin Road to 6-lanes (add 2 lanes) from west of Sierra College Boulevard to I-80 eastbound ramps;
- widen Rocklin Road to 6-lanes from I-80 westbound ramps to west of Granite Drive;
- widen Sierra College Boulevard to 6-lanes (add 2 lanes) from Nightwatch Drive to Aguilar Tributary;

- widen Sierra College Boulevard to 6 lanes from I-80 to south of Taylor Road;
- widen Sierra College Boulevard to 6 lanes from Aguilar tributary to I-80;
- construct a 2-lane extension with bridge over I-80 on Dominguez Road from Granite Drive to Sierra College Boulevard;
- reconstruct the Rocklin Road/I-80 interchange, and
- widen Pacific Street to 4 lanes from Sierra Meadows Drive to Loomis Town limits.

The traffic impact mitigation fee program is one of the various methods that the City of Rocklin uses for financing improvements identified in the Capital Improvement Program (CIP). The CIP, which is overseen by the City's Engineering Division, is updated periodically to assure that growth in the City and surrounding jurisdictions does not degrade the Level of Service on the City's roadways. The roadway improvements that are identified in the CIP in response to anticipated development and population growth are consistent with the City's Circulation Element. The traffic impact fee program collects funds from new development in the City to finance a portion of the roadway improvements that result from traffic generated by new development. Fees are calculated on a citywide basis, differentiated by type of development in relationship to their relative traffic impacts. The intent of the fee is to provide an equitable means of ensuring that future development contributes their fair share of roadway improvements, so that the City's General Plan Circulation policies and quality of life can be maintained.

South Placer Regional Transportation Authority

In January 2002, the cities of Rocklin, Roseville, Lincoln, the County of Placer, and the Placer County Transportation and Planning Agency entered into a Joint Powers Authority (JPA) known as the South Placer Regional Transportation Authority (SPRTA). The JPA was formed for the purpose of implementing a regional transportation and air quality mitigation fee to fund specified regional transportation projects (SPRTA 2007). These improvements include:

- Sierra College Boulevard Widening
- Lincoln Bypass
- Douglas Boulevard/Interstate 80 Interchange
- Placer Parkway
- Transit Projects
- SR-65 Widening
- I-80/Rocklin Road Interchange
- Auburn Folsom Road Widening

The estimated completion date for the above projects will be established after the JPA board of directors establishes their respective priorities. In general, the improvements are expected to be made during the next several years, but the timing of these roadway and transit system projects is ultimately dependent on the collection of the fees necessary to fund them (Raney Planning & Management, Inc. 2006). It should be noted that the Interstate 80 Interchange/Douglas Boulevard project has been completed, the SR-65 Lincoln Bypass is under construction, and some widening of Sierra College Boulevard through the City of Rocklin is expected to occur in the summer of 2009.

Because Sierra College Boulevard would serve as a primary transportation link to the Rocklin Commons project, the improvements related to this roadway included in the JPA are described below:

> Sierra College Boulevard is a major north-south arterial that provides a link from SR-193 in Lincoln to I-80 in Rocklin and on to the Sacramento County line. Sierra College Boulevard traverses Lincoln, unincorporated Placer County, Loomis, Rocklin, and Roseville. The improvements to Sierra College Boulevard would consist of widening the roadway to four or six lanes from SR-193 to the Sacramento County line, excluding improvements to the interchange at Interstate 80, which will be funded by a combination of Rocklin and state funds.

The Sierra College Boulevard segments to be funded or credited by the fee program include:

- Segment 1 - from State Route 193 to the northern city limits of the City of Rocklin. This segment would consist of a four-lane facility.
- Segment 2a - from the northern city limits of the City of Rocklin to the northern boundary of the Town of Loomis. This facility would also be built to four lanes.
- Segment 5 - Interstate 80 to Rocklin Road. This segment would consist of six lanes.
- Segment 6 - Rocklin Road to the southern city limits of the City of Rocklin. This segment would consist of six lanes (Raney Planning & Management, Inc. 2006).

The creation of SPRTA resulted in the establishment of an impact fee schedule for new development in the participating jurisdictions. In the past, the primary source of funding for regional transportation projects in Placer County has been the State Transportation Improvement Program (STIP), which typically falls short of financing current project needs throughout the county. In addition, several jurisdictions in Placer County currently have some form of development fees for local transportation projects, but the County has not had a mechanism to fund large scale or multi-jurisdictional projects. Therefore, with the creation of SPRTA and a list of transportation improvements identified in the JPA, as well as the regional transportation impact fee schedule, the necessary funding for construction of regional improvements (including improvements to Sierra College Boulevard) has been ensured (Raney Planning & Management, Inc. 2006).

Town of Loomis Capital Improvement Plan

In December 2008, the Loomis Town Council adopted an updated five-year Capital Improvement Plan. A Staff Report dated October 21, 2008, from the Loomis Public Works Director/Town Engineer summarized the “Financial and/or Policy Implications” of the updated CIP as follows:

> The Town currently has $322,650 under the development fee account that would cover projects identified in the General Plan Circulation Element. The CIP improvements will be funded by various funding sources. Transportation Development Act money (+/- $300,000 received each year), Gas Tax Funds (currently $43,000), Bickford Ranch Mitigation Funding ($661,000) and General Fund Reserve ($1.5 Million). Staff has CMAQ ($400,000) and RSTP ($119,000) funds reserved and will also look into additional State and Federal funding that applies to these improvements to help off-set costs.

Exhibit A to the October 21, 2008, Staff Report, entitled, "Capital Improvement Program Budget Summary for the Next 5 Years," listed a number of specific improvements and their estimated costs, and identified the year(s), if any, when the improvements were anticipated to be built. The following improvement is relevant to the Rocklin Commons project:

- Sierra College Boulevard Widening Project
- See Table 4.7-1 below for the current Loomis CIP

Existing Conditions At The Rail Crossing With Sierra College Boulevard Just North Of Taylor Road. The rail line running roughly parallel to Pacific Street in the City of Rocklin and Taylor Road in the Town of Loomis is owned by Union Pacific Railroad (UPRR) and is part of the Roseville Subdivision. Amtrak operates two passenger trains on this line. The California Zephyr offers one eastbound and one westbound train daily. The western terminus of this route is Oakland, CA, while the eastern terminus is Chicago, IL. Within the normal variation of Amtrak service, the eastbound train should cross Sierra College Boulevard at 11:25 a.m. each day, and the westbound train should cross at 2:20 p.m. each day. Amtrak (with operational subsidies from the California Department of Transportation) also operates the Capitol Corridor commuter train between San Jose, CA, and Reno, NV. Not all of these commuter trains travel as far north as Rocklin and Loomis. According to the Amtrak website, out of all the commuter trains, only seven eastbound trains and five westbound trains cross Sierra College Boulevard each weekday. This number reduces to four eastbound and four westbound trains on Saturday. No trains are scheduled to cross during the weekday a.m. peak period (7:00 a.m.–9:00 p.m.). Three trains are scheduled to cross during the weekday p.m. peak period (4:00 p.m.–6:00 p.m.). (

Freight service uses this rail line in addition to the regularly scheduled passenger trains. The Burlington Northern Santa Fe (BNSF) railway has track rights and uses this UPRR rail line for some of its freight trips as well. The Federal Railroad Administration Office of Safety Analysis surveyed freight trips along this corridor in 1996 and again in 2001. Those surveys showed that between 8 and 10 freight trains traverse the Roseville Subdivision on an average day. The Federal Railroad Administration Office of Safety Analysis also records accidents involving trains. No accidents were reported at the train crossing on Sierra College Boulevard after 1996. Records do show three accidents in 1977, one accident in 1981, one accident in 1988, and one accident in 1996 in the City of Rocklin.

Table 4.7-1: Town of Loomis Capital Improvement Projects

	Project Title	Project Description	Project Cos	General Fund Reserves	Gas Taxes	TDA	Drainage	Road Circulation	Interchange	Sierra College Blvd	SCB Settlement	Community Facilities	Other Sources
Balances, June 30, 2008				5,308,388	160,570	0	121,988	322,647	1,627,117	32,292	661,345	1,427,579	
For the year ending June 30, 2009													
Revenue	Development fees			(783,000)	132,000	290,000	10,000	30,000	15,000	25,000	10,000	80,000	
	Interest income				3,211	0	2,440	6,453	32,542	646	13,227	28,552	
Expenditures	Annual operations					(150,000)							
	Brace Road Reconstruction	I-80 Bridge to Secret Ravine Bridge	100,000			(100,000)							
	King Road Reconstruction	Bankhead to Sherwood Court	200,000	(150,000)	(10,000)	(40,000)							
	King Road Signalization	King Road at Swetzer	350,000	(64,219)	(285,781)								
Balances, June 30, 2009				4,311,169	0	0	134,428	359,100	1,674,659	57,938	684,572	1,536,131	
For the year ending June 30, 2010													
Revenue	Development fees				132,000	290,000	10,000	30,000	15,000	25,000	10,000	80,000	
	Interest income				0	0	2,689	7,182	33,493	1,159	13,691	30,723	
Expenditures	Annual operations					(150,000)							
	Barton Road Cape Seal	Via Francesco to South Town limit	50,000			(50,000)							
	Barton Road Overlay	Rutherford to Brace	250,000	(160,000)		(90,000)							
	Wells Ave Overlay	Morgan Place to Rickety Rack Rd	150,000	(18,000)	(132,000)								
	Taylor Road Reconstruction	South Town limit to SCB	200,000	(200,000)									
Balances, June 30, 2010				3,933,169	0	0	147,117	396,282	1,723,152	84,097	708,263	1,646,854	
For the year ending June 30, 2011													
Revenue	Development fees				132,000	290,000	10,000	30,000	15,000	25,000	10,000	80,000	
	Interest income				0	0	2,942	7,926	34,463	1,682	14,165	32,937	
Expenditures	Annual operations					(150,000)							
	Brace Road Overlay	SCB to Laird Road	250,000	(150,000)		(100,000)							
	SCB Reconstruction	South Town limit to Brace Road	350,000		(132,000)	(40,000)							(178,000)
	Laird Road Overlay	White Lane to South Town Limit	100,000	(100,000)									
Balances, June 30, 2011				3,683,169	0	0	160,059	434,208	1,772,615	110,779	732,428	1,759,791	
For the year ending June 30, 2012													
Revenue	Development fees				132,000	290,000	10,000	30,000	15,000	25,000	10,000	80,000	
	Interest income				0	0	3,201	8,684	35,452	2,216	14,649	35,196	
Expenditures	Annual operations					(150,000)							
	Horseshoe Bar Road slurry seal	Raley's to east Town Limit	100,000			(100,000)							
	Taylor Road Overlay	SCB to Horseshoe Bar Road	250,000	(150,000)	(60,000)	(40,000)							
	King Road Overlay	SCB to I-80 Bridge and Boyington Rd	550,000	(478,000)	(72,000)								
Balances, June 30, 2012				3,055,169	0	0	173,260	472,892	1,823,067	137,995	757,077	1,874,987	
For the year ending June 30, 2013													
Revenue	Development fees				132,000	290,000	10,000	30,000	15,000	25,000	10,000	80,000	
	Interest income				0	0	3,465	9,458	36,461	2,760	15,142	37,500	
Expenditures	Annual operations					(150,000)							
	Taylor Road signal	At Del Oro High School	350,000	(210,000)		(140,000)							
	Sierra College Blvd Overlay	King Road to North Town Limit	150,000	(28,000)	(122,000)								
	Overlay Projects - Webb street,	Laird St., Angelo Ct, Enterprise Ct., and Rippey Road	150,000	(140,000)	(10,000)								
Balances, June 30, 2013				2,677,169	0	0	186,725	512,350	1,874,528	165,755	782,219	1,992,487	
20 Years ending June 30, 2033													
Revenue	Development fees				2,640,000	5,800,000	200,000	600,000	300,000	500,000	200,000	1,600,000	
	Interest income				0	0	74,700	204,940	749,820	66,300	312,880	797,000	
Expenditures	Annual operations												
Unscheduled Improvements	Horseshoe Bar/I-80 PSR		150,000						(150,000)				
	Right of Way - Multi Modal expansion		1,000,000	(280,000)									(720,000)
	Multi Modal expansion		6,000,000	(6,000,000)									
	Drainage Master Plan		4,200,000	(4,013,275)			(186,725)						
	Sierra College Blvd widening		5,400,000					(512,350)		(165,755)	(782,219)		(3,939,676)
	I-80/King Road Freeway access		unknown										
	General Plan Improvement projects		40,000,000	(31,560,000)	(2,640,000)	(5,800,000)							
	Del Mar Avenue Reconstruction		800,000	(800,000)									
	Bankhead Road Reconstrucion		500,000	(500,000)									
	New Town Hall property acquisition		2,500,000									(2,500,000)	
				(40,476,106)	0	0	274,700	804,940	2,774,348	566,300	512,880	1,889,487	

Source: Loomis Town Council Staff Report Dated December 9, 2008

LSA conducted field observations on two separate days to verify whether any of the 8–10 average daily freight trains and/or the scheduled passenger trains cross Sierra College Boulevard during the peak hours. The railroad crossing at Sierra College Boulevard was surveyed on two nonconsecutive weekdays (Wednesday and Thursday) during the peak hours of traffic conditions along Sierra College Road [both a.m. peak hour (7:00 a.m.–8:00 a.m.) and p.m. peak hour (4:00 p.m.–5:00 p.m.)]. There were no trains during this time period. Hence, there is no impact of train crossings on traffic conditions along Sierra College Boulevard during the a.m. and p.m. peak hours. It was observed that there was a passenger train that crossed Sierra College Boulevard at 6:55 a.m. heading west on Wednesday, and at 6:50 a.m. heading west on Thursday. The railroad crossing gates on Sierra College Boulevard were closed for traffic for 32 seconds, and two vehicles had queued in the northbound direction. There was no queue in the southbound direction, and the vehicles cleared immediately after the gate was opened.

Method Of Analysis

The traffic impact analysis is based on intersection levels of service for the following scenarios:

- Existing
- Existing plus Project
- Existing plus Approved Projects (Baseline)
- Existing plus Approved Projects (Baseline) plus Project

The traffic analysis described below includes the a.m. and p.m. peak hour analysis required by the City. Although typically not required by the City, the traffic analysis evaluates the project's potential impact for a Saturday peak hour scenario. This analysis was performed to determine whether the proposed project would have impacts during the Saturday peak hour that were more significant than those identified for the weekday a.m. and p.m. peak hour scenarios. Consistent with the City requirements, existing plus approved projects was used as the baseline, because that condition best reflects the physical environmental condition in which the project traffic will be added.

Intersection LOS Methodology

Traffix computer software was utilized to determine the levels of service (LOS) at signalized and unsignalized study area intersections based on the Circular 212 "Critical Movement Analysis" (CMA) planning methodology and Highway Capacity Manual (HCM) 2000 Methodology, respectively. HCM 2000 Methodology was utilized to determine the LOS at unsignalized study area intersections and freeway interchange intersections. This methodology is used by California Department of Transportation (Caltrans) for analyzing the intersections it controls and is approved by the City.

The CMA methodology compares the amount of traffic an intersection is able to process (capacity) to the level of traffic during peak hours (volume). The resulting volume-to-capacity ratio (v/c) is expressed in terms of LOS, where LOS A represents free-flow activity and LOS F represents overcapacity operation. The CMA methodology provides a planning level assessment of the traffic volume at an intersection and is used by many cities and agencies within California for the purposes of traffic impact analysis. In addition to the City of Rocklin, some of the cities and agencies that

utilize the Circular 212 CMA methodology include West Sacramento, Fairfield, Roseville, Union City, San Carlos, the Contra Costa Transportation Authority, and the City/County Associations of Governments of San Mateo County. In addition, a number of agencies throughout the state utilize the Intersection Capacity Utilization (ICU) methodology, which is similar to the Circular 212 CMA methodology but does not take into account the effects of signal phasing on the LOS. Utilization of a methodology that calculates v/c ratio has proven to be an accurate method of disclosing traffic impacts of development projects.

As discussed above, the LOS at the unsignalized and signalized (freeway ramp) intersections are calculated using the delay methodology in the 2000 Highway Capacity Manual. This methodology views an intersection as consisting of several lane groups. A lane group is a set of lanes serving a movement. For each lane group there is a capacity which is calculated by multiplying the number of lanes in the lane group multiplied by a theoretical maximum capacity per lane multiplied by twelve adjustment factors. The adjustment factors are peak hour factor, lane adjustment factor, lane width, percent heavy trucks, approach grade, parking, bus stops, area type, right turns, left turns, pedestrian activity and signal progression. Generally a per lane capacity of 1,900 vehicle per hour is used in HCM analysis.

The lane group volume (intersection turning movement volume) and capacity is used to calculate the lane group volume to capacity ratio. Average delay per vehicle can be estimated based on the lane group volume to capacity ratio. The delay per vehicle in a lane group is a function of the traffic signal cycle length, amount of red time for the lane group, amount of yellow time for the lane group and volume to capacity ratio of the lane group and is calculated using a complex formula provided in the 2000 Highway Capacity Manual.

LOS is a qualitative assessment of the quantitative effects of such factors as traffic volume, roadway geometrics, and signal phasing on roadway and intersection operations. LOS criteria for signalized intersections are presented below.

LOS	***Description***
A	No approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized, and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally, drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is attained, no matter how great the demand.

F This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods due to the congestion. In the extreme case, speed can drop to zero.

The relationship between LOS and the volume/capacity ratio for signalized intersections which are analyzed using Circular 212 methodology is as follows:

Level of Service	Volume to Capacity (CMA Methodology)
A	<0.600
B	0.610—0.700
C	0.710—0.800
D	0.810—0.900
E	0.910—1.000
F	>1.000

Because the CMA methodology does not provide an accurate representation of the LOS of an unsignalized intersection, the 2000 Highway Capacity Manual (HCM) methodology has been used to determine intersection levels of service at unsignalized intersections. For the unsignalized HCM methodology, the LOS is presented in terms of total intersection delay (at four-way stop intersections) and approach delay of the major and minor streets (at two-way stop intersections) in seconds per vehicle. The relationship of delay and LOS at unsignalized intersections, which are analyzed using HCM methodology, is summarized below.

Level of Service	Unsignalized Intersection Delay per Vehicle (sec)	Signalized Intersection Delay per Vehicle (sec)
A	≤10.0	≤10.0
B	>10.0 and ≤15.0	>10.0 and ≤20.0
C	>15.0 and ≤25.0	>20.0 and ≤35.0
D	>25.0 and ≤35.0	>35.0 and ≤55.0
E	>35.0 and ≤50.0	>55.0 and ≤80.0
F	>50.0	>80.0

The HCM methodology has also been used to determine LOS at the Caltrans controlled signalized I-80 freeway ramp intersections with Rocklin Road, Sierra College Boulevard, and Horseshoe Bar Road. The HCM method is used by Caltrans for intersections it controls.

Previous environmental documents (Rocklin Crossings) had used the City of Rocklin's methodology (Circular 212 planning) to analyze the freeway ramp intersections. In these previous environmental documents, Circular 212 methodology was applied to the ramp intersection consistent with strict interpretation of City guidelines. Even though the freeway ramp intersections are within the city boundary, they are controlled and operated by Caltrans and any impacts and associated improvements would need to be evaluated using the HCM and therefore in this environmental document the freeway ramp intersections were analyzed applying HCM methodology.

The primary difference between Circular 212 and HCM methodology is that the LOS in Circular 212 method is calculated based on volume to capacity ratio while the LOS in HCM method is based on delay per vehicle. The capacity used in the analysis for Circular 212 planning methodology is in the range of 1,375 to 1,500 vehicles per hour per lane, while the capacity used in the analysis for HCM is 1,900 vehicles per hour per lane. The Circular 212 methodology estimates the LOS by calculating a ratio of traffic volume demand to the capacity of critical movements at an intersection. The HCM methodology estimates the delay per vehicle using a complex formula that takes into account several traffic and intersection characteristics such as lane utilization (to account for not all lanes loading equally), lane width, approach grade, parking, right turns (on shared through right turn lanes), pedestrian activity and signal progression. Due to the above differences, the LOS at an intersection calculated using Circular 212 methodology may be more conservative (i.e., show worse conditions), than the LOS calculated using HCM methodology at the same intersection. The intersections controlled and operated by Caltrans and the unsignalized intersections are evaluated using the HCM methodology and the remaining signalized intersections are evaluated using the Circular 212 methodology.

Roadway Level of Service Methodology

Roadway segment analysis in the project area was also conducted as part of this traffic study. To identify the project's impact on the operating condition of a roadway segment, an LOS ranking scale was used. The LOS is based on peak hour directional traffic demand in a two step process. Initially, average daily traffic (ADT) roadway segment threshold capacities as presented below are calculated to determine if there are any roadway segments which need to be further analyzed in the peak hour.

LOS	Roadway Segment Capacities: Two-Way Average Daily Traffic Volumes						
	Two-Lane Collector	Four-Lane Undivided Arterial	Four-Lane Divided Arterial	Four-Lane Restricted Access Arterial	Six-Lane Divided Arterial	Six-Lane Restricted Access Arterial	Four-Lane Freeway
A	9,000	18,000	20,250	21,600	30,315	30,315	37,600
B	10,700	21,300	23,625	25,200	36,000	36,000	52,800
C	12,000	24,000	27,000	28,800	40,500	40,500	68,000
D	13,500	27,000	30,375	32,400	45,560	45,560	76,000
E	15,000	30,000	33,750	36,000	50,525	50,525	80,000

The LOS E capacity shown in the above table represents an approximation of the number of vehicles that the roadway can comfortably carry on a daily basis before it is considered to be at capacity. If the ADT on a roadway segment exceeds the LOS E capacity, then the daily LOS of the roadway is considered to be LOS F. It is important to note that an ADT capacity must assume several critical characteristics of traffic, including the percentage of daily traffic in the peak hour and the directional split within that peak hour. Actual characteristics of a specific roadway can significantly influence the daily capacity as described below. To calculate the daily LOS for each roadway segment, the ADT on each segment was divided by the capacity of the segment (the LOS E capacity as shown in the above table) to determine the daily v/c ratio for each roadway segment.

The daily LOS, as described above, is a planning-level tool that is generally used to determine the overall cross-sections of roadways within a circulation network. While it can provide a preliminary indication during the planning process of whether the existing or forecast volumes would be accommodated within the existing or future roadway width, it does not provide an accurate representation of the actual operation of the roadway especially during the peak hours of the day. This is because traffic along a roadway segment will be highest during the peak commute hours. As a result, if traffic operations are satisfactory during the peak hour, when traffic volumes are highest, then the segment will also operate at satisfactory LOS during the remaining off-peak hours of the day. For the roadway segment analysis, the peak hour directional volume to capacity ratio is the critical LOS threshold and if the peak-hour capacity is exceeded, the segment is considered to be operating at an unsatisfactory LOS. A capacity of 1,650 vehicles per hour per lane was used to evaluate the peak hour volume to capacity ratio. The capacity (1,650) is an average of per lane capacity used in Circular 212 methodology (1,400) and per lane capacity used in the HCM methodology (1,900). The volume to capacity ratio was compared to the values in the table below to determine the peak hour LOS for each roadway segment.

Level of Service	Volume to Capacity Ratio
A	< 0.600
B	0.610–0.700
C	0.710–0.800
D	0.810–0.900
E	0.910–1.000
F	> 1.000

Freeway LOS Methodology. As described in Chapter 13 (Freeway Concepts) of the *HCM*, the freeway was divided into segments for purposes of this analysis. Peak-hour volumes on basic segments were analyzed using the methodology contained in *HCM* Chapter 23 (Basic Freeway Segments), with calculations performed using the Highway Capacity Software Plus (HCS Plus, Version 5.2). Level of service on freeway mainline is determined by the density of vehicles on the segment. The table below shows the LOS criteria for freeway segments.

Level of Service	Density (passenger car/mile/lane) for Basic Freeway Segments
A	≤ 11
B	> 11 and ≤ 18
C	> 18 and ≤ 26
D	> 26 and ≤ 35
E	>35 and ≤ 45
F	> 45

The Caltrans LOS standard for their facilities is LOS E. If a freeway segment is already operating at an unsatisfactory level of service (over LOS E), and if the project adds 5 percent or more traffic, then it would be considered a measurable worsening of the freeway operations and therefore would constitute a significant project impact.

Existing Traffic Volumes

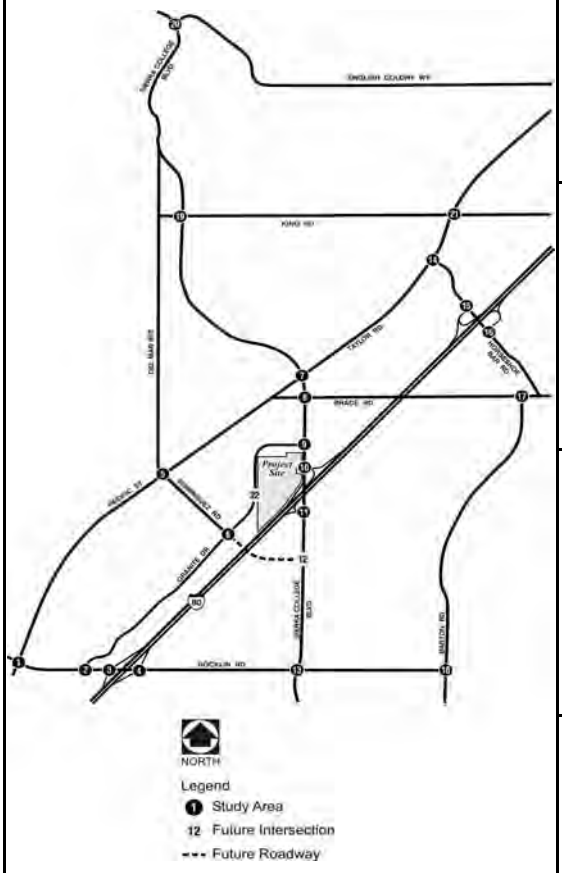
Existing traffic counts at the 21 study intersections were collected in October 2006 (a.m. and p.m. peak hours) and September 2006 (Saturday peak hour). These counts were taken during a nonholiday (excluding summer and winter break) period when schools were in session and therefore include the traffic generated by Sierra College and all schools within the study area. The City of Rocklin collected traffic counts in April 2008 at major intersections within the City. Ten of the intersections counted in April 2008 were also Rocklin Commons study area intersections. A comparison between the 2006 volumes and 2008 volumes revealed that traffic was lower in 2008 at 8 of the 10 common intersections. Only the I-80/Rocklin Road interchange intersections (I-80 westbound ramp/Rocklin Road and I-80 eastbound ramp/Rocklin Road) had higher volumes in 2008, and those volumes were higher by only 1 percent. It is likely that these intersections experienced more traffic due to construction at the Sierra College Boulevard/I-80 ramp intersections and not because of ambient traffic growth. Traffic counts taken in 2006 are generally higher and provide a conservative basis for traffic analysis of study intersections. Hence, the intersection analysis was performed using the October 2006 (a.m. and p.m. peak hour) counts. The existing a.m. and p.m. peak-hour and Saturday peak-hour traffic volumes are illustrated in Figure 4.7-3 and are available in Appendix E.

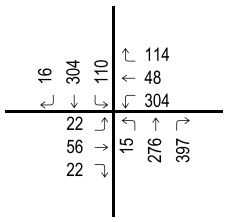
Existing Levels of Service

Levels of service at study area intersections and roadway segments were calculated for the existing conditions and are summarized in Tables 4.7-2 and 4.7-3. The existing LOS worksheets are provided in Appendix E.

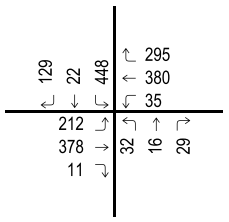
As shown in Table 4.7-2, the following three intersections are operating at an unsatisfactory LOS in the existing condition, based on each individual jurisdiction's LOS policy.

