11.0 SOILS, GEOLOGY, AND SEISMICITY

This chapter summarizes existing geologic conditions in the project area, describes applicable regulations, and evaluates project-related impacts associated with on-site geology, soils, seismic hazards, and slope stability. Mitigation measures are recommended as necessary to reduce significant geologic impacts. As described in Chapter 1.0, "Introduction," the proposed project would not result in the loss of any known mineral resources, nor would it impede or interfere with mineral extraction operations, and the project area is not delineated as a locally important recovery site. Therefore, implementation of the proposed project would have no effect with regard to mineral resources, and this topic will not be discussed further in this chapter.

11.1 ENVIRONMENTAL SETTING

11.1.1 PHYSIOGRAPHIC SETTING

The project area is located along the western slope of the Sierra Nevada Geomorphic Province. The Sierra Nevada Geomorphic Province is a tilted fault block nearly 400 miles long. Its east face is a high, rugged multiple scarp, in contrast with the gentle western slope, which disappears under sediments of the Great Valley. Deep river canyons are cut into the western slope. Their upper courses, especially in massive granites of the higher Sierra Nevada, are modified by glacial sculpturing, forming such scenic features as the Yosemite Valley. The high crest culminates in Mount Whitney, with an elevation of 14,495 feet above sea level near the eastern scarp. The metamorphic bedrock contains gold-bearing veins in the northwest trending Mother Lode. The northern Sierra Nevada boundary is marked where bedrock disappears under the Cenozoic volcanic cover of the Cascade Range (California Geological Survey 2002).

The western slope of the Sierra Nevada is underlain by a series of metamorphic rock assemblages that trend north-northwest to south-southeast between the Mesozoic granitics of the Sierra Nevada batholith on the east and the sediment-filled Sacramento Valley to the west. These metamorphic rocks were developed by convergent plate tectonics in the early Paleozoic to Late Jurassic (400–120 million years ago) and consist of three northerly trending units bounded by faults and classified on the basis of age and lithology: the Eastern, Central, and Western metamorphic terranes.

11.1.2 LOCAL GEOLOGY

The proposed trail alignment is located in the U.S. Geological Survey (USGS) Auburn and Greenwood 7.5-minute quadrangles and is approximately 14.2 miles from the confluence of the North Fork/Middle Fork American River confluence. The average gradient for most of the slopes along the proposed trail alignment is about 70% or flatter. Some segments, however, intersect slopes approaching 100% gradient. The proposed trail alignment would be approximately 200–400 feet above the river on the southern slope of the North Fork American River canyon.

Published geologic maps show the majority of the proposed trail alignment in a mixed-rock area described as a "mélange belt," composed of intermixed Mesozoic metasedimentary and metavolcanic rock with isolated bodies of limestone. The northeast section of the proposed trail alignment (from the Ponderosa Bridge to approximately 1 mile downstream) is mapped as Mesozoic metavolcanic flow rocks of the Logtown Ridge Formation (predominantly metamorphosed breccias, flows, and pyroclastic rocks) and Mesozoic metasedimentary rocks of the Mariposa Formation (predominantly slate, metagraywacke, and metaconglomerate) (Blackburn Consulting 2006, 2007).

The entire project area is mapped as predominantly hard, fractured, metavolcanic flow rocks. This rock structure strikes generally north-northwest, with fracture/foliation planes dipping steeply northeast. The lesser bands are mapped as northwesterly trending metavolcanic tuffs and metashale that cross sections of the proposed trail alignment. These bands tend to be intensely weathered/foliated and, in general, less competent than rock flow.

Isolated limestone bodies, typically hard and massive, are also mapped in the metavolcanic flow rock (Blackburn Consulting 2006, 2007).

11.1.3 RECREATIONAL GEOLOGIC FEATURES

Recreational geologic resources typically include volcanoes, surface hydrothermal features, or surface expression of geologic features unique enough to generate recreational interest in the general public (e.g., natural bridges, caves, features associated with glaciation, and geomorphic features such as waterfalls, cliffs, canyons, and badlands). Based on a review of available geological literature, topographic maps, and a field visit to the site, there are no known recreational geologic resources in the project area.

11.1.4 SOIL RESOURCES

Maps provided by the U.S. Soil Conservation Service (now called the Natural Resources Conservation Service) (SCS 1980) were reviewed to identify the distribution of soil types in the project area. Exhibit 11-1 provides a detailed map of the surficial soils in the project area. The physical and chemical characteristics of each soil type identified from the project site are presented below.

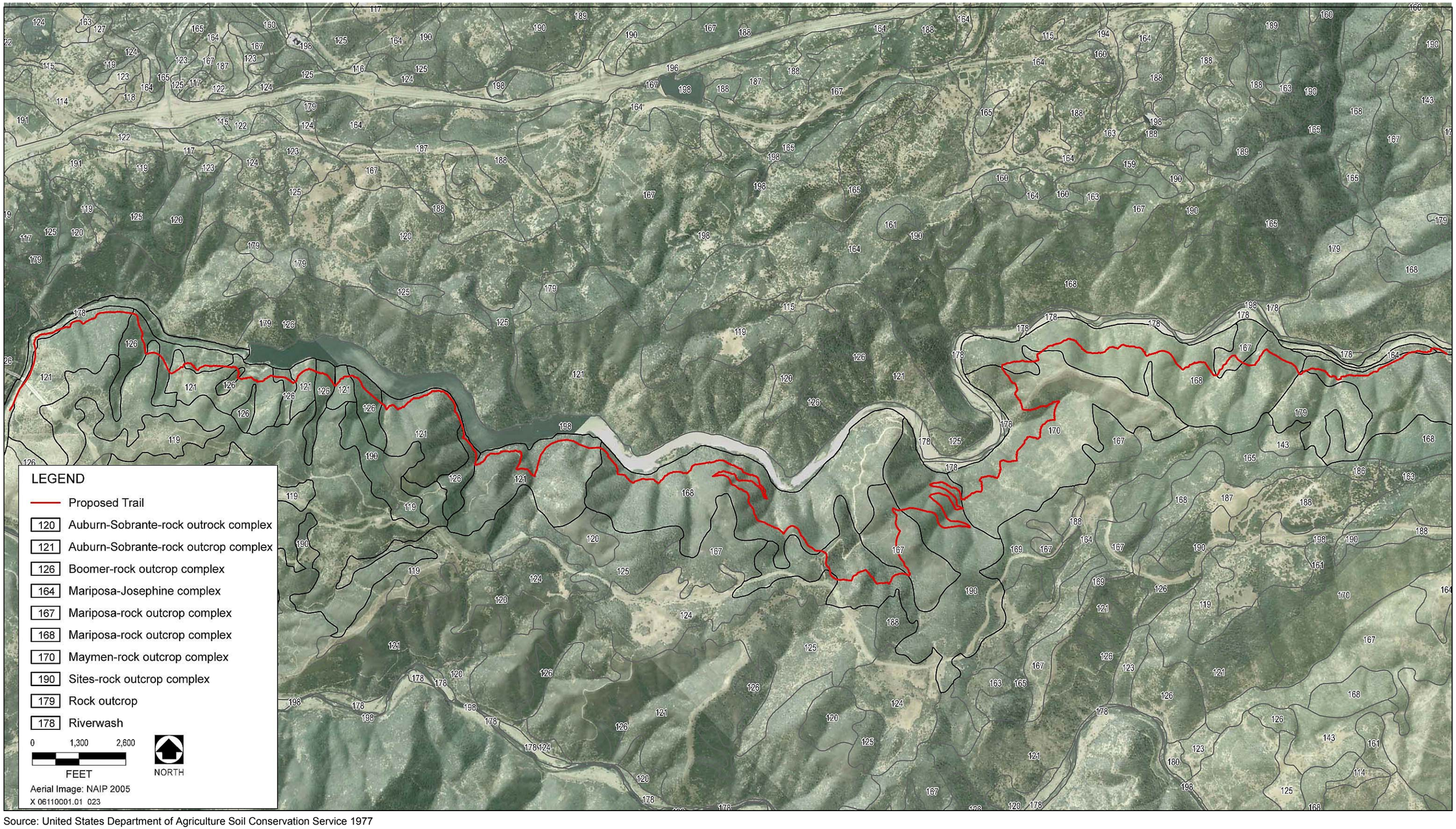
121 Auburn–Sobrante–Rock outcrop complex, 275% slopes—This soil is on undulating to very steep foothills. Rock outcrops are common. The soil forms in material weathered from metabasic or metasedimentary rock such as amphibolite schist, greenstone schist, or diabase at elevations of 125–3,000 feet. Soil is shallow over fractured, vertically tilted metabasic rock with rock outcrops. There are typically 4 inches of silt loam over 20 inches of silt loam subsoil. This soil is well drained, with slow to very rapid runoff and moderate permeability. This soil is used mostly for annual rangeland with small areas used for irrigated pasture. Rock is erosion resistant.

126 Boomer–Rock outcrop complex, 5–30% slopes—This soil forms over weathered metavolcanic (greenstone) bedrock at elevations of 500–5,000 feet. Soil is shallow over weathered schist and slate with rock outcrops. There are typically 10 inches of gravelly loam over 46 inches of gravelly clay loam subsoil. This soil is found on uplands; it is well drained, has slow to very rapid runoff, and has moderately slow permeability. This soil is used often for forestry and watersheds. Rock is erosion resistant.

164 Mariposa-Josephine complex, 5–30% slopes—The Mariposa-Josephine complex is encountered at elevations of 1,500–4,000 feet. Mariposa is common to ridges and south- and west-facing slopes, while Josephine is common to north- and east-facing slopes. Soil is shallow over weathered schist and slate with isolated rock outcrops. There are typically 6 inches of gravelly loam over 22 inches of gravelly clay loam subsoil. The complex is well drained with moderately slow permeability and moderate to high erosion hazard. Rock is erosion resistant.

167, 168 Mariposa–Rock outcrop complex, 50–70% slopes—This soil occurs on undulating to steep mountains at elevations of 1,600–5,600 feet. It is formed in material from metamorphosed sedimentary rocks. Soil is shallow over fractured, vertically tilted schist and slate with rock outcrops. There are typically 6 inches of gravelly loam over 28 inches of gravelly loam subsoil. This soil is well drained, has slow to very rapid runoff, and has moderate permeability. Timber production is the predominant use, with some grazing and deciduous fruit orchards. Rock is erosion resistant.

170 Maymen–Rock outcrop complex, 5–100% slopes—The Maymen–Rock outcrop complex occurs at elevations of 1,200–3,500 feet and generally consists of 50% Maymen soil, 20% Rock outcrop, 25% Mariposa gravelly loam, and 5% Josephine loam. Soil is shallow, with rock outcrops. There are typically 2 inches of gravelly loam over 10 inches of gravelly loam subsoil. The Maymen is a shallow, gravelly loam that is somewhat excessively drained, and permeability is moderate. Timber production and residential development are limited on this complex because of the slope, shallowness, and rock outcroppings. Rock is erosion resistant.



Source: United States Department of Agriculture Soil Conservation Service 1977

Soil Types in the Project Area **Exhibit 11-1**

190 Sites–Rock outcrop complex, 15–30% slopes—This soil occurs on mountains at elevations of 600–5,000 feet. It is formed in material weathered from metabasic and metasedimentary rocks. This soil is well drained, has slow to very rapid runoff, and has moderately slow permeability. Soil is shallow, with rock outcrops. There are typically 16 inches of loam and clay over 50 inches of clay (weathered rock). Timber production is the predominant use, with some areas cleared and used for deciduous fruit orchards. Rock is erosion resistant.

SHRINK-SWELL POTENTIAL

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture; soils swell when wet and shrink when dry. If the shrink-swell potential is rated moderate to high, volume changes can eventually result in damage to subsurface structures if the structures are not designed and constructed appropriately to resist the changing soil conditions. Soils with high clay content tend to be most affected by shrink and swell. The potential for soil to undergo shrink and swell is greatly enhanced by the presence of a fluctuating, shallow groundwater table. Volume changes of expansive soils can result in the consolidation of soft clays after the water table drops or fill is placed.

NATURALLY OCCURRING ASBESTOS

Asbestiform minerals occur naturally in rock and soil as the result of natural geologic processes, often in veins near earthquake faults in the Coast Range and the foothills of the Sierra Nevada. Naturally occurring asbestos can take the form of long, thin, separable fibers. Natural weathering or human disturbance can break naturally occurring asbestos down to microscopic fibers, easily suspended in air.

There is no health threat if asbestos fibers in soil remain undisturbed and do not become airborne. When inhaled, however, these thin fibers irritate tissues and resist the body's natural defenses. Asbestos, a known carcinogen, causes cancers of the lung and the lining of internal organs, as well as asbestosis and other diseases that inhibit lung function.

The potential presence of and hazards posed by naturally occurring asbestos are discussed in greater detail in Section 9.1.3, "Existing Air Quality—Toxic Air Contaminants," in Chapter 9.0, "Air Quality."

11.1.5 REGIONAL SEISMICITY AND FAULT ZONES

The foothills of the Sierra Nevada are characterized by extremely low seismicity. The proposed trail alignment lies within the Foothills Fault System, which is bounded by the Melones Fault Zone about 20 miles east and by the Bear Mountain Fault Zone, the closest portion of which is about 4 miles southwest. Data compiled between 1808 and 1987 show that only 15 earthquakes between magnitude (M) 3.0 and 4.0 on the Richter scale were recorded along the Foothills Fault System between Mariposa and Oroville. Four notable historical earthquakes have been reported in the northern Sierra Nevada. Three seem to have been associated with the northern portion of the Melones Fault Zone near Downieville. The fourth was the M 5.7 Oroville earthquake of August 14, 1975, located about 45 miles northwest of the project area. Table 11-1 lists regional faults of relevance to the project area, and potential peak site accelerations from hypothetical earthquakes.

The Richter scale is a logarithmic scale that expresses the magnitude of an earthquake in terms of the amount of energy generated, with 1.5 indicating the smallest earthquake that can be felt, 4.5 an earthquake causing slight damage, and 8.5 a very damaging earthquake.

The Weimar Fault is mapped near the northeast portion of the project area. This fault is a Pre-Quaternary fault with no evidence of movement in the last 1.6 million years. Two other unnamed faults are mapped near the Weimar Fault and are also shown to be Pre-Quaternary in age.

Table 11-1 Regional Fault Activity		
Faults Active in the Vicinity of the Project Area	Distance from Project Site (miles)	Probable Maximum Magnitude[1]
Weimar	0.25	6.0
Bear Mountain	4	6.5
Melones	20	6.5
Dunnigan Hills	48	6.5
Coast Range (Sierran Block boundary)	60	7.0

[1] A measure of earthquake size calculated on the basis of seismic moment called Moment Magnitude (Mw).
Sources: Helley and Harwood 1987, Jennings 1994

Potential seismic hazards resulting from a nearby moderate to major earthquake can generally be classified as primary and secondary. The primary effect is fault ground rupture, also called surface faulting. Surface ground rupture along faults is generally limited to a linear zone a few meters wide. Common secondary seismic hazards include ground shaking, liquefaction, and subsidence. These hazards are discussed below.

SEISMIC GROUND SHAKING

The most important geologic hazard that could affect the project area is the risk to life and property from an earthquake generated by active and potentially active faults in the Foothill Fault System.

According to the California Building Standards Code (CBC), 1998 edition (described further in Section 11.2.2, "State Plans, Policies, Regulations, and Laws," below), the project area is located in Seismic Zone 3. This location implies a minimum horizontal acceleration of 0.3 g (where "g" is the acceleration of gravity) for use in earthquake resistant design.

Ground motions can be estimated by probabilistic method at specified hazard levels. The intensity of ground shaking depends on the distance from the earthquake epicenter to the site, the magnitude of the earthquake, site soil conditions, and the characteristic of the source. The *Probabilistic Seismic Hazard Assessment for the State of California* (Petersen et al. 1996), published by USGS and the California Division of Mines and Geology (now known as the California Geological Survey), identifies the seismic hazard based on a review of these characteristics and historical seismicity throughout California. The results of these studies suggest there is a 10% probability that the peak horizontal acceleration experienced at the site would exceed 0.2 g in 50 years.

The CBC specifies more stringent design guidelines where a project would be located adjacent to a Class A or Class B fault as indicated on the California Probabilistic Seismic Hazard Maps (Cao et al. 2003). Faults with an "A" classification can produce large-magnitude events (M greater than 7.0), have a high rate of seismic activity (e.g., slip rates greater than 5 millimeters per year), and have well-constrained paleoseismic data (e.g., evidence of displacement within the last 700,000 years). Class B faults are those that lack paleoseismic data necessary to constrain the recurrence intervals of large-scale events. Faults with a "B" classification can produce an event of magnitude 6.5 or greater. A review of the available data indicates that no Class A or B faults are located within 20 miles of the project area.

GROUND FAILURE/LIQUEFACTION

Soil liquefaction occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid, thus becoming similar to quicksand. There are four types of ground failure or collapse of soil structures that commonly result from liquefaction: lateral

spread, flow failure, ground oscillation, and loss of bearing strength. Age also is a factor in the potential of soils to liquefy; Holocene deposits (from approximately the last 11,000 years) are the most sensitive to liquefaction.

One consequence that may result from the occurrence of liquefaction is an associated surface expression. If the seismic event occurs over an extended duration, the liquefied soils may migrate toward the surface, resulting in ejection and subsequent sand boiling at the surface.

Liquefaction poses a hazard to engineered structures. Factors determining the liquefaction potential of a given site are soil type, the level and duration of possible seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands and peat deposits are susceptible to liquefaction. Liquefaction is particularly likely where land has been reclaimed from inundated areas by filling with loose sand. Clayey silts, silty clays, and clays deposited in freshwater environments are generally stable under the influence of seismic ground shaking.

The geotechnical engineering report prepared by Blackburn Consulting (2006, 2007) (Appendix B) determined that the project area is underlain by consolidated metavolcanic and metasedimentary rocks that are not susceptible to liquefaction. In addition, regional groundwater levels are expected to be greater than 50 feet in depth.

Subsidence and Lateral Spreading

Land surface subsidence can be induced by both natural phenomena and human activity. Natural phenomena include subsidence resulting from tectonic deformations and seismically induced settlements; soil subsidence from consolidation, hydrocompaction, or rapid sedimentation; subsidence from oxidation or dewatering of organic-rich soils; and subsidence related to subsurface cavities. Subsidence related to human activity includes withdrawal of subsurface fluids or sediments. Pumping of water from subsurface water tables for residential, commercial, and agricultural uses causes more than 80% of the identified subsidence in the United States (Galloway et al. 1999).

Lateral spreading is the horizontal movement or spreading of soil toward an open face, such as a streambank, the open side of fill embankments, or the sides of levees. The potential for failure from lateral spreading is highest in areas where there is a high groundwater table, where there are relatively soft and recent alluvial deposits, and where creek banks are relatively high.

The project area is underlain by consolidated metavolcanic and metasedimentary rocks that are not susceptible to liquefaction. In addition, regional groundwater levels are expected to be greater than 50 feet in depth.

Landsliding and Slope Stability

As defined by the California Geological Survey, a landslide is the downslope movement of soil and rock material under the influence of gravity. The formation of landslides under natural conditions depends on several factors: the type of materials, structural properties of the materials, steepness of slopes, water and rainfall, vegetation type, proximity to areas undergoing active erosion, and earthquake-generated ground shaking.

The canyon sides of the American River watershed are prone to sliding or slumping because slopes exceed 30%. The rock units most likely to experience rockfalls and landslides are Valley Springs tuff, metavolcanic flows, mehrtren mudflow breccia (weathered), serpentine, and metasedimentary rocks.

Field review of the project area by Blackburn Consulting (2006, 2007) noted several areas of shallow instability and small landslides along the proposed trail alignment. These features were 1–3 feet thick and restricted to within surface soils underlying the bedrock interface.

TIDAL WAVES AND SEISMIC SEICHES

Earthquakes may affect open bodies of water in two ways: by creating seismic sea waves and by creating seiches. Seismic sea waves (often called "tidal waves") are caused by abrupt ground movements (usually vertical) on the ocean floor in connection with a major earthquake. Because of the distance of the project area from the ocean (i.e., greater than 20 miles), seismic sea waves would not be a factor. A seiche is a sloshing of water in an enclosed or restricted water body such as a basin, river, or lake, caused by earthquake motion; the sloshing can occur for a few minutes or several hours. In 1868, for example, an earthquake along the Hayward Fault in the San Francisco Bay Area is known to have generated a seiche along the Sacramento River.

11.2 REGULATORY SETTING

11.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

FEDERAL EARTHQUAKE HAZARDS REDUCTION ACT

In October 1997, the U.S. Congress passed the Earthquake Hazards Reduction Act to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA), which refined the description of agency responsibilities and program goals and objectives.

NEHRP's mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improved building codes and land use practices; risk reduction through postearthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and accelerated application of research results. The NEHRPA designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies include the National Institute of Standards and Technology, National Science Foundation, and USGS.

11.2.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

In California, the State Water Resources Control Board (SWRCB) administers the U.S. Environmental Protection Agency regulations (Title 55, Section 47990 of the Code of Federal Regulations [i.e., 55 CFR 47990]) that require the permitting of stormwater-generated pollution under the National Pollutant Discharge Elimination System (NPDES). The issuance of NPDES permits is carried out through regional water quality control boards (RWQCBs). Pursuant to the federal regulations, an operator must obtain a General Permit under the NPDES Stormwater Program for all construction activities with ground disturbance of 1 acre or more. The General Permit requires projects to implement best management practices (BMPs) to reduce pollutant loads into the waters of the state, and to implement measures to reduce sediment and erosion control. In addition, a storm water pollution prevention plan (SWPPP) must be prepared. The SWPPP addresses water pollution control during construction. SWPPPs require that all stormwater discharges associated with construction activity be free of site pollutants wherever clearing, grading, and excavation results in soil disturbances.

CALIFORNIA BUILDING STANDARDS CODE

The State of California provides minimum standards for building design through the CBC (Title 24 of the California Code of Regulations). Where no other building codes apply, Chapter 29 of the CBC regulates

excavation, foundations, and retaining walls. The CBC also applies to building design and construction in the state and is based on the federal Uniform Building Code (UBC), which is used widely throughout the country and generally adopted on a state-by-state or district-by-district basis. The CBC has been modified for California conditions with numerous more detailed and/or more stringent regulations.

The state earthquake protection law (California Health and Safety Code Section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design.

Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, and Appendix Chapter A33 regulates grading activities, including drainage and erosion control, and construction on unstable soils, such as expansive soils and liquefaction areas.

CALIFORNIA SEISMIC HAZARDS MAPPING ACT

The California Seismic Hazards Mapping Act of 1990 (Public Resources Code Sections 2690–2699.6) addresses seismic hazards other than surface rupture, such as liquefaction and induced landslides. The Seismic Hazards Mapping Act specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

ALQUIST-PRIOLO FAULT ZONING ACT

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Sections 2621–2630) was passed by the California Legislature in 1972 to mitigate the hazard of surface faulting to structures. The main purpose of the act is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. Local agencies must regulate most development in fault zones established by the State Geologist. Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, cities and counties must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults.

11.2.3 LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

PLACER COUNTY GRADING ORDINANCE

The grading and erosion prevention ordinance of Placer County (referred to herein as the Placer County Grading Ordinance) (Article 15.48 of the Placer County Code) regulates grading on property within the unincorporated area of Placer County for the following purposes:

- to safeguard life, limb, health, property, and public welfare;
- to avoid pollution of watercourses with hazardous materials, nutrients, sediments, or other earthen materials generated on or caused by surface runoff on or across the permit area; and
- to ensure that the intended use of a graded site is consistent with the *Placer County General Plan*, any adopted specific plans, applicable Placer County (County) ordinances (e.g., the zoning ordinance, flood damage prevention ordinance, and environmental review ordinance), and applicable chapters of the CBC.

PLACER COUNTY GENERAL PLAN

The following are the relevant goals and policies identified by the *Placer County General Plan* (Placer County 1994) for soils, geology, and seismicity.

- **GOAL 8.A:** To minimize the loss of life, injury, and property damage due to seismic and geological hazards.
- **Policy 8.A.1.** The County shall require the preparation of a soils engineering and geologic-seismic analysis prior to permitting development in areas prone to geological or seismic hazards (i.e., groundshaking, landslides, liquefaction, critically expansive soils, avalanche).
- **Policy 8.A.4.** The County shall ensure that areas of slope instability are adequately investigated and that any development in these areas incorporates appropriate design provisions to prevent landsliding.
- **Policy 8.A.5.** In landslide hazard areas, the County shall prohibit avoidable alteration of land in a manner that could increase the hazard, including concentration of water through drainage, irrigation, or septic systems; removal of vegetative cover; and steepening of slopes and undercutting the bases of slopes.
- **Policy 8.A.6.** The County shall require the preparation of drainage plans for development in hillside areas that direct runoff and drainage away from unstable slopes.
- **Policy 8.A.9.** The County shall require that the location and/or design of any new buildings, facilities, or other development in areas subject to earthquake activity minimize exposure to danger from fault rupture or creep.
- **Policy 8.A.10.** The County shall require that new structures permitted in areas of high liquefaction potential be sited, designed, and constructed to minimize the dangers from damage due to earthquake-induced liquefaction.
- **Policy 8.A.11.** The County shall limit development in areas of steep or unstable slopes to minimize hazards caused by landslides or liquefaction.

WEIMAR-APPLEGATE-CLIPPER GAP GENERAL PLAN

The *Weimar-Applegate-Clipper Gap General Plan* contains the following goal and policy relevant to soils, geology, and seismicity in the project area.

- **GOAL:** To protect the lives and property of the citizens of the Weimar-Applegate-Clipper Gap area from unacceptable risk resulting from seismic and geologic hazards.
- **Policy 2.** Maintain strict enforcement of seismic safety standards for new construction contained in the Uniform Building Code.

FORESTHILL GENERAL PLAN

The *Foresthill General Plan* contains the following goal and policy relevant to soils, geology, and seismicity in the project area.

- **GOAL:** To protect the lives and property of the citizens of the Weimar-Applegate-Clipper Gap area from unacceptable risk resulting from seismic and geologic hazards.
- **Policy 2.** Maintain strict enforcement of seismic safety standards for new construction contained in the Uniform Building Code.

FORESTHILL DIVIDE COMMUNITY PLAN

The *Foresthill Divide Community Plan* (Community Plan), which is currently in draft form, covers the project area. The Community Plan contains the following goals and policies relevant to soils, geology, and seismicity in the project area.

- **GOAL 4.A.8:** Promote the conservation of soils as a valuable natural resource.
- **Policy 4.A.8-2.** The County shall require slope analysis maps during the environmental review process, or at the first available opportunity of project review, to judge future grading activity, building location impacts, and road construction impacts.
- **Policy 4.A.8-4.** Require the use of feasible and practical BMPs to minimize the effects of construction, logging, mining, recreation or other activities that could result in soil loss from dust generation and water runoff.
- **Policy 4.A.9-1.** The County shall require the preparation of a soils engineering and geologic-seismic analysis prior to permitting development in areas prone to geological or seismic hazards (i.e., ground shaking, landslides, liquefaction, critically expansive soils, avalanche).
- **Policy 4.A.9-2.** The County shall require submission of a preliminary soils report, prepared by a registered civil engineer and based upon adequate test borings, for every major subdivision and for each individual lot where critically expansive soils have been identified or are expected to exist.
- **Policy 4.A.9-4.** The County shall ensure that areas of slope instability are adequately investigated and that any development in these areas incorporates appropriate design provisions to prevent landsliding.
- **Policy 4.A.9-5.** In landslide hazard areas, the County shall prohibit avoidable alteration of land in a manner that could increase the hazard, including concentration of water through drainage, irrigation, or septic systems; removal of vegetative cover; and steepening of slopes and undercutting the bases of slopes.
- **Policy 4.A.9-6.** The County shall require the preparation of drainage plans for development in hillside areas that direct runoff and drainage away from unstable slopes.
- **Policy 4.A.9-11.** The County shall limit development in areas of steep (in excess of 30%) or unstable slopes, or slope breaks to minimize hazards caused by landslides, liquefaction, construction undercutting or vegetation loss.

11.3 IMPACTS

11.3.1 ANALYSIS METHODOLOGY

Evaluation of potential impacts on soils, geology, and seismicity was based on a review of documents pertaining to the project area, including the *Placer County General Plan*, *Placer County Trails Master Plan*, *Weimar-Applegate-Clipper Gap General Plan*, *Foresthill General Plan*, the Community Plan, the *Auburn State Recreation Area Interim Resource Management Plan*, and the geotechnical report prepared by Blackburn Consulting (2007); field review of the proposed trail alignment; review of geologic maps; and review of published and unpublished geologic literature. Impacts related to soils, geology, and seismicity that would result from implementation of the proposed project were identified by comparing existing data and environmental documents.

11.3.2 THRESHOLDS OF SIGNIFICANCE

CEQA THRESHOLDS

Based on the Placer County California Environmental Quality Act (CEQA) Checklist and the State CEQA Guidelines, the proposed project would result in a potentially significant impact on soils, geology, and seismicity if it would cause:

- unstable earth conditions or changes in geologic substructure;
- significant disruptions, displacements, compaction, or overcrowding of the soil;
- substantial change in topography or ground surface relief features;
- distruction, covering, or modifications of any unique geologic or physical feature;
- any significant increase in wind or water erosion of soils either on or off the site;
- changes in deposition or erosion or changes in siltation that may modify the channel of a river, stream, or lake; or
- exposure of people or property to geologic and geomorphological (i.e., avalanches) hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards.

ISSUES NOT ANALYZED FURTHER

The proposed project would have no impact associated with the following issues, and these issues will not be analyzed further in this chapter:

- **Fault Ground Rupture:** No known active faults cross the project area, and the project area is not located in an Alquist-Priolo Earthquake Fault Zone; therefore, fault ground rupture is unlikely.
- **Ground Failure/Liquefaction:** The project area is underlain by consolidated metavolcanic and metasedimentary rocks that are not susceptible to liquefaction. In addition, regional groundwater levels are expected to be greater than 50 feet in depth. Therefore, the potential for liquefaction is low.
- **Subsidence and Lateral Spreading:** Subsidence can result from tectonic deformations and seismically induced settlements; soil subsidence from consolidation, hydrocompaction, or rapid sedimentation; subsidence from oxidation or dewatering of organic-rich soils, and subsidence related to subsurface cavities. The potential for failure from lateral spreading is highest in areas where there is a high groundwater table, where there are relatively soft and recent alluvial deposits, and where creek banks are relatively high. The project area is underlain by consolidated metavolcanic and metasedimentary rocks that are not susceptible to liquefaction. In addition, as mentioned above, regional groundwater levels are expected to be greater than 50 feet in depth. Therefore, the risk of subsidence and lateral spreading is considered low.
- **Tsunami:** The potential for a tsunami in the project area is considered negligible because of the distance from the ocean, where tsunamis originate.
- **Seiche:** The potential for damaging seiches is considered very low to negligible because of the absence of a deep, large open body of water adjacent to or in the project area.
- **Expansive Soils:** The soils along the proposed trail alignment have a low to moderate shrink-swell potential and are therefore not considered too expansive.

- **Septic Systems:** The proposed project does not include and would not use septic tanks or alternative wastewater disposal systems.

- **Mineral Resources:** As mentioned at the beginning of this chapter, the proposed project would have no effect on mineral resources because it would not result in the loss of any known mineral resources and would not impede or interfere with mineral extraction operations, and because the project area is not delineated as a locally important recovery site.

11.3.3 IMPACT ANALYSIS

IMPACT 11-1	Construction-Related Erosion Hazards. *Based on soil types and topography, the excavation and grading of soil could result in erosion during project construction, particularly during periods of strong winds or storm events.*
Significance	*Potentially Significant*
Mitigation Proposed	*Mitigation Measure 11-1: Obtain Authorization for Construction and Operation Activities with the Central Valley RWQCB and Implement Erosion and Sediment Control Measures as Required*
Residual Significance	*Less Than Significant*

Soils in the project area are of Auburn–Sobrante–Rock outcrop complex, Boomer–Rock outcrop complex, Mariposa-Josephine complex, Mariposa–Rock outcrop complex, Maymen–Rock outcrop complex, and Sites–Rock outcrop complex. These soil types have been characterized as having moderate to very high erosion hazards. Moreover, the steep slopes along the proposed trail alignment would increase the potential for wind erosion during grading activities or water erosion during a storm event. Project construction activities would involve excavation and grading of soil. These activities could result in localized erosion during the construction period. Construction activities would remove any vegetative cover and could expose disturbed areas to wind and storm events. Therefore, this impact is considered potentially significant.

IMPACT 11-2	Risks to People from Naturally Occurring Asbestos. *Disturbance of naturally occurring asbestos fibers could create a health hazard. However, the project area is not located in an area that is likely to contain naturally occurring asbestos.*
Significance	*Less than Significant*
Mitigation Proposed	*None Warranted*
Residual Significance	*Less than Significant*

See Impact 9-3, “Exposure of Sensitive Receptors to Toxic Air Contaminant Emissions or Asbestos,” in Chapter 9.0, “Air Quality,” for further discussion.

IMPACT 11-3	Risks to People and Structures Caused by Strong Seismic Ground Shaking. *The foothills of the Sierra Nevada are characterized by extremely low seismicity. However, four notable earthquakes have been reported in the northern Sierra Nevada. In addition, the area does have the potential to be affected by shock waves resulting from earthquakes in western and eastern Placer County, and in more distant areas that display greater seismic activity. Ground shaking could cause structural damage to permanent improvements proposed as part of the project.*
Significance	*Potentially Significant*
Mitigation Proposed	*Mitigation Measure 11-2: Implement Recommended Measures to Reduce the Potential for Exposure to Seismic Hazards*
Residual Significance	*Less Than Significant*

The proposed project involves the development of a multiple-use trail and bridge crossings. No structures for human occupancy would be placed across any fault trace identified by the California Geological Survey fault evaluation report, or within 50 feet of such a trace. Structures would be limited to small bridges over streams.

The foothills of the Sierra Nevada are characterized by extremely low seismicity. The intensity of ground shaking would depend on the magnitude of the earthquake, the distance from the epicenter, and the duration of shaking. The damage sustained and the degree of hazard depends on the seismic hazards of each specific site, the type of structure and its building materials, and construction quality. The Weimar Fault is mapped near the northeast portion of the project area. This fault is a Pre-Quaternary fault with no evidence of movement in the last 1.6 million years. Two other unnamed faults are mapped near the Weimar Fault and are also shown to be Pre-Quaternary in age. However, four notable earthquakes have been reported in the northern Sierra Nevada. In addition, the area does have the potential to be affected by shock waves resulting from earthquakes in western and eastern Placer County, as well as more distant areas that display greater seismic activity. The potential exists for earthquakes to occur in the vicinity of the project area in the future. Although the project area would not likely experience a fault rupture, ground shaking could cause structural damage to permanent improvements, such as bridge crossings, proposed as part of the project. Therefore, this impact is considered potentially significant.

IMPACT 11-4	Risks to People and Structures Caused by Landsliding. *Field review of the proposed trail alignment noted several areas of shallow slope instability and/or small landslide areas. Although landsliding does not appear to be a current problem for the project area, stable conditions may be changed by slope alterations from cuts or fills, and by changes to drainage patterns.*
Significance	*Potentially Significant*
Mitigation Proposed	*Mitigation Measure 11-2: Implement Recommended Measures to Reduce the Potential for Exposure to Seismic Hazards*
Residual Significance	*Less Than Significant*

Geologic maps of the project area and vicinity show no deep-seated, large-scale landslides along the proposed trail alignment. Field review of the proposed trail alignment noted several areas of shallow slope instability and/or small landslide areas, which are described in detail in the geotechnical report performed for the proposed project by Blackburn Consulting (2006, 2007) (Appendix B). These features are 1–3 feet thick and are restricted to within the surface soils overlying the bedrock. Construction activities could affect these areas, and stable conditions may be changed by slope alterations from cuts or fills, and changes to drainage patterns. The largest landslide areas (Site H and I identified in the geotechnical report) would be avoided with the revised trail alignment as shown in Exhibit 3-2. Several of the areas of shallow slope instability and/or small landslide areas identified in the geotechnical report may require modified construction techniques or slight realignments of the proposed trail

alignment. Seasonal slide debris in some areas of the trail may require construction of features such as gabion walls, rock walls, or mechanically stabilized earth walls to provide greater slope stability. This impact is considered potentially significant.

11.4 MITIGATION MEASURES

Mitigation Measure 11-1: Obtain Authorization for Construction and Operation Activities with the Central Valley RWQCB and Implement Erosion and Sediment Control Measures as Required.

Mitigation Measure 11-1 applies to Impact 11-1.