- Rocklin Road/Pacific Street
- Sierra College Boulevard/Taylor Road (Loomis)
- Horseshoe Bar Road/Taylor Road (Loomis)

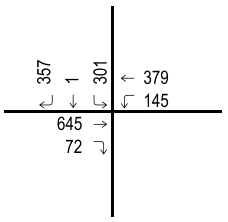




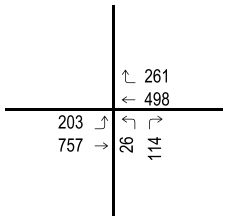
1 Pacific St/Rocklin Rd



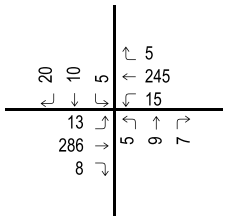
2 Granite Dr/Rocklin Rd



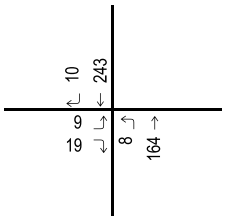
3 I-80 WB Ramp/Rocklin Rd



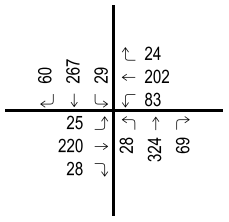
4 I-80 EB Ramp/Rocklin Rd



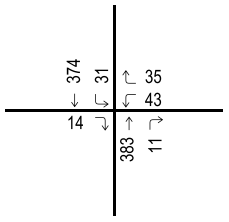
5 Dominguez Rd/Pacific St



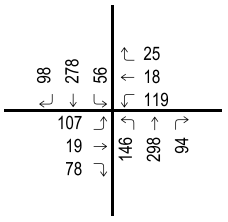
6 Granite Dr/Dominguez Rd



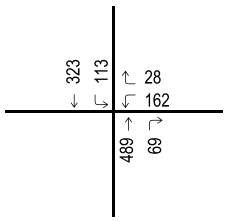
7 Sierra College Blvd/Taylor Rd



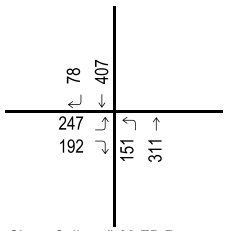
8 Sierra College Blvd/Brace Rd



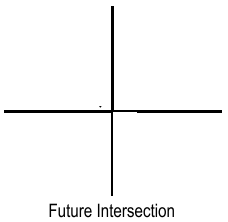
9 Sierra College Blvd/Granite Dr



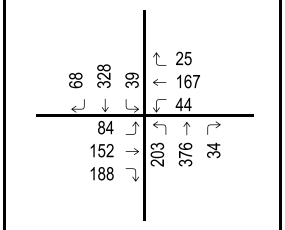
10 Sierra College/I-80 WB Ramp



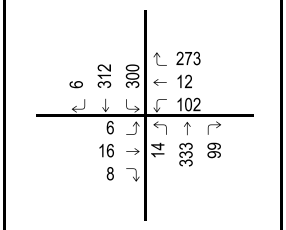
11 Sierra College/I-80 EB Ramp


Future Intersection

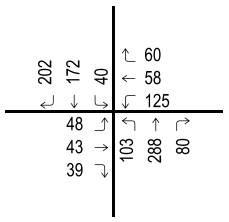
12 Sierra College/Dominguez Rd



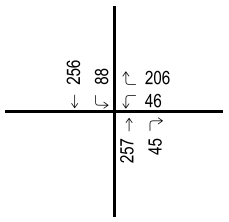
13 Sierra College/Rocklin Rd



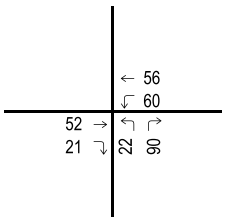
14 Horseshoe Bar Rd/Taylor Rd



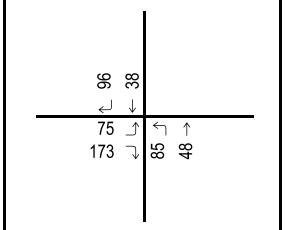
15 Horseshoe Bar/I-80 WB Ramp



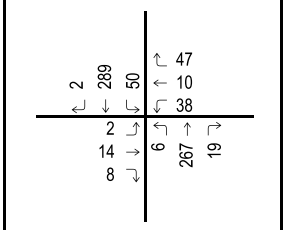
16 Horseshoe Bar/I-80 EB Ramp



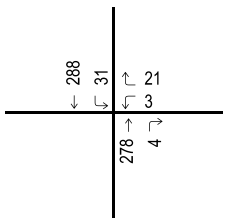
17 Barton Rd/Brace Rd



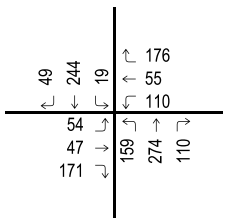
18 Barton Rd/Rocklin Rd



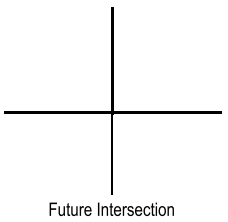
19 Sierra College Blvd/King Rd



20 Sierra College/English Colony



21 Taylor Rd/King Rd


Future Intersection

22 Granite Dr/Project Driveway #2

LSA

FIGURE 4.7-3

Rocklin Commons

Existing Saturday Peak Hour Traffic Volumes

P:\RCK0801\Graphics\EIR\New 6_2009\Figure4.7-2.ai (06/26/09)

Table 4.7-2: Existing Peak Hour Intersection Levels of Service Summary

Intersection		Control Type	Existing Condition					
			AM Peak Hour		PM Peak Hour		Saturday	
			V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS
1	Rocklin Road/Pacific Street [1]	Signalized	0.881	D	0.850	D	0.544	A
2	Rocklin Road/Granite Drive	Signalized	0.467	A	0.785	C	0.543	A
3	Rocklin Road/I-80 Westbound Ramps	Signalized	21.8 sec	C	22.4 sec	C	23.2 sec	C
4	Rocklin Road/I-80 Eastbound Ramps	Signalized	28.0 sec	C	26.2 sec	C	12.5 sec	B
5	Dominguez Road/Pacific Street [1]	Signalized	0.408	A	0.465	A	0.255	A
6	Dominguez Road/Granite Drive [1]	Unsignalized	11.7 sec	B	11.9 sec	B	9.9 sec	A
7	Sierra College Boulevard/Taylor Road [1] (Loomis)	Signalized	0.737	C	0.873	D	0.508	A
8	Sierra College Boulevard/Brace Road [1] (Loomis)	Signalized	0.509	A	0.604	B	0.341	A
9	Sierra College Boulevard/Granite Drive	Signalized	0.625	B	0.644	B	0.461	A
10	Sierra College Boulevard/I-80 Westbound Ramps	Signalized	27.0 sec	C	24.4 sec	C	17.3 sec	B
11	Sierra College Boulevard/I-80 Eastbound Ramps	Signalized	31.0 sec	C	33.5 sec	C	23.3 sec	C
12	Sierra College Boulevard/Dominguez Road	-	-	-	-	-	-	-
13	Sierra College Boulevard/Rocklin Road [1]	Signalized	0.710	C	0.792	C	0.532	A
14	Horseshoe Bar Road/Taylor Road [1] (Loomis)	Signalized	0.920	E	1.098	F	0.688	B
15	Horseshoe Bar Road/I-80 Westbound Ramps [1] (Loomis)	Signalized	20.0 sec	C	20.9 sec	C	22.3 sec	C
16	Horseshoe Bar Road/I-80 Eastbound Ramps [1] (Loomis)	Unsignalized	16.4 sec	C	18.3 sec	C	12.1 sec	B
17	Barton Road/Brace Road [1] (Loomis)	Unsignalized	16.1 sec	C	15.0 sec	C	9.5 sec	A
18	Barton Road/Rocklin Road [1] (Loomis)	Unsignalized	15.6 sec	C	10.9 sec	B	10.2 sec	B

Intersection		Control Type	Existing Condition					
			AM Peak Hour		PM Peak Hour		Saturday	
			V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS
19	Sierra College Boulevard/King Road [1] (Loomis)	Signalized	0.436	A	0.525	A	0.331	A
20	Sierra College Boulevard/English Colony Way [1] (Placer County)	Unsignalized	10.9 sec	B	13.4 sec	B	10.5 sec	B
21	Taylor Road/King Road [1] (Loomis)	Signalized	0.760	C	0.722	C	0.489	A
22	Granite Drive/Project Driveway #2	-	-	-	-	-	-	-

Notes:

ICU critical V/C ratio is used for signalized intersections. HCM delay in seconds is used for unsignalized intersections.

[1] LOS C required for these intersections. LOS D acceptable for all other intersections.

☐ Exceeds level of service criteria

Table 4.7-3: Existing Daily Roadway Segment Level of Service Summary

Roadway	Segment	Configuration	Capacity	Weekday			Saturday		
				Volume	V/C	LOS	Volume	V/C	LOS
Taylor Road	King Road and Horseshoe Bar Road [1] (Loomis)	Two-lane Collector	15,000	17,060	1.14	F	11,370	0.76	C
	Horseshoe Bar Road and Sierra College Boulevard[1] (Loomis)	Two-lane Collector	15,000	10,673	0.71	B	3,500	0.23	A
	Sierra College Boulevard and City Limits [1] (Loomis)	Two-lane Collector	15,000	11,578	0.77	C	5,880	0.39	A
Pacific Street	City Limits and Dominguez Road [1]	Two-lane Collector	15,000	11,578	0.77	C	5,880	0.39	A
	Dominguez Road and Rocklin Road [1]	Four-lane Undivided Arterial	30,000	15,889	0.53	A	6,820	0.23	A
Rocklin Road	Pacific Street and Granite Drive	Four-lane Undivided Arterial	30,000	21,211	0.71	B	11,040	0.37	A
	I-80 and Sierra College Boulevard	Four-lane Undivided Arterial	30,000	9,989	0.33	A	13,090	0.44	A
	Sierra College Boulevard and Barton Road [1] (Loomis)	Two-lane Collector	15,000	5,176	0.35	A	4,060	0.27	A
Barton Road	Rocklin Road and Brace Road [1] (Loomis)	Two-lane Collector	15,000	3,354	0.22	A	2,040	0.14	A
Horseshoe Bar Road	I-80 and Brace Road [1] (Loomis)	Two-lane Collector	15,000	6,101	0.41	A	6,460	0.43	A
Brace Road	I-80 and Barton Road [1] (Loomis)	Two-lane Collector	15,000	4,006	0.27	A	1,940	0.13	A
	I-80 and Sierra College Boulevard [1] (Loomis)	Two-lane Collector	15,000	3,408	0.23	A	560	0.04	A
Sierra College Boulevard	English Colony Way and King Road [1] (Placer County)	Two-lane Collector	15,000	9,600	0.64	B	6,570	0.44	A
	King Road and Taylor Road [1] (Loomis)	Two-lane Collector	15,000	10,560	0.70	B	7,080	0.47	A
	Taylor Road and I-80	Two-lane Collector	15,000	17,566	1.17	F	8,610	0.57	A
	I-80 and Dominguez Road [2]	Two-lane Collector	15,000	13,275	0.88	D	10,400	0.69	B

Roadway	Segment	Configuration	Capacity	Weekday			Saturday		
				Volume	V/C	LOS	Volume	V/C	LOS
	Dominguez Road [2] and Rocklin Road [1]	Two-lane Collector	15,000	13,275	0.88	D	10,840	0.72	C
Granite Drive	Dominguez Road and Sierra College Boulevard [1]	Four-lane Undivided Arterial	30,000	6,178	0.21	A	4,350	0.15	A
	Dominguez Road and Rocklin Road [1]	Four-lane Undivided Arterial	30,000	8,258	0.28	A	7,850	0.26	A
Dominguez Road	Taylor Road and Granite Drive [1]	Two-lane Collector	15,000	2,382	0.16	A	510	0.03	A
King Road	Sierra College Boulevard and Taylor Road [1] (Loomis)	Two-lane Collector	15,000	5,610	0.37	A	3,460	0.23	A

Notes:
[1] LOS C required for these segments. LOS D acceptable for all other segments.

[2] Proposed location of the future extension of Dominguez Road.

☐ Exceeds level of service criteria

As shown in Table 4.7-3, all but three roadway segments currently operate with satisfactory LOS, per City guidelines. The following roadway segments may be operating at unsatisfactory LOS:

- Taylor Road between King Road and Horseshoe Bar Road (Loomis)
- Sierra College Boulevard between Taylor Road and I-80
- Sierra College Boulevard between Dominguez Road and Rocklin Road

4.7.3 Thresholds Of Significance

City of Rocklin
Policy 13 of the City of Rocklin General Plan Circulation Element states that the City strives "to maintain a minimum traffic level of service 'C' for all streets and intersections, except for intersections located within ½ mile from direct access to an interstate freeway where a level of service 'D' will be acceptable." Policy 13 further provides that "[e]xceptions may be made for peak hour traffic where not all movements exceed the acceptable level of service." Mitigation is required for any intersection or roadway segment where project traffic causes the intersection to deteriorate from satisfactory to unsatisfactory operation.

Based on the City's significance threshold, if an intersection or roadway segment is already operating at an unsatisfactory level of service, an increase of 5 percent (addition of 0.05) to the v/c ratio would be considered a measurable worsening of the roadway or intersection operations and therefore would constitute a significant project impact. If an unsignalized intersection is already operating at unsatisfactory LOS D (LOS E within 0.5 mile of the freeway access), then the addition of more than 5 percent of the total traffic at the intersection would be considered a significant project impact. Similarly if a signalized ramp intersection which is analyzed using HCM methodology is already operating at unsatisfactory LOS E, then the addition of more than 5 percent of the total traffic at the intersection would be considered a significant project impact. The City has determined, based on the expert opinions of the City's traffic consultants and the City's traffic engineering staff that a 5 percent threshold is appropriate in determining that a measurable adverse change has occurred to an intersection. This threshold applies even where project traffic will be added to existing or projected conditions that are already unacceptable or are projected to be unacceptable under cumulative conditions even without the project. To mitigate a significant impact at an intersection over the LOS threshold the project's direct incremental impact must be mitigated.

The City does not subscribe to the notion that, where existing conditions or projected cumulative conditions are already bad or will be bad even without the project, any additional traffic from the project represents a significant impact or a cumulatively considerable contribution to a significant cumulative impact. The City's rejection of this notion reflects the nature of traffic impacts, compared with other categories of environmental impact, which often involve public health or ecological concerns. Worsened congestion might cause irritation or inconvenience to people, but not any adverse effects on public health or ecosystems. Thus, while the addition of relatively small amounts of air pollution in a polluted air basin might worsen the adverse health effects of air pollution, no similar health effects result from additional congestion. Similarly, while the loss of relatively small amounts of the habitat of an endangered or threatened species might cause ecological consequences of note,

worsened congestion has no such consequences to biological resources. In fact, "mitigation" for traffic impacts often has its own adverse consequences on biological resources (i.e., road widening often removes habitat areas). In short, the City does not believe that a "one car" threshold of significance for impacts on already-congested transportation facilities is either practical or desirable from a policy standpoint. Nor is such an approach mandated by CEQA or CEQA case law. While the 0.05 threshold, by allowing small amounts of traffic without triggering additional mitigation, might require drivers to endure minor additional delays during peak periods, this purely human inconveniences is not, in the City's view, a "significant effect on the environment."

California Department of Transportation
The California Department of Transportation assumes that project traffic increases that cause the freeway level of service to deteriorate beyond LOS E are significant.

The Town of Loomis
The Town of Loomis General Plan Circulation Element (2001) includes the following level of service policy:

> In order to minimize congestion, maintain Level of Service C on all roads and intersections within the Town of Loomis. Level of Service D may be allowed in conjunction with development approved within the Town as an exception to this standard, at the intersections of King and Taylor, Horseshoe Bar Road and Taylor, Horseshoe Bar Road and Interstate 80, Sierra College and Brace Road, and Webb and Taylor, when:
>
> 1. The deficiency is substantially caused by "through" traffic, which neither begins nor ends in Loomis, and is primarily generated by non-residents; or
> 2. The deficiency will be temporary (less than three years), and a fully-funded plan is in place to provide the improvements needed to remedy the substandard condition.

In the Environmental Impact Report the Town of Loomis prepared for the Town of Loomis General Plan, the Town required an increase of 5 percent (addition of 0.05) to the v/c ratio for roadway segments already operating at an unsatisfactory level of service before it found a significant project impact. In other words, the Town followed the same approach described above in the discussion of the City's thresholds of significance.

When the City of Rocklin was preparing the traffic analysis for the recently approved Rocklin Crossings project, the City's traffic consultants contacted the Town of Loomis to clarify the significance criteria that should be applied to intersections that currently operate in excess of the Town's LOS C and D thresholds. At that time, Town staff requested that the same significance criteria be applied to Loomis intersections as applied in the City of Rocklin. Based on (i) the professional judgment of the City's consultants and staff, (ii) the approach the Town took in its own General Plan EIR, and (iii) this past communication with Town staff, this EIR concludes that, if an intersection in the Town of Loomis is already operating at an unsatisfactory level of service, an increase of 5 percent (addition of 0.05) or more to the v/c ratio would constitute a significant project impact.

Placer County
The Placer County General Plan (1994) includes the following adopted minimum LOS standards:

- LOS "C" on rural roadways, except within one-half mile of state highways where the standard shall be LOS "D".
- LOS "C" on urban/suburban roadways except within one-half mile of state highways where the standard shall be LOS "D".

The County may allow exceptions to these LOS standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria. In allowing any exception to the standards, the County shall consider the following factors:

- The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.
- The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.
- The right-of-way needs and the physical impacts on surrounding properties.
- The visual aesthetics of the required improvement and its impact on community identity and character.
- Environmental impacts including air quality and noise impacts.
- Construction and right-of-way acquisition costs.
- The impacts on general safety.
- The impacts of the required construction phasing and traffic maintenance.
- The impacts on quality of life as perceived by residents.
- Consideration of other environmental, social, or economic factors on which the County may base findings to allow an exceedance of the standards.

Exceptions to the standards will only be allowed after all feasible measures and options are explored, including alternative forms of transportation.
Based on Appendix G of the CEQA Guidelines, the City has determined that a project would result in a significant effect on the environment if it would:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- Exceed, either individually or cumulatively, a level of service (LOS) standard established by the City, the Town of Loomis, Placer County or the California Department of Transportation;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses;

- Result in inadequate emergency access;
- Result in inadequate parking capacity; or
- Conflict with adopted policies, plans, or program supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Project Trip Generation and Distribution. The proposed project is a regional shopping center with a maximum 415,000 sf of retail/commercial use, including a 159,170 sf major tenant. An estimation of the number of vehicle trips was generated for the site using the trip rates from the Institute of Transportation Engineers (ITE) *Trip Generation*, 7th Edition. As indicated in Table 4.7-3, the project is forecasted to generate 15,414 daily trips, 331 a.m. peak-hour trips, 1,441 p.m. peak-hour trips, and 1,965 Saturday mid-day peak-hour trips.

Many of the trips generated by a retail shopping center such as the Rocklin Commons project would be pass-by trips, or trips whose primary destination is not the shopping center. These would include trips such as a work-to-home trip that stops at a retail center on the way. These trips would not be new trips generated by the project; rather, they are trips that are already on the roadway network that would make a stopover at the proposed shopping center. ITE's *Trip Generation Handbook* (2004) provides estimates of pass-by trip percentages for various types of land uses. The *Trip Generation Handbook* estimates pass-by trips to vary between 8 percent and 89 percent for the land uses shown in Table 4.7-4. Rather than apply the more aggressive trip reduction of 8 to 89 percent, a conservative estimate of 10 percent average pass-by trip reduction rate was applied to the trip generated by the entire retail center. It should also be noted that these pass-by trips are fully accounted for at the project access locations.

Projected trips were distributed throughout the study area using the City's traffic analysis model. The select zone model assignments for the proposed project were used to obtain the trip distribution. The regional trip distribution percentages from the traffic model and the resulting project trips at each intersection are illustrated in Figures 4.7-4 and 4.7-5. It should be noted that the distribution percentages shown in the figures are the generalized distribution for illustration only and do not reflect all project trips that may be destined within the study area. This interaction between land uses in the study area is reflected in the actual trip assignment volumes. It should also be noted that the land uses in the traffic model are generic commercial/retail uses and do not necessarily reflect characteristics of specific retailers. This is appropriate because retailers on any given site can change over time.

Table 4.7-4: Rocklin Commons Trip Generation

Land Use	Size	Units	ADT	A.M. Peak Hour			P.M. Peak Hour			Saturday		
				In	Out	Total	In	Out	Total	In	Out	Total
Shopping Center	415.000	TSF										
Trip Rate [1,2]			41.27	0.54	0.35	0.89	1.85	2.01	3.86	2.74	2.52	5.26
Trip Generation			17,126	224	143	368	769	833	1,601	1,135	1,048	2,183
Total Site Gross Trips			17,126	224	143	368	769	833	1,601	1,135	1,048	2,183
Total Site Pass-by Trips [3]	10.0%		-1713	-22	-14	-37	-77	-83	-160	-114	-105	-218
Total Site Trip Generation	**415.000**	**TSF**	**15,414**	**202**	**129**	**331**	**692**	**749**	**1,441**	**1,022**	**943**	**1,965**

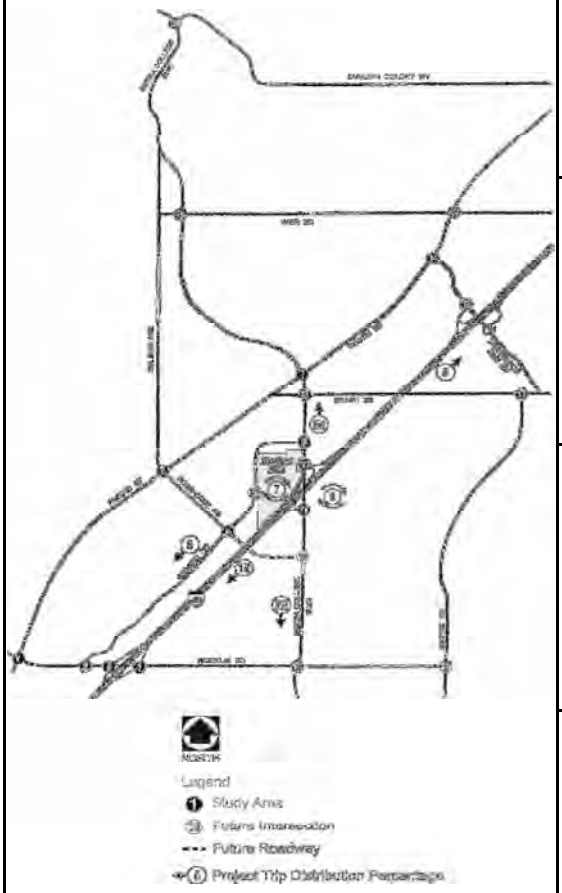
Note: volumes shown rounded to nearest integer

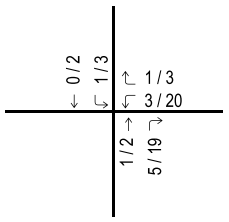
1 Average rate derived from total site generation (415 TSF) using fitted curve equations for Land Use 820 - Shopping Center from *ITE Trip Generation (7th Edition)*

2 ADT: Ln(T) = 0.65 Ln(X) + 5.83; AM: Ln(T) = 0.60 Ln(X) + 2.29; PM: Ln(T) = 0.66 Ln(X) +3.40; Saturday: Ln(T) = 0.65 Ln(X) + 3.77

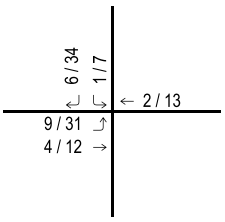
3 Pass-by trip percentages from *ITE Trip Generation Handbook, 2004* vary between 8% and 89% for this land use. However, a 10% estimate has been used as a conservative average pass-by trip reduction rate for the entire retail center.

TSF = Thousand square feet

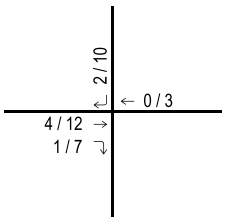




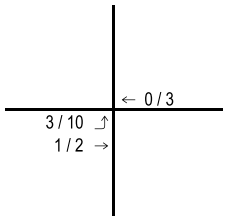
1 Pacific St/Rocklin Rd



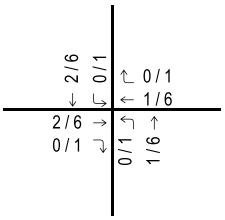
2 Granite Dr/Rocklin Rd



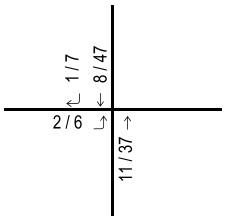
3 I-80 WB Ramp/Rocklin Rd



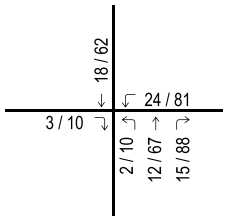
4 I-80 EB Ramp/Rocklin Rd



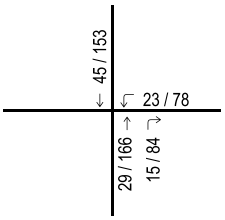
5 Dominguez Rd/Pacific St



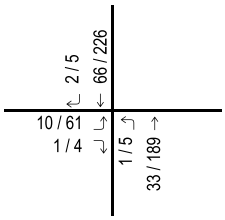
6 Granite Dr/Dominguez Rd



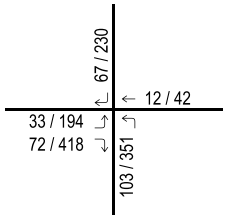
7 Sierra College Blvd/Taylor Rd



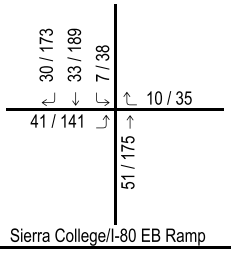
8 Sierra College Blvd/Brace Rd



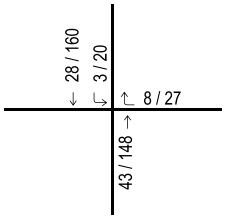
9 Sierra College Blvd/Granite Dr



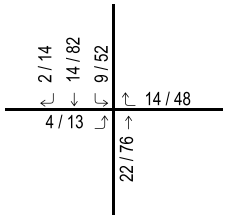
10 Sierra College/I-80 WB Ramp



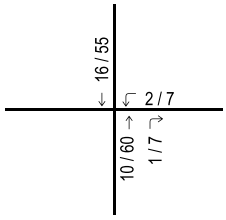
11 Sierra College/I-80 EB Ramp



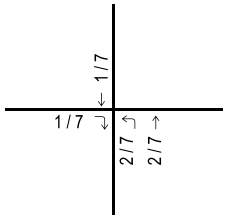
12 Sierra College/Dominguez Rd



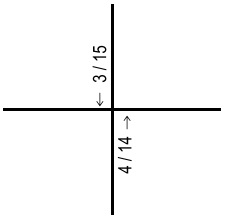
13 Sierra College/Rocklin Rd



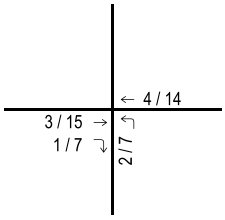
14 Horseshoe Bar Rd/Taylor Rd



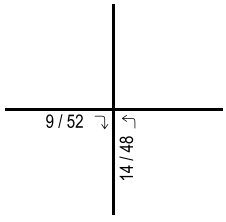
15 Horseshoe Bar/I-80 WB Ramp



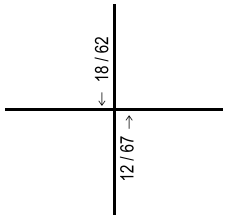
16 Horseshoe Bar/I-80 EB Ramp



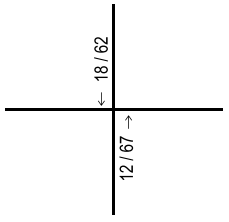
17 Barton Rd/Brace Rd



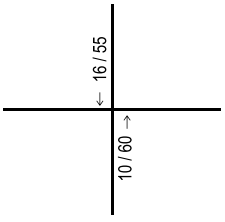
18 Barton Rd/Rocklin Rd



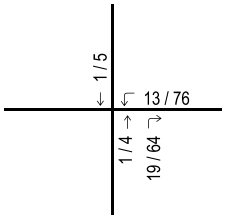
19 Sierra College Blvd/King Rd



20 Sierra College/English Colony



21 Taylor Rd/King Rd



22 Granite Dr/Project Driveway #2

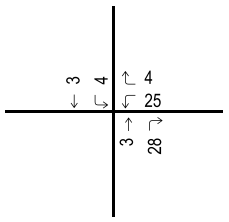
LSA

FIGURE 4.7-4

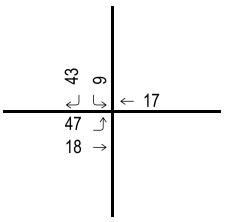
Rocklin Commons

Project Trip Distribution and Peak Hour Project Trips

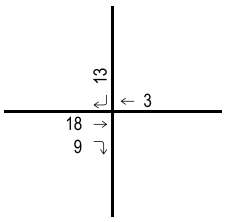
P:\RCK0801\Graphics\EIR\New 6_2009\Figure4.7-4.ai (06/26/09)



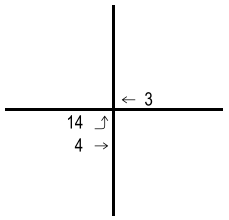
1 Pacific St/Rocklin Rd



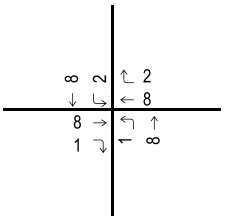
2 Granite Dr/Rocklin Rd



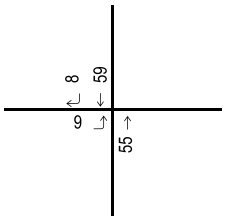
3 I-80 WB Ramp/Rocklin Rd



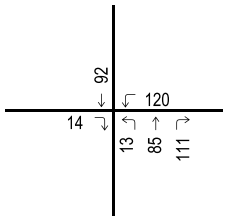
4 I-80 EB Ramp/Rocklin Rd



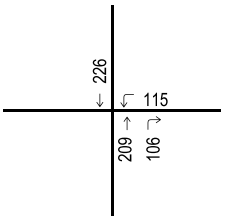
5 Dominguez Rd/Pacific St



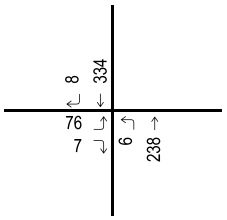
6 Granite Dr/Dominguez Rd



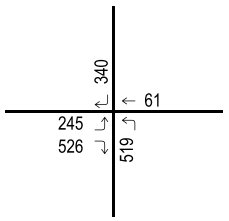
7 Sierra College Blvd/Taylor Rd



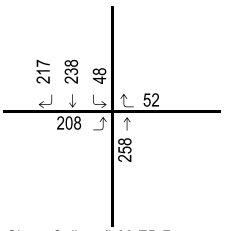
8 Sierra College Blvd/Brace Rd



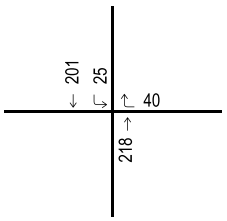
9 Sierra College Blvd/Granite Dr



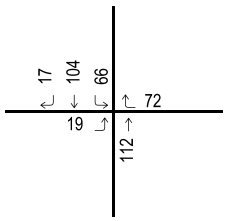
10 Sierra College/I-80 WB Ramp



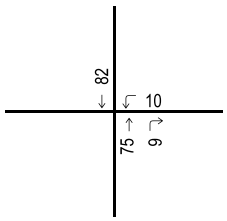
11 Sierra College/I-80 EB Ramp



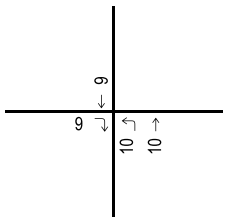
12 Sierra College/Dominguez Rd



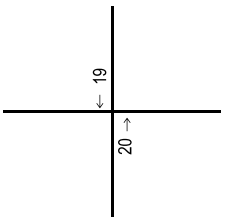
13 Sierra College/Rocklin Rd



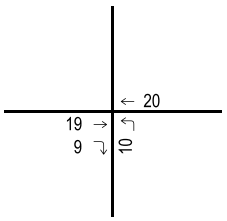
14 Horseshoe Bar Rd/Taylor Rd



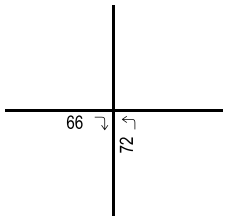
15 Horseshoe Bar/I-80 WB Ramp



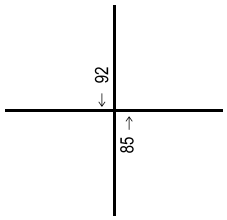
16 Horseshoe Bar/I-80 EB Ramp



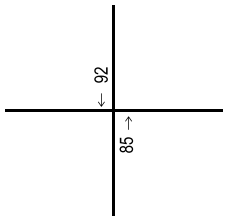
17 Barton Rd/Brace Rd



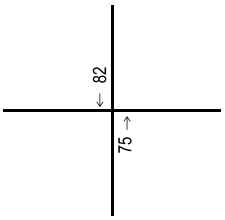
18 Barton Rd/Rocklin Rd



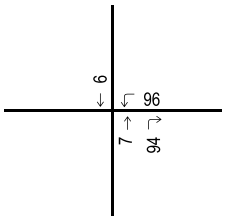
19 Sierra College Blvd/King Rd



20 Sierra College/English Colony



21 Taylor Rd/King Rd



22 Granite Dr/Project Driveway #2

LSA

FIGURE 4.7-5

Rocklin Commons

Saturday Peak Hour Project Trips

P:\RCK0801\Graphics\EIR\New 6_2009\Figure4.7-5.ai (06/26/09)

Existing Plus Project. Traffic volumes generated by the proposed project were added to the existing traffic volumes and LOS were calculated for the existing plus project scenario. Construction of the project will follow construction of other previously approved projects in the study area, specifically the redesign of the I-80 interchange with Sierra College Boulevard. Therefore the existing plus project conditions are not the real-world physical condition (where the project will be constructed before other approved projects in the region) that the project will affect. However, an existing plus project condition has nevertheless been analyzed for disclosure purposes. The existing plus project weekday and Saturday peak-hour traffic volumes are illustrated in Figures 4.7-6 and 4.7-7. The LOS for study area intersections and roadway segments in the existing plus project scenario is shown in Tables 4.7-5 and 4.7-6. The existing plus project LOS worksheets are provided in Appendix E.

As shown in Table 4.7-5, the following four intersections are forecasted to operate at unsatisfactory LOS in the Existing Plus Project scenario:

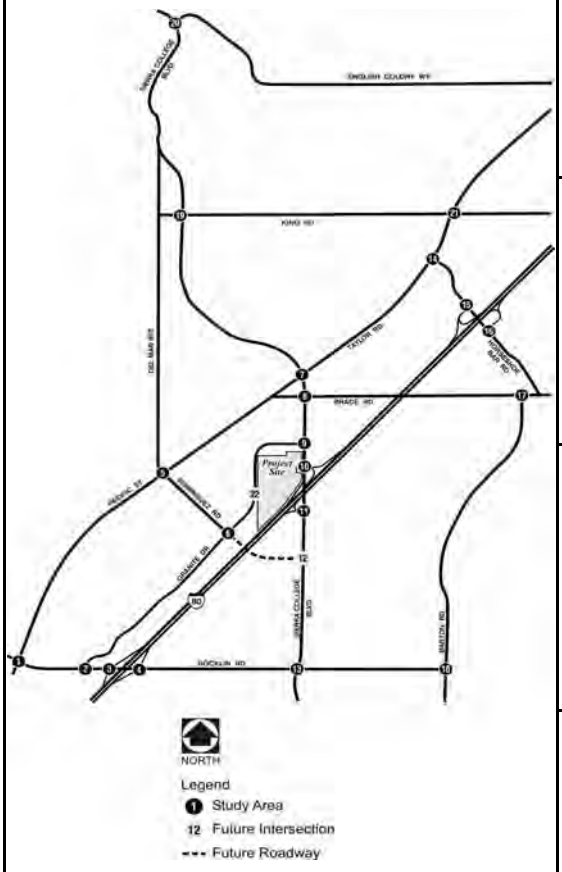
- Rocklin Road/Pacific Street
- Sierra College Boulevard/Taylor Road (Loomis)
- Sierra College Boulevard/Rocklin Road
- Horseshoe Bar Road/Taylor Road (Loomis)

The project would have a significant impact on the intersections of Sierra College Boulevard/Taylor Road and Sierra College Boulevard/Rocklin Road in the existing plus project condition. The project impact at the intersections of Rocklin Road/Pacific Street and Horseshoe Bar Road/Taylor Road is less than 5 percent (0.05) of the total intersection volume-to-capacity ratio and therefore not a significant impact.

As shown in Table 4.7-6, most of the study area roadway segments are forecast to operate within their daily roadway capacities in the Existing Plus Project conditions except for the following four segments:

- Taylor Road between King Road and Horseshoe Bar Road (Loomis)
- Taylor Road between Horseshoe Bar Road and Sierra College Boulevard (Loomis)
- Sierra College Boulevard between Taylor Road and I-80
- Sierra College Boulevard between Dominguez and Rocklin Road

A directional peak-hour roadway segment analysis was prepared for these four segments and is shown in Table 4.7-7 (Appendix E). In both a.m. and p.m. peak hours, the four affected roadway segments will operate at LOS A or B; because the roadway segments will operate with satisfactory LOS during the peak hour of roadway traffic, they are not considered impacted by the project.



19 / 21 ⤶ 404 / 516 ↓ 184 / 125 ⤷ 22 / 34 ⤷ ⤴ 25 / 41 153 / 113 → ↑ 290 / 445 43 / 23 ⤶ ⤷ 501 / 528 ⤴ 100 / 224 ← 71 / 148 ⤶ 373 / 615 1 Pacific St/Rocklin Rd	110 / 391 ⤶ 7 / 16 ↓ 305 / 496 ⤷ 137 / 264 ⤷ ⤴ 17 / 23 717 / 688 → ↑ 12 / 14 12 / 23 ⤶ ⤷ 11 / 35 ⤴ 567 / 586 ← 530 / 758 ⤶ 6 / 40 2 Granite Dr/Rocklin Rd	246 / 268 ⤶ 2 / 2 ↓ 157 / 52 ⤷ 624 / 698 → ⤷ 413 / 523 ⤶ ← 862 / 1105 ⤶ 339 / 503 3 I-80 WB Ramp/Rocklin Rd
211 / 221 ⤷ 570 / 529 → ⤴ 47 / 119 ← 631 / 1060 ⤶ ⤷ 570 / 548 ↑ 2 / 1 ⤷ 735 / 602 4 I-80 EB Ramp/Rocklin Rd	50 / 129 ⤶ 18 / 52 ↓ 23 / 39 ⤷ 71 / 27 ⤷ ⤴ 23 / 26 320 / 407 → ↑ 69 / 25 36 / 21 ⤶ ⤷ 59 / 46 ⤴ 61 / 19 ← 293 / 466 ⤶ 66 / 28 5 Dominguez Rd/Pacific St	48 / 31 ⤶ 263 / 244 ↓ 38 / 66 ⤷ 70 / 63 ⤶ ⤶ 86 / 30 ↑ 101 / 330 6 Granite Dr/Dominguez Rd
167 / 109 ⤶ 444 / 403 ↓ 23 / 26 ⤷ 65 / 152 ⤷ ⤴ 155 / 130 171 / 305 → ↑ 255 / 618 70 / 107 ⤶ ⤷ 157 / 341 ⤴ 31 / 36 ← 232 / 266 ⤶ 196 / 288 7 Sierra College Blvd/Taylor Rd	599 / 667 ↓ 68 / 84 ⤷ 58 / 87 ⤷ ⤴ 409 / 733 ↑ 51 / 183 ⤶ 76 / 92 ⤷ 90 / 153 8 Sierra College Blvd/Brace Rd	65 / 72 ⤶ 542 / 730 ↓ 103 / 70 ⤷ 71 / 192 ⤷ ⤴ 153 / 101 25 / 32 → ↑ 401 / 715 35 / 182 ⤶ ⤷ 74 / 72 ⤴ 41 / 35 ← 30 / 20 ⤶ 126 / 112 9 Sierra College Blvd/Granite Dr
75 / 256 ⤶ 664 / 789 ↓ 37 / 216 ⤷ ⤴ 114 / 390 80 / 465 ⤶ ↑ 460 / 560 ⤷ 35 / 38 ⤴ 211 / 159 ← 13 / 46 ⤶ 375 / 320 10 Sierra College/I-80 WB Ramp	152 / 397 ⤶ 744 / 861 ↓ 7 / 38 ⤷ 247 / 352 ⤷ ⤴ 115 / 31 ⤶ ↑ 610 / 896 ⤷ 11 Sierra College/I-80 EB Ramp	859 / 851 ↓ 3 / 20 ⤷ ⤶ 641 / 953 ↑ ⤶ 8 / 27 12 Sierra College/Dominguez Rd
49 / 92 ⤶ 446 / 587 ↓ 59 / 119 ⤷ 73 / 184 ⤷ ⤴ 390 / 298 114 / 235 → ↑ 485 / 680 242 / 404 ⤶ ⤷ 58 / 52 ⤴ 80 / 78 ← 173 / 139 ⤶ 67 / 30 13 Sierra College/Rocklin Rd	6 / 10 ⤶ 375 / 464 ↓ 457 / 409 ⤷ 14 / 7 ⤷ ⤴ 6 / 8 67 / 12 → ↑ 279 / 536 22 / 8 ⤶ ⤷ 67 / 111 ⤴ 406 / 572 ← 14 / 13 ⤶ 47 / 84 14 Horseshoe Bar Rd/Taylor Rd	419 / 387 ⤶ 234 / 209 ↓ 17 / 48 ⤷ 74 / 75 ⤷ ⤴ 164 / 95 33 / 46 → ↑ 435 / 380 77 / 74 ⤶ ⤷ 68 / 177 ⤴ 30 / 72 ← 80 / 50 ⤶ 39 / 140 15 Horseshoe Bar/I-80 WB Ramp
248 / 257 ↓ 98 / 157 ⤷ ⤴ 357 / 287 ↑ 50 / 61 ⤷ ⤴ 312 / 398 ⤶ 55 / 114 16 Horseshoe Bar/I-80 EB Ramp	← 114 / 71 ⤶ 105 / 114 82 / 79 → ⤶ 135 / 150 125 / 157 ⤶ ⤷ 155 / 72 17 Barton Rd/Brace Rd	
98 / 55 ⤶ 72 / 43 ↓ 83 / 61 ⤷ ⤴ 254 / 201 96 / 294 ⤶ ↑ 55 / 68 ⤷ 18 Barton Rd/Rocklin Rd	17 / 3 ⤶ 443 / 360 ↓ 100 / 63 ⤷ 3 / 21 ⤷ ⤴ 2 / 2 16 / 14 → ↑ 202 / 554 4 / 4 ⤶ ⤷ 18 / 39 ⤴ 65 / 88 ← 11 / 4 ⤶ 41 / 15 19 Sierra College Blvd/King Rd	536 / 376 ↓ 71 / 47 ⤷ ⤴ 269 / 626 ↑ 1 / 4 ⤷ ⤴ 37 / 57 ⤶ 4 / 3 20 Sierra College/English Colony
339 / 294 ↓ 60 / 28 ⤷ 211 / 67 ⤷ ⤴ 229 / 362 96 / 91 → ↑ 386 / 342 242 / 317 ⤶ ⤷ 67 / 114 ⤴ 119 / 32 ← 102 / 83 ⤶ 103 / 95 21 Taylor Rd/King Rd	↓ 246 / 188 ⤶ 121 / 345 ⤶ ↑ 21 / 71 ⤷ ⤶ 15 / 85 22 Granite Dr/Project Driveway #2	

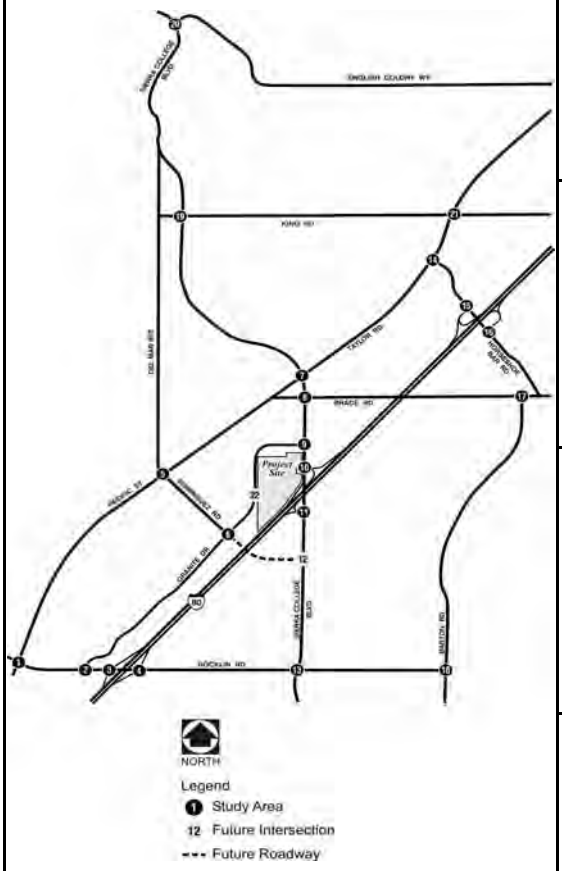
LSA

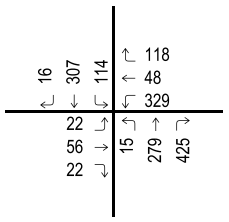
FIGURE 4.7-6

Rocklin Commons

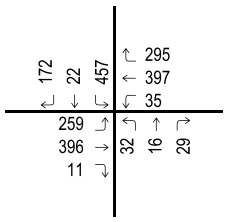
Existing Plus Project Peak Hour Traffic Volumes

P:\RCK0801\Graphics\EIR\New 6_2009\Figure4.7-6.ai (06/26/09)

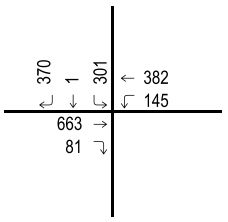




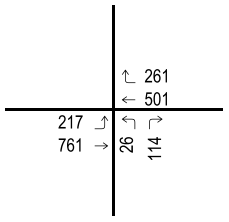
1 Pacific St/Rocklin Rd



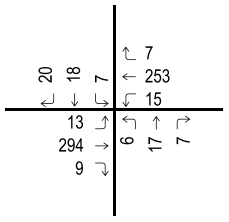
2 Granite Dr/Rocklin Rd



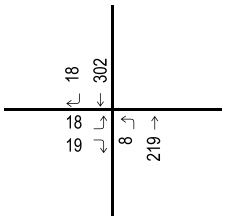
3 I-80 WB Ramp/Rocklin Rd



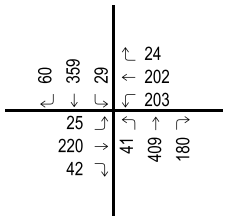
4 I-80 EB Ramp/Rocklin Rd



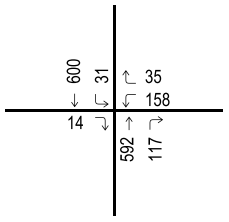
5 Dominguez Rd/Pacific St



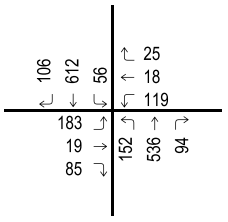
6 Granite Dr/Dominguez Rd



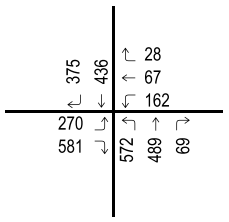
7 Sierra College Blvd/Taylor Rd



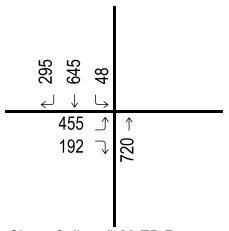
8 Sierra College Blvd/Brace Rd



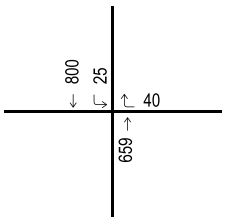
9 Sierra College Blvd/Granite Dr



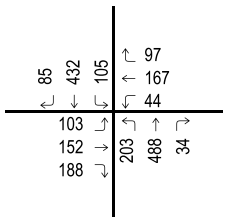
10 Sierra College/I-80 WB Ramp



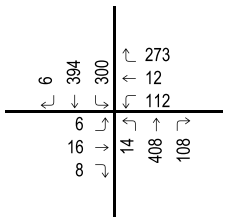
11 Sierra College/I-80 EB Ramp



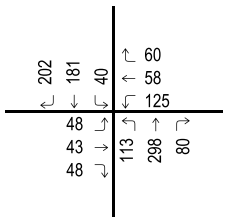
12 Sierra College/Dominguez Rd



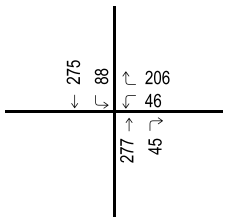
13 Sierra College/Rocklin Rd



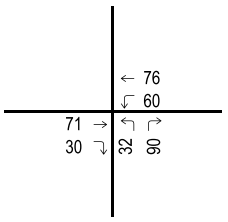
14 Horseshoe Bar Rd/Taylor Rd



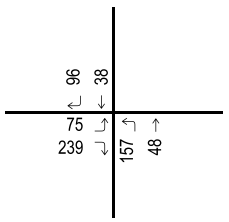
15 Horseshoe Bar/I-80 WB Ramp



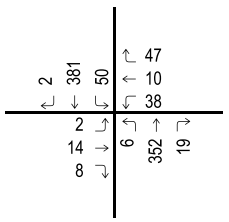
16 Horseshoe Bar/I-80 EB Ramp



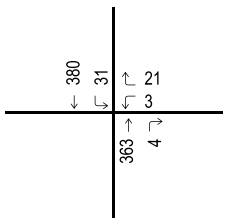
17 Barton Rd/Brace Rd



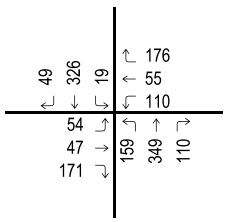
18 Barton Rd/Rocklin Rd



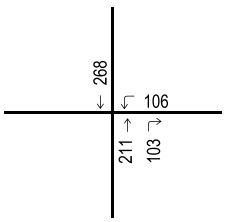
19 Sierra College Blvd/King Rd



20 Sierra College/English Colony



21 Taylor Rd/King Rd



22 Granite Dr/Project Driveway #2

LSA

FIGURE 4.7-7

Rocklin Commons

Existing Plus Project Saturday Peak Hour Traffic Volumes

P:\RCK0801\Graphics\EIR\New 6_2009\Figure4.7-7.ai (06/26/09)

Table 4.7-5: Existing Plus Project Peak Hour Intersection Level of Service Summary

Intersection		Control Type	Existing Condition						Existing Plus Project Condition					
			AM Peak Hour		PM Peak Hour		Saturday		AM Peak Hour		PM Peak Hour		Saturday	
			V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS
1	Rocklin Road/Pacific Street [1]	Signalized	0.881	D	0.850	D	0.544	A	0.887	D[2]	0.876	D[2]	0.578	A
2	Rocklin Road/Granite Drive	Signalized	0.467	A	0.785	C	0.543	A	0.475	A	0.841	D	0.589	A
3	Rocklin Road/I-80 Westbound Ramps	Signalized	21.8 sec	C	22.4 sec	C	23.2 sec	C	21.9 sec	C	27.0 sec	C	23.3 sec	C
4	Rocklin Road/I-80 Eastbound Ramps	Signalized	28.0 sec	C	26.2 sec	C	12.5 sec	B	28.1 sec	C	29.5 sec	C	12.8 sec	B
5	Dominguez Road/Pacific Street [1]	Signalized	0.408	A	0.465	A	0.255	A	0.411	A	0.470	A	0.266	A
6	Dominguez Road/Granite Drive [1]	Unsignalized	11.7 sec	B	11.9 sec	B	9.9 sec	A	11.9 sec	B	13.0 sec	B	11.0 sec	B
7	Sierra College Boulevard/Taylor Road [1] (Loomis)	Signalized	0.737	C	0.873	D	0.508	A	0.772	C	0.992	E	0.667	B
8	Sierra College Boulevard/Brace Road [1] (Loomis)	Signalized	0.509	A	0.604	B	0.341	A	0.560	A	0.786	C	0.576	A
9	Sierra College Boulevard/Granite Drive	Signalized	0.625	B	0.644	B	0.461	A	0.678	B	0.842	D	0.764	C
10	Sierra College Boulevard/I-80 Westbound Ramps	Signalized	27.0 sec	C	24.4 sec	C	17.3 sec	B	18.5 sec	B	30.3 sec	C	35.4 sec	D
11	Sierra College Boulevard/I-80 Eastbound Ramps	Signalized	31.0 sec	C	33.5 sec	C	23.3 sec	C	9.1 sec	A	9.6 sec	A	15.1 sec	B
12	Sierra College Boulevard/Dominguez Road	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Sierra College Boulevard/Rocklin Road [1]	Signalized	0.710	C	0.792	C	0.532	A	0.728	C	0.829	D	0.651	B
14	Horseshoe Bar Road/Taylor Road [1] (Loomis)	Signalized	0.920	E	1.098	F	0.688	B	0.929	E[2]	1.145	F[2]	0.746	C
15	Horseshoe Bar Road/I-80 Westbound Ramps [1] (Loomis)	Signalized	20.0 sec	C	20.9 sec	C	22.3 sec	C	20.0 sec	C	21.7 sec	C	22.4 sec	C
16	Horseshoe Bar Road/I-80 Eastbound Ramps [1] (Loomis)	Unsignalized	16.4 sec	C	18.3 sec	C	12.1 sec	B	16.5 sec	C	19.1 sec	C	12.4 sec	B
17	Barton Road/Brace Road [1] (Loomis)	Unsignalized	16.1 sec	C	15.0 sec	C	9.5 sec	A	16.5 sec	C	16.1 sec	C	9.9 sec	A
18	Barton Road/Rocklin Road [1] (Loomis)	Unsignalized	15.6 sec	C	10.9 sec	B	10.2 sec	B	16.1 sec	C	11.6 sec	B	11.0 sec	B
19	Sierra College Boulevard/King Road [1] (Loomis)	Signalized	0.436	A	0.525	A	0.331	A	0.450	A	0.574	A	0.396	A
20	Sierra College Boulevard/English Colony Way [1] (Placer County)	Unsignalized	10.9 sec	B	13.4 sec	B	10.5 sec	B	11.1 sec	B	14.5 sec	B	11.4 sec	B
21	Taylor Road/King Road [1] (Loomis)	Signalized	0.760	C	0.722	C	0.489	A	0.768	C	0.744	C	0.541	A
22	Granite Drive/Project Driveway #2	-	-	-	-	-	-	-	0.092	A	0.154	A	0.135	A

Notes:

ICU critical V/C ratio is used for signalized intersections. HCM delay in seconds is used for unsignalized intersections.