The County and/or the California Department of Parks and Recreation (State Parks) shall design a drainage system for erosion control that incorporates the use of BMPs. Erosion and stormwater control shall be designed and implemented in accordance with the latest edition of the erosion and sediment control guidelines for developing areas of the Sierra Nevada foothills and mountains (HSRCOD 1991). BMPs for erosion and siltation prevention, as described in Chapter 3.0, “Project Description,” of this document and developed in the trail plan, would be implemented along the trail. Because of the small size of the staging areas and the implementation of these design features, the proposed project is not anticipated to have significant effects on water quality.

The County shall comply with the terms and conditions set forth in the Section 401 water quality certification obtained from the Central Valley RWQCB. Because of alignment changes and new drainages affected since the issuance of the 401 certification, this permit will be resubmitted following the filing of the Notice of Determination and any new conditions attached to that permit will be incorporated into the project.

As required under the NPDES stormwater permit for general construction activities, the County shall prepare and submit the appropriate notices of intent and shall prepare any other necessary engineering plans and specifications for pollution prevention and control. The County will prepared a SWPPP that identifies and specifies the use of erosion and sediment control BMPs, means of waste disposal, implementation of approved local plans, nonstormwater management controls, permanent postconstruction BMPs, and inspection and maintenance responsibilities. The SWPPP shall also specify the pollutants that are likely to be used during construction that could be present in stormwater drainage and nonstormwater discharges. A sampling and monitoring program shall be included in the SWPPP that meets the requirements of SWRCB Order 99-08-DWQ to ensure that the BMPs are effective.

Construction techniques shall be identified that would reduce the potential for runoff, and the plan 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 all 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.

Mitigation Measure 11-2: Implement Recommended Measures to Reduce the Potential for Exposure to Seismic Hazards.

Mitigation Measure 11-2 applies to Impacts 11-3 and 11-4.

A geotechnical report for the proposed project has been prepared (Blackburn Consulting 2006, 2007) (Appendix C) that evaluates the potential for various geologic and seismic-related hazards. During project design and construction, all measures outlined in the geotechnical report for the proposed project (Blackburn Consulting 2006, 2007) (Appendix C) and, if necessary, supplemental site-specific geotechnical recommendations shall be implemented to ensure that the proposed trail alignment and bridge crossings are safe. It is the responsibility of the County to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report.

12.0 HYDROLOGY AND WATER QUALITY

This chapter evaluates information regarding hydrology and water quality. It describes the existing hydrologic conditions in the project area, presents a summary of the regulatory context, analyzes the hydrology and water quality impacts of the proposed trail alignment, and provides any mitigation measures needed to reduce those impacts.

12.1 ENVIRONMENTAL SETTING

12.1.1 GROUNDWATER

The project area lies in the North American subbasin in the eastern central portion of the Sacramento Groundwater Basin. The North American subbasin has a surface area of approximately 351,000 acres or 548 square miles. The subbasin is bounded by the Bear River to the north, the Feather River to the west, and the Sacramento River to the south. The eastern boundary of the subbasin is a north-south line extending from the Bear River south to Folsom Lake approximately 2 miles east of the town of Lincoln. The eastern boundary represents the approximate edge of the alluvial basin, where little or no groundwater flows into or out of the groundwater basin from the rock of the Sierra Nevada. The eastern portion of the subbasin is characterized by low, rolling dissected uplands. The western portion is a nearly flat flood basin for the Bear, Feather, Sacramento, and American Rivers, and several small eastside tributaries. The general direction of drainage is west-southwest at an average grade of about 5%. Precipitation ranges from 18–20 inches in the western half of the subbasin, which includes the project area, to 20–24 inches in the eastern half of the subbasin (DWR 2004).

As described below in Section 12.2, “Regulatory Setting,” Section 303(d) of the federal Clean Water Act (CWA) requires the identification of water bodies that do not meet, or are not expected to meet, water quality standards, or that are considered impaired. The current list, approved by the U.S. Environmental Protection Agency (EPA), is the 2002 303(d) list. The North Fork American River is not listed as an impaired water body (Central Valley RWQCB 2004).

12.1.2 REGIONAL HYDROLOGY

The project area is situated in a steep canyon with north-facing slopes located within the south-central portion of the Sacramento River Hydrologic Basin, as defined by the California Department of Water Resources (DWR). The Sacramento River Hydrologic Basin covers approximately 17.4 million acres (27,200 square miles). The region includes all or larger 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 River 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; the Sutter Buttes in the south-central portion of the valley; and the Sacramento River, with major tributaries being the Pit, Feather, Yuba, Bear, and American Rivers (DWR 2003).

12.1.3 DESCRIPTION OF THE LOCAL WATERSHED

The proposed trail alignment is located within the North Fork American River and Middle Fork American River surface water drainage basins. The North and Middle Forks of the American River are major surface flows that define the area and have their confluence near Lake Clementine. The North Fork/Middle Fork American River confluence (confluence) feeds into the South Fork American River, which feeds Folsom Lake and ultimately the

Sacramento River. The North Fork American River has its headwaters in the Granite Chief Wilderness area, which is located at the west rim of the Tahoe Basin, and has a relatively narrow drainage basin above Folsom Lake. As described in Chapter 7.0, "Visual Resources," federal legislation has designated the North Fork American River above the Auburn State Recreation Area (SRA) as a National Wild and Scenic River, precluding motorized river access or activities on the river, but permitting nonmotorized access. The Middle Fork American River begins in the Picayune Valley, which is located in the Granite Chief Wilderness area; the river forms part of the southern boundary of Placer County and the *Foresthill Divide Community Plan* area.

Lake Clementine is fed by the North Fork American River and is located immediately north of the proposed trail alignment. Lake Clementine has a storage capacity of 12,800 acre-feet and is operated by the U.S. Army Corps of Engineers (USACE). Lake Clementine is used for power production and recreational purposes.

The proposed trail alignment is located along the south canyon of the North Fork American River, beginning at the confluence, approximately 3 miles northeast of Auburn near Foresthill Road and ending at the Ponderosa Bridge, approximately 5 miles west of the town of Foresthill.

The project area is undeveloped and heavily forested. Approximately 47 drainages occur along the proposed trail alignment. All of the drainages are characterized by a distinct bed and bank and eventually flow into the North Fork American River and Lake Clementine. The majority of the drainages in the project area are ephemeral drainages that flow for brief periods of time in response to a single rain event. A few drainages in the project area can be characterized as intermittent drainages (Wells, pers. comm., 2004). Intermittent drainages in the project area flow for extended periods of time throughout the rainy season and dry up during late spring or early summer. The elevation of the proposed trail alignment ranges from approximately 800 feet to 1,200 feet; the vegetation consists mostly of woodland and chaparral.

Based on the *Soil Survey of Placer County, California, Western Part,* by the U.S. Soil Conservation Service (SCS) (renamed the Natural Resources Conservation Service in 1998), the predominant soil types in the project area are Auburn-Sobrante and Mariposa-Josephine-Sites complexes. See Chapter 11.0, "Soils, Geology, and Seismicity" for a description of these soil types.

12.2 REGULATORY SETTING

12.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

FEDERAL EMERGENCY MANAGEMENT AGENCY

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 annual exceedance probability (AEP) event (i.e., the 100-year flood event). Specifically, where levees provide flood protection, the levee crown is required by FEMA to have 3 feet of freeboard above the 1-in-100-AEP water surface elevation, except in the vicinity of a structure such as a bridge, where the levee crown must have 4 feet of freeboard for a distance of 100 feet upstream and downstream of the structure.

FEDERAL CLEAN WATER ACT OF 1972

EPA is the lead federal agency responsible for water quality management. The 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, discussed below, address water quality. Wetland protection elements administered by USACE under

Section 404 of the CWA, including permits to dredge or fill wetlands, are discussed in Chapter 5.0, "Biological Resources."

Water Quality Criteria and Standards

Under federal law, EPA has published water quality regulations under Volume 40 of the Code of Federal Regulations (i.e., 40 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 CWA, water quality standards consist of two elements: identified 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. In California, EPA has granted the State Water Resources Control Board (SWRCB) and its nine regional water quality control boards (RWQCBs) the authority to identify beneficial uses and adopt applicable water quality objectives.

National Pollutant Discharge Elimination System Permit Program

The National Pollutant Discharge Elimination System (NPDES) permit program was established to regulate municipal and industrial discharges to surface waters of the United States. The discharge of wastewater to surface waters is prohibited unless an NPDES permit issued by the applicable RWQCB allows that discharge. NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify allowable concentrations of effluent in receiving waters and/or limits on pollutant emissions contained in discharges; prohibit discharges not specifically allowed under the permit; and describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

In November 1990, EPA published regulations establishing NPDES permit requirements for municipal and industrial stormwater discharges. Phase 1 of the permitting program applies to municipal discharges of stormwater in urban areas where the population exceeds 100,000 persons. Phase 1 also applies to stormwater discharges from a large variety of industrial activities, including general construction activities if the project would disturb more than 5 acres. Phase 2 of the NPDES stormwater permit regulations, which became effective in March 2003, require that NPDES permits be issued for construction activities for projects that disturb between 1 and 5 acres. Phase 2 of the municipal permit system, known as the NPDES General Permit for Small Municipal Separate Storm Sewer Systems (MS4s), requires small municipal areas with fewer than 100,000 persons to develop stormwater management programs. The RWQCBs in California are responsible for implementing the NPDES permit system (see additional information under "NPDES Permit System" below).

Section 401 Water Quality Certification or Waiver

Under Section 401 of the CWA, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) must first obtain a certificate from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant water quality certification or waive the requirement is delegated by the SWRCB to the nine RWQCBs.

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 for specific pollutants 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 loading that the water body can receive and still be in compliance with water quality objectives. The TMDL can also act as a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. The

TMDL prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows the linkage between loading reductions and the attainment of water quality objectives. EPA must either approve a TMDL prepared by the state or, if it disapproves the state's TMDL, must issue its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in 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.

FEDERAL ANTIDEGRADATION POLICY

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

- Existing instream 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.
- 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.

AUBURN STATE RECREATION AREA INTERIM RESOURCE MANAGEMENT PLAN

The *Auburn State Recreation Area Interim Resource Management Plan* (Auburn SRA IRMP) contains the following management guideline relevant to hydrology and water quality in the project area.

- Management of soils should prevent destructive or unnatural erosion.

12.2.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

In California, the SWRCB has broad authority over water quality control issues for the state. The SWRCB is responsible for developing statewide 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 Health Services (DHS) (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 RWQCBs. The regional boards are required to formulate and adopt water quality control plans (Basin 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 OF 1969

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is California's statutory authority for the protection of water quality. Under the act, the state must adopt water quality policies, plans, and objectives that protect the state's waters for the use and enjoyment of the people. The act sets forth the obligations of the SWRCB and RWQCBs to adopt and periodically update Basin Plans. Basin Plans are the regional water quality control plans required by both the CWA and Porter-Cologne Act in which beneficial uses, water quality

objectives, and implementation programs are established for each of the nine regions in California. The act also requires waste dischargers to notify the RWQCBs of their activities through the filing of Reports of Waste Discharge (RWDs) and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements (WDRs), NPDES permits, Section 401 water quality certifications, or other approvals. The RWQCBs also have authority to issue waivers to RWD/WDRs for broad categories of "low threat" discharge activities that have minimal potential for adverse water quality effects when implemented according to prescribed terms and conditions.

WATER QUALITY CONTROL PLAN FOR THE SACRAMENTO-SAN JOAQUIN RIVER BASINS

The Central Valley RWQCB, under the authority of the Porter-Cologne Act and pursuant to the CWA, is responsible for authorizing activities that have the potential to discharge wastes to surface water or groundwater resources. The *Water Quality Control Plan for the Sacramento–San Joaquin River Basins*, adopted by the Central Valley RWQCB in 1998, 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. State and federal laws mandate the protection of designated beneficial uses of water bodies. State law defines beneficial uses as "domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (Water Code Section 13050[f]). Major issues and the general conditions of existing beneficial uses of the Sacramento River as well as the North and Middle Forks of the American River are listed below.

- **Water Supply:** The Sacramento River and the North and Middle Forks of the American River are a source of municipal water supply.

- **Agricultural Supply:** The Sacramento River and the North and Middle Forks of the American River are used for agricultural purposes that may include farming, horticulture, or ranching. Primary uses are for irrigation and stock watering.

- **Recreation:** Water-dependent recreation uses of the Sacramento River and the North and Middle Forks of the American River include swimming, wading, waterskiing, sport fishing, and a variety of other activities that involve contact with the water. Noncontact (water-enhanced) recreation uses include picnicking, camping, pleasure boating, hunting, bird watching, education, and aesthetic enjoyment.

- **Groundwater Recharge:** Water from the Sacramento River recharges the Colusa and East Yolo groundwater subbasins along their eastern sides. Its contribution is not substantial, however, because of the relatively flat groundwater gradient in this area and the relatively low permeability of the basin materials.

- **Fish and Wildlife:** The Sacramento River, including the North and Middle Forks of the American River, and the waterways of the Sacramento–San Joaquin River Delta provide important habitat for a diverse variety of aquatic life and terrestrial wildlife. This habitat includes seasonal habitat and migration routes for anadromous and other migratory species, as well as permanent habitat for resident species.

The Basin Plan identifies 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 identified in the Basin Plan and in the California Toxics Rule (CTR), which was adopted in May 2000. The CTR is discussed below.

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 that produces waste or increases the volume or concentration of waste and that discharges to existing high-quality waters would be required to meet waste discharge requirements that would ensure that (1) pollution or nuisance would not occur and (2) the highest water quality consistent with the maximum benefit to the people of the state would be maintained.

CALIFORNIA TOXICS RULE

In May 2000, the SWRCB adopted and EPA approved the CTR, which establishes numeric water quality criteria for approximately 130 priority pollutant trace metals and organic compounds. The SWRCB subsequently adopted its State Implementation Policy (SIP) of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries. The SIP outlines procedures for NPDES permitting for toxic pollutant objectives that have been adopted in Basin Plans and in the CTR.

NPDES PERMIT SYSTEM AND WASTE DISCHARGE REQUIREMENTS

The SWRCB and Central Valley RWQCB have adopted specific NPDES permits and/or WDRs for a variety of activities that have the potential to discharge wastes to waters of the state or to land. Dischargers are required to eliminate or reduce nonstormwater discharges to storm sewer systems and other waters. The SWRCB's statewide stormwater permit for general construction activity (Order 99-08-DWQ, as amended) is applicable to all land-disturbing construction activities that would disturb more than 1 acre. Construction activities such as clearing, grading, stockpiling, and excavation are subject to the statewide general construction activity NPDES permit. The proposed project would expose greater than 1 acre of disturbed construction area to stormwater runoff and thus would require an NPDES stormwater permit for general construction activity.

The NPDES permit requires filing of a notice of intent (NOI) with the RWQCB to discharge stormwater and preparation and implementation of a storm water pollution prevention plan (SWPPP) to control contaminated runoff from temporary construction activities. The SWPPP provides the plans and specifications for erosion and sediment best management practices (BMPs), means of waste disposal, methods for implementation of approved local plans, postconstruction sediment and erosion control BMPs and maintenance responsibilities, nonstormwater management BMPs, and BMP performance inspection requirements.

NPDES permits require that design and operational BMPs be implemented to reduce the level of contaminant runoff during construction. The permit also requires dischargers to consider the use of permanent postconstruction BMPs that will remain in service to protect water quality throughout the life of the project. Types of BMPs include source controls, treatment controls, and site planning measures.

The NPDES regulations also require implementation of appropriate hazardous materials management practices to reduce the possibility of chemical spills or release of contaminants, including any nonstormwater discharge to drainage channels.

Construction dewatering activities that discharge to surface waters require NPDES authorization under the Central Valley RWQCB's General Order for Dewatering and Other Low-Threat Discharges to Surface Waters (Order No. 5-00-175). This permit requires the applicant to submit an NOI before the activity verifying that the dewatering will occur in compliance with applicable water quality objectives. It contains terms and conditions for discharge prohibitions, specific effluent and receiving water quality limits, solids disposal activities, and water quality monitoring protocols. The permit authorizes direct discharges to surface waters up to 250,000 gallons per day for no more than a 4-month period each year.

The Central Valley RWQCB also may issue site-specific WDRs, or waivers to WDRs, for certain waste discharges to land or waters of the state. In particular, Central Valley RWQCB Resolution R5-2003-0008 identifies activities subject to waivers of reports of waste discharge and/or WDRs for a variety of activities, including minor dredging activities and construction dewatering activities that discharge to land.

All NPDES permits have inspection, monitoring, and reporting requirements. In Resolution 2001-046, the Central Valley RWQCB responded to a court decision by implementing mandatory water quality sampling requirements for visible and nonvisible contaminants in discharges from construction activities. Water quality sampling is now required if the activity could result in the discharge of turbidity or sediment to a water body that is listed as impaired under Section 303(d) because of sediment or siltation, or if a release of a nonvisible contaminant occurs. Where such pollutants are known or should be known to be present and have the potential to contact runoff, sampling and analysis are required.

SAFE DRINKING WATER ACT

Under the Safe Drinking Water Act (Public Law 93-523), passed in 1974, EPA regulates contaminants of concern to domestic water supplies. Contaminants of concern that are relevant to domestic water supplies are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by EPA National Primary Drinking Water Regulations and National Secondary Drinking Water Regulations. Maximum Contaminant Levels (MCLs) are set for all contaminants of concern. 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 DHS the responsibility for administering California's drinking-water program. DHS is accountable to EPA for program implementation and for adopting standards and regulations that are at least as stringent as those developed by EPA.

Title 22 of the California Code of Regulations (Article 16, Section 64449) defines secondary drinking-water standards that are established primarily for reasons of consumer acceptance (i.e., taste) rather than because of health issues. For mineralization (i.e., total dissolved solids and chloride), the secondary standards are expressed in the form of recommended, upper, and short-term MCLs. The recommended, upper, and short-term MCLs for total dissolved solids are 500, 1,000, and 1,500 milligrams per liter, respectively.

12.2.3 LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

PLACER COUNTY GENERAL PLAN

The following are the relevant goals and policies identified by the *Placer County General Plan* (Placer County 1994) for hydrology and water quality.

- **GOAL 6.A:** To protect and enhance the natural qualities of Placer County's streams, creeks and groundwater.

- **Policy 6.A.4.e.** Where creek protection is required or proposed, the County should require public and private development to: use design, construction, and maintenance techniques that ensure development near a creek will not cause or worsen natural hazards (such as erosion, sedimentation, flooding, or water pollution) and will include erosion and sediment control practices such as: 1) turbidity screens and other management practices, which shall be used as necessary to minimize siltation, sedimentation, and erosion, and shall be left in place until disturbed areas; and/or are stabilized with permanent vegetation that will prevent the transport of sediment off site; and 2) temporary vegetation sufficient to stabilize disturbed areas.