[1] LOS C required for these intersections. LOS D acceptable for all other intersections.

[2] Project impact is less than 5% of total intersection V/C or delay and therefore not a significant impact.

☐ Exceeds level of service criteria

▒ (Shade) = Significant Impact

Table 4.7-6: Existing Plus Project Daily Roadway Segment Level of Service Summary

Roadway	Segment	Configuration	Capacity	Existing						Existing Plus Project					
				Weekday			Saturday			Weekday			Saturday		
				Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
Taylor Road	King Road and Horseshoe Bar Road [1] (Loomis)	Two-lane Collector	15,000	17,060	1.14	F	11,370	0.76	C	18,210	1.21	F	12,940	0.86	D
	Horseshoe Bar Road and Sierra College Boulevard[1] (Loomis)	Two-lane Collector	15,000	10,673	0.71	B	3,500	0.23	A	12,163	0.81	D	5,535	0.37	A
	Sierra College Boulevard and City Limits [1] (Loomis)	Two-lane Collector	15,000	11,578	0.77	C	5,880	0.39	A	11,778	0.79	C	6,150	0.41	A
Pacific Street	City Limits and Dominguez Road [1]	Two-lane Collector	15,000	11,578	0.77	C	5,880	0.39	A	11,718	0.78	C	6,080	0.41	A
	Dominguez Road and Rocklin Road [1]	Four-lane Undivided Arterial	30,000	15,889	0.53	A	6,820	0.23	A	16,009	0.53	A	6,980	0.23	A
Rocklin Road	Pacific Street and Granite Drive	Four-lane Undivided Arterial	30,000	21,211	0.71	B	11,040	0.37	A	21,501	0.72	C	11,970	0.40	A
	I-80 and Sierra College Boulevard	Four-lane Undivided Arterial	30,000	9,989	0.33	A	13,090	0.44	A	10,149	0.34	A	13,305	0.44	A
	Sierra College Boulevard and Barton Road [1] (Loomis)	Two-lane Collector	15,000	5,176	0.35	A	4,060	0.27	A	6,176	0.41	A	5,440	0.36	A
Barton Road	Rocklin Road and Brace Road [1] (Loomis)	Two-lane Collector	15,000	3,354	0.22	A	2,040	0.14	A	3,424	0.23	A	2,135	0.14	A
Horseshoe Bar Road	I-80 and Brace Road [1] (Loomis)	Two-lane Collector	15,000	6,101	0.41	A	6,460	0.43	A	6,391	0.43	A	6,850	0.46	A
Brace Road	I-80 and Barton Road [1] (Loomis)	Two-lane Collector	15,000	4,006	0.27	A	1,940	0.13	A	4,436	0.30	A	2,520	0.17	A
	I-80 and Sierra College Boulevard [1] (Loomis)	Two-lane Collector	15,000	3,408	0.23	A	560	0.04	A	5,028	0.34	A	2,770	0.18	A
Sierra College Boulevard	English Colony Way and King Road [1] (Placer County)	Two-lane Collector	15,000	9,600	0.64	B	6,570	0.44	A	10,890	0.73	C	8,340	0.56	A
	King Road and Taylor Road [1] (Loomis)	Two-lane Collector	15,000	10,560	0.70	B	7,080	0.47	A	11,850	0.79	C	8,850	0.59	A
	Taylor Road and I-80	Two-lane Collector	15,000	17,566	1.17	F	8,610	0.57	A	22,376	1.49	F	15,170	1.01	F
	I-80 and Dominguez Road [2]	Four-lane Undivided Arterial	30,000	13,275	0.44	D	10,400	0.35	B	16,870	0.56	A	15,300	0.51	A
	Dominguez Road [2] and Rocklin Road [1]	Two-lane Collector	15,000	13,275	0.88	D	10,840	0.72	C	16,240	1.08	F	14,885	0.99	E
Granite Drive	Dominguez Road and Sierra College Boulevard [1]	Four-lane Undivided Arterial	30,000	6,178	0.21	A	4,350	0.15	A	7,038	0.23	A	5,490	0.18	A
	Dominguez Road and Rocklin Road [1]	Four-lane Undivided Arterial	30,000	8,258	0.28	A	7,850	0.26	A	9,038	0.30	A	8,915	0.30	A
Dominguez Road	Taylor Road and Granite Drive [1]	Two-lane Collector	15,000	2,382	0.16	A	510	0.03	A	2,517	0.17	A	685	0.05	A
King Road	Sierra College Boulevard and Taylor Road [1] (Loomis)	Two-lane Collector	15,000	5,610	0.37	A	3,460	0.23	A	5,610	0.37	A	3,460	0.23	A

Notes:

[1] LOS C required for these segments. LOS D acceptable for all other segments.

[2] Proposed location of the future extension of Dominguez Road.

☐ Exceeds level of service criteria

Table 4.7-7: Existing Plus Project Peak Hour Roadway Segment Level of Service Summary

Roadway	Segment	Capacity	Existing			Existing + Project		
			Volume	V/C	LOS	Volume	V/C	LOS
Taylor Road	King Rd and Horseshoe Bar Rd (Loomis)							
	A.M. Peak Hour Northbound	1,650	689	0.42	A	699	0.42	A
	A.M. Peak Hour Southbound	1,650	822	0.50	A	838	0.51	A
	Total A.M. Peak Hour	3,300	1,511	0.46	A	1,537	0.47	A
	P.M Peak Hour Northbound	1,650	1,055	0.64	B	1,115	0.68	B
	P.M Peak Hour Southbound	1,650	828	0.50	A	883	0.54	A
	Total P.M. Peak Hour	3,300	1,883	0.57	A	1,998	0.61	A
	SAT Peak Hour Northbound	1,650	612	0.37	A	687	0.42	A
	SAT Peak Hour Southbound	1,650	618	0.37	A	700	0.42	A
	Total SAT Peak Hour	3,300	1,230	0.37	A	1,387	0.42	A
Taylor Road	Horseshoe Bar Rd and Sierra College Blvd (Loomis)							
	A.M. Peak Hour Northbound	1,650	336	0.20	A	351	0.21	A
	A.M. Peak Hour Southbound	1,650	435	0.26	A	459	0.28	A
	Total A.M. Peak Hour	3,300	771	0.23	A	810	0.25	A
	P.M Peak Hour Northbound	1,650	588	0.36	A	672	0.41	A
	P.M Peak Hour Southbound	1,650	509	0.31	B	590	0.36	B
	Total P.M. Peak Hour	3,300	1,097	0.33	A	1,262	0.38	B
	SAT Peak Hour Northbound	1,650	446	0.27	A	530	0.32	A
	SAT Peak Hour Southbound	1,650	422	0.26	A	514	0.31	A
	Total SAT Peak Hour	3,300	868	0.26	A	1,044	0.32	A
Taylor Road	Sierra College Blvd and City Limits (Loomis)							
	A.M. Peak Hour Northbound	1,650	303	0.18	A	306	0.19	A
	A.M. Peak Hour Southbound	1,650	552	0.33	A	554	0.34	A
	Total A.M. Peak Hour	3,300	855	0.26	A	860	0.26	A
	P.M Peak Hour Northbound	1,650	554	0.34	A	564	0.34	A
	P.M Peak Hour Southbound	1,650	495	0.30	A	505	0.31	A
	Total P.M. Peak Hour	3,300	1,049	0.32	A	1,069	0.32	A
	SAT Peak Hour Northbound	1,650	273	0.17	A	287	0.17	A
	SAT Peak Hour Southbound	1,650	290	0.18	A	303	0.18	A

Roadway	Segment	Capacity	Existing			Existing + Project		
			Volume	V/C	LOS	Volume	V/C	LOS
	Total SAT Peak Hour	3,300	563	0.17	A	590	0.18	A
Pacific Street	City Limits and Dominguez Rd							
	A.M. Peak Hour Northbound	1,650	400	0.24	A	402	0.24	A
	A.M. Peak Hour Southbound	1,650	419	0.25	A	420	0.25	A
	Total A.M. Peak Hour	3,300	819	0.25	A	822	0.25	A
	P.M Peak Hour Northbound	1,650	506	0.31	A	513	0.31	A
	P.M Peak Hour Southbound	1,650	485	0.29	A	492	0.30	A
	Total P.M. Peak Hour	3,300	991	0.30	A	1,005	0.30	A
	SAT Peak Hour Northbound	1,650	298	0.18	A	308	0.19	A
	SAT Peak Hour Southbound	1,650	265	0.16	A	275	0.17	A
	Total SAT Peak Hour	3,300	563	0.17	A	583	0.18	A
Sierra College Boulevard	Taylor Rd and I-80							
	A.M. Peak Hour Northbound	1,650	594	0.36	A	628	0.38	A
	A.M. Peak Hour Southbound	1,650	636	0.39	A	703	0.43	A
	Total A.M. Peak Hour	3,300	1,230	0.37	A	1,331	0.40	A
	P.M Peak Hour Northbound	1,650	794	0.48	A	1,024	0.62	B
	P.M Peak Hour Southbound	1,650	694	0.42	A	888	0.54	A
	Total P.M. Peak Hour	3,300	1,488	0.45	A	1,912	0.58	B
	SAT Peak Hour Northbound	1,650	475	0.29	A	816	0.49	A
	SAT Peak Hour Southbound	1,650	538	0.33	A	782	0.47	A
	Total SAT Peak Hour	3,300	1,013	0.31	A	1,598	0.48	A
Sierra College Boulevard	Dominguez Rd and Rocklin Rd							
	A.M. Peak Hour Northbound	1,650	598	0.36	A	649	0.39	A
	A.M. Peak Hour Southbound	1,650	831	0.50	A	862	0.52	A
	Total A.M. Peak Hour	3,300	1,429	0.43	A	1,511	0.46	A
	P.M Peak Hour Northbound	1,650	805	0.49	A	953	0.58	B
	P.M Peak Hour Southbound	1,650	691	0.42	A	851	0.52	B
	Total P.M. Peak Hour	3,300	1,496	0.45	A	1,804	0.55	B
	SAT Peak Hour Northbound	1,650	485	0.29	A	699	0.42	A
	SAT Peak Hour Southbound	1,650	599	0.36	A	825	0.50	A
	Total SAT Peak Hour	3,300	1,084	0.33	A	1,524	0.46	A

Existing Plus Approved Projects (Baseline) Traffic Volumes. To identify traffic conditions that could be expected at the time of project opening, an existing plus approved projects (baseline) scenario was developed. The City provided a list of approved projects in the vicinity of the project. The approved projects include interchange improvements at I-80 and Sierra College Boulevard, as the interchange improvements have CEQA approval and are fully funded and currently under construction. Short-term geometrics and traffic control for project scenarios are illustrated in Figure 4.7-8.The approved projects do not include the proposed Dominguez Road extension. The approved projects list is provided in Appendix E. Traffic volumes for approved projects were determined by applying the trip generation rates from the ITE *Trip Generation*, 7th Edition, to the approved land uses. Vehicle trips from approved projects were distributed to the study area intersections based on the location of the approved projects in relation to other land uses and local and regional transportation networks. The locations of the approved projects and trip distribution are illustrated in Figure 4.7-9. The approved projects and their respective trip generation are shown in Table 4.7-8.

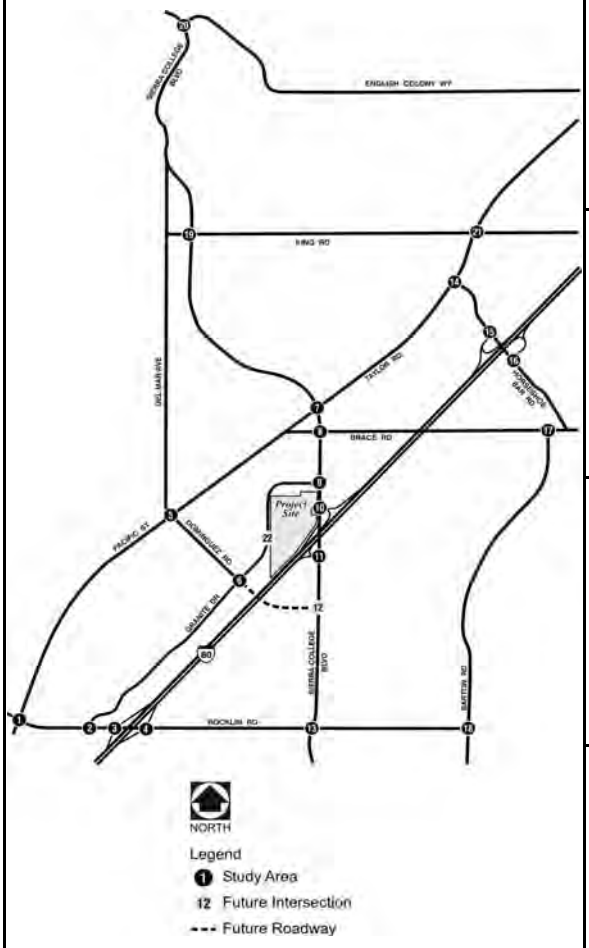
Existing Plus Approved Projects (Baseline) Levels Of Service. Traffic from the approved projects was added to the existing traffic counts and LOS were calculated for the existing plus approved projects scenario. Existing Plus Approved Projects weekday peak-hour and Saturday traffic volumes are illustrated in Figures 4.7-10 and 4.7-11. The LOS for study area intersections and roadway segments in the existing plus approved projects scenario are shown in Tables 4.7-9 and 4.7-10. The Existing Plus Approved Projects LOS worksheets are provided in Appendix E.

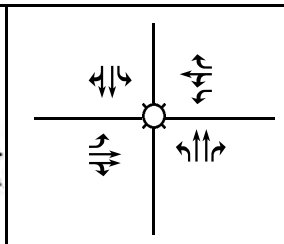
As shown in Table 4.7-9, the following seven intersections are operating at an unacceptable LOS in the existing plus approved projects condition:

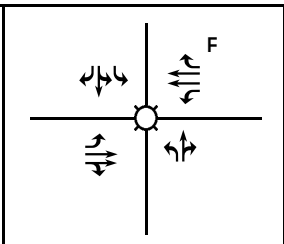
- Rocklin Road/Pacific Street
- Rocklin Road/Granite Drive
- Sierra College Boulevard/Taylor Road (Loomis)
- Sierra College Boulevard/ Brace Road (Loomis)
- Sierra College Boulevard/Granite Drive
- Sierra College Boulevard/Rocklin Road
- Horseshoe Bar Road/Taylor Road (Loomis)

As shown in Table 4.7-10, under existing plus approved projects, most of the study area roadway segments are forecast to operate at an acceptable LOS (within their daily roadway capacities) except for the following eight segments:

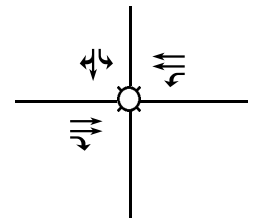
- Taylor Road between King Road and Horseshoe Bar Road (Loomis)
- Taylor Road between Horseshoe Bar Road and Sierra College Boulevard (Loomis)
- Taylor Road between Sierra College Boulevard and City Limits (Loomis)

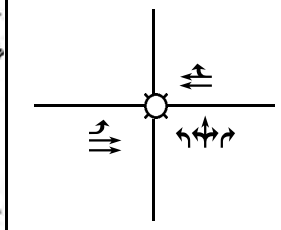


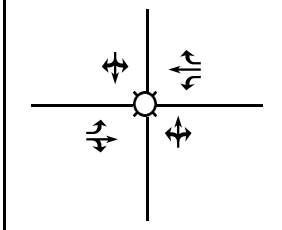

1. Pacific St/Rocklin Rd

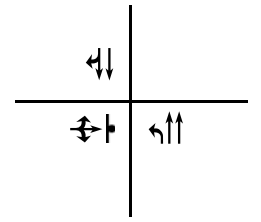


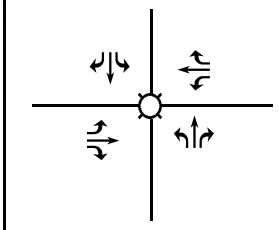
2. Granite Dr/Rocklin Rd

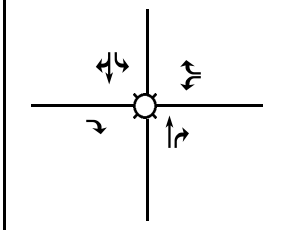

3. I-80 WB Ramp/Rocklin Rd

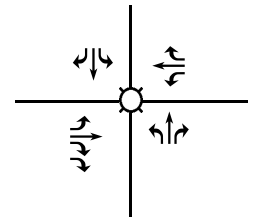

4. I-80 EB Ramp/Rocklin Rd

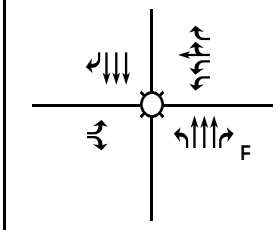

5. Dominguez Rd/Pacific St


6. Granite Dr/Dominguez Rd

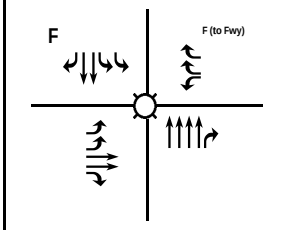

7. Sierra College Blvd/Taylor Rd


8. Sierra College Blvd/Brace Rd

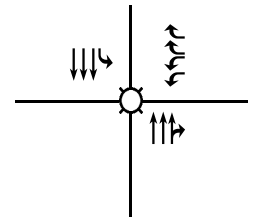

9. Sierra College Blvd/Granite Dr

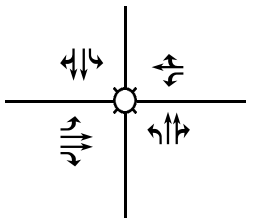


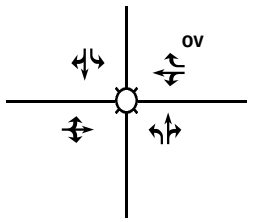
10. Sierra College/I-80 WB Ramp



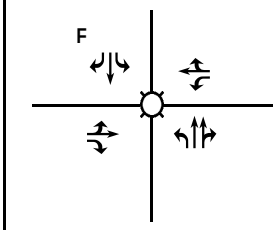
11. Sierra College/I-80 EB Ramp


12. Sierra College/Dominguez Rd

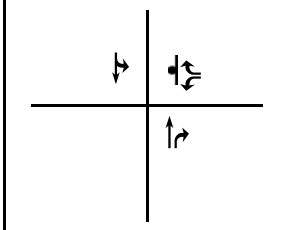

13. Sierra College Blvd/Rocklin Rd

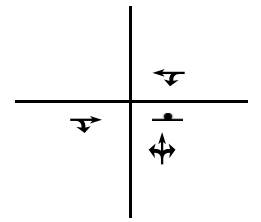


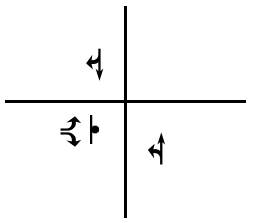
14. Horseshoe Bar Rd/Taylor Rd

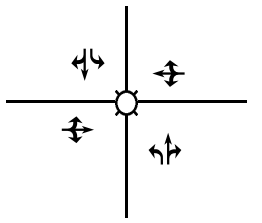


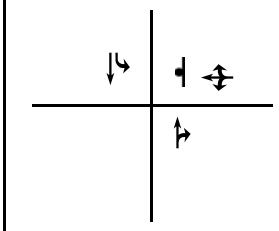
15. Horseshoe Bar/I-80 WB Ramp

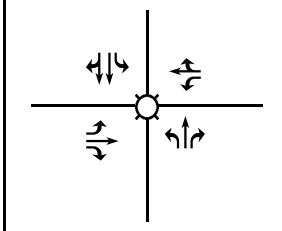

16. Horseshoe Bar/I-80 EB Ramp

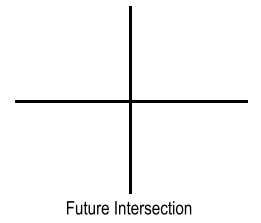

17. Barton Rd/Brace Rd


18. Barton Rd/Rocklin Rd


19. Sierra College Blvd/King Rd


20. Sierra College/English Colony Way


21. Taylor Rd/King Rd



22. Granite Dr/Project Driveway #2

LSA

FIGURE 4.7-8

Legend

Signal

Stop Sign

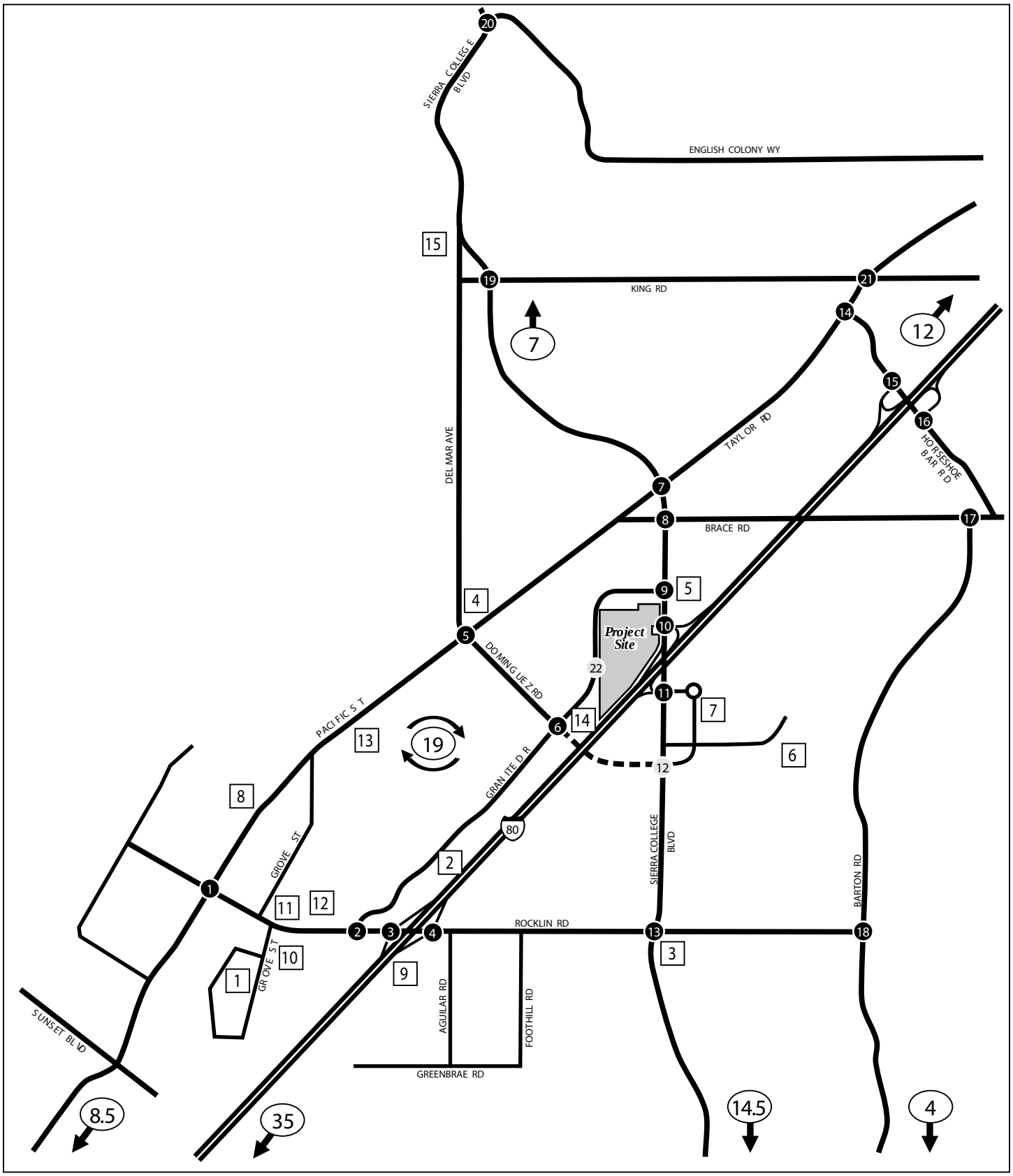
F Free Right Turn

OV Overlap Signal Phase

Rocklin Commons

Short Term Geometrics and Traffic Control

P:\RCK0801\Graphics\EIR\New 6_2009\Figure4.7-8.ai (06/26/09)



LSA

LEGEND

- 1 - Study Area Intersection
- 12 - Future Intersection
- - Future Roadway
- 10 - Approved Projects*
- XX - Trip Distribution Percentage
- 19 - Internal Trips

*Refer to Table G for Project Identification

N

FIGURE 4.7-9

Rocklin Commons

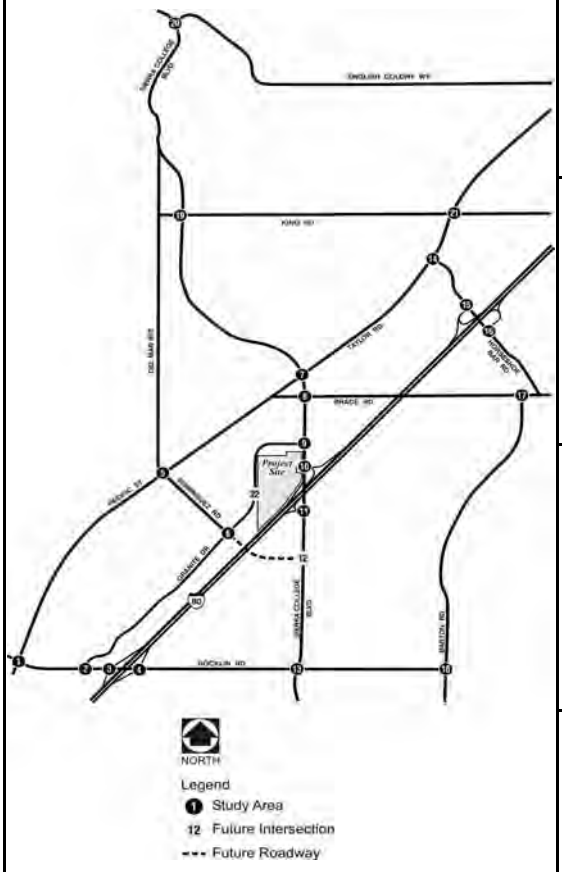
Location of Approved Projects

SCHEMATIC - NOT TO SCALE

P:\RCK0801\Graphics\EIR\New 6_2009\Figure4.7-9.ai (06/26/09)

Table 4.7-8: Trip Generation of Approved Projects

Project No.	Description	Landuse (ITE Code)	Size		AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
					In	Out	Total	In	Out	Total	In	Out	Total
1	Winding Lane Estates	Single Family Detached Housing (210)	27	du	5	15	20	17	10	27	14	12	25
2	Mercedes-Benz of Rocklin	New Car Sales (841)	18.5	ksf	28	10	38	19	30	49	28	27	55
3	Sierra College Center	Mixed Office/Retail	77.0	ksf	76	23	99	80	123	203	109	100	209
4	Rocklin Boat Hotel	Mini-Warehouse (151)	27.3	ksf	2	2	4	4	3	7	5	5	11
5	Granite Marketplace	Shopping Center (820)	138	ksf	87	55	142	248	269	518	357	329	686
6	Croftwood, Unit 1	Single Family Detached Housing (210)	156	du	29	88	117	99	58	158	79	67	147
7	Rocklin Crossings	Shopping Center (820)	543.5	ksf	330	287	617	939	975	1,914	1,180	1,100	2,280
8	ZL Rocklin	Mixed Use Retail/Residential	154.8	ksf	24	63	87	83	59	142	75	72	146
9	Bender Insurance Office Building	Bender Insurance Office Building	14.7	ksf	10	31	41	60	35	95	3	3	6
10	Rocklin DMV	State Motor Vehicles Department (731)	8.7	ksf	43	43	85	74	74	148	6	6	12
11	Grove Street Subdivision Map	Single Family Detached Housing (210)	7	du	1	4	5	4	3	7	4	3	7
12	Meyers Court Subdivision	Single Family Detached Housing (210)	9	du	2	5	7	6	3	9	5	4	8
13	Circuit Place	Single Family Detached Housing (210)	11	du	2	6	8	7	4	11	6	5	10
14	Granite Drive Retail/Office	Shopping Center (820)	22	ksf	14	9	23	40	43	83	57	52	109
15	Clover Valley	Single Family Detached Housing (210)	558	du	105	314	419	355	209	564	283	241	525
	Total				**857**	**1,040**	**1,897**	**2,198**	**2,081**	**4,279**	**2,394**	**2,199**	**4,593**



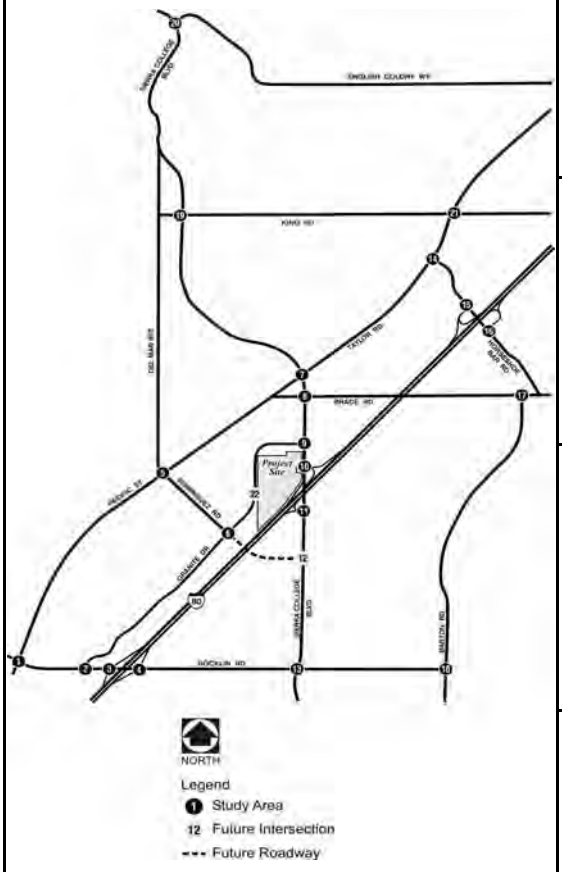
1 Pacific St/Rocklin Rd	2 Granite Dr/Rocklin Rd	3 I-80 WB Ramp/Rocklin Rd	
4 I-80 EB Ramp/Rocklin Rd	5 Dominguez Rd/Pacific St	6 Granite Dr/Dominguez Rd	
7 Sierra College Blvd/Taylor Rd	8 Sierra College Blvd/Brace Rd	9 Sierra College Blvd/Granite Dr	
10 Sierra College/I-80 WB Ramp	11 Sierra College/I-80 EB Ramp	12 Sierra College/Dominguez Rd	
13 Sierra College/Rocklin Rd	14 Horseshoe Bar Rd/Taylor Rd	15 Horseshoe Bar/I-80 WB Ramp	16 Horseshoe Bar/I-80 EB Ramp
17 Barton Rd/Brace Rd	18 Barton Rd/Rocklin Rd	19 Sierra College Blvd/King Rd	20 Sierra College/English Colony
21 Taylor Rd/King Rd	22 Granite Dr/Project Driveway #2		

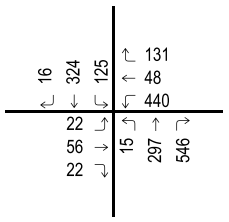
LSA

FIGURE 4.7-10

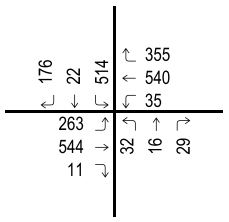
Rocklin Commons

Existing Plus Approved Projects (Baseline) Peak Hour Traffic Volumes

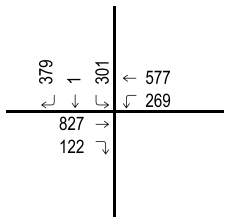




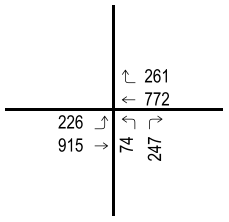
1 Pacific St/Rocklin Rd



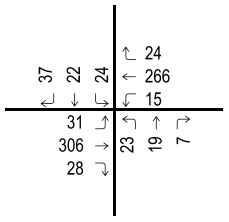
2 Granite Dr/Rocklin Rd



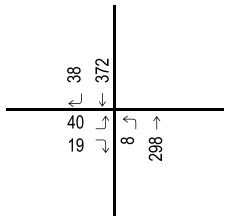
3 I-80 WB Ramp/Rocklin Rd



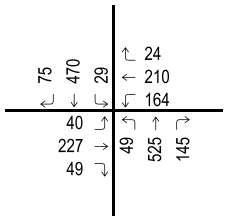
4 I-80 EB Ramp/Rocklin Rd



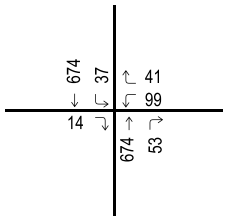
5 Dominguez Rd/Pacific St



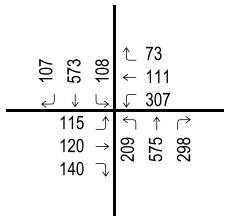
6 Granite Dr/Dominguez Rd



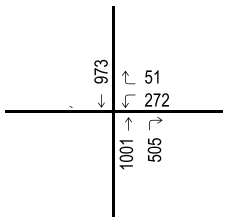
7 Sierra College Blvd/Taylor Rd



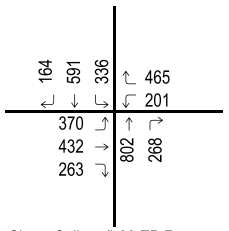
8 Sierra College Blvd/Brace Rd



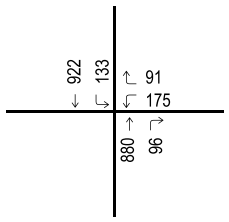
9 Sierra College Blvd/Granite Dr



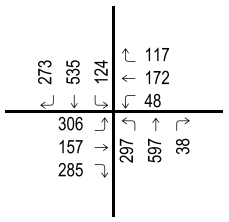
10 Sierra College/I-80 WB Ramp



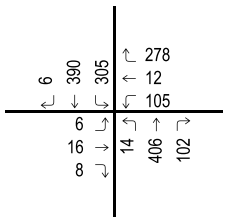
11 Sierra College/I-80 EB Ramp



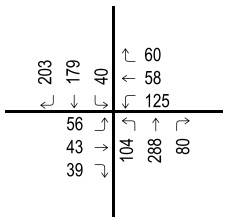
12 Sierra College/Dominguez Rd



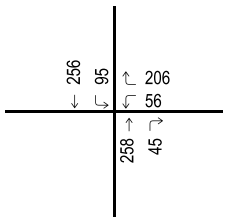
13 Sierra College/Rocklin Rd



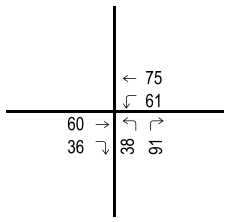
14 Horseshoe Bar Rd/Taylor Rd



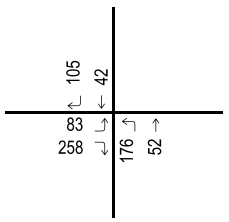
15 Horseshoe Bar/I-80 WB Ramp



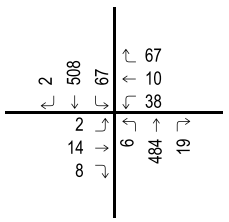
16 Horseshoe Bar/I-80 EB Ramp



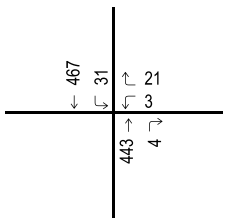
17 Barton Rd/Brace Rd



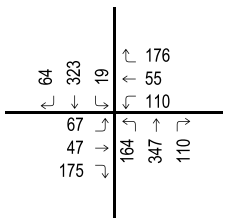
18 Barton Rd/Rocklin Rd



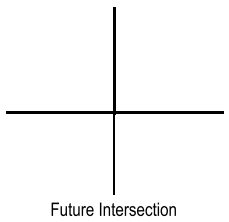
19 Sierra College Blvd/King Rd



20 Sierra College/English Colony



21 Taylor Rd/King Rd


Future Intersection
22 Granite Dr/Project Driveway #2

LSA

FIGURE 4.7-11

Rocklin Commons

Existing Plus Approved Projects (Baseline) Saturday Peak Hour Traffic Volumes

P:\RCK0801\Graphics\EIR\New 6_2009\Figure4.7-11.ai (06/29/09)

Table 4.7-9: Existing Plus Approved Projects (Baseline) Condition Intersection Level of Service Summary

Intersection		Control Type	Existing Plus Approved Condition					
			AM Peak Hour		PM Peak Hour		Saturday	
			V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS
1	Rocklin Road/Pacific Street [1]	Signalized	0.970	E	1.026	F	0.720	C
2	Rocklin Road/Granite Drive	Signalized	0.532	A	0.929	E	0.672	B
3	Rocklin Road/I-80 Westbound Ramps	Signalized	23.2 sec	C	38.9 sec	D	25.9 sec	C
4	Rocklin Road/I-80 Eastbound Ramps	Signalized	32.5 sec	C	45.2 sec	D	16.1 sec	B
5	Dominguez Road/Pacific Street [1]	Signalized	0.433	A	0.499	A	0.320	A
6	Dominguez Road/Granite Drive [1]	Unsignalized	12.6 sec	B	15.4 sec	B	13.3 sec	B
7	Sierra College Boulevard/Taylor Road [1] (Loomis)	Signalized	0.854	D	1.091	F	0.732	C
8	Sierra College Boulevard/Brace Road [1] (Loomis)	Signalized	0.626	B	0.847	D	0.597	A
9	Sierra College Boulevard/Granite Drive	Signalized	0.798	C	1.027	F	0.951	E
10	Sierra College Boulevard/I-80 Westbound Ramps	Signalized	9.0 sec	A	8.2 sec	A	6.0 sec	A
11	Sierra College Boulevard/I-80 Eastbound Ramps	Signalized	13.0 sec	B	22.4 sec	C	24.6 sec	C
12	Sierra College Boulevard/Dominguez Road	-	0.256	A	0.467	A	0.410	A
13	Sierra College Boulevard/Rocklin Road [1]	Signalized	0.854	D	1.150	F	1.018	F
14	Horseshoe Bar Road/Taylor Road [1] (Loomis)	Signalized	0.813	D	0.956	E	0.713	C
15	Horseshoe Bar Road/I-80 Westbound Ramps [1] (Loomis)	Signalized	20.1 sec	C	21.7 sec	C	22.4 sec	C
16	Horseshoe Bar Road/I-80 Eastbound Ramps [1] (Loomis)	Unsignalized	16.5 sec	C	19.0 sec	C	12.4 sec	B
17	Barton Road/Brace Road [1] (Loomis)	Unsignalized	16.7 sec	C	16.3 sec	C	10.0 sec	A

Intersection		Control Type	Existing Plus Approved Condition					
			AM Peak Hour		PM Peak Hour		Saturday	
			V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS
18	Barton Road/Rocklin Road [1] (Loomis)	Unsignalized	16.7 sec	C	12.3 sec	B	11.5 sec	B
19	Sierra College Boulevard/King Road [1] (Loomis)	Signalized	0.536	A	0.716	C	0.526	A
20	Sierra College Boulevard/English Colony Way [1] (Placer County)	Unsignalized	11.7 sec	B	16.0 sec	C	12.4 sec	B
21	Taylor Road/King Road [1] (Loomis)	Signalized	0.791	C	0.763	C	0.553	A
22	Granite Drive/Project Driveway #2	-	-	-	-	-	-	-

Notes:
ICU critical V/C ratio is used for signalized intersections. HCM delay in seconds is used for unsignalized intersections.
[1] LOS C required for these intersections. LOS D acceptable for all other intersections.

☐ Exceeds level of service criteria

Table 4.7-10: Existing Plus Approved Projects (Baseline) Daily Roadway Segment Level of Service Summary

Roadway	Segment	Configuration	Capacity	Weekday			Saturday		
				Volume	V/C	LOS	Volume	V/C	LOS
Taylor Road	King Road and Horseshoe Bar Road [1] (Loomis)	Two-lane Collector	15,000	18,425	1.23	F	12,980	0.87	D
	Horseshoe Bar Road and Sierra College Boulevard[1] (Loomis)	Two-lane Collector	15,000	12,033	0.80	D	5,145	0.34	A
	Sierra College Boulevard and City Limits [1] (Loomis)	Two-lane Collector	15,000	12,328	0.82	D	6,750	0.45	A
Pacific Street	City Limits and Dominguez Road [1]	Two-lane Collector	15,000	12,238	0.82	D	6,670	0.44	A
	Dominguez Road and Rocklin Road [1]	Four-lane Undivided Arterial	30,000	16,554	0.55	A	7,755	0.26	A
Rocklin Road	Pacific Street and Granite Drive	Four-lane Undivided Arterial	30,000	25,076	0.84	D	14,745	0.49	A
	I-80 and Sierra College Boulevard	Four-lane Undivided Arterial	30,000	15,809	0.53	A	19,055	0.64	B
	Sierra College Boulevard and Barton Road [1] (Loomis)	Two-lane Collector	15,000	6,861	0.46	A	6,000	0.40	A
Barton Road	Rocklin Road and Brace Road [1] (Loomis)	Two-lane Collector	15,000	3,589	0.24	A	2,330	0.16	A
Horseshoe Bar Road	I-80 and Brace Road [1] (Loomis)	Two-lane Collector	15,000	6,191	0.41	A	6,570	0.44	A
Brace Road	I-80 and Barton Road [1] (Loomis)	Two-lane Collector	15,000	4,466	0.30	A	2,520	0.17	A
	I-80 and Sierra College Boulevard [1] (Loomis)	Two-lane Collector	15,000	4,298	0.29	A	1,660	0.11	A
Sierra College Boulevard	English Colony Way and King Road [1] (Placer County)	Two-lane Collector	15,000	14,060	0.94	E	11,300	0.75	C
	King Road and Taylor Road [1] (Loomis)	Two-lane Collector	15,000	14,615	0.97	E	11,430	0.76	C
	Taylor Road and I-80	Two-lane Collector	15,000	23,606	1.57	F	15,500	1.03	F
	I-80 and Dominguez Road	Four-lane Undivided	30,000	22,055	0.74	C	20,650	0.69	B

Roadway	Segment	Configuration	Capacity	Weekday			Saturday		
				Volume	V/C	LOS	Volume	V/C	LOS
		Arterial							
	Dominguez Road and Rocklin Road [1]	Two-lane Collector	15,000	21,985	1.47	F	21,165	1.41	F
Granite Drive	Dominguez Road and Sierra College Boulevard [1]	Four-lane Undivided Arterial	30,000	8,758	0.29	A	7,640	0.25	A
	Dominguez Road and Rocklin Road [1]	Four-lane Undivided Arterial	30,000	10,403	0.35	A	10,285	0.34	A
Dominguez Road	Taylor Road and Granite Drive [1]	Two-lane Collector	15,000	2,787	0.19	A	1,105	0.07	A
King Road	Sierra College Boulevard and Taylor Road [1] (Loomis)	Two-lane Collector	15,000	6,010	0.40	A	3,830	0.26	A

Notes:
[1] LOS C required for these segments. LOS D acceptable for all other segments.

☐ Exceeds level of service criteria

- Pacific Street between City Limits and Dominguez Road
- Sierra College Boulevard between English Colony Way and King Road (Placer County)
- Sierra College Boulevard between King Road and Taylor Road (Loomis)
- Sierra College Boulevard between Taylor Road and I-80
- Sierra College Boulevard between Dominguez Road and Rocklin Road

These segments will exceed the threshold of *daily capacity* in the Existing Plus Approved Projects (baseline) scenario. As explained earlier, however, analysis of potential exceedances of "daily capacity" is not the final determination of whether impacts are significant. Rather, the key question is how such segments perform during *peak hour* conditions. When this second analytical step is applied to the above-referenced segments, the result is that, in both a.m. and p.m. peak hours, all affected segments are forecast to operate with acceptable volume-to-capacity (v/c) ratios, except for the roadway segment of Sierra College Boulevard between Dominguez Road and Rocklin Road, as shown in Table 4.7.11 (see Appendix E). The Sierra College Boulevard segment between Dominguez Road and Rocklin Road is projected to operate at LOS D during the p.m. peak hour.

Existing Plus Approved Projects (Baseline) Plus Project Levels Of Service. Traffic volumes generated by the proposed project were added to the existing plus approved projects (baseline) traffic volumes, and LOS were calculated for the existing plus approved projects (baseline) plus project scenario. The existing plus approved projects (baseline) plus project weekday and Saturday peak-hour traffic volumes are illustrated in Figures 4.7-12 and 4.7-13. The LOS for study area intersections and roadway segments in the existing plus approved projects plus project scenario are shown in Tables 4.7-12 and 4.7-13. The existing plus approved projects plus project LOS worksheets are provided in Appendix E. The LOS for the existing plus approved projects (baseline) plus project condition assumes the reconstruction of the I-80/Sierra College Boulevard interchange, as the interchange improvements have CEQA approval and are fully funded and currently under construction.

As shown in Table 4.7-12, the following seven intersections are forecast to operate at unsatisfactory LOS in the existing plus approved projects (baseline) plus project scenario:

- Rocklin Road/Pacific Street
- Rocklin Road/Granite Drive
- Sierra College Boulevard/Taylor Road (Loomis)
- Sierra College Boulevard/Brace Road (Loomis)
- Sierra College Boulevard/Granite Drive
- Sierra College Boulevard/Rocklin Road
- Horseshoe Bar Road/Taylor Road (Loomis)

Except for the intersection of Rocklin Road/Pacific Street, all the above intersections are significantly impacted in the existing plus approved projects (baseline) plus project scenario.

As shown in Table 4.7-13, most of the study area roadway segments are forecast to operate within their daily roadway capacities except for the following eight roadway segments:

- Taylor Road between King Road and Horseshoe Bar Road (Loomis)
- Taylor Road between Horseshoe Bar Road and Sierra College Boulevard (Loomis)
- Taylor Road between Sierra College Boulevard and City Limits (Loomis)
- Pacific Street between City Limits and Dominguez Road
- Sierra College Boulevard between English Colony Way and King Road (Placer County)
- Sierra College Boulevard between King Road and Taylor Road (Loomis)
- Sierra College Boulevard between Taylor Road and I-80
- Sierra College Boulevard between Dominguez Road and Rocklin Road

Table 4.7-11: Existing Plus Approved Projects (Baseline) Peak Hour Roadway Segment Level of Service Summary

Roadway	Segment	Capacity	Existing + Approved			Existing + Approved + Project		
			Volume	V/C	LOS	Volume	V/C	LOS
Taylor Road	King Rd and Horseshoe Bar Rd (Loomis)							
	A.M. Peak Hour Northbound	1,650	710	0.43	A	720	0.44	A
	A.M. Peak Hour Southbound	1,650	851	0.52	A	867	0.53	A
	Total A.M. Peak Hour	3,300	1,561	0.47	A	1,587	0.48	A
	P.M Peak Hour Northbound	1,650	1,126	0.68	B	1,186	0.72	C
	P.M Peak Hour Southbound	1,650	893	0.54	A	949	0.58	A
	Total P.M. Peak Hour	3,300	2,019	0.61	B	2,135	0.65	B
	SAT Peak Hour Northbound	1,650	690	0.42	A	765	0.46	A
	SAT Peak Hour Southbound	1,650	701	0.42	A	783	0.47	A
	Total SAT Peak Hour	3,300	1,391	0.42	A	1,548	0.47	A
Taylor Road	Horseshoe Bar Rd and Sierra College Blvd (Loomis)							
	A.M. Peak Hour Northbound	1,650	362	0.22	A	373	0.23	A
	A.M. Peak Hour Southbound	1,650	460	0.28	A	468	0.28	A
	Total A.M. Peak Hour	3,300	822	0.25	A	841	0.25	A
	P.M Peak Hour Northbound	1,650	656	0.40	A	744	0.45	A
	P.M Peak Hour Southbound	1,650	580	0.35	A	662	0.40	A

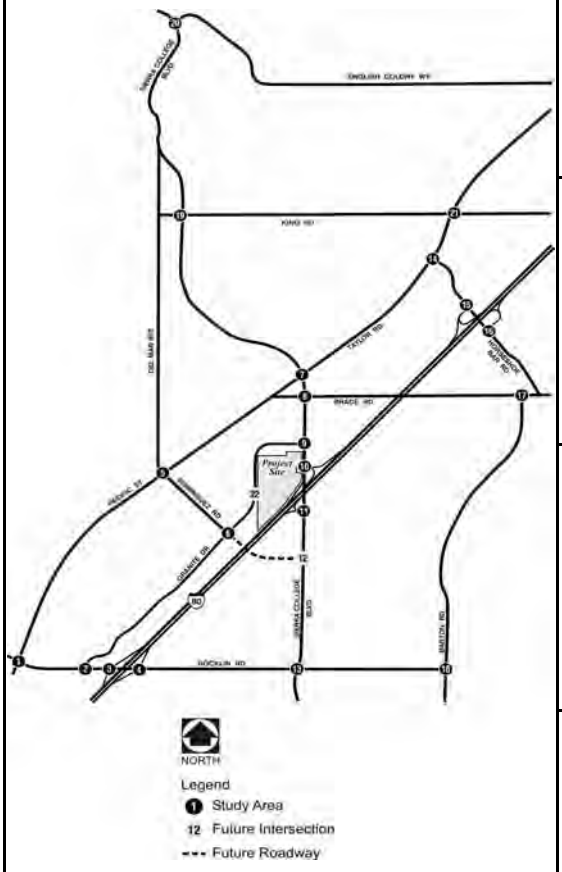
Roadway	Segment	Capacity	Existing + Approved			Existing + Approved + Project		
			Volume	V/C	LOS	Volume	V/C	LOS
	Total P.M. Peak Hour	3,300	1,236	0.37	A	1,406	0.43	A
	SAT Peak Hour Northbound	1,650	522	0.32	A	606	0.37	A
	SAT Peak Hour Southbound	1,650	503	0.30	A	595	0.36	A
	Total SAT Peak Hour	3,300	1,025	0.31	A	1,201	0.36	A
Taylor Road	Sierra College Blvd and City Limits (Loomis)							
	A.M. Peak Hour Northbound	1,650	327	0.20	A	329	0.20	A
	A.M. Peak Hour Southbound	1,650	568	0.34	A	569	0.34	A
	Total A.M. Peak Hour	3,300	895	0.27	A	898	0.27	A
	P.M Peak Hour Northbound	1,650	590	0.36	A	599	0.36	A
	P.M Peak Hour Southbound	1,650	534	0.32	A	544	0.33	A
	Total P.M. Peak Hour	3,300	1,124	0.34	A	1,143	0.35	A
	SAT Peak Hour Northbound	1,650	316	0.19	A	330	0.20	A
	SAT Peak Hour Southbound	1,650	334	0.20	A	347	0.21	A
	Total SAT Peak Hour	3,300	650	0.20	A	677	0.21	A
Pacific Street	City Limits and Dominguez Rd							
	A.M. Peak Hour Northbound	1,650	422	0.26	A	425	0.26	A
	A.M. Peak Hour Southbound	1,650	433	0.26	A	434	0.26	A
	Total A.M. Peak Hour	3,300	855	0.26	A	859	0.26	A
	P.M Peak Hour Northbound	1,650	516	0.31	A	523	0.32	A
	P.M Peak Hour Southbound	1,650	541	0.33	A	549	0.33	A
	Total P.M. Peak Hour	3,300	1,057	0.32	A	1,072	0.32	A
	SAT Peak Hour Northbound	1,650	337	0.20	A	348	0.21	A
	SAT Peak Hour Southbound	1,650	305	0.18	A	315	0.19	A
	Total SAT Peak Hour	3,300	642	0.19	A	663	0.20	A
Sierra College Boulevard	English Colony Way and King Rd (Placer County)							
	A.M. Peak Hour Northbound	1,650	340	0.21	A	352	0.21	A
	A.M. Peak Hour Southbound	1,650	686	0.42	A	705	0.43	A
	Total A.M. Peak Hour	3,300	1,026	0.31	A	1,057	0.32	A
	P.M Peak Hour Northbound	1,650	841	0.51	A	908	0.55	A
	P.M Peak Hour Southbound	1,650	565	0.34	A	627	0.38	A
	Total P.M. Peak Hour	3,300	1,406	0.43	A	1,535	0.47	A
	SAT Peak Hour Northbound	1,650	553	0.34	A	637	0.39	A
	SAT Peak Hour Southbound	1,650	577	0.35	A	669	0.41	A
	Total SAT Peak Hour	3,300	1,130	0.34	A	1,306	0.40	A

Roadway	Segment	Capacity	Existing + Approved			Existing + Approved + Project		
			Volume	V/C	LOS	Volume	V/C	LOS
Sierra College Boulevard	King Rd and Taylor Rd (Loomis)							
	A.M. Peak Hour Northbound	1,650	413	0.25	A	425	0.26	A
	A.M. Peak Hour Southbound	1,650	739	0.45	A	757	0.46	A
	Total A.M. Peak Hour	3,300	1,152	0.35	A	1,182	0.36	A
	P.M Peak Hour Northbound	1,650	959	0.58	A	1,026	0.62	B
	P.M Peak Hour Southbound	1,650	661	0.40	A	723	0.44	A
	Total P.M. Peak Hour	3,300	1,620	0.49	A	1,749	0.53	A
	SAT Peak Hour Northbound	1,650	589	0.36	A	674	0.41	A
	SAT Peak Hour Southbound	1,650	574	0.35	A	666	0.40	A
	Total SAT Peak Hour	3,300	1,163	0.35	A	1,340	0.41	A
Sierra College Boulevard	Taylor Rd and I-80							
	A.M. Peak Hour Northbound	1,650	564	0.34	A	607	0.37	A
	A.M. Peak Hour Southbound	1,650	798	0.48	A	866	0.52	A
	Total A.M. Peak Hour	3,300	1,362	0.41	A	1,473	0.45	A
	P.M Peak Hour Northbound	1,650	1,009	0.61	B	1,260	0.76	C
	P.M Peak Hour Southbound	1,650	928	0.56	A	1,159	0.70	C
	Total P.M. Peak Hour	3,300	1,937	0.59	A	2,419	0.73	C
	SAT Peak Hour Northbound	1,650	763	0.46	A	1,079	0.65	B
	SAT Peak Hour Southbound	1,650	788	0.48	A	1,130	0.68	B
	Total SAT Peak Hour	3,300	1,551	0.47	A	2,209	0.67	B
Sierra College Boulevard	Dominguez Rd and Rocklin Rd							
	A.M. Peak Hour Northbound	1,650	747	0.45	A	790	0.48	A
	A.M. Peak Hour Southbound	1,650	994	0.60	A	1,021	0.62	B
	Total A.M. Peak Hour	3,300	1,741	0.53	A	1,811	0.55	A
	P.M Peak Hour Northbound	1,650	1,246	0.76	C	1,393	0.84	D
	P.M Peak Hour Southbound	1,650	1,122	0.68	B	1,282	0.78	C
	Total P.M. Peak Hour	3,300	2,368	0.72	C	2,675	0.81	D
	SAT Peak Hour Northbound	1,650	1,020	0.62	B	1,222	0.74	C
	SAT Peak Hour Southbound	1,650	1,097	0.66	B	1,298	0.79	C
	Total SAT Peak Hour	3,300	2,117	0.64	B	2,520	0.76	C