- **Policy 6.A.7.** The County shall discourage grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat.

WEIMAR-APPLEGATE-CLIPPER GAP GENERAL PLAN

The *Weimar-Applegate-Clipper Gap General Plan* contains the following goals and policies relevant to hydrology and water quality in the project area.

- **GOAL 1:** To ensure a balanced environment where physical development can occur with minimal adverse effect to the natural resources of the area.

- **GOAL 2:** Maintain the quality of air and water resources at a level consistent with adopted federal, state, and local standards.

- **Policy 2.** Review proposed development for their potential adverse effect on air and water quality.

- **GOAL 3, Policy 1.** Preserve the natural condition of all stream influence areas, including flood plains and riparian vegetation areas.

FORESTHILL DIVIDE COMMUNITY PLAN

The *Foresthill Divide Community Plan* (Community Plan), which is currently in draft form, includes the project area. The Community Plan contains the following goals and policies relevant to hydrology and water quality in the project area.

- **GOAL 4.A.7:** Protect and enhance the natural qualities of the Foresthill Divide's streams, creeks and groundwater.

- **Policy 4.A.7-1.** The County shall require the provision of sensitive habitat buffers which shall, at a minimum, be measured as follows: 100 feet from the centerline of perennial streams, 50 feet from centerline of intermittent streams, and 50 feet from the edge of sensitive habitats to be protected including riparian zones, wetlands, old growth woodlands, and the habitat of rare, threatened or endangered species.

  Based on more detailed information supplied as a part of the review for a specific project, the County may determine that such setbacks are not applicable in a particular instance or should be modified based on the new information provided. The County may, however, allow exceptions, such as in the following cases:

  a. reasonable use of the property would otherwise be denied;

  b. the location is necessary to avoid or mitigate hazards to the public;

  c. the location is necessary for the repair of roads, bridges, trails, or similar infrastructure; or

d. the location is necessary for the construction of new roads, bridges, trails, or similar infrastructure where the County determines there is no feasible alternative and the project has minimized environmental impacts through project design and infrastructure placement.

- **Policy 4.A.7-4.** Encourage the use of natural stormwater drainage systems to preserve and enhance natural features.

- **Policy 4.A.7-8.** Continue to require the use of feasible and practical BMPs to protect streams from the adverse effects of construction activities and runoff from developed areas and to encourage the use of BMPs.

- **Policy 4.A.7-10.** The County shall improve water quality by eliminating existing water pollution sources and by prohibiting activities which include the use of hazardous materials around wetland and groundwater recharge areas.

- **Policy 4.A.7-12.** Preserve or enhance the aesthetic qualities of natural drainage courses in their natural or improved state compatible with flood control requirements and economic, environmental, and ecological factors.

- **Policy 4.A.7-17.** Discourage grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat.

- **Policy 4.A.7-18.** Require project proponents to restore such areas by means of landscaping, revegetation, the use of rice straw or other weed-free vegetative material for erosion control measures, or similar stabilization techniques as a part of development activities where the stream environment zone has previously been modified by channelization, fill, or other human activity.

12.3 IMPACTS

12.3.1 ANALYSIS METHODOLOGY

The environmental analysis for hydrology and water quality was based largely on the project-related documents identified in Section 12.1, "Environmental Setting." Background information included in the *Placer County General Plan*, the Community Plan, and the Auburn SRA IRMP was also used. The effects of the proposed project were compared to environmental baseline conditions (i.e., existing conditions) to determine impacts.

12.3.2 THRESHOLDS OF SIGNIFICANCE

Based on the Placer County California Environmental Quality Act (CEQA) checklist and the State CEQA Guidelines, the proposed project would result in a potentially significant impact on hydrology and water quality if it would result in:

- changes in absorption rates, drainage patterns, or the rate and amount of surface runoff;

- exposure of people or property to water-related hazards such as flooding;

- discharge into surface waters or other alterations of surface water quality;

- changes in the amount of surface water in any water body;

- changes in currents, or the course of direction of water movements;

- change in the quantity of groundwater, either through direct additions of withdrawals, or through interception of an aquifer by cuts or excavations, or through substantial loss of groundwater recharge capability;
- altered direction or rate of flow of groundwater;
- impacts on groundwater quality;
- substantial reduction in the amount of groundwater otherwise available for public water supplies; or
- violation of any water quality standards or waste discharge requirements.

The proposed trail alignment does not lie within the 100-year floodplain mapped by FEMA. No sources of potable or nonpotable water are proposed along the trail or at staging termini; therefore, there would be no use of groundwater and no adverse effects on the quantity, rate, flow, or quality of groundwater in the project area. The project would not affect the direction or flow of water in the North Fork American River or drainages along the trail. In addition, Lake Clementine is not considered an important surface water resource for drinking and/or irrigation water (Fisher, pers. comm., 2004). Therefore, these issues will not be analyzed further in this chapter.

12.3.3 IMPACT ANALYSIS

IMPACT 12-1	Hydrology and Water Quality – Potential for Short-Term Construction-Related Soil Erosion and Water Quality Impairment. *Implementation of the proposed project could cause short-term water quality degradation associated with construction activities. Areas from which duff and vegetation have been removed could be subject to erosion from rain and wind. In addition, accidental spills of construction-related contaminants could occur during construction activities in the project area. Both of these mechanisms could carry soil and construction-related contaminants to intermittent drainages before they are ultimately discharged to the North Fork American River.*
Significance	*Potentially Significant*
Mitigation Proposed	*Mitigation Measure 11-1 in Chapter 11.0, "Soils, Geology, and Seismicity": Obtain Authorization for Construction and Operation Activities with the Central Valley RWQCB and Implement Erosion and Sediment Control Measures as Required*
Residual Significance	*Less Than Significant*

Approximately 6.5 acres of vegetation and duff would be removed from the proposed trail alignment and approximately 2.6 acres would be disturbed for construction of the two staging termini. This material would be raked or side cast above the proposed trail alignment. This material would be used after trail construction to aid in revegetation and erosion prevention. Because of the steep side slopes and the need to support equestrian traffic, the 14.2-mile, 6-foot-wide trail would be cut out of the hillside, and no fill would be used. The trail would be 6 feet wide with an outslope of 2–4% depending on the grade of the trail. Wherever feasible, the trail surface would have a grade of less than 10%. Further adjustments may be made to the proposed trail alignment if focused surveys result in identification of sensitive resources that can be avoided.

Removal of duff and vegetation exposes bare soil and causes unstable conditions, resulting in soils that are easily disturbed by equipment and eroded by rain and wind. This could affect surface water quality because of erosion and sedimentation from the project area during construction, use, and maintenance of the proposed trail. The proposed trail alignment is located on steep slopes with soils that are subject to moderate to very high erosion hazard, which could result in erosion of surface soils during construction of the proposed trail. In addition, accidental spills of construction-related contaminants, such as fuels, oils, solvents, and cleaners, could occur during construction activities in the project area, resulting in contamination of surface soils. Discharges of these

construction materials and contaminants to the receiving waters during storm events would degrade water quality. Runoff from the proposed trail and staging termini could result in effects on the intermittent drainages and the North Fork of the American River. This impact is considered potentially significant.

IMPACT 12-2	Hydrology and Water Quality – Potential for Long-Term Soil Erosion and Water Quality Impairment. *Implementation of the proposed project could cause long-term water quality degradation associated with use of the proposed trail and extreme weather events. Areas from which duff and vegetation have been removed could be subject to erosion from rain and wind. These mechanisms could carry soil into intermittent drainages before they are ultimately discharged to the North Fork American River.*
Significance	*Potentially Significant*
Mitigation Proposed	*Mitigation Measure 11-1 in Chapter 11.0, "Soils, Geology, and Seismicity": Obtain Authorization for Construction and Operation Activities with the Central Valley RWQCB and Implement Erosion and Sediment Control Measures as Required*
Residual Significance	*Less Than Significant*

The proposed project would be constructed in an area with steep slopes that have the potential for erosion. The proposed trail would be maintained as an exposed dirt surface that would increase the amount of soil exposed to wind and water erosion. Extreme weather events could cause increased erosion and decreased water quality. The proposed trail would be closed for approximately 6 months immediately following construction to allow the soil and materials to settle and compact before the trail opens to the public. Routine maintenance would also be performed on the trail to reduce erosion to the extent possible and to repair weather-related damage that could contribute to erosion. This impact is considered less than significant. Implementation of Mitigation Measure 11-1, "Obtain Authorization for Construction and Operation Activities with the Central Valley RWQCB and Implement Erosion and Sediment Control Measures as Required," would further reduce this impact.

12.4 MITIGATION MEASURES

See Mitigation Measure 11-1 in Chapter 11.0, "Soils, Geology, and Seismicity." This mitigation measure applies to Impacts 12-1 and 12-2.

13.0 PUBLIC SERVICES

This chapter describes the existing public services for the project area and any impacts anticipated with implementation of the proposed project. Public services included in this discussion are fire protection, police protection, public schools, and maintenance of public facilities. As described in Chapter 1.0, "Introduction," the proposed project does not have components that would have a significant effect on public utilities. Therefore, the proposed project would have a negligible effect on public utilities, and this topic will not be discussed further in this chapter.

13.1 ENVIRONMENTAL SETTING

13.1.1 PUBLIC SCHOOLS

Alta Vista Elementary School is the closest elementary school to the project area. Located in Auburn approximately 3 miles from the project area, the school serves students from kindergarten through 5th grade. The closest middle school to the project area is E. V. Cain Middle School, which is approximately 2 miles from the project area and serves grades 6–8. Placer High School, which serves grades 9–12, is the closest high school at approximately 3 miles from the project area. The project area is within the Auburn State Recreation Area (SRA); there are no schools within this area.

13.1.2 FIRE PROTECTION

Fire protection and emergency medical response are provided in the project area by the California Department of Forestry and Fire Protection (CDF) under an agreement with the U.S. Bureau of Reclamation (Reclamation).

13.1.3 POLICE PROTECTION

The California Department of Parks and Recreation (State Parks) provides rangers for law enforcement in the project area under an agreement with Reclamation. The Placer County (County) Sheriff's Department in Auburn handles all other police services, and the California Highway Patrol handles traffic-related issues.

13.1.4 OTHER PUBLIC FACILITIES

The County Department of Public Works provides road maintenance for Foresthill Road, Lake Clementine Road, and Upper Lake Clementine Road, and State Parks maintains Ponderosa Way by grading the road each spring. State Parks also manages facilities within the Auburn SRA, which encompasses the project area.

13.2 REGULATORY SETTING

13.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulations, or laws related to public services are applicable to the proposed project.

13.2.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

No state plans, policies, regulations, or laws related to public services are applicable to the proposed project.

13.2.3 LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

PLACER COUNTY GENERAL PLAN

The following are the relevant goals and policies identified by the *Placer County General Plan* (Placer County 1994) for public services.

- **GOAL 4.H:** To provide adequate sheriff services to deter crime and to meet the growing demand for services associated with increasing population and commercial/industrial development in the County.

- **Policy 4.H.2.** The County Sheriff shall strive to maintain the following average response times for emergency calls for service:

  a. 6 minutes in urban areas
  b. 8 minutes in suburban areas
  c. 15 minutes in rural areas
  d. 20 minutes in remote rural areas

- **GOAL 4.I:** To protect residents of and visitors to Placer County from injury and loss of life and to protect property and watershed resources from fires.

- **Policy 4.I.2.** The County shall encourage local fire protection agencies in the County to maintain the following standards (expressed as average response times to emergency calls):

  a. 4 minutes in urban areas
  b. 6 minutes in suburban areas
  c. 10 minutes in rural areas

WEIMAR-APPLEGATE-CLIPPER GAP GENERAL PLAN

The *Weimar-Applegate-Clipper Gap General Plan* contains the following goals and policies relevant to public services in the project area.

- Require that adequate services are available for proposed developments prior to granting approval.

- Consider mitigation measures for new developments to reduce the impacts on local services (i.e., schools, parks, etc.).

- Minimize areas where urban services will be required to protect the rural character of the Weimar, Applegate, and Clipper Gap Communities.

FORESTHILL DIVIDE COMMUNITY PLAN

The *Foresthill Divide Community Plan* (Community Plan), which is currently in draft form, includes the project area. The Community Plan contains the following goals and policies relevant to public services in the project area.

- **GOAL 3.D.13:** Protect residents of and visitors to Foresthill from injury, suffering, and loss of life and protect property and watershed resources from fires.

- **Policy 3.D.13-15.** The County shall work with local fire protection agencies, the California Department of Forestry and Fire Protection, and the U.S. Forest Service to promote the maintenance of existing fuel breaks and emergency access routes for effective fire suppression.

- **Policy 3.D.13-17.** The County shall continue to work cooperatively with the California Department of Forestry and Fire Protection and local fire protection agencies in managing wildland fire hazards.

- **GOAL 3.D.14:** Provide adequate Sheriff's services to deter crime and to meet the growing demand for services associated with increasing population and commercial/industrial development in the county.

- **Policy 3.D.14-2.** The County Sheriff shall strive to maintain the following average response times for emergency calls for service in Foresthill:
  - 15 minutes in rural areas
  - 20 minutes in remote rural areas

13.3 IMPACTS

13.3.1 ANALYSIS METHODOLOGY

Potential impacts on fire protection, police protection, public schools, and other public facilities that would result from the proposed project were identified by comparing existing service capacity and facilities against anticipated future demand associated with implementation of the proposed project.

13.3.2 THRESHOLDS OF SIGNIFICANCE

Based on the Placer County California Environmental Quality Act (CEQA) Checklist and the State CEQA Guidelines, the proposed project would result in a potentially significant impact on public services if it would have an effect on or result in the need for new or altered government services in any of the following areas:

- schools;
- fire protection;
- sheriff protection;
- maintenance of public facilities, including roads; or
- other governmental services.

The proposed project would not affect public schools in the area; therefore, effects of the proposed project on schools will not be discussed further in this chapter. In addition, as mentioned at the beginning of this chapter, the proposed project would have a negligible effect on public utilities, so this topic is not discussed in the impact analysis below.

13.3.3 IMPACT ANALYSIS

IMPACT 13-1	Public Services – Potential Reduction in Emergency Response Times. *The proposed project may cause an increase in demand for emergency services. However, adequate access to the proposed trail would be provided for emergency vehicles. Therefore, current emergency response times are not expected to be reduced.*
Significance	*Less Than Significant*
Mitigation Proposed	*None Warranted*
Residual Significance	*Less Than Significant*

See Impact 8-6, “Potential Interference with Emergency Response Routes,” in Chapter 8.0, “Transportation and Circulation,” for further discussion.

IMPACT 13-2	Public Services – Increase in Demand for Police Services. *Use of the proposed trail may increase demand for police services in the project area. However, an increase in demand is expected to occur in the project area regardless of implementation of the proposed project. This increase in demand is expected to be proportional to the increase in population in the surrounding area. The proposed project is not expected to significantly increase the demand for police services in addition to increases already occurring due to population increases.*
Significance	*Less Than Significant*
Mitigation Proposed	*None Warranted*
Residual Significance	*Less Than Significant*

Police services in the project area would continue to be provided by State Parks, the California Highway Patrol, and the County Sheriff’s Department. The proposed trail is not expected to significantly increase the number of visitors to the project area above that already expected due to population increases. Therefore, it is expected that the police services would increase over time as needed to accommodate increased visitation to Auburn SRA. The proposed project would not cause a significant additional increase in demand for police services. Therefore, this impact is considered less than significant.

IMPACT 13-3	Public Services – Increase in Demand for Fire Services. *Use of the proposed trail may increase demand for fire services in the project area. However, any increase in demand is expected to occur in the project area regardless of implementation of the proposed project. This increase in demand is expected to be proportional to the increase in population in the surrounding area. The proposed project is not expected to significantly increase the demand for fire services in addition to increases already occurring due to population increases.*
Significance	*Less Than Significant*
Mitigation Proposed	*None Warranted*
Residual Significance	*Less Than Significant*

Fire services in the project area are currently provided by CDF. Implementation of the proposed project would bring more people into the immediate area, and there is the possibility (however slight) that a fire could be started in the project area. However, the demand for fire services in the Auburn SRA is expected to increase regardless of implementation of the proposed project. The proposed project is not expected to cause a significant increase in the demand for fire services in addition to increases already occurring due to population increases. It is expected that the fire services would increase over time as needed to accommodate increased visitation to Auburn SRA. In addition, General Fire Prevention Requirements derived from the *Fire Prevention Plan for Industrial, Commercial, and Recreational Operations for the Auburn State Recreation Area* (Appendix F) would be implemented as described in Chapter 15.0, “Hazardous Materials and Hazards,” to further reduce the risk of wildfires. Therefore, this impact is considered less than significant.

IMPACT 13-4	Public Services – Increase in Maintenance of Public Facilities. *Construction of the proposed trail and associated components would create more facilities that would need to be maintained by the County. The amount of maintenance required for the proposed trail and associated components are expected to be small.*
Significance	*Less Than Significant*
Mitigation Proposed	*None Warranted*
Residual Significance	*Less Than Significant*

Maintenance under the proposed project would include maintenance of the proposed trail and bridges after the first 3 years, servicing of the portable restrooms, and maintenance of signage. The proposed project would not require the construction of any new roadways that would need to be maintained by the County Department of Public Works; however, an increase in visitation may require more frequent maintenance of the roads in the project area. Maintenance of the proposed trail and associated facilities and any road maintenance that may be required are expected to be minimal. Because the County has planned for the construction and maintenance of the proposed trail, and the maintenance of such facilities would be minimal, this impact is considered less than significant.

13.4 MITIGATION MEASURES

No mitigation measures are necessary.

14.0 RECREATION

This chapter describes existing recreational resources and activities within the project area and impacts that the proposed project may have on these facilities and on recreation safety.

14.1 ENVIRONMENTAL SETTING

14.1.1 AUBURN STATE RECREATION AREA

The Auburn State Recreation Area (SRA) was originally designated in 1979 to be managed as a reservoir-based SRA following the completion of the Auburn Dam. Construction of the dam has been delayed indefinitely; therefore, the SRA is now managed as a river-based recreation area in the interim. The Auburn SRA encompasses more than 35,000 acres and provides for recreational uses such as hiking, swimming, boating, fishing, camping, mountain biking, gold panning, horseback riding, and off-highway motorcycle riding. Whitewater recreation is also very popular on both forks of the American River (State Parks 2004). The Auburn SRA includes numerous hiking, biking, and equestrian trails. These trails include, but are not limited to: Lower Lake Clementine Road, Upper Lake Clementine Road, the Connector Trail, the Foresthill Divide Loop Trail, and the Long Point Trail (Exhibit 14-1).