Notes:

☐ Exceeds level of service criteria

■ Significant Impact



1 Pacific St/Rocklin Rd	2 Granite Dr/Rocklin Rd	3 I-80 WB Ramp/Rocklin Rd
4 I-80 EB Ramp/Rocklin Rd	5 Dominguez Rd/Pacific St	6 Granite Dr/Dominguez Rd
7 Sierra College Blvd/Taylor Rd	8 Sierra College Blvd/Brace Rd	9 Sierra College Blvd/Granite Dr
10 Sierra College/I-80 WB Ramp	11 Sierra College/I-80 EB Ramp	12 Sierra College/Dominguez Rd
13 Sierra College/Rocklin Rd	14 Horseshoe Bar Rd/Taylor Rd	15 Horseshoe Bar/I-80 WB Ramp
16 Horseshoe Bar/I-80 EB Ramp	17 Barton Rd/Brace Rd	
18 Barton Rd/Rocklin Rd	19 Sierra College Blvd/King Rd	20 Sierra College/English Colony
21 Taylor Rd/King Rd	22 Granite Dr/Project Driveway #2	

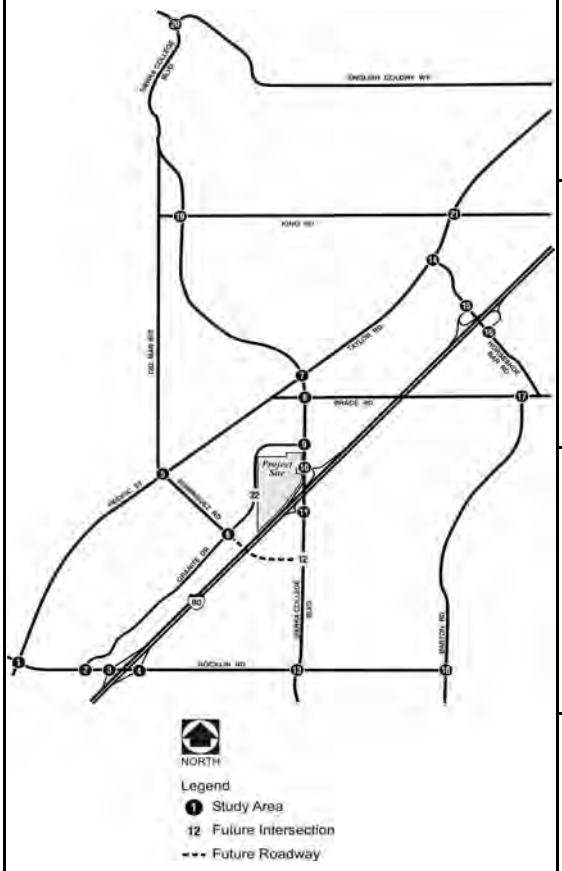
LSA

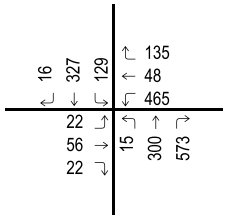
FIGURE 4.7-12

Rocklin Commons

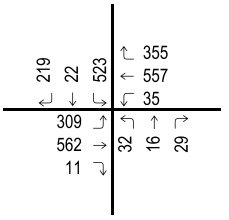
Existing Plus Approved Projects (Baseline) Plus Project Peak Hour Traffic Volumes

P:\RCK0801\Graphics\EIR\New 6_2009\Figure4.7-12.ai (06/29/09)

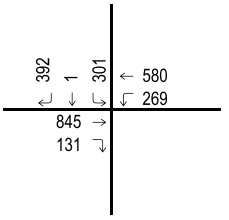




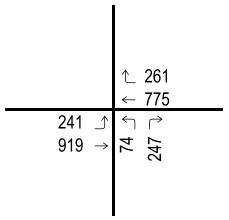
1 Pacific St/Rocklin Rd



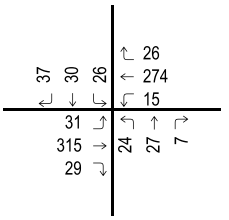
2 Granite Dr/Rocklin Rd



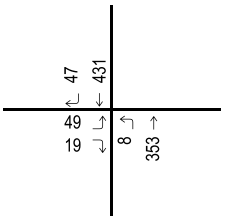
3 I-80 WB Ramp/Rocklin Rd



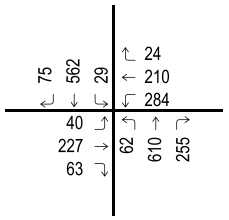
4 I-80 EB Ramp/Rocklin Rd



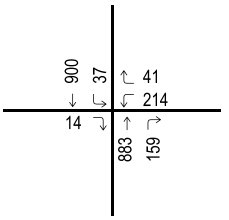
5 Dominguez Rd/Pacific St



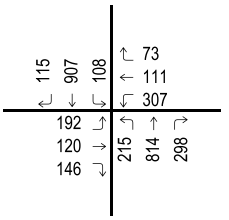
6 Granite Dr/Dominguez Rd



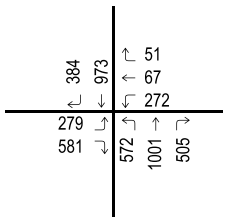
7 Sierra College Blvd/Taylor Rd



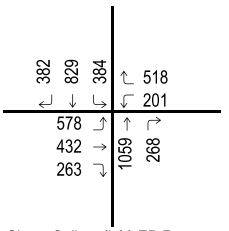
8 Sierra College Blvd/Brace Rd



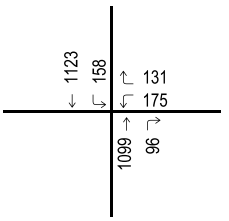
9 Sierra College Blvd/Granite Dr



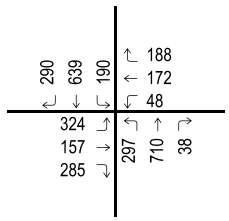
10 Sierra College/I-80 WB Ramp



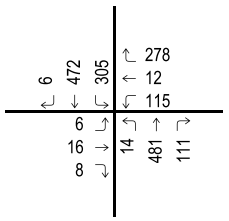
11 Sierra College/I-80 EB Ramp



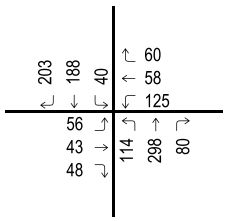
12 Sierra College/Dominguez Rd



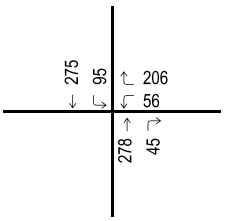
13 Sierra College/Rocklin Rd



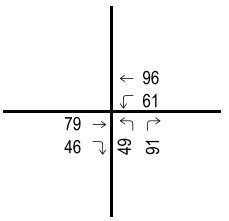
14 Horseshoe Bar Rd/Taylor Rd



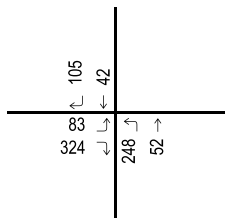
15 Horseshoe Bar/I-80 WB Ramp



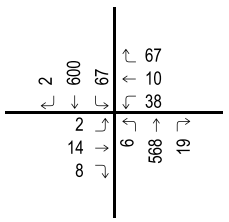
16 Horseshoe Bar/I-80 EB Ramp



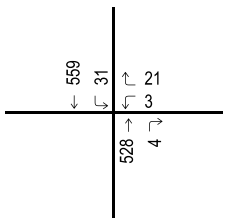
17 Barton Rd/Brace Rd



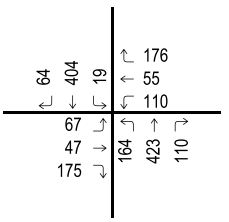
18 Barton Rd/Rocklin Rd



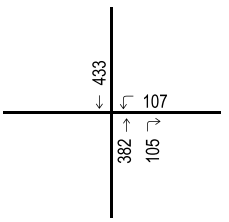
19 Sierra College Blvd/King Rd



20 Sierra College/English Colony



21 Taylor Rd/King Rd



22 Sierra College Blvd/Black Willow St

LSA

FIGURE 4.7-13

Rocklin Commons

Existing Plus Approved Projects (Baseline) Plus Project Saturday Peak Hour Traffic Volumes

P:\RCK0801\Graphics\EIR\New 6_2009\Figure4.7-13.ai (06/29/09)

Table 4.7-12: Existing Plus Approved Projects (Baseline) Plus Project Conditions Intersection Level of Service Summary

Intersection		Control Type	Existing Plus Approved Condition						Existing Plus Approved Plus Project Condition					
			AM Peak Hour		PM Peak Hour		Saturday		AM Peak Hour		PM Peak Hour		Saturday	
			V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS	V/C Ratio / Delay	LOS
1	Rocklin Road/Pacific Street [1]	Signalized	0.970	E	1.026	F	0.720	C	0.976	E[2]	1.051	F[2]	0.753	C
2	Rocklin Road/Granite Drive	Signalized	0.532	A	0.929	E	0.672	B	0.540	A	0.985	E	0.717	C
3	Rocklin Road/I-80 Westbound Ramps	Signalized	23.2 sec	C	38.9 sec	D	25.9 sec	C	23.3 sec	C	40.6 sec	D	26.3 sec	C
4	Rocklin Road/I-80 Eastbound Ramps	Signalized	32.5 sec	C	45.2 sec	D	16.1 sec	B	32.7 sec	C	46.4 sec	D	16.4 sec	B
5	Dominguez Road/Pacific Street [1]	Signalized	0.433	A	0.499	A	0.320	A	0.436	A	0.504	A	0.336	A
6	Dominguez Road/Granite Drive [1]	Unsignalized	12.6 sec	B	15.4 sec	B	13.3 sec	B	12.9 sec	B	17.6 sec	C	15.2 sec	B
7	Sierra College Boulevard/Taylor Road [1] (Loomis)	Signalized	0.854	D	1.091	F	0.732	C	0.888	D[2]	1.211	F	0.891	D
8	Sierra College Boulevard/Brace Road [1] (Loomis)	Signalized	0.626	B	0.847	D	0.597	A	0.677	B	1.029	F	0.832	D
9	Sierra College Boulevard/Granite Drive	Signalized	0.798	C	1.027	F	0.951	E	0.852	D	1.206	F	1.218	F
10	Sierra College Boulevard/I-80 Westbound Ramps	Signalized	9.0 sec	A	8.2 sec	A	6.0 sec	A	15.5 sec	B	28.5 sec	C	34.3 sec	C
11	Sierra College Boulevard/I-80 Eastbound Ramps	Signalized	13.0 sec	B	22.4 sec	C	24.6 sec	C	14.7 sec	B	25.3 sec	C	39.7 sec	D
12	Sierra College Boulevard/Dominguez Road	-	0.256	A	0.467	A	0.410	A	0.262	A	0.517	A	0.482	A
13	Sierra College Boulevard/Rocklin Road [1]	Signalized	0.854	D	1.150	F	1.018	F	0.873	D[2]	1.234	F	1.135	F
14	Horseshoe Bar Road/Taylor Road [1] (Loomis)	Signalized	0.813	D	0.956	E	0.713	C	0.824	D[2]	1.008	F	0.783	C
15	Horseshoe Bar Road/I-80 Westbound Ramps [1] (Loomis)	Signalized	20.1 sec	C	21.7 sec	C	22.4 sec	C	20.1 sec	C	21.7 sec	C	22.4 sec	C
16	Horseshoe Bar Road/I-80 Eastbound Ramps [1] (Loomis)	Unsignalized	16.5 sec	C	19.0 sec	C	12.4 sec	B	16.7 sec	C	19.8 sec	C	12.8 sec	B
17	Barton Road/Brace Road [1] (Loomis)	Unsignalized	16.7 sec	C	16.3 sec	C	10.0 sec	A	17.1 sec	C	17.8 sec	C	10.5 sec	B
18	Barton Road/Rocklin Road [1] (Loomis)	Unsignalized	16.7 sec	C	12.3 sec	B	11.5 sec	B	17.4 sec	C	13.4 sec	B	12.7 sec	B
19	Sierra College Boulevard/King Road [1] (Loomis)	Signalized	0.536	A	0.716	C	0.526	A	0.551	A	0.765	C	0.590	A
20	Sierra College Boulevard/English Colony Way [1] (Placer County)	Unsignalized	11.7 sec	B	16.0 sec	C	12.4 sec	B	11.8 sec	B	17.5 sec	C	13.6 sec	B
21	Taylor Road/King Road [1] (Loomis)	Signalized	0.791	C	0.763	C	0.553	A	0.800	C	0.785	C	0.616	B
22	Granite Drive/Project Driveway #2	-	-	-	-	-	-	-	0.108	A	0.200	A	0.193	A

Notes:

ICU critical V/C ratio is used for signalized intersections. HCM delay in seconds is used for unsignalized intersections.

[1] LOS C required for these intersections. LOS D acceptable for all other intersections.

[2] Project impact is less than 5% of total intersection V/C or delay and therefore not a significant impact.

☐ Exceeds level of service criteria

▩ (Shade) = Significant Impact

Table 4.7-13: Existing Plus Approved Projects (Baseline) Plus Project-Daily Roadway Segment Level of Service Summary

Roadway	Segment	Configuration	Capacity	Existing Plus Approved						Existing Plus Approved Plus Project					
				Weekday			Saturday			Weekday			Saturday		
				Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
Taylor Road	King Road and Horseshoe Bar Road [1] (Loomis)	Two-lane Collector	15,000	18,425	1.23	F	12,980	0.87	D	19,575	1.31	F	14,550	0.97	E
	Horseshoe Bar Road and Sierra College Boulevard[1] (Loomis)	Two-lane Collector	15,000	12,033	0.80	D	5,145	0.34	A	13,523	0.90	E	7,180	0.48	A
	Sierra College Boulevard and City Limits [1] (Loomis)	Two-lane Collector	15,000	12,328	0.82	D	6,750	0.45	A	12,528	0.84	D	7,020	0.47	A
Pacific Street	City Limits and Dominguez Road [1]	Two-lane Collector	15,000	12,238	0.82	D	6,670	0.44	A	12,378	0.83	D	6,870	0.46	A
	Dominguez Road and Rocklin Road [1]	Four-lane Undivided Arterial	30,000	16,554	0.55	A	7,755	0.26	A	16,674	0.56	A	7,915	0.26	A
Rocklin Road	Pacific Street and Granite Drive	Four-lane Undivided Arterial	30,000	25,076	0.84	D	14,745	0.49	A	25,366	0.85	D	15,675	0.52	A
	I-80 and Sierra College Boulevard	Four-lane Undivided Arterial	30,000	15,809	0.53	A	19,055	0.64	B	15,969	0.53	A	19,270	0.64	B
	Sierra College Boulevard and Barton Road [1] (Loomis)	Two-lane Collector	15,000	6,861	0.46	A	6,000	0.40	A	7,861	0.52	A	7,380	0.49	A
Barton Road	Rocklin Road and Brace Road [1] (Loomis)	Two-lane Collector	15,000	3,589	0.24	A	2,330	0.16	A	3,659	0.24	A	2,425	0.16	A
Horseshoe Bar Road	I-80 and Brace Road [1] (Loomis)	Two-lane Collector	15,000	6,191	0.41	A	6,570	0.44	A	6,481	0.43	A	6,960	0.46	A
Brace Road	I-80 and Barton Road [1] (Loomis)	Two-lane Collector	15,000	4,466	0.30	A	2,520	0.17	A	4,896	0.33	A	3,100	0.21	A
	I-80 and Sierra College Boulevard [1] (Loomis)	Two-lane Collector	15,000	4,298	0.29	A	1,660	0.11	A	5,918	0.39	A	3,870	0.26	A
Sierra College Boulevard	English Colony Way and King Road [1] (Placer County)	Two-lane Collector	15,000	14,060	0.94	E	11,300	0.75	C	15,350	1.02	F	13,070	0.87	D
	King Road and Taylor Road [1] (Loomis)	Two-lane Collector	15,000	14,615	0.97	E	11,430	0.76	C	15,905	1.06	F	13,200	0.88	D
	Taylor Road and I-80	Two-lane Collector	15,000	23,606	1.57	F	15,500	1.03	F	28,416	1.89	F	22,060	1.47	F
	I-80 and Dominguez Road	Four-lane Undivided Arterial	30,000	22,055	0.74	C	20,650	0.69	B	25,650	0.85	D	25,550	0.85	D
	Dominguez Road and Rocklin Road [1]	Two-lane Collector	15,000	21,985	1.47	F	21,165	1.41	F	24,950	1.66	F	25,210	1.68	F
Granite Drive	Dominguez Road and Sierra College Boulevard [1]	Four-lane Undivided Arterial	30,000	8,758	0.29	A	7,640	0.25	A	9,618	0.32	A	8,780	0.29	A
	Dominguez Road and Rocklin Road [1]	Four-lane Undivided Arterial	30,000	10,403	0.35	A	10,285	0.34	A	11,183	0.37	A	11,350	0.38	A
Dominguez Road	Taylor Road and Granite Drive [1]	Two-lane Collector	15,000	2,787	0.19	A	1,105	0.07	A	2,922	0.19	A	1,280	0.09	A
King Road	Sierra College Boulevard and Taylor Road [1] (Loomis)	Two-lane Collector	15,000	6,010	0.40	A	3,830	0.26	A	6,010	0.40	A	3,830	0.26	A

Notes:

[1] LOS C required for these segments. LOS D acceptable for all other segments.

☐ Exceeds level of service criteria

Similar to the previous scenarios, these segments will exceed the daily capacity in the existing plus approved projects (baseline) plus project scenario. In both the a.m. and p.m. peak hours, however, seven of the eight roadway segments are forecast to operate with satisfactory v/c ratios in both peak hours with project conditions, as shown in Table 4.7-11. Therefore, the project does not cause a significant impact on those seven roadway segments. However, southbound Sierra College Boulevard between Dominguez Road and Rocklin Road is expected to operate at LOS D in the p.m. peak hour if the proposed project and other approved projects were constructed while this roadway is a two-lane collector.

4.7.4 Impacts and Mitigation

TC-1: Rocklin Road/Granite Drive. *The addition of project-related traffic to baseline traffic volumes would degrade traffic operations at the already-deficient intersection, which is operating at LOS E during the p.m. peak hour in the existing plus approved projects (baseline) condition. Because this intersection already operates unacceptably and the project's contribution would be greater than 5 percent, this impact would be considered* ***potentially significant.***

Mitigation Measure TC-1 Rocklin Road/Granite Drive.

The project applicant shall be responsible for converting the existing southbound right turn lane (Granite Drive) to a free right turn, by restriping the departure lane (west leg) along Rocklin Road to accommodate the receiving pocket for the right turning vehicles. In addition, the project applicants shall stripe a median island which will separate the turning traffic (southbound right along Granite Drive) from the through traffic (westbound through along Rocklin Road) and restripe a portion of Rocklin Road (west leg) to accommodate two 12 foot through lanes in each direction, a 12 foot median lane, one 4 foot bike lane in each direction and an acceleration lane (in the westbound direction) for vehicles turning right (from southbound Granite Drive) onto Rocklin Road. Based on the current posted speed limit (35 mph) along Rocklin Road a 250 foot acceleration lane and a 250 foot transition is required which can be accommodated within the existing pavement along Rocklin Road.

Level of Significance after Mitigation

With the implementation of the identified mitigation measure, the project's direct incremental impact would be mitigated (v/c reduced from 0.985 to 0.894 and LOS reduced from E to D) and this impact would be considered ***less-than-significant***.

TC-2: Sierra College Boulevard/Taylor Road (Loomis). *The addition of project-related traffic to baseline traffic volumes would degrade traffic operations at the already-deficient Sierra College Boulevard/Taylor Road (Loomis) intersection, which is operating at LOS D during the a.m. peak hour and LOS F during the p.m. peak hour in the existing plus approved projects (baseline) condition. Because this intersection already operates unacceptably and the project's contribution would be greater than 5 percent, in the a.m. and p.m. peak hour*

and the project also degrades the LOS at this intersection from LOS C to LOS D during the Saturday peak hour, the project's impacts on this intersection would be considered ***potentially significant.***

Mitigation Measure TC-2: Improvements to Sierra College Boulevard/Taylor Road (Loomis).

The project applicant shall be responsible for adding a westbound left-turn lane (resulting in dual left-turn lanes). The dual westbound left-turn lanes can be accommodated within the existing right-of-way by restriping the exclusive westbound through lane to a left-turn lane and by restriping the exclusive right-turn lane to a combined through/right-turn lane.

In order to implement this measure, the project applicant shall attempt, in good faith, to enter into an agreement with the Town of Loomis by which the applicant either shall be responsible for constructing the improvements at issue or shall provide to the Town of Loomis with funding in an amount equal to the agreed upon estimated cost of the improvements.

Level of Significance after Mitigation

In correspondence with the City, the Town of Loomis has preliminarily indicated a willingness to cooperate with the City in implementing improvements at this intersection, but has stopped short of agreeing to the specific improvements described above, which reflect the best professional judgment of the City and its traffic engineering consultants. The City is hopeful, though not certain, that Loomis will ultimately agree to install these improvements (though at the expense of the project applicant).

With the implementation of the identified mitigation measure, the project's direct incremental impact would be mitigated (1.211 v/c reduced to 1.084 in the pm and 0.891 v/c reduced to 0.792 Saturday)and this impact would be considered ***less-than-significant***. Because the Town of Loomis controls what occurs at the intersection, however, the City conservatively concludes that, at the time of action by its City Council, the impact would be treated as ***significant and unavoidable***, given that the City has no control over Loomis and thus cannot take for granted that the improvements contemplated by the mitigation will be constructed. Furthermore, although Mitigation Measure TC-2 requires the applicant to try to enter into an agreement with Loomis by which the applicant will be responsible for the improvements, the City has no way to ensure that Loomis will cooperate with the applicant pursuant to that measure. An agreement requires two cooperating parties, and the City cannot force Loomis to cooperate if it chooses not to do so. For these reasons, consistent with CEQA Guidelines section 15091, subdivision (a)(2), the City concludes that Loomis can and should cooperate with the City in implementing the mitigation. With such action by Loomis, the impact of the project would be rendered less than significant, though at present, as noted above, the City considers the impact ***significant and unavoidable***.

TC-3: Sierra College Boulevard/Brace Road (Loomis). *The addition of project-related traffic to baseline traffic volumes would degrade traffic operations at the Sierra College Boulevard/Brace Road (Loomis) intersection from an already deficient LOS D during the p.m. peak hour to LOS F and from an acceptable LOS A during the Saturday peak hour to LOS D . Therefore, the project's impacts on this intersection would be considered* ***potentially significant.***

Mitigation Measure TC-3 Sierra College Boulevard/Brace Road (Loomis).

The project applicant shall be responsible for adding a second through lane on Sierra College Boulevard in both the northbound and southbound directions for 300 feet from the intersection with Brace Road plus taper lanes in both the northbound and southbound directions for an additional 300 feet.

In order to implement this measure, the project applicant shall attempt, in good faith, to enter into an agreement with the Town of Loomis by which the applicant either shall be responsible for constructing the improvements at issue or shall provide to the Town of Loomis with funding in an amount equal to the agreed upon estimated cost of the improvements.

Level of Significance after Mitigation

With the implementation of the identified mitigation measure, the intersection would operate at an acceptable LOS A on Saturday and LOS B in the pm peak hour and this impact would be considered ***less-than-significant***. Because the Town of Loomis controls what occurs at the intersection, however, the City conservatively concludes that, at the time of action by its City Council, the impact would be treated as ***significant and unavoidable***, given that the City has no control over Loomis and thus cannot take for granted that the improvements contemplated by the mitigation will be constructed. Furthermore, although Mitigation Measure TC-3 requires the applicant to try to enter into an agreement with Loomis by which the applicant will be responsible for the improvements or will make fair share payments to the Town of Loomis, the City has no way to ensure that Loomis will cooperate with the applicant pursuant to that measure. An agreement requires two cooperating parties, and the City cannot force Loomis to cooperate if it chooses not to do so. For these reasons, consistent with CEQA Guidelines section 15091, subdivision (a)(2), the City concludes that Loomis can and should cooperate with the City in implementing the mitigation. With such action by Loomis, the impact of the project would be rendered less than significant, though at present, as noted above, the City considers the impact ***significant and unavoidable***.

TC-4: Sierra College Boulevard/Granite Drive. *The addition of project-related traffic to baseline traffic volumes would degrade traffic operations at the already deficient Sierra College Boulevard/Granite Drive intersection, which is operating at a LOS of F during the p.m. peak and LOS E during the Saturday peak hours in the existing plus approved projects (baseline) condition. Because this intersection already operates unacceptably and the project's contribution would be greater than 5 percent, this impact would be considered* ***potentially significant.***

Mitigation Measure TC-4 Sierra College Boulevard/Granite Drive.

The project applicant shall be responsible for adding a second through lane on Sierra College Boulevard in both the northbound and southbound directions for 300 feet from the intersection with Granite Drive plus taper lanes in both the northbound and southbound direction for an additional 300 feet. A portion of the northbound taper lane to be constructed is in the Town of Loomis.
For the portion of the improvements required to be implemented within the Town of Loomis, the project applicant shall attempt, in good faith, to enter into an agreement with the Town of Loomis by which the applicant either shall be responsible for constructing the improvements at issue or shall

provide to the Town of Loomis with funding in an amount equal to the agreed upon estimated cost of the improvements.

Level of Significance after Mitigation
The southbound through lane can be implemented with restriping of existing pavement only. The existing "right turn only" lane would be converted to a shared "through/right turn" lane and there is existing improvement on the south side of the intersection to accept the second through lane. The second northbound through lane can be implemented within existing pavement on the south side of the intersection. On the north side there is sufficient pavement for about 300 feet; however, there is not sufficient pavement for a transition from two lanes to one. This would require at least 300 feet of additional improvement. With the implementation of the identified mitigation measure, the project's direct incremental impact is mitigated (1.206 v/c reduced to 0.853 pm and 1.218 v/c reduced to 0.907 Saturday) and this impact would be considered ***less-than-significant***.

Because the Town of Loomis partially controls what occurs at a section of the north leg along Sierra College Boulevard through the Town of Loomis, however, the City conservatively concludes that, at the time of action by its City Council, the impact would be treated as ***significant and unavoidable***, given that the City has no control over Loomis and thus cannot take for granted that the improvements contemplated by the mitigation will be constructed. Furthermore, although Mitigation Measure TC-4 requires the applicant to try to enter into an agreement with Loomis by which the applicant by which the applicant will be responsible for the improvements, the City has no way to ensure that Loomis will cooperate with the applicant pursuant to that measure. An agreement requires two cooperating parties, and the City cannot force Loomis to cooperate if it chooses not to do so. For these reasons, consistent with CEQA Guidelines section 15091, subdivision (a)(2), the City concludes that Loomis can and should cooperate with the City in implementing the mitigation. With such action by Loomis, the impact of the project would be rendered less than significant, though at present, as noted above, the City considers the impact ***significant and unavoidable***.

TC-5: Sierra College Boulevard/Rocklin Road. *The addition of project-related traffic to baseline traffic volumes would degrade traffic operations at the already-deficient Sierra College Boulevard/Rocklin Road intersection, which is operating at LOS F during the p.m. and Saturday peak hours in the existing plus approved projects (baseline) condition. Because this intersection already operates unacceptably and the project's contribution would be greater than 5 percent, this impact would be considered* ***potentially significant.***

Mitigation Measure TC-5 Sierra College Boulevard/Rocklin Road.

The project applicant shall be responsible for the construction of an additional northbound left-turn lane (resulting in dual left-turn lanes) and shall be responsible for the Project's fair share of construction of an exclusive southbound right-turn lane at this intersection which will mitigate the p.m. peak hour and Saturday midday peak hour. The project applicant shall pay its Traffic Impact fees (including applicable SPRTA fees) as mandated as the Project's fair share contributions to the construction of the Sierra College Boulevard Widening Project, consistent with the City's CIP.

Level of Significance after Mitigation

The proposed project would be conditioned to contribute its fair share to the cost of circulation improvements via the SPRTA fee and the City's TIM fee. The SPRTA is a Joint Powers Authority (JPA) comprised of the Cities of Lincoln, Rocklin, Roseville and the County of Placer. The SPRTA was formed for the purpose of implementing a regional transportation and air quality mitigation fee to fund specified regional transportation projects. The Placer County Transportation Planning Agency (PCTPA) is designated as the entity to provide administrative, accounting, and staffing support for the SPRTA. PCTPA adopted a Regional Transportation Funding Strategy in August 2000, which included the development of a regional transportation impact fee program and a mechanism to implement the impact fee. The Sierra College Boulevard Widening Project, one of the many improvement projects identified by SPRTA, currently in the final design stage by the City of Rocklin.

Because the City TIM fee and SPRTA fee programs are reasonable mitigation plans pursuant to which fair share payments can be depended upon to result in the eventual construction of the improvements at issue and the operation of the segment at issue at an acceptable LOS A, the project's impacts on the portion of Sierra College Boulevard within the City of Rocklin would be considered ***less-than-significant*** after mitigation.

TC-6: Horseshoe Bar Road/Taylor Road (Loomis). *The addition of project-related traffic to baseline traffic volumes would degrade traffic operations at the already-deficient Horseshoe Bar Road/Taylor Road (Loomis) intersection which is operating at LOS E with a volume to capacity ratio of 0.956 during the p.m. peak hour in the existing plus approved projects (baseline) condition. The intersection will operate at LOS F with a v/c ratio of 1.008 after the addition of project traffic. Because this intersection already operates unacceptably and the project's contribution would be greater than 5 percent, this impact would be considered* ***potentially significant.***

Mitigation Measure TC-6 Horseshoe Bar Road/Taylor Road (Loomis).

The project applicant shall be responsible for the creation (restriping) of an additional northbound right-turn lane from Taylor Road to Horseshoe Bar Road within the Town of Loomis.

In order to implement this measure, the project applicant shall attempt, in good faith, to enter into an agreement with the Town of Loomis by which the applicant either shall be responsible for constructing the improvements at issue or shall provide to the Town of Loomis with funding in an amount equal to the agreed upon estimated cost of the improvements.

Level of Significance after Mitigation

The identified mitigation would formalize an exclusive right turn lane increasing capacity that does occasionally occur at this time without the striping. The northbound right-turn lane can be accommodated within the existing improvements. On Taylor Road northbound there is a 27 foot curb lane that accommodates a through lane and some on-street parking. Approaching Horseshoe Bar Road the parking could be restricted for about 100 feet before the intersection and a "Right Turn Only" lane striped. Parking for two to three vehicles will be displaced. With the implementation of the identified mitigation measure, the intersection would operate at LOS E with a volume to capacity ratio of 0.921 (lower than without project conditions) and this impact would be considered ***less-than-***

significant. Because the Town of Loomis controls what occurs at the intersection, however, the City conservatively concludes that, at the time of action by its City Council, the impact would be treated as ***significant and unavoidable***, given that the City has no control over Loomis and thus cannot take for granted that the improvements contemplated by the mitigation will be constructed. Furthermore, although Mitigation Measure TC-6 requires the applicant to try to enter into an agreement with Loomis by which the applicant will be responsible for the improvements, the City has no way to ensure that Loomis will cooperate with the applicant pursuant to that measure. An agreement requires two cooperating parties, and the City cannot force Loomis to cooperate if it chooses not to do so. For these reasons, consistent with CEQA Guidelines section 15091, subdivision (a)(2), the City concludes that Loomis can and should cooperate with the City in implementing the mitigation. With such action by Loomis, the impact of the project would be rendered less than significant, though at present, as noted above, the City considers the impact ***significant and unavoidable***.

TC-7: Roadway Segments Exceedance of LOS Threshold. T*he proposed project would cause the roadway segment of southbound Sierra College Boulevard between Dominguez Road to exceed the LOS based on the peak hour directional volume to capacity ratio. Therefore, the project's impact on this roadway segment would be considered* ***potentially significant.***

As shown above, only one roadway segment, southbound Sierra College Boulevard between Dominguez Road (at its point of future connection, as contemplated by the City's General Plan) and Rocklin Road is expected to operate at LOS D in the p.m. peak hour (exceeds LOS criteria) if the proposed project and other approved projects were constructed while this roadway is a two-lane collector. The City has completed preliminary design for the widening of Sierra College Boulevard to four lanes between I-80 and El Don Drive (this segment includes the portion of Sierra College Boulevard between Dominguez Road and Rocklin Road that is affected by the project), and this project is included in the City's Capital Improvement Projects list. The overall Sierra College Boulevard Widening project is broken into two phases – Phase I south of the interchange to El Don Drive (in Rocklin) and Phase II north of the interchange from Granite Drive to Taylor Road (which includes segments in both Rocklin and Loomis). The City is proposing to bid the project in spring 2009, with construction on Phase I beginning in June 2009. City staff indicated that the Phase I portion of the project is fully funded, and staff anticipates four to six month construction duration for Phase I.

Mitigation Measure TC-7: Make Fair Share Contributions to Improvements on Sierra College Boulevard between Dominguez Road and Rocklin Road.

The project applicant shall be responsible for the Project's fair share of the cost of the physical improvements necessary to reduce the severity of the Project's significant transportation-related impacts to the southbound direction of this segment, including the construction of an additional (second) through lane in both the northbound and southbound directions on Sierra College Boulevard. The project applicant shall pay its Traffic Impact fees (including applicable SPRTA fees) as mandated as the Project's fair share contributions to the construction of the Sierra College Boulevard Widening Project, consistent with the City's CIP.

Level of Significance after Mitigation

The proposed project would be conditioned to contribute its fair share to the cost of circulation improvements via the SPRTA fee and City traffic impact mitigation (TIM) f fee programs. The SPRTA is a Joint Powers Authority (JPA) comprised of the Cities of Lincoln, Rocklin, Roseville and the County of Placer. The SPRTA was formed for the purpose of implementing a regional transportation and air quality mitigation fee to fund specified regional transportation projects. The Placer County Transportation Planning Agency (PCTPA) is designated as the entity to provide administrative, accounting, and staffing support for the SPRTA. PCTPA adopted a Regional Transportation Funding Strategy in August 2000, which included the development of a regional transportation impact fee program and a mechanism to implement the impact fee. The Sierra College Boulevard Widening Project, is one of the many improvement projects identified by SPRTA, is currently in the final design stage by the City of Rocklin.

The Citywide TIM fee program is one of the various methods that the City of Rocklin uses for financing improvements identified in the Capital Improvement Program (CIP). The TIM fee program is based on a uniformly applied development policy and standard for collecting fair share fees for the cost of circulation improvements. The CIP, which is overseen by the City's Engineering Division, is updated periodically to assure that growth in the City and surrounding jurisdictions does not degrade the Level of Service on the City's roadways. The roadway improvements that are identified in the CIP in response to anticipated growth in population and development and population growth in the City are consistent with the City's Circulation Element. The traffic impact fee program collects funds from new development in the City to finance a portion of the roadway improvements that result from traffic generated by new development. Fees are calculated on a citywide basis, differentiated by type of development in relationship to their relative traffic impacts. The intent of the fee is to provide an equitable means of ensuring that future development contributes their fair share of roadway improvements, so that the City's General Plan Circulation policies and quality of life can be maintained.

Because the City TIM and SPRTA fee programs are reasonable mitigation plans pursuant to which fair share payments can be depended upon to result in the eventual construction of the improvements at issue and the operation of the segment at issue at an acceptable LOS A, the project's impacts on the portion of Sierra College Boulevard within the City of Rocklin would be considered ***less-than-significant*** after mitigation.

Freeway Mainline Analysis

TC-8: Freeway Mainlines. *The freeway mainlines would operate unacceptably in the p.m. peak hour during the baseline scenario prior to the addition of project traffic. The addition of project traffic in the baseline scenario, however, would not increase traffic volumes by more that 5 percent. Therefore, the project's impacts on the freeway mainlines would be considered* ***less-than-significant****.*

Existing Freeway Segment Traffic Volumes. Existing without project freeway segment bidirectional volumes are derived from the Annual Average Daily Traffic (AADT) volume data published by Caltrans in 2006 (consistent with the year the intersection counts were collected for the

study). The peak hour segment volumes for these segments were based on Caltrans data of percentage of AADT in peak hour in each of these segments. The directional split of traffic volumes on each segment was computed using the Caltrans split of peak hour traffic in peak direction for these segments.

Project volumes on study area freeway segments were developed by applying the project trip distribution patterns at study area freeway segments to the project. The project volumes were then added to the existing peak hour volumes to generate the existing plus project volumes on the study area freeway segments.

Freeway Segment LOS Analysis. In order to assess the operation of the highway system in the vicinity of the project in existing plus approved project (baseline) without and with project conditions, the I-80 freeway mainline between the Horseshoe Bar Road and Atlantic Street interchanges and the SR-65 mainline between the I-80 junction and Blue Oaks Boulevard were studied. Caltrans LOS standard for their facilities is LOS E. As shown in Table 4.7-14, current capacity on I-80 between Atlantic Street and SR-65 and on SR-65 between I-80 and Galleria Boulevard will not serve baseline demand at an acceptable LOS in the p.m. peak hour. The project increase in traffic volume is less than 5 percent and is therefore ***less-than-significant***. The HCS worksheets are provided in Appendices E.

Mitigation Measure

No mitigation is necessary for impacts considered ***less-than-significant***.

4.7.5 Impacts of Traffic Mitigation Measures

The CEQA Guidelines section 15126.4, subdivision (a)(1)(D), requires that if a mitigation measure incorporated into a project may have significant adverse effects on the environment, then the Draft EIR must analyze such impacts as an integral part of the whole project. CEQA Guidelines section 15126.4, subdivision (a)(1)(D), states:

> If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed.

The City has included below a summary of potential impacts of mitigation measures that require the project applicant to construct physical improvements. Furthermore, while not specifically required by CEQA, a summary of potential impacts of mitigation measures is provided for those impacts that merely require the payment of fees. The CEQA Guidelines clearly recognize the use of fee payment as mitigation for a project's otherwise "cumulatively considerable" incremental contribution to significant cumulative impacts. If a project is required to fund its fair share of a mitigation measure designed to alleviate the cumulative impact, a project's contribution to that impact is considered less than cumulatively considerable. (CEQA Guidelines, § 15130, subd. (a)(3); *Save Our Peninsula Committee v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 140.) Where an agency has an existing program by which mitigation measures such as traffic improvements can be funded on a fair-share basis through the collection of fees, an EIR's discussion of traffic mitigation is adequate if it explains how the fee program will address the impact. (*Save Our Peninsula Committee*, 87 Cal.App.4th at p. 141.)

Table 4.7-14: Freeway Segment Level of Service Summary

Roadway	Segment	Number of Lanes	Baseline											
			Existing Plus Approved						Existing Plus Approved Plus Project					
			AM			PM			AM			PM		
			Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS
I-80 EB	Atlantic Street to Taylor Road	3	4010	21.9	C	6844	>45	F	4027	22.0	C	6905	>45	F
	Taylor Road to RTE 65	3	4157	22.8	C	6456	>45	F	4175	22.9	C	6525	>45	F
	RTE 65 to Rocklin Road	3	3238	17.6	B	5088	29.5	D	3268	17.8	B	5200	30.5	D
	Rocklin Road to Sierra College Boulevard	3	2643	14.4	B	4996	28.7	D	2674	14.6	B	5109	29.6	D
	Sierra College Boulevard to Horseshoe Bar Road	3	2547	13.9	B	4745	26.7	D	2556	13.9	B	4779	27.0	D
RTE 65 NB	I-80 to Harding Boulevard	2	3799	39.1	E	4144	>45	F	3811	39.4	E	4187	>45	F
	Harding Boulevard to Blue Oaks Boulevard	2	3612	35.2	E	3910	41.9	E	3617	35.3	E	3927	42.3	E
I-80 WB	Atlantic Street to Taylor Road	3	6267	44.5	E	5236	30.8	D	6275	44.7	E	5290	31.3	D
	Taylor Road to RTE 65	3	5527	33.7	D	4964	28.4	D	5538	33.9	D	5037	29	D
	RTE 65 to Rocklin Road	3	4298	23.7	C	3939	21.5	C	4316	23.8	C	4057	22.2	C
	Rocklin Road to Sierra College Boulevard	3	4526	25.2	C	3549	19.3	C	4545	25.3	C	3676	20.0	C
	Sierra College Boulevard to Horseshoe Bar Road	3	4369	24.1	C	3311	18.0	C	4374	24.2	C	3348	18.2	C
RTE 65 SB	I-80 to Harding Boulevard	2	3515	33.5	D	3324	30.5	D	3521	33.6	D	3369	31.1	D
	Harding Boulevard to Blue Oaks Boulevard	2	3344	30.8	D	3124	27.8	D	3347	30.8	D	3142	28.0	D

Roadway	Segment	Number of Lanes	Without Dominguez Road Extension											
			2025 No Project						2025 With Project					
			AM			PM			AM			PM		
			Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS
I-80 EB	Atlantic Street to Taylor Road	4	5384	22.1	C	7419	33.6	D	5401	22.2	C	6751	34.2	D
	Taylor Road to RTE 65	4	5320	21.8	C	6809	29.2	D	5338	21.9	C	6349	29.6	D
	RTE 65 to Rocklin Road	3	3995	21.9	C	5052	28.2	D	4025	22.0	C	4915	29.1	D
	Rocklin Road to Sierra College Boulevard	3	3623	19.7	C	5039	28.1	D	3654	19.9	C	4823	29.0	D
	Sierra College Boulevard to Horseshoe Bar Road	3	3313	18.1	C	5110	29.3	D	3322	18.1	C	4696	29.6	D
RTE 65 NB	I-80 to Harding Boulevard	3	4708	28.0	D	5010	30.3	D	4719	28.1	D	4077	30.7	D
	Harding Boulevard to Blue Oaks Boulevard	3	4360	26.2	D	4825	28.9	D	4364	25.4	C	3883	29.0	D
I-80 WB	Atlantic Street to Taylor Road	4	6538	27.9	D	6764	29	D	6546	28.0	D	5166	29.3	D
	Taylor Road to RTE 65	4	5605	23.1	C	6236	25.8	C	5616	23.2	C	4870	26.2	D
	RTE 65 to Rocklin Road	3	4091	22.4	C	4852	26.6	D	4109	22.5	C	3787	27.5	D
	Rocklin Road to Sierra College Boulevard	3	4613	25.8	C	4412	23.6	C	4632	25.9	C	3384	24.4	C
	Sierra College Boulevard to Horseshoe Bar Road	3	4641	26.0	C	4026	21.8	C	4647	26.0	D	3260	22.0	C
RTE 65 SB	I-80 to Harding Boulevard	3	4301	24.9	C	4170	23.7	C	4308	25.0	C	3259	24.0	C

	Harding Boulevard to Blue Oaks Boulevard	3	4297	26.0	D	4023	23.9	C	4299	24.9	C	3098	23.1	C
		With Dominguez Road Extension												
		Number of Lanes	**2025 No Project**						**2025 With Project**					
			AM			**PM**			**AM**			**PM**		
Roadway	**Segment**		Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS
I-80 EB	Atlantic Street to Taylor Road	4	5395	22.2	C	7398	34.0	D	5411	22.2	C	7459	34.5	D
	Taylor Road to RTE 65	4	5320	21.8	C	6770	29.4	D	5339	21.9	C	6839	29.8	D
	RTE 65 to Rocklin Road	3	3992	21.8	C	4951	28.3	D	4022	22.0	C	5063	29.2	D
	Rocklin Road to Sierra College Boulevard	3	3648	19.9	C	4947	28.3	D	3679	20.1	C	5060	29.2	D
	Sierra College Boulevard to Horseshoe Bar Road	3	3316	18.1	C	5075	29.3	D	3325	18.1	C	5110	29.6	D
RTE 65 NB	I-80 to Harding Boulevard	3	4712	28.0	D	4949	30.1	D	4724	28.1	D	4992	30.5	D
	Harding Boulevard to Blue Oaks Boulevard	3	4345	25.2	C	4802	28.8	D	4350	25.3	C	4819	29.0	D
I-80 WB	Atlantic Street to Taylor Road	4	6522	27.8	D	6758	29.3	D	6530	27.9	D	6812	29.6	D
	Taylor Road to RTE 65	4	5598	23.1	C	6200	26.0	D	5609	23.1	C	6273	27.4	D
	RTE 65 to Rocklin Road	3	4090	22.4	C	4736	26.7	D	4108	22.5	C	4854	27.5	D
	Rocklin Road to Sierra College Boulevard	3	4607	25.7	C	4263	23.5	C	4625	25.9	C	4390	24.3	C
	Sierra College Boulevard to Horseshoe Bar Road	3	4640	26.0	C	4000	21.9	C	4645	26.0	D	4036	22.1	C
RTE 65 SB	I-80 to Harding Boulevard	3	4297	24.9	C	4122	23.7	C	4304	25.0	C	4167	24.0	C
	Harding Boulevard to Blue Oaks Boulevard	3	4300	24.9	C	3997	22.9	C	4303	24.9	C	4015	23.0	C

Source: LSA Associates, Inc., 2009

Note:

☐ Exceeds level of service criteria

In general, therefore, an EIR need not specifically analyze the impacts of the proposed improvements identified in a mitigation measure where the mitigation measure requires only that the project applicant pay a traffic impact fee in an amount that constitutes the project's fair share contribution to the construction of improvements necessitated in part by the project impacts. In such instances, the identified improvements are not a "part" of the project (in "whole" or otherwise), but represent a separate, independent project that will someday benefit the project. CEQA does not require a lead agency, in preparing an EIR for a discrete development project, "to consider a mitigation measure which itself may constitute a project at least as complex, ambitious, and costly as project itself." (*Concerned Citizens of South Central Los Angeles v. Los Angeles Unified School District* (2d Dist. 1994) 24 Cal.App.4th 826, 842.) Where a project is only conditioned on the payment of the traffic impact fee, and not on the construction of the improvement itself, an EIR is not required to analyze the impacts of the proposed improvements.

TC-9: Improvements Required by Mitigation Measure TC-7 Sierra College Boulevard between Dominguez Road and Rocklin Road.

The southbound through lane contemplated by Measure TC-7 would require pavement widening within the existing right of way with potential slope easement from the adjacent property owners. The impacts of these improvements to Sierra College Boulevard between Dominguez Road and Rocklin Road have been analyzed in the Draft EIR for the Sierra College Boulevard Widening Project, certified by the City of Rocklin in May of 2009. As a result of the relationship of the proposed project with the Sierra College Boulevard Widening Project, the environmental document prepared for the widening project serves as reference for this DEIR and is, therefore, incorporated by reference. The Sierra College Boulevard Widening Project EIR document is available for review at the City of Rocklin, Community Development Department, 3970 Rocklin Road, Rocklin, California 95677; phone (916) 625-5160. The document is referred to as follows:

> LSA Associates, Inc. Draft Sierra College Boulevard Widening Project Environmental Impact Report, October, 2008. SCH# 2006122030. Certified by the City of Rocklin on May 12, 2009.

The Draft EIR for the Sierra College Boulevard Widening Project notes that potentially significant impacts were identified in the following areas: Geophysical Resources, Air Quality, Water Quality, Biological Resources, Noise and Cultural Resources. Mitigation measures were added to reduce these potential effects to a less than significant level. Only one unavoidable adverse impact, short-term removal of oak trees, was identified as part of the proposed project, necessitating a Statement of Overriding Considerations prior to approval of the Sierra College Boulevard Widening Project. As the implementation of Mitigation Measure TC-7 would include improvements that, as analyzed in the EIR for the Sierra College Boulevard Widening Project, would contribute to short-term significant effects associated with the removal of oak trees, this measure, and thus the Rocklin Commons project, would cause a ***significant and unavoidable*** short-term effect on oak trees**.**

TC-10: Improvements Required by Mitigation Measure TC-1 Rocklin Road/Granite Drive.

All required improvements set forth in Mitigation Measure TC-1 may be accomplished within the limits of existing paved surfaces. The intersection will require the conversion of the southbound approach (Granite Drive) from existing southbound right turn lane (Granite Drive) to a free right turn,

by restriping the departure lane (west leg) along Rocklin Road to accommodate the receiving pocket for the right turning vehicles. It is anticipated that all potential deleterious environmental effects to natural or cultural resources would have already been experienced (and presumably mitigated) with the construction of the existing intersection and no new significant impacts would result from the identified intersection restriping plan. Any impacts associated with the improvements called for under Mitigation Measure TC-1 would be ***less-than-significant***.

TC-11: Improvements Required by Mitigation Measure TC-2 Sierra College Boulevard/Taylor Road (Loomis).

All required improvements set forth in Mitigation Measure TC-2 may be accomplished within the limits of existing paved surfaces. In the westbound direction there is enough width available to accommodate the second left turn lane. No physical widening is required for these improvements. It is anticipated that all potential deleterious environmental effects to natural or cultural resources would have already been experienced (and presumably mitigated) with the construction of the existing intersection and no new significant impacts would result from the identified intersection restriping plan. Any impacts associated with the improvements called for under Mitigation Measure TC-2 would be ***less-than-significant***.

TC-12: Improvements Required by Mitigation Measure TC-3 Sierra College Boulevard/Brace Road (Loomis).

The lane additions and lane tapers required for Mitigation Measure TC-3 would require pavement widening within the existing road right of way with potential slope easements from adjacent property owners.

The impacts of these improvements to the intersection of Sierra College Boulevard and Brace Road have been analyzed in the EIR for the Sierra College Boulevard Widening Project, prepared by the City of Rocklin, October 2008, which has been incorporated by reference. The Draft EIR notes that potentially significant impacts were identified in the following areas Geophysical Resources, Air Quality, Water Quality, Biological Resources, Noise and Cultural Resources. Mitigation measures were added to reduce these potential effects to a less than significant level. Only one unavoidable adverse impact, short-term removal of oak trees, was identified as part of the proposed project, necessitating a Statement of Overriding Considerations prior to approval of the Sierra College Boulevard Widening Project. As the implementation of Mitigation Measure TC-3 would include improvements that, as analyzed in the EIR for the Sierra College Boulevard Widening Project, would contribute to short-term significant effects associated with the removal of oak trees, this measure, and thus the Rocklin Commons project, would cause a ***significant and unavoidable*** short-term effect on oak trees.

TC-13: Improvements Required by Mitigation Measure TC-4 Sierra College Boulevard/Granite Drive.

The southbound through lane contemplated by Mitigation Measure TC-4 can be implemented with restriping of existing pavement only. The existing "right turn only" lane would be converted to a shared "through/right turn" lane and there is existing improvement on the south side of the intersection to accept the second through lane. The second northbound through lane can be implemented within existing pavement on the south side of the intersection. On the north side there is sufficient pavement for about 300 feet, however, there is not sufficient pavement for a transition from two lanes to one. This would require at least 300 feet of additional improvement. This would require pavement widening within the existing road right of way with potential slope easement from the adjacent property owner.

The impacts of these improvements to the intersection of Sierra College Boulevard and Granite Drive have been analyzed in the EIR for the Sierra College Boulevard Widening Project, prepared by the City of Rocklin, October 2008, which has been incorporated by reference. The Draft EIR notes that potentially significant impacts were identified in the following areas Geophysical Resources, Air Quality, Water Quality, Biological Resources, Noise and Cultural Resources. Mitigation measures were added to reduce these potential effects to a less than significant level. Only one unavoidable adverse impact, short-term removal of oak trees, was identified as part of the proposed project, necessitating a Statement of Overriding Considerations prior to approval of the Sierra College Boulevard Widening Project. As the implementation of Mitigation Measure TC-4 would include improvements that, as analyzed in the EIR for the Sierra College Boulevard Widening Project, would contribute to short-term significant effects associated with the removal of oak trees, this measure, and thus the Rocklin Commons project, would cause a ***significant and unavoidable*** short-term effect on oak trees**.**

TC-14: Improvements Required by Mitigation Measure TC-5 Sierra College Boulevard/Rocklin Road.

Mitigation Measure TC-5 requires the applicant to contribute fees to be used to build an additional northbound left-turn lane and an additional southbound right-turn lane at the intersection of Sierra College Boulevard and Rocklin Road. The additional lanes would require widening of the existing pavement.

The impacts of these improvements to the intersection of Sierra College Boulevard and Rocklin Road have been analyzed in the EIR for the Sierra College Center Project, prepared by the City of Rocklin, September 2006, which has been incorporated by reference. As a result of the relationship of the proposed project with the Sierra College Center Project, the environmental document prepared for the Sierra College Center project serves as reference for this DEIR and is, therefore, incorporated by reference. The Sierra College Center Project EIR is available for review at the City of Rocklin, Community Development Department, 3970 Rocklin Road, Rocklin, California 95677; phone (916) 625-5160. The document is referenced as follows:

> Raney Planning and Management, Inc., Sierra College Center Draft Environmental Impact Report, September, 2006. SCH# 2006052130. Certified by the City of Rocklin on March 20, 2007.

The Draft EIR notes that potentially significant impacts were identified in the following areas: Biological Resources and Transportation and Circulation. Mitigation measures were added to reduce these potential effects to a less than significant level. Only one unavoidable adverse impact, short-term removal of oak trees, was identified as part of the proposed project, necessitating a Statement of Overriding Considerations prior to approval of the Sierra College Center Project. As the implementation of Mitigation Measure TC-5 would include improvements that, as analyzed in the EIR for the Sierra College Center Project, would contribute to short-term significant effects associated with the removal of oak trees, this measure, and thus the Rocklin Commons project, would cause a ***significant and unavoidable*** short-term effect on oak trees**.**

TC-15: Improvements Required by Mitigation Measure TC-6 Horseshoe Bar Road/Taylor Road (Loomis).

All required improvements set forth in Mitigation Measure TC-6 may be accomplished within the limits of existing paved surfaces or within the existing improvements. On Taylor Road northbound there is a 27 foot curb lane that accommodates a through lane and some on-street parking. Approaching Horseshoe Bar Road the parking could be restricted for100 feet before the intersection and a "Right Turn Only" lane striped. These improvements can all be constructed within the existing right-of-way. No physical widening is required for these improvements. Parking for two to three vehicles will have to be removed. The loss of these two to three parking spaces can be offset by the availability of offsite parking at the existing public parking lot for the train station which is in the proximity of these existing parking spaces along Taylor Road. It is anticipated that all potential deleterious environmental effects to natural or cultural resources would have already been experienced (and presumably mitigated) with the construction of the existing intersection and no new significant impacts would result from the identified intersection restriping plan. Any impacts associated with the improvements called for under Mitigation Measure TC-6 would be **less-than-significant**.

4.8 UTILITIES

This section describes existing conditions and discusses potential impacts to wastewater treatment services, sanitary sewer services and water supply services. Impacts are evaluated in relation to increased demand for utilities associated with the proposed project and actions needed to provide the services that could potentially lead to physical environmental effects. The information contained in this section on wastewater is largely based on the South Placer Regional Wastewater and Recycled Water Systems Evaluation, (June 2007) prepared by the South Placer Municipal Utility District. The information on potable water contained in this section is largely based on the Placer County Water Agency Integrated Water Resources Plan (August 2006).