14.1.2 NORTH FORK AMERICAN RIVER

The North Fork American River use area is located above Lake Clementine between the Foresthill Divide and the Interstate 80 corridor. This stretch of river is approximately 13 miles long and is one of the last remaining free-flowing rivers in California. Popular recreation activities on this stretch of the river include rafting, swimming, fishing, canoeing, and recreational mineral collecting. There are two whitewater rafting runs along this section of the river. Boating on this stretch of the river typically runs from May to mid-June and to a lesser extent during the winter months.

14.1.3 NORTH FORK/MIDDLE FORK AMERICAN RIVER CONFLUENCE

The North Fork/Middle Fork American River confluence (confluence), which is located at the west end of the proposed trail, is a large beach area where the North and Middle Forks of the American River meet. It receives the second highest amount of visitation in the Auburn SRA (Lake Clementine receives the highest visitation in the Auburn SRA) and is accessed by State Route 49 and Old Foresthill Road (Reclamation 1992). There are significant daily flow fluctuations in the river caused by upstream releases from Lake Clementine. Swimming, hiking, fishing, and sunbathing are the main activities at the confluence. The Western States Trail is a multiple-use trail that traverses the confluence area. The confluence receives most of its use in the summer months; however, the mild climate allows for year-round recreation use (Reclamation 1992).

14.1.4 LAKE CLEMENTINE

Lake Clementine, created by a debris-retaining dam in 1935, is roughly 4 miles long and one-eighth mile wide. The lake is located approximately 2 miles upstream and northeast of the confluence. Lake Clementine is divided into Upper and Lower Lake Clementine. Lower Lake Clementine offers opportunities for boating, waterskiing, and sport fishing, as well as a marina. Upper Lake Clementine provides a seasonal parking area, a picnic area, and drive-in and boat-in campsites, as well as passive recreational activities such as canoeing, swimming, and flatwater kayaking. Motorized boats are not permitted in Upper Lake Clementine because of the lake's shallow depth (Reclamation 1992).

14.2 REGULATORY SETTING

14.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

AUBURN STATE RECREATION AREA INTERIM RESOURCE MANAGEMENT PLAN

State Parks manages the Auburn SRA according to the *Auburn State Recreation Area Interim Resource Management Plan* (Auburn SRA IRMP) (Reclamation 1992). The IRMP includes a planning goal to allow and encourage active volunteerism for trail construction, trail maintenance, facilities construction, interpretation, and other projects or programs, where feasible. The IRMP also provides the following relevant design standards for new facilities in the Auburn SRA (Reclamation 1992).

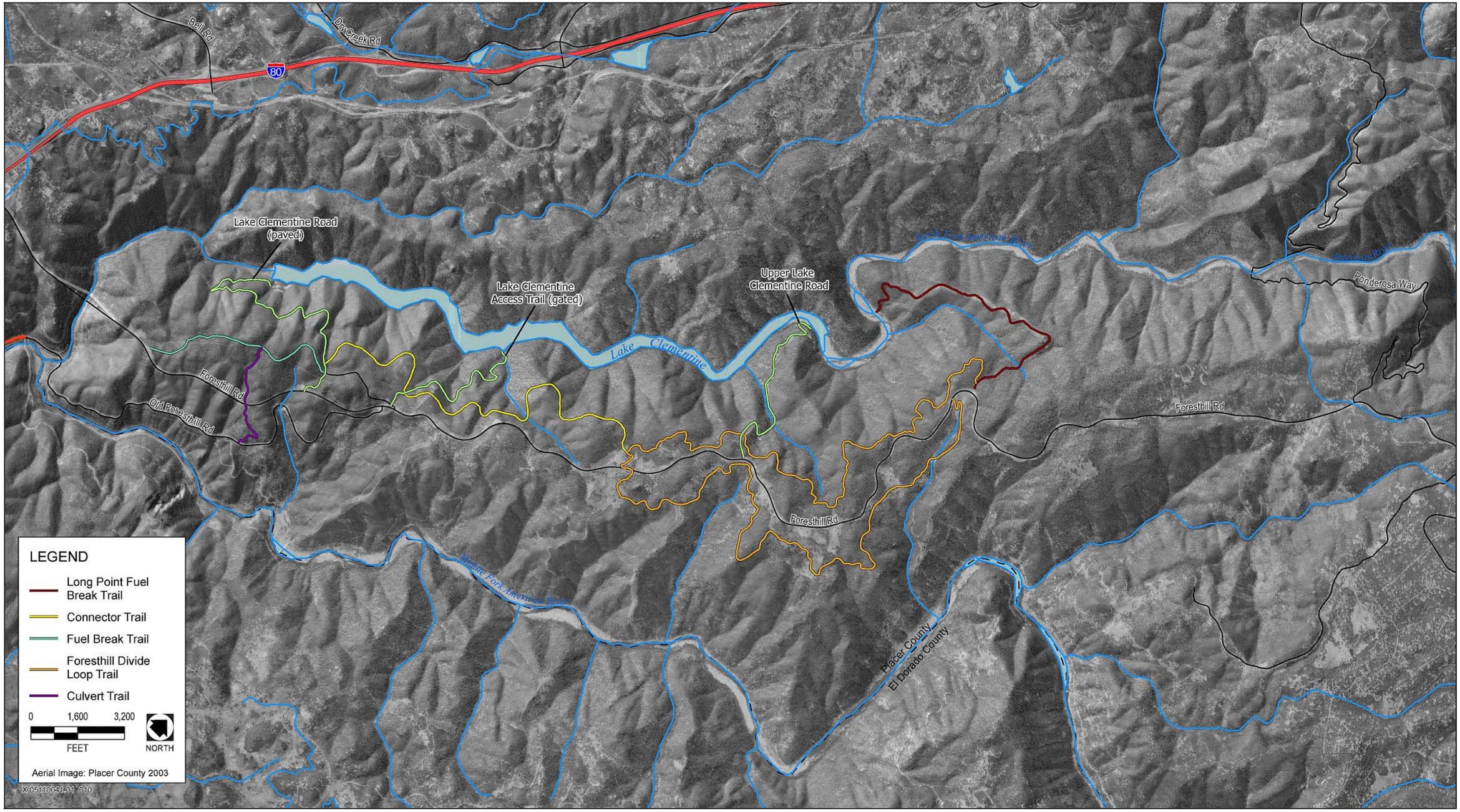
- Facilities planned for Auburn SRA must not be permanent, due to the fact that construction of Auburn Dam would cause inundation of any facilities built below the reservoir level.
- Equestrian staging areas should be large enough to permit trailer loading and unloading, trailer parking, and trailhead signs and facilities for tethering and watering horses, where possible. Equestrian staging areas should be unpaved. Restroom facilities should be provided at staging areas.
- All facilities should be located in such a way as to have minimal conflict with cultural and fish and wildlife habitat values.

The Auburn SRA IRMP also includes the following relevant design and construction standards for trails in the Auburn SRA.

- Trails should be subject to seasonal closures at the discretion of the managing agency to avoid resource damage.
- Trail linkages to other trail systems should be encouraged.
- The design of trails and access points should take into account disabled Auburn SRA users, to the extent possible.
- All trails should meet State Parks construction and maintenance standards.
- Maintenance, construction, and clearing of any trail should have the prior approval of the administrative agency to assure conformance to existing trail standards and to ensure the continued ecological, cultural, and scenic integrity of the park.

14.2.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California State Parks laws, regulations, policies and plans which may apply to the North Fork American River Trail include: future specific Trail Management Plan for Auburn State Recreation Area, the California State Parks Departmental Operations Manual (DOM) and Departmental Administrative Manual (DAM), the California State Parks Trails Handbook, California State Parks Departmental Notices, the California State Parks Trail Policy, specific Posted Orders for Auburn SRA, the California Code of Regulations and the California Public Resources Code.



Source: Placer County 2006

Primary Existing Trails and Roads **Exhibit 14-1**

14.2.3 LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

PLACER COUNTY GENERAL PLAN

The following are the relevant goals and policies identified by the *Placer County General Plan* (Placer County 1994) for recreational facilities.

- **GOAL 5.A:** To develop and maintain a system of conveniently-located, properly-designed parks and recreational facilities to serve the needs of present and future residents, employees, and visitors.

- **Policy 5.A.11.** Regional and local recreation facilities should reflect the character of the area and the existing and anticipated demand for such facilities.

- **Policy 5.A.12.** The County shall encourage recreational development that complements the natural features of the area, including the topography, waterways, vegetation, and soil characteristics.

- **Policy 5.A.13.** The County shall ensure that recreational activity is distributed and managed according to an area's carrying capacity, with special emphasis on controlling adverse environmental impacts, conflict between uses, and trespass. At the same time, the regional importance of each area's recreation resources shall be recognized.

- **Policy 5.A.17.** The County should be directly involved in the development and operation of community and neighborhood park facilities. These include outdoor recreation facilities to support traditional pursuits such as baseball, soccer, basketball, hiking, walking, riding and picnicking. Where appropriate, the County should consider cooperative agreements with a local park or recreation district to operate County facilities where this would enhance the efficient delivery of parks and recreation services to County residents.

- **Policy 5.A.22.** The County shall encourage compatible recreational use of riparian areas along streams and creeks where public access can be balanced with environmental values and private property rights.

The *Placer County General Plan* also identifies the following relevant goals and policies regarding trail facilities.

- **GOAL 5.C:** To develop a system of interconnected hiking, riding, and bicycling trails and paths suitable for active recreation and transportation and circulation.

- **Policy 5.C.1.** The County shall support development of a Countywide trail system designed to achieve the following objectives:

  - Provide safe, pleasant, and convenient travel by foot, horse, or bicycle;

  - Link residential areas, schools, community buildings, parks, and other community facilities within residential developments. Whenever possible, trails should connect to the Countywide trail system, regional trails, and the trail or bikeways plans of cities;

  - Provide access to recreation areas, major waterways, and vista points;

  - Provide for multiple uses (i.e., pedestrian, equestrian, bicycle);

  - Use public utility corridors such as power transmission line easements, railroad rights-of-way, irrigation district easements, and roadways; and

  - Protect sensitive open space and natural resources.

- **Policy 5.C.3.** The County shall work with other public agencies to coordinate the development of equestrian, pedestrian, and bicycle trails.

FORESTHILL DIVIDE COMMUNITY PLAN

The *Foresthill Divide Community Plan* (Community Plan), which is currently in draft form, includes the project area. The Community Plan contains the following goals and policies relevant to recreation in the project area.

- **GOAL 3.E.1:** Provide recreation facilities/opportunities for the residents of the Plan area.
- **Policy 3.E.1-1.** The County shall strive to achieve and maintain a standard of 5 acres of improved parkland and 5 acres of passive recreation area or open space per 1,000 population.
- **GOAL 3.E.2:** Develop and maintain centralized recreational facilities providing a variety of parks and programs to serve the needs of present and future residents and visitors.
- **Policy 3.E.4-2.** Provide links to a major countywide trail system.
- **Policy 3.E.4-3.** Use public utility corridors such as power line easements, water district easements and other roadways whenever possible when planning and constructing new trails.
- **Policy 3.E.4-5.** Trails shall be separated from the traveled roadway whenever possible by curbs, barriers, landscaping and spatial distance. Safety is a high priority, also with emphasis on aesthetics.

14.3 IMPACTS

14.3.1 ANALYSIS METHODOLOGY

Potential impacts on recreation that would result from implementation of the proposed project were identified by comparing existing recreational facilities and capacity against anticipated future demand associated with implementation of the proposed project.

14.3.2 THRESHOLDS OF SIGNIFICANCE

Based on the Placer County California Environmental Quality Act (CEQA) Checklist and the State CEQA Guidelines, the proposed project would result in a potentially significant impact on recreation if it would:

- increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated;
- increase the demand for neighborhood or regional parks or other recreational facilities; or
- affect existing recreational opportunities.

14.3.3 IMPACT ANALYSIS

IMPACT 14-1	Recreation – Increased Demand for Recreational Facilities. *The proposed trail would be constructed in response to existing demand from population increases and would not create additional demand for recreational facilities. The proposed trail would not be sufficiently different from other trails in the project area to create its own demand. Therefore, implementation of the proposed project would not cause a significant increase in demand for additional recreational facilities.*
Significance	*Less Than Significant*
Mitigation Proposed	*None Warranted*
Residual Significance	*Less Than Significant*

The proposed trail would be constructed in response to growing demand for recreational facilities associated with population increases in the project vicinity. As noted in State Parks' *Recreational Trails Plan*, growing populations drive land development and concurrently increase demands for recreational open space, including trail corridors. The *Recreational Trails Plan* also notes that the continuing growth in California's population is likely the most important trend impacting trails (State Parks 2002). The proposed trail would be used to accommodate this existing demand for recreational facilities and would not create additional demand. There are currently other multiple-use trails in the project area, and the proposed trail would not be sufficiently different from these trails to create its own demand. Because the proposed project would be constructed to accommodate existing demand for recreational facilities, this impact is considered less than significant.

IMPACT 14-2	Recreation – Increase in Wildlife Attacks as a Result of Increased Recreational Use. *The proposed trail would introduce more trail users into a fairly remote area of the North Fork American River canyon, which could increase the number of encounters with wildlife. However, wildlife attacks on humans are rare. In addition, informational signage on wildlife safety would be posted at the staging termini to educate trail users.*
Significance	*Less Than Significant*
Mitigation Proposed	*None Warranted*
Residual Significance	*Less Than Significant*

The Auburn SRA is considered to be mountain lion and black bear habitat, and construction of the proposed trail would introduce trail users into a fairly remote area of the Auburn SRA. However, mountain lion and bear attacks on humans are extremely rare. Since 1890, when mountain lion attacks began being recorded, there have been no mountain lion attacks on humans reported in the project area or elsewhere in Placer County; in the El Dorado County portion of the Auburn SRA one mountain lion attack has been reported since 1890 (DFG 2004). Therefore, the risk of a trail user being attacked by a mountain lion is extremely low.

Attacks by black bears are also relatively uncommon. The California Department of Fish and Game (DFG) has recorded 12 bear attacks since 1980, none of which were in the project area or elsewhere in Placer County. Bears are often attracted to areas by the smell of food, which can lead to encounters with people. There would not be any picnic areas in the project area and any garbage cans in the project area would be wildlife-proof; therefore, the project area is not expected to attract bears and other wildlife.

To further reduce the risk of wildlife attacks, signs describing safety precautions to take against mountain lions and bears would be posted at the staging termini to inform trail users. If a wildlife attack were to occur along the proposed trail, State Parks would notify DFG so that the animal responsible for the attack could be located and relocated or euthanized.

Because the risk of wildlife attacks on humans is extremely low, and because measures would be taken to increase trail users' awareness of wildlife safety, this impact is considered less than significant.

IMPACT 14-3	Recreation – Increased Degradation of Existing or Proposed Recreational Facilities. *The proposed trail may redirect trail users from other areas of the Auburn SRA to the project area, thereby increasing recreational use in the immediate project area. Redirecting trail users from other trails in the Auburn SRA would reduce degradation of those trails. Because the proposed trail would not cause a significant increase in demand, it would not cause degradation of existing trails. While regular trail use by equestrians and bicyclists could cause degradation of the proposed trail, routine maintenance of the trail would be performed to address this issue.*
Significance	*Less Than Significant*
Mitigation Proposed	*None Warranted*
Residual Significance	*Less Than Significant*

Other multiple-use trails exist within the North Fork American River area of the Auburn SRA. The proposed trail would be similar to those other trails in the Auburn SRA and would not be sufficiently different to create its own demand. The proposed trail would provide additional recreational facilities in the Auburn SRA to meet the increase in demand for recreational facilities in the area. The proposed trail may redirect trail users from other areas of the Auburn SRA to the project area, reducing degradation of those trails. The proposed trail would not provide access to the American River; therefore, implementation of the proposed project would not increase recreational use of the river. Use of the proposed trail by equestrians and bikers could cause damage to the proposed trail. Placer County would maintain the proposed trail as necessary to keep it in good working order and ensure users' safety. Because the proposed project would not cause degradation of any existing recreational facilities and would accommodate increased demands for recreational facilities, this impact is considered less than significant.

IMPACT 14-4	Recreation – Potential for Conflicts between Trail Users. *Because the proposed trail is a multiple-use trail, the potential exists for conflicts between pedestrians, equestrians, and bicyclists. The proposed project includes measures to minimize the occurrence of these potential conflicts, including a 6-foot wide trail width and informational signage.*
Significance	*Less Than Significant*
Mitigation Proposed	*None Warranted*
Residual Significance	*Less Than Significant*

The proposed trail would incorporate several measures to reduce user conflicts, including a 6-foot trail width and informational signage to remind trail users of trail courtesy. The proposed trail tread would reduce potential user conflicts compared to a narrower trail width, and signage with trail etiquette would be posted at trail entrances. The 6-foot trail width would conform to State Parks' standards for multiple-use trails. Despite these measures, user conflicts may still occur on the proposed trail. However, because no safety issues related to user conflicts along existing trails have been reported (Hendricks, pers. comm., 2006), and because user conflicts do not

constitute an effect on the physical environment, under CEQA this is considered a less-than-significant impact on the environment.

IMPACT 14-5	Recreation – Increase in Unauthorized Activities in the Project Area. *The proposed trail may increase the number of visitors to the Auburn SRA, which could increase the occurrence of unauthorized activities in the project area. However, the increase in users as a result of the proposed trail is expected to be minimal, and the project area would be patrolled by State Parks' rangers.*
Significance	*Less Than Significant*
Mitigation Proposed	*None Warranted*
Residual Significance	*Less Than Significant*

Implementation of the proposed project would bring additional visitors to the project area, which could increase the occurrence of unauthorized activities in the project area. Unauthorized activities such as illegal camping, vandalism, littering, and illegal use of the trail by motorized vehicles could increase in the project area as a result of the proposed project. However, several measures would be taken to reduce the occurrence of these activities. Trash receptacles would be placed at each staging terminus to reduce littering, and walk-throughs or stiles would be installed to prevent use of the trail by motorized vehicles. In addition, the Foresthill Bridge Staging Terminus would be enclosed with a 6-foot cyclone fence, and a gate would be installed. This would allow the staging terminus to be locked during hours Auburn SRA is closed to discourage illegal activity in the area. While vandalism and illegal camping may increase in the project area, the proposed project is not expected to cause a significant increase in these activities. Furthermore, the project area would be patrolled by State Parks' rangers. Therefore, this impact is considered less than significant.