4.8.1 Environmental Setting

Wastewater Collection and Treatment

Background

Created in 2000, the SPWA is a joint powers authority formed to fund regional wastewater and recycled water facilities in southwestern Placer County for three partner agencies: the City of Roseville, the South Placer Municipal Utility District (SPMUD), and Placer County. The City of Roseville, on behalf of the regional partners, owns and operates two regional wastewater treatment facilities: the Pleasant Grove Wastewater Treatment Plant and the older Dry Creek Wastewater Treatment Plan. Additionally, the City of Roseville owns and operates gravity sewers, pump stations, and force mains that serve customers within the Roseville city limits. SPMUD, which provides wastewater service to the City of Rocklin, owns and operates gravity sewers, pump stations, and force mains in portions of southern Placer County, including Rocklin and Loomis. Placer County owns and operates gravity sewers, pump stations, and force mains in unincorporated areas of Placer County that are not served by other agencies, including Granite Bay.

An evaluation of regional wastewater and recycled water facilities was conducted in the early 1990's, culminating in 1996 with the preparation of the 1996 Roseville Regional Wastewater Treatment Service Area Master Plan and the associated Environmental Impact Report (1996 Master Plan and EIR). The 1996 Master Plan identified a wastewater service area boundary of approximately 50,000 acres and contained assumptions used to identify and design for wastewater conveyance and treatment facilities. Since the completion of the 1996 Master Plan and EIR, several areas have been annexed by SPWA partner agencies, resulting in the establishment of a new service area, referred to as the 2005 Regional Service Area. Also since the 1996 Master Plan and EIR, substantial growth in and around the SPWA service area has occurred, and changed demographics in the region have generated wastewater flows and wastewater organic strengths which have differed from those anticipated a decade ago. Further, continued growth, both within and adjacent to the 2005 SPWA service area boundary, is expected in the future. A number of specific areas with the potential for significant future development have been identified by SPWA, providing the basis for the June 2007 South Placer Regional Wastewater and Recycled Water Systems Evaluation (2007 Systems Evaluation). This evaluation document is the long-term planning tool for identifying and implementing necessary capital improvement projects to accommodate urban growth within the service area boundary.

Land use data is collected and used to project wastewater generation rates from the properties within service area boundaries as a step in the evaluation of wastewater service needs. Both the 1996 Master Plan and EIR and the 2007 Systems Evaluation utilized buildout of City of Rocklin General Plan land use data to generate wastewater service needs. The proposed Rocklin Commons project site is designated for retail commercial uses in the 1991 City of Rocklin General Plan, and was assumed to be built out with retail commercial uses within the 1996 Master Plan and EIR and the 2007 Systems Evaluation. The anticipated development of the Rocklin Commons project site with retail commercial uses is consistent with the development of the project site that was assumed in the 1996 Master Plan and EIR and the 2007 Systems Evaluation. The project site is within the service area boundary that was established with the 1996 Master Plan and EIR, and it is also within the 2005 service area boundary that was established in the 2007 Systems Evaluation. The land use designation and zoning for the Rocklin Commons project site has not changed since the 1996 Master Plan and EIR and the 2007 Systems Evaluation and thus the wastewater service needs from the development of the Rocklin Commons project site have been planned and accounted for.

The 1996 Master Plan and EIR and the 2007 Systems Evaluation are also used to determine wastewater conveyance infrastructure needs. Wastewater conveyance infrastructure to serve the project site is already in place. As a part of the City's project referral process, SPMUD identified that the proposed project is within its service area and is eligible for sewer service. SPMUD did not identify specific wastewater conveyance infrastructure improvements that would be necessary for the proposed project. The 2007 Systems Evaluation assessed wastewater conveyance infrastructure needs, including an evaluation of trunk sewers using hydraulic assessments. The 2007 Systems Evaluation noted that the current system is hydraulically in very good shape, reflected by relatively few and limited deficiencies that were identified, including some in Rocklin. The hydraulic assessment of a buildout scenario indicated a variety of deficiencies in the eastern end of the service area, but specific improvements were not identified in all instances; it was noted that SPMUD will develop necessary improvements for the deficiency areas in Rocklin. Under the South Placer Municipal Utility District's rules, regulations and requirements, procedures are in place to ensure that conveyance systems are and will be adequate to provide service to the Rocklin area. SPMUD collects hook-up fees to finance the maintenance and expansion of its facilities, and the proposed Rocklin Commons project would pay applicable hook-up fees to SPMUD.

Wastewater Treatment and Conveyance

Wastewater treatment for the City of Rocklin is provided by the SPMUD through its membership in the SPWA. SPMUD and the SPWA operate sewer collection, conveyance, and treatment facilities and provide sewer maintenance and engineering services. There is an 8-inch sewer main in Granite Drive that will serve the project.

SPMUD's 1986 Sewer Master Plan concluded that there would be increasing greenfield development activity, in addition to infill development, in the northwest portion of the City and in the areas east of Interstate 80. The plan envisioned that Rocklin would have a total of 52,604 sewered equivalent dwelling units at ultimate buildout. SPMUD has planned for growth in the City and sizing of sewer infrastructure has been based on long-term plan projections (City of Rocklin, 2005). Recently, the South Placer Regional Wastewater and Recycled Water Systems Evaluation, released in June 2007, projected 52,003 acres of total buildout including 5,026 acres of commercial.

The Dry Creek Wastewater Treatment Plant provides wastewater treatment facilities for the SPMUD. This plant serves the Dry Creek Basin, consisting of the cities of Roseville, Rocklin, and Loomis, as well as the surrounding unincorporated areas. The Dry Creek Wastewater Treatment Plant's current design capacity is 18 mgd Average Dry Weather Flow and 45 mgd Average Wet Weather Flows. The plant's flows average 12 mgd Average Dry Weather Flow and 30 mgd Average Wet Weather Flows. The Dry Creek Wastewater Treatment plant will have a design capacity of 21 mgd Average Dry Weather Flow and 52 mgd Average Wet Weather Flows.

The Dry Creek Wastewater Treatment Plant provides tertiary level wastewater treatment through the process of screening, grit removal, primary clarification, aeration, secondary clarification, full nitrification capacity, filtration, chlorination, and dechlorination. The plant discharges into Dry Creek under standards established by the Central Valley Regional Water Quality Control Board. An additional regional wastewater treatment facility, the Pleasant Grove Wastewater Treatment Plant, was recently constructed with an initial design capacity of 12 mgd Average Dry Weather Flow and 30 mgd Average Wet Weather Flows, respectively.

Water Supply Collection and Treatment

Background

Water service would be provided to the site by the Placer County Water Agency (PCWA). The (PCWA) was created under its own state legislation entitled the *Placer County Water Agency Act*, adopted in 1957 by the California Legislature. The PCWA service area is divided into five zones that provide treated and raw water to Colfax, Auburn, Loomis, Rocklin, Lincoln, small portion of Roseville, unincorporated areas of western Placer County, and a small community in Martis Valley near Truckee. The PCWA system consists of eight water treatment plants (WTPs). The City of Lincoln supplements it water purchased from the Nevada Irrigation District and PCWA with its own groundwater wells and reclaimed water. The proposed project is located in Zone 1, which is the largest of the five zones. Zone 1 provides water service to Auburn, Bowman, Ophir, Newcastle, Penryn, Loomis, Rocklin, Lincoln, and portions of Granite Bay. Zone 1 includes four water treatment facilities, fourteen storage tanks providing approximately 24.5 million gallons of storage capacity, and approximately 370 miles of treated water piping.

Water Supply and Conveyance

In 2006, the PCWA commissioned Brown and Caldwell to develop an Integrated Water Resources Plan for the agency. The plan evaluated water resources within region and evaluated the agency's capacity with the projected growth expected within the region.

Surface water, reclaimed water, and groundwater are the water supply sources available in west Placer County. PCWA's water supply sources consist of water purchased from Pacific Gas and Electric from the Yuba and Bear Rivers, Middle Fork Project water from the American River, and Central Valley Project water from the American River. Dry year restrictions for Central Valley Project supply are based on municipal and industrial needs. Due to the large amount of storage capacity in the Middle Fork Project compared to its consumptive water rights, the Middle Fork

Project supply is assumed not to be impacted during dry years.

Surface water entitlements which are the primary water source for Zone 1 include the following:

- 100,400 acre-feet of water per year (afy) from the Yuba/Bear River system that is purchased from PG&E. This is PCWA's primary source of supply for Zone 1. This has been PCWA's primary source of supply for Zone 1 since PCWA began retailing water in 1968. The term of this contract is to 2013, but PCWA expects the contract to be renewed after the expiration of the present term. This water supply has a high reliability during normal, single-dry, and multiple-dry years, but the supply is fully utilized.
- 120,000 afy from the Middle Fork Project on the American River. PCWA's Middle Fork Project (MFP) water right permits provide that this water supply may be diverted from the American River at either Auburn or at Folsom Reservoir. This water supply has historically been very reliable, even during drought periods. PCWA is currently completing the permanent American River Pump Station (ARPS) and designing the Auburn Tunnel Pump Station and the Ophir Water Treatment Plant project (PCWA 2006) in order to have the necessary facilities in place to fully exercise their rights to this American River water. When completed, the ARPS will deliver for treatment 35,500 afy of MFP water rights water, some of which will also be delivered to the existing Foothill Water Treatment Plant. As an update to this information the American River Pump Station is now complete and operational, the Auburn Tunnel Pump Station, now known as the Ophir Road Pump Station, is also complete and operational, and the Ophir Water Treatment Plant project has been suspended.
- 35,000 afy from the Central Valley Project water supply contract with the U.S. Bureau of Reclamation. This water supply has been cut back up to 25 percent during single-dry and multiple-dry years. This water was originally to be provided to PCWA at Auburn Reservoir but the contract as amended now provides for its diversion at Folsom Dam or other locations mutually agreed on by the parties. However, PCWA is pursuing a diversion at the Sacramento River in accordance with the Water Forum Agreement in order to ensure the long-term availability of this supply.
- 5,000 afy purchased from South Sutter Water District. This supply is only available when it is surplus to South Sutter Water District's needs, and this water would only be made available only as a supplemental supply to agricultural customers in Zone 5. Water is not expected to be available from this source during dry years. Additionally, this source is considered temporary because it is expected that the available supply will eventually be fully utilized by South Sutter Water District.

The total water available to Zones 1 and 5 is 225,400 afy of permanent water supply and 5,000 afy of temporary water. Out of that permanent supply, PCWA has contracted to deliver up to 25,000 afy to San Juan Water District for use within the Placer County portion of its service area and up to 30,000 afy to Roseville. Deliveries to the San Juan Water District and the City of Roseville would only occur during surplus years.

In 2004, PCWA used 112,768 af to meet the needs of its Zone 1 and Zone 5 customers. In addition to this amount, to date PCWA has approved applications for water service totaling an additional

5,753 afy, resulting in a total current committed demand of 118,521 afy. In 2004, PCWA delivered 13,562 af to San Juan and 465 af to Roseville.

Table 4.8-1 summarizes PCWA's existing water supply entitlements and demands, and shows the total surface water available for future demands.

Table 4.8-1: Water Supply Entitlements and Demands

Source	Total Water Supply (afy)
Entitlements	
Yuba/Bear River water through PG&E	100,400
Middle Fork Project on the American River	120,000
Central Valley Project through the U.S. Bureau of Reclamation	35,000
Total Entitlements	255,400 [1]
Demands	
2004 usage by Zones 1 and 5	112,768
Approved applications for water service	5,753
Total Demand	118,521 [2]
Surface water availability for future demands	136,879

Source: PCWA 2006

1 The total entitlements sum shown here does not include the 5,000 afy from South Sutter Water District because this supply is only available when it is surplus to South Sutter Water District's needs, and would be made available only as a supplemental supply to agricultural customers in Zone 5.

2 The 2004 delivery to San Juan was 13,562 af, and the 2004 delivery to Roseville was 465 af; however, because of the surplus nature of the water supply contracts to these areas, these figures are not included in permanent demand for PCWA.

PCWA's permanent water supply includes the 35,000 afy of Central Valley Project water from the American River described above. PCWA is authorized through a contract with Reclamation to take 35,000 afy of Central Valley Project contract water at Folsom Reservoir or other places that are agreed to by the affected parties. PCWA is currently pursuing a 35,000 afy diversion at the Sacramento River in accordance with the Water Forum Agreement. A separate EIR/EIS is currently in process for the water diversion project and an initial alternatives analysis has now been completed (*Sacramento River Water Reliability Study Initial Alternatives Report*). The Draft EIR/EIS is currently still in production.

There is a reasonable certainty that the water supply from the Sacramento River will become available in the future. First, as noted above, PCWA has Middle Fork American River water rights. Thus, the Sacramento River diversion entitlement is not analogous to the uncertain State Water Project (SWP) "entitlements" – a term no longer used -- that the appellate courts have said included substantial amounts of "paper water." (See *Planningand Conservation League v. Department of Water Resources* (2000) 83 Cal. App. 4th 892, see also *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2003) 106 Cal. App. 4th 715) (Placer County 2007).

Second, quite notably, the Sacramento River diversion project has the support of both the Water Forum Agreement signatories and, it appears, the U.S. Congress. The Water Forum Agreement represents a regional consensus that water purveyors, such as PCWA, with unexercised water rights

on the American River could reduce the environmental impacts of their future diversions based on those rights if they agreed instead to pursue diversions of like amounts of water from the Sacramento River. Because of local environmentalist support for this approach, the Sacramento River supply is less likely to encounter environmental opposition than would supplies taken from the American River. Thus, on page 14 of the Introduction and Summary of the Water Forum Agreement (January 2000), "expansion of Sacramento River diversion and treatment facilities" is listed as one of the major water supply projects that will receive Water Forum support upon signing the Water Forum Agreement, which has long since occurred. The project is also contemplated by federal legislation known as Public Law 106-554, Appendix D, Division B, Section 103 (April 24, 2000). Subdivision (a) of Section 103 provides:

The Secretary of the Interior shall conduct a feasibility study for a Sacramento River, California, diversion project that is consistent with the Water Forum Agreement among the members of the Sacramento, California, Water Forum dated April 24, 2000, and that considers –

1. consolidation of several of the Natomas Central Mutual Water Company's diversions;
2. upgrading fish screens at the consolidated diversion;
3. the diversion of 35,000 acre-feet of water by the Placer County Water Agency;
4. the diversion of 29,000 acre-feet of water for delivery to the Northridge Water District;
5. the potential to accommodate other diversions of water from the Sacramento River, subject to additional negotiations and agreement among the Water Forum signatories and potentially affected parties upstream on the Sacramento River; and
6. an inter-tie between the diversions referred to in paragraphs (3), (4), and (5) with the Northridge Water District's pipeline that delivers water from the American River.

Third, for reasons suggested above in discussing the Water Forum Agreement, the Sacramento River diversion project is relatively benign from an environmental perspective. Essentially, the project would take water from the Sacramento River rather than the American River, thereby avoiding potential adverse environmental impacts on the American River, which, with its lower flows, is much more environmentally sensitive than the Sacramento River (Placer County 2007).

The Sacramento River diversion project must overcome regulatory hurdles before it can come to fruition. First, the project must complete the environmental review processes under both CEQA (with PCWA as lead agency) and the National Environmental Policy Act (NEPA) (with Reclamation as the federal lead agency) (Placer County 2007).

Among the approvals the project will need are (i) an exchange agreement between PCWA and Reclamation, (ii) an application from Reclamation to the State Water Resources Control Board for an additional point of "rediversion" at the Sacramento River diversion project site, and (iii) actions by PCWA and Reclamation amending their water delivery contract to provide for delivery at the site. The project must also obtain a "Section 404" wetlands fill permit under the Clean Water Act from the United States Army Corps of Engineers (ACOE). As the federal lead agency, Reclamation is obligated under section 7 of the federal Endangered Species Act to consult with both the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) to determine whether the direct or indirect effects of the project could jeopardize the continued existence of any federally listed endangered or threatened species or cause the destruction or adverse modification of the designated critical habitat of any such species. Given the ecological pressures on

both aquatic and terrestrial species from continuing population growth and agricultural activities in California, there is always the chance that these environmental processes and Endangered Species Act (ESA) requirements could lead to delays, which could postpone the acquisition by PCWA of this water supply. Further, although it is not anticipated, there is always the chance that alternatives other than PCWA's entire 35,000 afy could be approved (Placer County 2007).

The local agencies participating in the Sacramento River diversion project, namely, the City of Sacramento, PCWA, the City of Roseville, and Sacramento Suburban Water District intend to try to minimize the indirect effects of the water supply on federally listed terrestrial species by agreeing that they will not undertake to provide new water service from Sacramento River diversion project facilities to any new projects unless such new development can demonstrate that it is in compliance with the ESA. Under such a self-imposed limitation, the partners in the Sacramento River diversion project would not provide water to any developer who cannot prove "ESA compliance" in connection with its development plans (Placer County 2007).

Finally, virtually all water supplies in California that have yet to be perfected suffer from some uncertainty due to combination of evolving environmental factors. One such factor is possible future species listings under the ESA and its State analogue, the California Endangered Species Act (CESA), which could affect both Central Valley Project (CVP) and SWP operations, as well as the timing and extent of other water diversions throughout California (Placer County 2007).

Water Conveyance and Treatment

The only facility that PCWA currently has to deliver water to its service area from its American River supplies is the temporary American River Pump Station at Auburn. Under an agreement between PCWA and Reclamation, Reclamation is required to install temporary pumps in the American River so that PCWA can access up to 25,000 AFA of its MFP water at a rate of 50 cubic feet per second (cfs). Because of flooding concerns that necessitate the seasonal removal of the temporary pumps, and other technical limitations, PCWA estimates that it can only reliably divert up to 13,000 AFA with the current configuration installed by Reclamation.

As limited by the temporary American River Pump Station, the total current raw water delivery capacity available to Zones 1 & 5 (western Placer County) is 113,400 AFA on a permanent basis and 118,400 AFA on a temporary basis in normal/wet years.

Progress by PCWA and Reclamation is being made in completing a new permanent American River Pump Station. On June 13, 2003, Reclamation entered into a contract to construct Phase I of the American River Pump Station**.** Completion of this project will increase PCWA's raw water delivery capacity to Zone 1 and western Placer County to 135,900 AFA on a permanent basis in normal/wet years. Subtracting 113,563 AFA of current and committed demands will leave 22,337 AFA of uncommitted raw water delivery capacity available for new development through the permanent American River Pump Station, complete in 2008.

In the vicinity of the proposed project, existing water conveyance facilities are located west of Interstate 80 in Taylor Road and in Sierra College Boulevard, Rocklin Road, and Barton Road. PCWA has indicated that the 20-inch water main in Taylor Road by way of Sierra College Boulevard would serve the proposed project; however, the agency has stated that there is a large demand

currently placed on this pipeline from existing development in the surrounding area (PCWA 2006). To address this demand, PCWA has initiated an offsite water improvement project that would serve the proposed project and other projects in the vicinity. The offsite water improvements, which would be constructed, operated, and maintained by PCWA, are part of a separate PCWA infrastructure project serving an area much larger than the proposed Rocklin Commons project and therefore have already received independent project-level environmental review by PCWA. A Mitigated Negative Declaration for that project, called the Sierra Ridge Pipeline Extension Project, was adopted and the project itself was approved by the PCWA Board of Directors on May 7, 2009. The 30-day statute of limitations for filing a CEQA challenge to this approval passed without the filing of any litigation.

On the project site, the Eastside Canal pipeline traverses parcels abutting Interstate 80. This pipeline delivers raw untreated water for irrigation purposes to existing customers down stream of the site.

PCWA treats water for the City of Rocklin at two treatment facilities, the Foothill Water Treatment Plant (WTP) and Sunset WTP. The Foothill WTP is located one mile south of Newcastle, northeast of the City. In addition to serving the City, this plant serves Penryn and Loomis. PCWA completed the most recent expansion of its Foothill WTP in 2005 and treatment plant capacity of this facility was increased from 27 mgd to 55 mgd. The Sunset WTP plant is located northeast of the City. The maximum design flow for the Sunset WTP is 8 mgd. The total treatment capacity for the Sunset/Foothill water treatment system is 63 mgd. PCWA has indicated that the project would be served by the Foothill WTP via the 20-inch pipeline in Taylor Road. (PCWA 2006.)

4.8.2 Regulatory Background

State

Senate Bill 610

SB 610 (Section 21151.9 of the Public Resources Code and Section 10910 et seq. of the Water Code) requires the preparation of "water supply assessments" (WSA) for large developments (e.g., for projects of 500 or more residential units, 500,000 square feet or more of retail commercial space, or 250,000 square feet or more of office space). These assessments, prepared, by "public water systems" responsible for service, address whether there are adequate existing or projected water supplies available to serve proposed projects, in addition to whether there are adequate existing or projected water supplies available to serve proposed projects, in addition to urban and agricultural demands other anticipated development in the service area in which the project is located. Where the WSA concludes that insufficient supplies are available, the WSA must lay out steps that would be required to obtain the necessary supply. The content requirements for the assessment include, but are not limited to, identification of the existing and future water suppliers and quantification of water demand and supply by source in five-year increments over a 20-year projection.

Because the project is a retail commercial space that is less than 500,000 square feet, no WSA was required or prepared for the proposed project.

City of Rocklin General Plan

The following goals and policies from the Public Facilities and Services Element of the City General Plan (1991) are applicable to the proposed project:

Goal: To ensure that adequate public services and facilities are provided to meet the needs of residents of the City.

- **Policy 1**: To maintain the provision of adequate public services and facilities to the existing areas of the City and to ensure that new development is served by a full range of public services.
- **Policy 2**: To cooperate with school districts serving the City to meet their adopted district standards and State standards. All residential development project applications shall be evaluated for their impact on school services and facilities. Where an impact is found, the project may be conditioned to the extent and in the manner allowed by law, to mitigate the impact, such as requiring payment of school district fees and participation in a community facilities district to fund school facilities.
- **Policy 6**: To require garbage collection services to ensure the maintenance of health standards.
- **Policy 7**: To maintain existing public services and provide new facilities consistent with community needs.
- **Policy 8**: To require developer participation in providing public services and facilities (including equipment) where development proceeds in advance of the City's ability to provide the services or facilities. Participation could consist of the formation of assessment districts, payment of fees, and/or the construction and dedication of facilities.
- **Policy 17**: To encourage the undergrounding of existing and proposed utility lines, where possible.
- **Policy 18**: To encourage programs to reduce, recycle and reuse solid waste materials to the extent possible.

The following policy from the Open Space, Conservation and Recreation Element of the City General Plan (1991) is applicable to the proposed project:

- **Policy 5**: To encourage energy conservation in new developments.

The following policies from the Community Safety Element of the City General Plan (1991) are applicable to the proposed project:

- **Policy 10**: To enforce the City building code, fire code, and City ordinances in regard to fire safety and fire protection.
- **Policy 13**: To require new annexations, and projects proposing land use changes to the General Plan resulting in higher densities or intensity, to annex into the City's existing Community Facilities District No. 1 for the maintenance of fire suppression service, or to create other financing districts as necessary.
- **Policy 15**: To encourage residential development to locate within approximately two road miles from a fire station, and to encourage high density commercial development to be located

approximately one and one-half road miles from a fire station, unless special fire suppression measures are incorporated into the development.

Method of Analysis

Impacts on utilities that would result from the project were identified by comparing existing service capacity against future demand associated with project implementation. When possible, a quantitative comparison was used to determine impacts of the proposed project on future demands. Evaluations of potential utilities impacts are based on a review of documents pertaining to the proposed project area, including the City General Plan (1991) and the South Placer Regional Wastewater and Recycled Water Systems Evaluation (2007).

4.8.3 Thresholds of Significance

Pursuant to CEQA Guidelines Appendix G, an impact related to the provision of treated water to the project or wastewater treatment for the project is considered significant if implementation of the proposed project would do any of the following:

- Create a water supply demand in excess of existing entitlements and resources.
- Result in the determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Exceed wastewater treatment requirements of the applicable RWQCB.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

4.8.4 Impacts and Mitigation Measures

UT-1: *Existing and proposed wastewater conveyance facilities have adequate capacity to meet proposed project demand therefore the impacts would remain* ***less-than-significant****.*

SPMUD has planned for growth in the City and sized the City's sewer infrastructure to meet this growth (City of Rocklin 2005). The project wastewater infrastructure would connect to, and be served by, the wastewater trunk lines currently located in Granite Drive (RSC Engineering pers. comm. with Richard Stein, South Placer Municipal Utility District Engineer, 2008). This trunk line and the other conveyance facilities have adequate capacity to accommodate the proposed project's anticipated wastewater demands (RSC Engineering pers. comm. with Richard Stein, South Placer Municipal Utility District Engineer, 2008). SPMUD has also indicated in their response to the project's NOP that the project is within their service area and eligible for sewer service.

Wastewater generated by the project would be treated at the Dry Creek Wastewater Treatment Plant. The project's wastewater generation would represent approximately 0.48 percent of the treatment plant's total capacity. This increased demand would not be expected to adversely affect the

wastewater treatment plant's total capacity. Because the proposed project would be served by a wastewater treatment plant that has adequate capacity to meet the project's projected demand and would not require expansion or the construction of a new wastewater treatment plant, the proposed project's wastewater impacts would be considered ***less-than-significant***.

UT-2: *Existing and proposed water supply facilities have adequate capacity to meet proposed project demand, therefore the impacts to water supply from implementation of the proposed project would be* ***less-than-significant.***

PCWA has planned for growth in the City of Rocklin and sized the water supply infrastructure to meet this growth (PCWA 2006). The project water infrastructure would connect to, and be served by the water supply lines currently being installed south of the project site for the nearby Rocklin Crossings and other future projects. Zone 1 currently receives 135,900 acre-feet of water per year (treated/raw water) from the PCWA. Offsite water improvements that would serve the proposed project and other projects in the vicinity and the associated potential environmental impacts of such project have been addressed by PCWA as part of the Sierra Ridge Pipeline Extension Project, approved by the PCWA Board of Directors on May 7, 2009.

Because the proposed project is a commercial center that is less than 500,000 square feet, no WSA assessment is required per SB 610. A nearby similar but larger retail commercial center (Rocklin Crossings) prepared a WSA assessment which was approved September 7, 2006 by the PCWA. Based on the information provided by that WSA, sufficient water supplies were available for that project during normal, single-dry, and multiple-dry years based on the existing and integrated use of surface water entitlements, recycled water and demand reduction resources for groundwater projected at that time. The water commitment as of that WSA was 118,521 afy out of the available 225,000 afy. With the larger Rocklin Crossings project water demand of 130 afy being adequately met by this remaining water available, it is anticipated that the smaller proposed project, with an estimated water demand of 105 afy, would also have adequate water supply.

Once the above-described Sacramento River diversion is in place, PCWA would have sufficient water supplies to meet their existing and projected future demands in addition to the proposed project's water demands under all water year conditions (e.g., normal, single-dry, and multiple-dry years). Because the project, if approved by the City Council, is expected to be built out within a very few years, the project should receive all the water it needs from the permanent American River Pump Station. Although PCWA provides binding commitments to supply water to new development on a first come, first served, basis, PCWA anticipates that the project will be ready for water hookup years before all of the 35,500 afy is spoken for and the new Sacramento River diversion is needed. The recent slow-down in the housing market has caused PCWA to adjust backward in time its former estimate for when the Sacramento River water supply will be needed. The most current estimate is that this new supply will not be needed until approximately 2015 or possibly later. Once the ARPS supply is fully allocated, the remaining unapproved development anticipated within PCWA's service area will, in all likelihood, have to rely on the Sacramento River supply.

The project site would be served by the Foothill WTP and the proposed project's estimated maximum daily water treatment demands of approximately 185,000 gallons per day would not exceed the plant's permitted capacity. Because the proposed project would be served by a water treatment plant

that has adequate capacity to meet the project's projected demand and would not require the construction of a new water treatment plant, the proposed project's water supply and treatment facility impacts would be considered ***less than significant***.