14.4 MITIGATION MEASURES

No mitigation measures are necessary.

15.0 HAZARDOUS MATERIALS AND HAZARDS

This chapter evaluates information regarding hazardous materials and hazards in the project area. It describes existing site characteristics, summarizes pertinent regulations and regulatory efforts, analyzes the environmental impacts from implementation of the proposed project on hazardous materials and hazards, and provides any mitigation measures needed to reduce those impacts.

15.1 ENVIRONMENTAL SETTING

For purposes of this chapter, the term "hazardous materials" refers to both hazardous substances and hazardous wastes. A "hazardous material" is defined in the Code of Federal Regulations (CFR) as "a substance or material that…is capable of posing an unreasonable risk to health, safety, and property when transported in commerce" (49 CFR 171.8). California Health and Safety Code Section 25501 defines a hazardous material as follows:

> "Hazardous material" means any material that, because of its quantity, concentration, or physical, or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous wastes" are defined in California Health and Safety Code Section 25141(b) as wastes that:

> … because of their quantity, concentration, or physical, chemical, or infectious characteristics, [may either] cause, or significantly contribute to an increase in mortality or an increase in serious illness[, or] pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

15.1.1 REGIONAL SETTING

The project area is located on the southern slope of the North Fork American River canyon in the Sierra Nevada foothills of Placer County. It is surrounded by undeveloped land dominated by natural vegetation in the Auburn State Recreation Area (SRA) approximately 3 miles northeast of the city of Auburn. Although there are some areas of private property in the vicinity of the Auburn SRA, all of the privately owned parcels along the proposed trail alignment are vacant with no existing structures.

According to the California Department of Forestry and Fire Protection (CDF) (2000), the North Fork American River canyon is not considered a wildland area that may contain substantial forest fire risks and hazards, nor is it a Very High Fire Hazard Severity Zone; however, the *Weimar-Applegate-Clipper Gap General Plan* does identify the area as an extreme fire hazard area (Placer County 1980).

15.1.2 EXISTING SITE CONDITIONS

There are no residences located along the proposed trail alignment, and none of the land in the project area is in agricultural production or in timber resource operations. The proposed trail alignment would be approximately 200–400 feet above the North Fork American River, at elevations ranging from 800 feet to 1,200 feet above mean sea level. Side slopes are steep in the project area; some segments of the proposed trail alignment would intersect slopes approaching 100% gradient. Geology and geologic hazards in the project area are described in Chapter 11.0, "Soils, Geology, and Seismicity," and in the geotechnical report performed for the proposed project (Appendix B).

EDAW consulted the U.S. Environmental Protection Agency's (EPA's) Envirofacts database and EnviroMapper. The Envirofacts database contains a variety of environmental information maintained by EPA, such as the locations of releases of more than 650 toxic chemicals. EDAW used the EnviroMapper to depict graphically whether EPA maintains any information in Envirofacts regarding the project area. No records of any toxic releases, hazardous waste, or other violations were found (EPA 2006b). Because of the location of the project area in a remote, undeveloped area within the Auburn SRA, no Environmental Site Assessment of the site was conducted.

15.2 REGULATORY SETTING

15.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

U.S. ENVIRONMENTAL PROTECTION AGENCY

EPA is the agency primarily responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. Applicable federal regulations pertaining to hazardous materials are contained mainly in CFR Titles 29, 40, and 49. Hazardous materials, as defined in the Code of Federal Regulations (see "Definitions of Terms" above), are listed in 49 CFR 172.101. Management of hazardous materials is governed by the following laws:

- Resource Conservation and Recovery Act of 1976 (RCRA) (42 U.S. Code [USC] 6901 et seq.);
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, also called the Superfund Act) (42 USC 9601 et seq.); and
- Superfund Amendments and Reauthorization Act (SARA) of 1986 (Public Law 99–499).

These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, and/or dispose of hazardous materials. EPA provides oversight and supervision for federal Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

Hazardous Substances

Hazardous substances are a subclass of hazardous materials. They are regulated under CERCLA and SARA (and the federal Clean Water Act for water resources; see Chapter 12.0, "Hydrology and Water Quality"). Under CERCLA, EPA has authority to seek the parties responsible for releases of hazardous substances and ensure their cooperation in site remediation. CERCLA also provides federal funding (the "Superfund") for remediation. SARA Title III, the Emergency Planning and Community Right-to-Know Act, requires companies to declare potential toxic hazards to ensure that local communities can plan for chemical emergencies. EPA maintains a National Priority List of uncontrolled or abandoned hazardous waste sites identified for priority remediation under the Superfund program. EPA also maintains the CERCLIS database, which contains information on hazardous waste sites, potential hazardous waste sites, and remedial activities across the nation.

Hazardous Wastes

Hazardous wastes, although included in the definition of hazardous materials and hazardous substances, are regulated separately under RCRA. A waste can legally be considered hazardous if it is classified as ignitable, corrosive, reactive, or toxic. Title 22, Section 66261.24 of the California Code of Regulations (CCR) (i.e., 22 CCR 66261.24) defines characteristics of toxicity. Under RCRA, EPA regulates hazardous waste from the time that the waste is generated until its final disposal ("cradle to grave"). RCRA also gives EPA or an authorized state the authority to conduct inspections to ensure that individual facilities are in compliance with regulations, and to pursue enforcement action if a violation is discovered. EPA can delegate its responsibility to a state if the

state's regulations are at least as stringent as the federal ones. RCRA was updated in 1984 by the passage of the federal Hazardous and Solid Waste Amendments, which required phasing out land disposal of hazardous waste.

OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION

The Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor is responsible for enforcement and implementation of federal laws and regulations pertaining to worker health and safety. Workers at hazardous waste sites must receive specialized training and medical supervision according to the Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations (29 CFR 1910.120).

15.2.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

The California Department of Toxic Substances Control (DTSC), a division of the California Environmental Protection Agency, has primary regulatory responsibility over hazardous materials in California, working in conjunction with the federal EPA to enforce and implement hazardous materials laws and regulations. DTSC can delegate enforcement responsibilities to local jurisdictions.

The hazardous waste management program enforced by DTSC was created by the Hazardous Waste Control Act (California Health and Safety Code Section 25100 et seq.), which is implemented by regulations described in CCR Title 26. The state program thus created is similar to, but more stringent than, the federal program under RCRA. The regulations list materials that may be hazardous and establish criteria for their identification, packaging, and disposal.

Environmental health standards for management of hazardous waste are contained in CCR Title 22, Division 4.5. In addition, as required by California Government Code Section 65962.5, DTSC maintains a Hazardous Waste and Substances Site List for the state, called the Cortese List. The project site is not included on this list (DTSC 2006).

California's Secretary for Environmental Protection has established a unified hazardous waste and hazardous materials management regulatory program (Unified Program) as required by Senate Bill 1082 (1993). The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental programs:

- hazardous waste generator and hazardous waste on-site treatment programs;
- Underground Storage Tank program;
- hazardous materials release response plans and inventories;
- California Accidental Release Prevention Program;
- Aboveground Petroleum Storage Act requirements for spill prevention, control, and countermeasure plans; and
- California Uniform Fire Code hazardous material management plans and inventories.

The six environmental programs within the Unified Program are implemented at the local level by local agencies.

STATE WATER RESOURCES CONTROL BOARD

The State Water Resources Control Board, through its nine regional water quality control boards (RWQCBs), has primary responsibility to protect water quality and supply. The project area is located within the jurisdiction of the Central Valley RWQCB. See Chapter 12.0, "Hydrology and Water Quality," for further discussion of the Central Valley RWQCB.

CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS, DIVISION OF OCCUPATIONAL HEALTH ADMINISTRATION

The California Department of Industrial Relations, Division of Occupational Safety and Health Administration (Cal/OSHA), assumes primary responsibility for developing and enforcing workplace safety regulations within the state. Cal/OSHA standards are more stringent than federal OSHA regulations, and are presented in CCR Title 8. Standards for workers dealing with hazardous materials include practices for all industries (General Industry Safety Orders); specific practices are described for construction, and hazardous waste operations and emergency response. Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

15.2.3 LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

PLACER COUNTY GENERAL PLAN

The following are the relevant goals and policies identified by the *Placer County General Plan* (Placer County 1994) for hazardous materials and hazards.

- **GOAL 8.C:** To minimize the risk of loss of life, injury, and damage to property and watershed resources resulting from unwanted fires.
- **Policy 8.C.7.** [Placer] County shall work with local fire protection agencies, the California Department of Forestry and Fire Protection, and the U.S. Forest Service to promote the maintenance of existing fuel breaks and emergency access routes for effective fire suppression.
- **Policy 8.C.11.** The County shall continue to work cooperatively with the California Department of Forestry and Fire Protection and local fire protection agencies in managing wildland fire hazards.
- **Policy 8.E.4.** The County shall, through its Office of Emergency Services, maintain the capability to effectively respond to emergency incidents.
- **Policy 8.E.5.** The County shall maintain an emergency operations center to coordinate emergency response, management, and recovery activities.
- **GOAL 8.G:** To minimize the risk of loss of life, injury, serious illness, damage to property, and economic and social dislocations resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous materials wastes.
- **Policy 8.G.1.** The County shall ensure that the use and disposal of hazardous materials in the County complies with local, state, and federal safety standards.
- **Policy 8.G.5.** The County shall strictly regulate the storage of hazardous materials and wastes.
- **Policy 8.G.6.** The County shall require secondary containment and periodic examination for all storage of toxic materials.
- **Policy 8.G.13.** The County shall work with local fire protection and other agencies to ensure an adequate Countywide response capability to hazardous materials emergencies.

FIRE PREVENTION FOR INDUSTRIAL, COMMERCIAL, AND RECREATIONAL OPERATIONS

The following General Fire Prevention Requirements provided by the County Fire Captain, derived from the *Fire Prevention Plan for Industrial, Commercial, and Recreational Operations for the Auburn State Recreation Area* (Appendix F) apply to the project area and would be implemented by the County:

- During any time of the year when burning permits are required, which is May 1st until the end of the declared fire season, no person shall use or operate any motor, engine, boiler, stationary equipment, welding equipment, cutting torches, tar pots, or grinding devices from which a spark, fire, or flame may originate, which is located on or near any forest-covered land, brush-covered land, or grass-covered land, without doing the following: maintain one serviceable round point shovel with an overall length of not less than 46 inches and one backpack pump water-type fire extinguisher fully equipped and ready for use at the immediate area during the operation. (A 5-gallon pressurized water fire extinguisher is appropriate in lieu of the backpack water pump. This does not apply to portable powersaws, gold suction dredges, and other portable tools powered by a gasoline-fueled internal combustion engine.)

- Each passenger vehicle used on operations shall be equipped with one water fire extinguisher or backpack pump in the amount of 3 to 5 gallons. Each tractor used in such operation shall be equipped with one 4ABC fire extinguisher.

- During any time of the year when burning permits are required, no person shall use or operate or cause to be operated in the area any portable saw, auger, drill, tamper, or other portable tool powered by a gasoline-fueled internal combustion engine on or near any forest-covered land, brush-covered land, or grass-covered land, within 25 feet of any flammable material, without providing and maintaining at the immediate locations of use or operation of the saw or tool, for firefighting purposes one serviceable round point shovel, with an overall length of not less than 46 inches, or one serviceable 3- to 5-gallon pressurized fire extinguisher or 5-gallon back pump. The required fire tools shall at no time be farther from the point of operation of the power saw or tool than 25 feet with unrestricted access for the operator from the point of operation.

- No person shall use, operate, or allow to be used or operated, any internal combustion engine that uses hydrocarbon fuels on any forest-covered land, brush-covered land, or grass-covered land unless the engine is equipped with a spark arrester maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire.

- Spark arresters affixed to the exhaust system of engines or vehicles shall not be placed or mounted in such a manner as to allow flames or heat from the exhaust system to ignite any flammable material.

- No person shall use, operate, or cause to be operated on any forest-covered land, brush-covered land, or grass-covered land any handheld portable, multi-position, internal-combustion engine, that is operated on hydrocarbon fuels, unless it is constructed and equipped and maintained for the prevention of fire.

- CDF must be contacted per the Fire Prevention Plan (Appendix F of this EIR) prior to commencement of operations.

- CDF may require operations be ceased, based on fire weather conditions, and/or resource draw downs.

WEIMAR-APPLEGATE-CLIPPER GAP GENERAL PLAN

The *Weimar-Applegate-Clipper Gap General Plan* contains the following goal relevant to hazardous materials and hazards in the project area.

- **GOAL:** Protect the citizens and visitors of the Weimar, Applegate, Clipper Gap area from loss of life, while protecting property and watershed resources from unwanted fires through preplanning, education, fire defense improvements, and fire suppression.

FORESTHILL GENERAL PLAN

The *Foresthill General Plan* contains the following goal relevant to hazardous materials and hazards in the project area.

- **GOAL 1:** Protect the citizens and visitors of the Foresthill area from loss of life while protecting property and watershed resources from unwanted fires through preplanning, education, fire defense improvements, and fire suppression.

FORESTHILL DIVIDE COMMUNITY PLAN

The *Foresthill Divide Community Plan* (Community Plan), which is currently in draft form, includes the project area. The Community Plan contains the following policies relevant to hazardous materials and hazards in the project area.

- **Policy 3.B.1-9.** The County shall permit only low-intensity forms of development in areas with sensitive environmental resources or where natural or human-caused hazards are likely to pose a significant threat to health, safety, or property.

- **Policy 3.C.9-4.** New development on hillsides shall employ design, construction, and maintenance techniques that:

  a. ensure that development near or on portions of hillsides does not cause or worsen natural hazards such as erosion, sedimentation, fire, or water quality concerns;

  b. utilize erosion and sediment control measures including temporary vegetation (native or noninvasive exotic species) sufficient to stabilize disturbed areas;

  c. minimize risk to life and property from slope failure, landslides, fire and flooding; and

  d. maintain the character and visual quality of the hillside.

- **Policy 3.D.4-5.** The watersheds of all bodies of water associated with the storage and delivery of domestic water shall be protected by limiting grading, construction of impervious surfaces, application of known toxic/hazardous substances and/or fertilizers and development of septic systems within these watersheds.

- **Policy 3.D.13-12.** The County shall require that discretionary permits for new development in fire hazard areas be conditioned to include requirements for a fire safe community, defensible space fire-resistant vegetation, cleared fire breaks and fuel breaks, or a long-term comprehensive fuel management program. Fire hazard reduction measures shall be incorporated into the design of development projects in fire hazard areas of Foresthill.

- **Policy 3.D.13-17.** The County shall continue to work cooperatively with the California Department of Forestry and Fire Protection and local fire protection agencies in managing wildland fire hazards.

- **Policy 4.A.7-10.** The County shall improve water quality by eliminating existing water pollution sources and by prohibiting activities which include the use of hazardous materials around wetland and groundwater recharge areas.

15.3 IMPACTS

15.3.1 ANALYSIS METHODOLOGY

The environmental analysis for hazardous materials and hazards was based largely on the results of searches of EPA's Envirofacts database and Enviromapper and DTSC's Hazardous Waste and Substances Site List, as well as field review of portions of the proposed trail alignment. Background information included in the *Placer County General Plan* and the *Weimar-Applegate-Clipper Gap General Plan* was also used. The effects of the proposed project were compared to environmental baseline conditions (i.e., existing conditions) to determine impacts.

15.3.2 THRESHOLDS OF SIGNIFICANCE

CEQA THRESHOLDS

Based on the Placer County California Environmental Quality Act (CEQA) Checklist and the State CEQA Guidelines, the proposed project would result in a potentially significant impact on hazardous materials or hazards if it would:

- result in a risk of accidental explosion or release of hazardous substances (including, but not limited to, oil, pesticides, chemicals, or radiation);
- create any health hazard or potential health hazard;
- increase the fire hazard in areas with flammable brush, grass, or trees;
- create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment; or
- expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

ISSUES NOT ANALYZED FURTHER

The proposed project would have no impact associated with the following issues, and these issues will not be analyzed further in this chapter:

- **Emergency Response/Emergency Evacuation Plans:** The proposed project would not impair implementation of or interfere with an adopted emergency response plan or emergency evacuation plan. As mentioned in Chapter 3.0, "Project Description," three existing roads could provide emergency access to the proposed trail, and three multiple-use trails within the Auburn SRA would link to the proposed trail. Furthermore, the trail section below the Foresthill Bridge leading to Clark's Hole may be widened to 10 feet to accommodate access by emergency vehicles. If the trail is widened at this location, this action would be a separate project.
- **Exposure to Existing Health Hazards:** As mentioned above in Section 15.1.2, "Existing Site Conditions," a search of EPA's Enviromapper found no records of any toxic releases, hazardous waste, or other violations in the project area. Therefore, the proposed project would not result in the exposure of people to existing sources of potential health hazards.

- **Emissions or Hazardous Materials within One-Quarter Mile of a School:** There are no schools within one-quarter mile of the project area. As mentioned in Chapter 13.0, "Public Services," there are no schools within the Auburn SRA, and the closest schools to the project area are located approximately 3 miles away in Auburn.

- **Hazardous Materials Sites:** As mentioned above in Section 15.2.2, "State Plans, Policies, Regulations, and Laws," the project area is not included on DTSC's Hazardous Waste and Substances Site List for the state (the Cortese List), compiled pursuant to Government Code Section 65962.5. As a result, construction and use of the proposed trail would not create a significant hazard to the public or the environment.

15.3.3 IMPACT ANALYSIS

IMPACT 15-1	Hazardous Materials and Hazards – Potential for Fire to Occur During or After Construction. *The project area has been identified as an extreme fire hazard area. Sparks from construction and maintenance equipment could generate fire risks in this area. Trail users could also generate fire risks (e.g., from discarded cigarette butts) along the proposed trail; however, the County would follow the General Fire Prevention Requirements described above in Section 15.2.3, which would maintain the risk of wildfires at a less-than-significant level.*
Significance	*Less than Significant*
Mitigation Proposed	*None Warranted*
Residual Significance	*Less than Significant*

Although the project area has not been identified as a Wildland Area or a Fire Hazard Severity Zone by CDF on the Natural Hazard Disclosure (Fire) map for Placer County (CDF 2000), the project area is heavily grown with vegetation that may dry up during the summer months, and the *Weimar-Applegate-Clipper Gap General Plan* identifies the area as an extreme fire hazard area (Placer County 1980). There is a potential for fire to occur during construction from equipment, such as the Sweco trail dozer or mini excavator, should any such equipment generate sparks in the vicinity of vegetation along the proposed trail alignment. Depending on the equipment required for trail maintenance, equipment-related fire risks could persist. In addition, after construction, trail users could generate fire risks (e.g., from discarded cigarette butts or illegal campfires).

Cut vegetation would be chipped and broadcast, lopped or scattered (chain saws), and/or widely dispersed upslope of the proposed trail alignment to reduce the fire risk. Furthermore, the California Department of Parks and Recreation (State Parks) would enforce current fire prevention regulations for recreational users of the Auburn SRA (e.g., trail users, campers) in the project area. The types of uses of the trail following construction would not pose a fire hazard. These types of uses are similar to uses of other trails in the surrounding area. In addition, the County would implement the General Fire Prevention Requirements derived from the *Fire Prevention Plan for Industrial, Commercial, and Recreational Operations for the Auburn State Recreation Area* described above in Section 15.2.3. Implementing these requirements would maintain the risk of wildfire at a less-than-significant level.

IMPACT 15-2	Hazardous Materials and Hazards – Potential for Release of Hazardous Materials During Trail Construction or Maintenance. *Trail construction and maintenance equipment may require the use of small amounts of hazardous materials. The proposed project would comply with all applicable federal and state regulations pertaining to handling of hazardous materials and worker health and safety; however, accidental spills or other releases of small amounts of hazardous materials could still occur in an otherwise pristine, undeveloped area during construction or maintenance of the proposed trail.*
Significance	*Potentially Significant*

Mitigation Proposed	*Mitigation Measure 11-1 in Chapter 11.0, "Soils, Geology, and Seismicity": Obtain Authorization for Construction and Operation Activities with the Central Valley RWQCB and Implement Erosion and Sediment Control Measures as Required; and Mitigation Measure 15-1: Implement Measures to Reduce Hazards Associated with Potential Hazardous Materials Releases*
Residual Significance	*Less than Significant*

Construction of the proposed trail would involve the use of a Sweco trail dozer, a mini excavator, and/or other machinery capable of conforming to the dimensional requirements of the trail. In addition, mechanized equipment may be required for long-term trail maintenance. This construction and maintenance equipment may require the use of small amounts of hazardous materials, including gasoline, diesel fuel, engine oil, and hydraulic fluids. Accidental spills of construction-related contaminants could occur during construction, resulting in contamination of surface soils. As described in Impact 12-1, "Potential for Short-Term Construction-Related Soil Erosion and Water Quality Impairment," in Chapter 12.0, "Hydrology and Water Quality," discharges of these contaminants to receiving waters during storm events would degrade water quality.

Operation of mechanized equipment during trail construction and maintenance would proceed in compliance with applicable federal and state regulations pertaining to handling of hazardous materials and worker health and safety. Compliance with these regulations would protect workers from health hazards associated with routine exposure to hazardous materials and would minimize the potential for accidental spills and resultant hazards to people, animals, or plants in the area.

However, the project area is located in a remote, undeveloped area that lacks existing sources of hazardous materials and that is used specifically for the purpose of recreation in an unspoiled environment. The accidental spill or other release of even a small amount of a hazardous material in this area during trail construction or maintenance could have a substantial effect both on the quality of the natural environment and on users' perception of the area as pristine. Therefore, this impact is considered potentially significant.

15.4 MITIGATION MEASURES

Mitigation Measure 15-1: Implement Measures to Reduce Hazards Associated with Potential Hazardous Materials Releases.

Mitigation Measure 15-1 applies to Impact 15-2. It would be implemented in conjunction with Mitigation Measure 11-1, "Obtain Authorization for Construction and Operation Activities with the Central Valley RWQCB and Implement Erosion and Sediment Control Measures as Required," described in Chapter 11.0, "Soils, Geology, and Seismicity."

Before the commencement of trail construction, the County shall implement the following measures.

- An accidental-spill prevention and response plan shall be prepared and implemented for storage and use of hazardous materials during trail construction and maintenance. This plan shall identify measures to prevent accidental spills from leaving the site and methods for responding to and cleaning up spills before neighboring properties are exposed to hazardous materials.

- The County shall ensure that any employee handling hazardous materials is trained in the safe handling and storage of hazardous materials and trained to follow all applicable regulations with regard to such hazardous materials.

- The primary construction contractor shall identify a staging area where hazardous materials will be stored during construction in accordance with applicable state and federal regulations.

16.0 OTHER CEQA-REQUIRED SECTIONS

16.1 ALTERNATIVES

This section provides a brief description of those alternatives to the proposed project that were considered and eliminated from further consideration. It also provides a comparative analysis of two alternatives, the No Project Alternative and the Original Alignment Alternative, pursuant to Section 15126.6 of the California Environmental Quality Act Guidelines (State CEQA Guidelines). These alternatives are examined at a lesser level of detail than the analysis of the proposed project in Chapters 4.0 through 15.0 of this draft environmental impact report (DEIR) (State CEQA Guidelines Section 15126.6[d]). The purpose of this chapter is to provide decision makers with an assessment of the comparative effects of the project alternatives, focusing on the significant impacts and on mitigation of such impacts. An "environmentally superior" alternative is identified pursuant to Section 15126.6(e)(2) of the State CEQA Guidelines.

Alternatives may be eliminated from detailed consideration in the DEIR if they fail to feasibly meet most of the basic project objectives, are infeasible, or do not avoid any significant environmental effects (State CEQA Guidelines Section 15126.6[c]). Lead agencies are guided by the general definition of feasibility found in CEQA: "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors" (State CEQA Guidelines Section 15364). Based on these guidelines, several alternatives have been eliminated from further consideration. These alternatives are briefly described below.

16.1.1 ALTERNATIVES CONSIDERED AND ELIMINATED FROM FURTHER CONSIDERATION

The following alternatives were considered in the planning stages of the proposed project: the North Side of River Alternative, the Bifurcation Alternative, the 4-foot Trail Alternative, the Revised Alignment Alternative, and the Ridgetop Alternative. Because these alternatives do not meet the goals and objectives of the proposed project and in some cases would result in more severe impacts than the proposed project, they are not considered here at a level of detail equal to consideration of the proposed project.

NORTH SIDE OF RIVER ALTERNATIVE

A trail alignment along the north side of the North Fork American River canyon was evaluated when the proposed project was being developed in conjunction with the Trail Advisory Group (TAG). Because of the increased temperature and dry soil conditions caused by the southern exposure to the sun, vegetation is less dense on the north side of the North Fork American River than on the south side. Therefore, a trail located on the north side of the river would be more visible from Lake Clementine and the river. A trail on the north side would have to be routed halfway up the slope of the canyon and through private property to avoid a large landslide located downstream of Clementine Dam.

In addition to these constraints, there are numerous historic structures on the north side of the canyon that would have to be avoided when determining the trail alignment. If a trail were constructed on the north side of the canyon, there would be no connections to existing trails, and access to staging termini on the opposite bank of the river would be limited (TAG 2003). For these reasons, it was determined that this alternative would not meet the goals and objectives of the proposed project, is infeasible because of opposition from private-property owners, and would not avoid any significant effects compared to the proposed project. Therefore, this alternative was eliminated from further consideration.

BIFURCATION ALTERNATIVE

The Bifurcation Alternative was proposed by the advocacy group, Friends of the North Fork, during the settlement hearing for the Initial Study/Environmental Assessment (IS/EA). This alternative is characterized by separated user segments and describes a trail alignment moving from the North Fork to the Middle Fork American River near the Ruck-A-Chucky Rapids and along sections of Driver's Flat, McKeon Ponderosa, and Foresthill Roads. In addition, the Bifurcation Alternative contains gaps in the alignment between staging termini. For ease of comparison, the Bifurcation Alternative alignment described below and as depicted on Exhibit 16-1 is split into three segments that cover roughly the same areas as the five proposed project trail segments.

The first segment of trail under the Bifurcation Alternative would stretch from the confluence to Lake Clementine Road (approximately 1.9 miles). This area roughly corresponds with Segment 5 of the trail under the proposed project and is an existing trail. This trail segment of the Bifurcation Alternative would generally follow the trail alignment for the proposed project. The trail would serve multiple uses as under the proposed project, except at the extreme downstream end of the trail (from the confluence to just upstream of the Foresthill Bridge). At the downstream end of the trail, equestrians would proceed down the steep hill from the Foresthill Bridge Staging Terminus while hikers and mountain bikers would follow the existing riverside trail from the confluence parking area to the bridge.

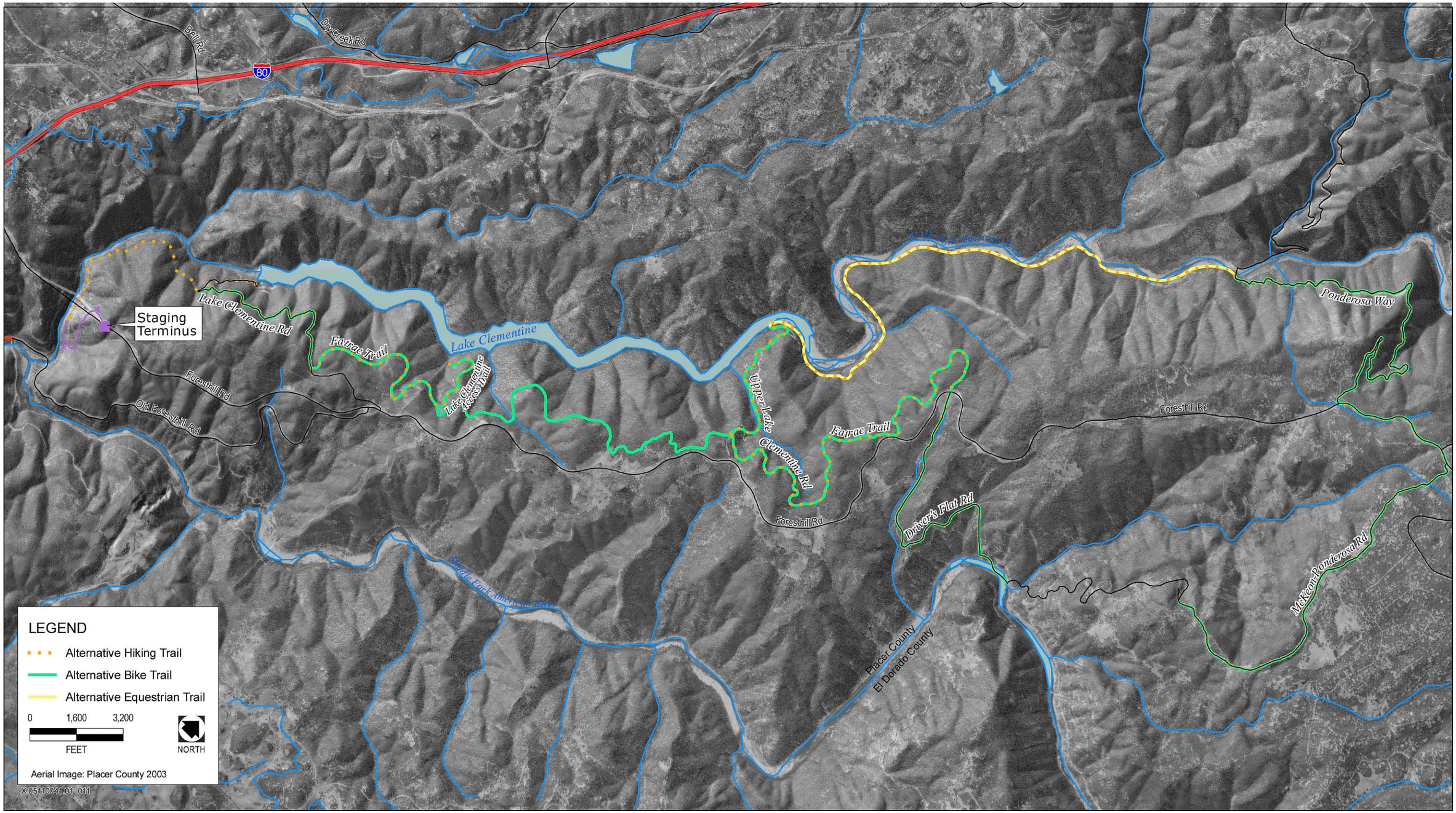
The second segment of trail under the Bifurcation Alternative would cover the area between Lake Clementine Road and Upper Lake Clementine Road (represented in the proposed project by Segments 3 and 4). In the downstream portion of this segment (between Lake Clementine Road and the Lake Clementine Access Trail at the lake's midpoint), the different trail uses would likely split onto different routes. Hikers could follow Lake Clementine Road downhill roughly 0.5 mile to connect to an existing, minimally maintained lakeside trail between the boat launch parking lot and the bottom of the Lake Clementine Access Trail. This 1.6-mile-long lakeside trail would also be evaluated for possible equestrian use. Mountain bikers would follow Lake Clementine Road uphill approximately 1.3 miles to connect to the existing Connector Trail then would follow the Connector Trail approximately 0.8 mile to the Lake Clementine Access Trail.

In the upstream part of this trail segment (between the Lake Clementine Access Trail and Upper Lake Clementine Road), all trail users would continue uphill for approximately 0.5 mile along the Lake Clementine Access Trail, which has a locked gate and no traffic. It then would connect to and follow an abandoned road up the canyon to a former bridge site. In the area upstream of the bridge site, either hikers would continue along an existing narrow hiking trail near the lake and equestrians and mountain bikers would use a connecting trail (if one can be located) (roughly 2.5 miles), or a yet-to-be-proposed route would be established to connect the former bridge site to Upper Lake Clementine Road via a waterfall road (2.2 miles).

The third segment of trail under the Bifurcation Alternative would stretch from Upper Lake Clementine Road to McKeon-Ponderosa Road (represented in the proposed project by Segments 1 and 2). As in the previous trail segment, different trail uses would split onto different routes, as described below.

Hikers would follow Upper Lake Clementine Road roughly 0.1 mile to the old "Switchback Road" that goes upstream from the last switchback above the parking lot and beach. Hikers would then follow existing hiking trails and gravel bars to McKeon-Ponderosa Road, a distance of roughly 4.5 miles. Measures would be taken to regulate present use of four-wheel-drive vehicles in the riverbed to protect the trail and assure that the trail does not worsen the problems caused by these vehicles.

Equestrians and mountain bikers would follow Upper Lake Clementine Road uphill roughly 1.2 miles to the existing Foresthill Divide Loop Trail, and then follow this trail to the Long Point Fuel Break Trail. They would then continue on the Long Point Fuel Break Trail to the canyon rim. From there, they would take Driver's Flat Road to McKeon-Ponderosa Road.



Source: Placer County 2006

Bifurcation Alternative **Exhibit 16-1**

This alternative does not meet the purpose and objectives of the proposed project to provide a multiple-use trail that reduces overcrowding on existing trails. This alternative relies on extensive use of existing trails, which would cause continued overcrowding, user conflicts, and overuse of these trails. Some of the "existing trails" were not located during site investigations conducted for this project and are assumed to be overgrown with vegetation. This alternative would not discourage informal connections between trails, would not allow for multiple uses along a proposed trail, and would not connect to any termini to facilitate user access. The segments of the Bifurcation Alternative alignment near the river/lake would be within the floodplain of the river and would be extremely difficult to maintain because of regular flooding of this area. These segments of trail would also be more visible from the river/lake and could create potential user conflicts with water-recreation users. Additionally, the riparian areas adjoining the river are considered sensitive habitat types, and TAG recommended against siting a trail near the river. For these reasons this alternative was eliminated from further consideration.

4-FOOT TRAIL ALTERNATIVE

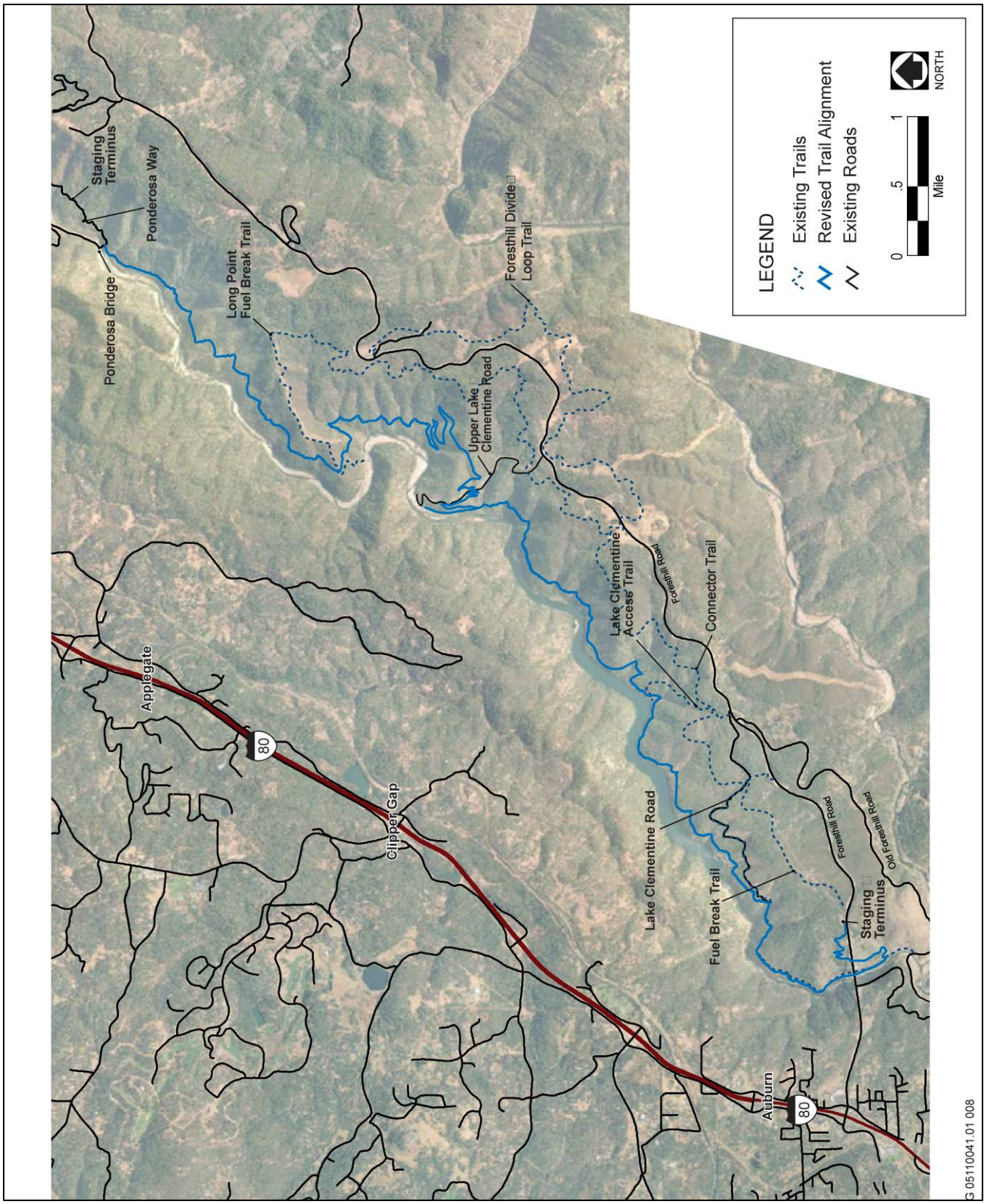
A trail that would follow the same alignment as the proposed project and have a 4-foot trail tread width was evaluated when the proposed project was being developed. This alternative would follow the proposed alignment shown in red on Exhibit 3-2, but would be narrower than the proposed trail. A trail with a slightly narrower tread width would have slightly less impact on biological resources, cultural resources, and hydrology and water quality compared to the proposed project; however, a narrower tread width would have more of an impact on user safety and recreation because of user conflicts and reduced lines of sight. In addition, this trail width would not meet the project's objectives nor conform to State Parks' standards for multiple-use trails. This alternative may result in slightly less impact on some resources compared to the proposed project; however, it would not significantly reduce any impacts.

REVISED ALIGNMENT ALTERNATIVE

This alternative, as shown in Exhibit 16-2, would be approximately 5 feet wide and 14.4 miles long. The Revised Alignment Alternative would have the same termini as the proposed trail alignment, but would follow a different alignment along the south side of the canyon. This alternative would require easements through private property. Impacts of this alternative would be similar to the proposed project; however, this alternative would have slightly more impacts on biological resources because of three additional drainage crossings. This alignment would also have a slightly narrower width than the proposed trail, which would not meet project objectives nor conform to State Parks' standards for multiple-use trails. The narrower tread width would have more of an impact on user safety and recreation because of user conflicts and reduced lines of sight. Overall, this alternative would have similar impacts as the proposed project.

RIDGETOP ALTERNATIVE

This alternative would include construction of a trail along the ridgetop of the canyon that divides the North Fork and the Middle Fork of the American River. A similar trail, the Connector Trail, was constructed by Placer County (County) approximately 3 years ago, and connects the Lake Clementine Trail and the Foresthill Divide Loop Trail. Although the Connector Trail is used primarily by mountain bikers, it is open to multiple uses; therefore, it would be redundant to construct another trail in this area. For this reason the Ridgetop Alternative was determined to be infeasible. This alternative would not reduce any significant effects of the proposed project. Therefore, this alternative was eliminated from further consideration.



Source: Placer County 2006

Revised Alignment Alternative **Exhibit 16-2**

16.1.2 ALTERNATIVES SELECTED FOR MORE DETAILED ANALYSIS

Pursuant to Section 15126(f) and Section 15126.6 of the State CEQA Guidelines, this DEIR includes an analysis of the Original Alignment Alternative, as well as the required review of the No Project Alternative.

State CEQA Guidelines Section 15126.6(a) calls for an evaluation of "… a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Section 15126.6(f) specifies that the range of alternatives is governed by the "rule of reason," requiring evaluation of only those alternatives "necessary to permit a reasoned choice." Alternatives shall be "limited to ones that avoid or substantially lessen any of the significant effects" of the proposed project. Because the proposed project would not result in significant effects that cannot be mitigated to less-than-significant levels, the discussion of alternatives is provided for comparison purposes only.

State CEQA Guidelines Section 15126.6(e) requires that, among other alternatives, a "no project" alternative be evaluated in comparison to the proposed project. It states that the purpose of the "no project" alternative is to "allow decision-makers to compare the impacts of approving the proposed project with the impact of not approving the proposed project." It also states that the "no project" analysis shall "discuss the existing conditions…, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved…" Accordingly, this section provides an analysis of the "no project" alternative.

The environmentally superior alternative is also identified, as required by the State CEQA Guidelines. Section 15126(e)(2) states that "[i]f the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."

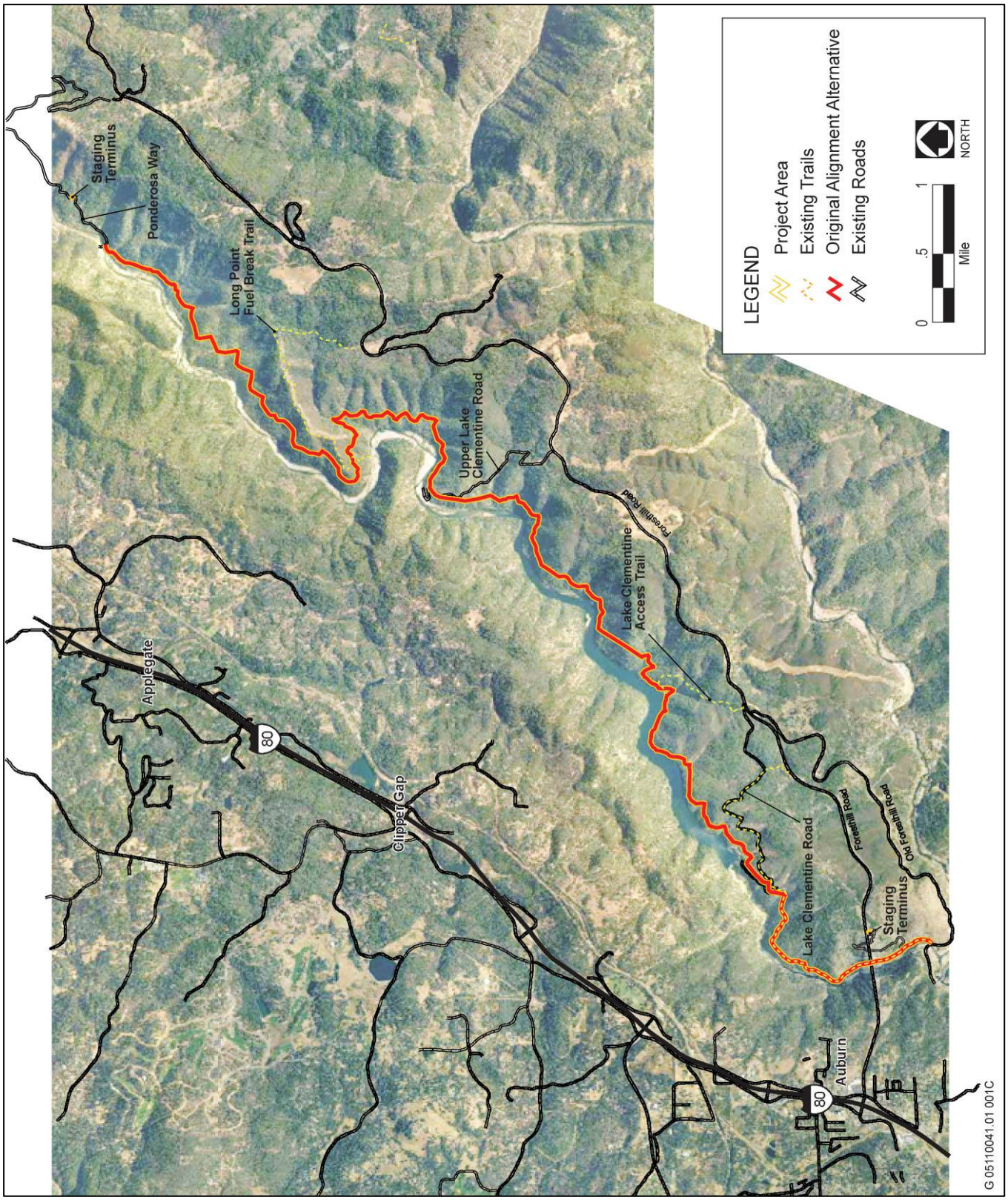
NO PROJECT ALTERNATIVE

The No Project Alternative assumes that the proposed trail and associated facilities, including the corresponding staging termini, would not be constructed. Existing trails in the surrounding area would continue to be used for recreation, and access and recreational opportunities would be limited in the project area. The project area would continue to be managed under Reclamation contract by the California Department of Parks and Recreation (State Parks) according to the *Auburn State Recreation Area Interim Resource Management Plan* (Auburn SRA IRMP) and the revised Auburn SRA General Plan (GP)/IRMP.

This alternative would not meet the demand for recreational facilities in Placer County, specifically hiking, mountain biking, and equestrian trails along the North Fork American River. Because no trail would be constructed under this alternative, the impacts associated with the proposed project on land use; biological resources; cultural resources; visual resources; transportation and circulation; air quality; noise; soils, geology, and seismicity; hydrology and water quality; public services; recreation; and hazardous materials and hazards would not occur. Because the proposed project would not have an impact on population, employment, housing, public utilities, or mineral resources, impacts on these resource areas under the No Project Alternative would be similar to those under the proposed project.

ORIGINAL ALIGNMENT ALTERNATIVE

Under the Original Alignment Alternative, as proposed in the IS/EA for the North Fork American River Trail, the trail would follow the same alignment as the proposed project, except for a portion of the proposed trail near Upper Lake Clementine Road. Under the Original Alignment Alternative, the trail would follow the canyon contour around the river bend upstream of Lake Clementine. This segment of trail would not climb higher up the canyon than it would for the proposed project, and it would not include switchbacks (Exhibit 16-3). This alternative would cross steeper slopes that are more susceptible to high erosion than the proposed project. This alternative would also cross private property. Therefore, the proposed project is preferred over the Original



Source: Placer County 2006

Original Alignment Alternative **Exhibit 16-3**

Alignment Alternative, because it would have reduced impacts on geology and soils and water quality and would not cross private property.

Land Use and Agricultural Resources

The Original Alignment Alternative would be consistent with the *Placer County General Plan*, the *Weimar-Applegate-Clipper Gap General Plan*, the Placer County Zoning Ordinance, the Auburn SRA IRMP, and the *Placer County Trails Master Plan*. This alternative would not divide an established community, nor would it affect agricultural and timber resources or operations. There is no habitat conservation plan or natural community conservation plan currently in effect for the project area. The lands within the project area are not currently being used for agricultural purposes. Because of the existing topography, the area does not possess high value for agriculture and it is not expected to be used for farming or grazing in the future. Therefore, the Original Alignment Alternative would not result in the loss of any agricultural resources or the conversion of farmland to nonagricultural uses. Because the Original Alignment Alternative would not conflict with any land use plans in the project area and would not convert any farmland to non-agricultural uses, it would have a less-than-significant impact on land use, planning, and agricultural resources in the project area. The impacts of the Original Alignment Alternative on land use, planning, and agricultural resources would be similar to those of the proposed project.

Population, Employment, and Housing

The Original Alignment Alternative would not involve the construction of new homes or businesses or the extension of roads or infrastructure. This alternative would not displace any existing housing, nor would it result in the disruption or division of an established community. Primarily mechanized construction techniques would be used to construct the proposed trail; therefore, this alternative would require very few workers and would have very little effect on the local workforce. This alternative would have no effect on population, employment, or housing. The impacts of the Original Alignment Alternative on population, employment, and housing would be similar to those of the proposed project.

Biological Resources

With implementation of mitigation, the Original Alignment Alternative would not substantially affect any threatened or endangered species. This alternative trail alignment would not be constructed in an area designated as important deer habitat. This alternative would have minor effects on the 48 drainages in the project area. The Original Alignment Alternative would require the removal of a few large trees and would have the potential to introduce invasive weeds. This alternative would include mitigation to reduce impacts on special-status species and waters of the United States and to prevent introduction of invasive weeds. With implementation of these mitigation measures, the Original Alignment Alternative would have a less-than-significant impact on biological resources. The impacts of the Original Alignment Alternative on biological resources would be similar to those of the proposed project.

Cultural Resources

There are six potentially significant cultural resources immediately adjacent to the trail alignment proposed under the Original Alignment Alternative. The project area also contains numerous historic and prehistoric cultural resources, and undocumented cultural resources are likely to exist in the project area. This alternative would include mitigation measures to reduce impacts on known and yet-to-be-discovered cultural resources. With implementation of these mitigation measures, the Original Alignment Alternative would have a less-than-significant impact on cultural resources. The impacts of the Original Alignment Alternative on cultural resources would be similar to those of the proposed project.

Visual Resources

The Original Alignment Alternative would introduce new physical elements into the landscape; however, the trail alignment would be designed to avoid visually obtrusive effects. Limiting the trail width to 4 feet under this alternative would minimize visibility from above and from the other side of the river. Construction of the trail under this alternative would also avoid the removal of trees more than 6 inches in diameter at breast height, thus minimizing visible canopy reduction. Trail features incorporated into the Original Alignment Alternative would incorporate natural colors and materials to further blend with the surrounding environment. No new sources of light and glare would be introduced as part of this alternative. The Original Alignment Alternative would not affect any scenic vistas. Therefore, the Original Alignment Alternative would have a less-than-significant impact on visual resources. The impacts of the Original Alignment Alternative on visual resources would be similar to those of the proposed project.

Transportation and Circulation

Construction of the trail under the Original Alignment Alternative would temporarily increase traffic in the project area during construction. Trail use and maintenance under this alternative would also slightly increase traffic in the project area. The increase in traffic from trail construction or use and maintenance would not be substantial in relation to the existing traffic load and the capacity of nearby roadways. Adequate parking would be provided for trail users under this alternative. Therefore, the Original Alignment Alternative would have a less-than-significant impact on transportation and circulation. The impacts of the Original Alignment Alternative on transportation and circulation would be similar to those of the proposed project.

Air Quality

Trail construction under the Original Alignment Alternative would temporarily increase concentrations of reactive organic gases (ROG), oxides of nitrogen (NO_X), and respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}) in the project area. Trail construction under this alternative would also have the potential to temporarily increase the amount of diesel exhaust and fuel vapors in the project area. Long-term operation (use and maintenance) of the trail as part of this alternative would not cause a significant increase in ROG, NO_X, or PM_{10}. It is unlikely that construction of the trail under this alternative would expose areas containing asbestos. Mitigation would be included to address this issue, if necessary. Therefore, the Original Alignment Alternative would have a less-than-significant impact on air quality with implementation of mitigation. The impacts of the Original Alignment Alternative on air quality would be similar to those of the proposed project.

Noise

Trail construction under the Original Alignment Alternative would temporarily increase noise levels in the project area. Construction activities associated with this alternative would comply with the requirements of the Placer County Noise Ordinance, and the closest noise-sensitive receptors are 2 miles away. Long-term operation (use and maintenance) of the trail under this alternative would not cause a significant increase in noise levels in the project area. Therefore, the Original Alignment Alternative would have a less-than-significant impact on noise levels in the project area. The impacts of the Original Alignment Alternative on noise levels would be similar to those of the proposed project.

Soils, Geology, and Seismicity

Trail construction under the Original Alignment Alternative would require some vegetation removal and would result in soil disturbance and minor alterations to surface topography, which would result in some erosion. Some portions of the trail alignment under the Original Alignment Alternative would be located on steep slopes, which could also cause soil erosion. This trail alignment would not be located within an earthquake fault zone and no structures for human occupancy would be placed across any fault trace. The Original Alignment Alternative

would not result in the loss of known mineral resources, nor would it interfere with existing or future mineral extraction operations. Impacts of the Original Alignment Alternative on soils, geology, and seismicity would be less than significant, but would be worse than the proposed project. Implementation of the proposed project would avoid some of the steep slopes that could cause erosion; therefore, the proposed project would have less impact on soils, geology, and seismicity than the Original Alignment Alternative.

Mineral Resources

The Original Alignment Alternative would not result in the loss of any known mineral resources as identified by the California Geological Survey or the California Division of Mines and Geology (CDMG 1988, California Geological Survey 2004). (It should be noted that the California Division of Mines and Geology changed its name to the California Geological Survey in 2002.) The Original Alignment Alternative would not impede or interfere with the establishment or continuation of existing mineral extraction operations. It would not result in the loss of available known mineral resources that would be of value to the region or residents of the state, and the site is not delineated as a locally important recovery site in the *Placer County General Plan*, the *Weimar-Applegate-Clipper Gap General Plan*, *Foresthill Divide Community Plan*, or the *Auburn State Recreation Area Interim Resource Management Plan*. The impacts of the Original Alignment Alternative on mineral resources would be similar to those of the proposed project.

Hydrology and Water Quality

Implementation of the Original Alignment Alternative would not affect groundwater in the project area, and this alternative would comply with policies pertaining to water quality in the *Placer County General Plan*, the *Weimar-Applegate-Clipper Gap General Plan*, and the Auburn SRA IRMP. However, potential erosion from vegetation removal and construction on steep slopes could affect water quality in the project area. Best management practices would be implemented to reduce this impact to a less-than-significant level. Therefore, the Original Alignment Alternative would have a less-than-significant impact on water quality and hydrology in the project area. However, the trail alignment under the proposed project would avoid some steep slopes that could contribute to erosion. Therefore, the proposed project would have less impact on water quality than the Original Alignment Alternative.

Public Services and Utilities

Implementation of the Original Alignment Alternative would not result in the need for a significant increase in fire protection, sheriff protection, schools, or other public facilities. The public services currently provided to the Auburn SRA would be sufficient to accommodate the trail proposed under this alternative. The Original Alignment Alternative would not have components that would require electricity or communication, wastewater treatment, sewer, septic, or water supply systems. Under this alternative solid waste would be collected and disposed of by the current solid waste collection contractor that serves the Auburn SRA. Therefore, the Original Alignment Alternative would have a less-than-significant impact on public services and utilities. The impacts of the Original Alignment Alternative on public services and utilities would be similar to those of the proposed project.

Recreation

The Original Alignment Alternative would assist in meeting the existing demand for more recreational opportunities. This alternative would not increase the demand for more parks or facilities, nor would it negatively affect existing recreational opportunities. Therefore, the Original Alignment Alternative would have a less-than-significant impact on recreation. The impacts of the Original Alignment Alternative on recreation would be similar to those of the proposed project.

Hazardous Materials and Hazards

The Original Alignment Alternative would not be located in a Wildland Area or Fire Hazard Severity Zone as designated by the California Department of Forestry and Fire Protection (CDF 2000); however, the project area is identified as an extreme fire hazard area by the *Weimar-Applegate-Clipper Gap General Plan* (Placer County 1980). Cut vegetation would be chipped and broadcast to reduce the risk of wildfire under this alternative. There is the potential for fire to occur during construction from equipment and after construction by trail users (e.g., from discarded cigarette butts or illegal campfires). The potential also exists for small amounts of hazardous materials to be released from construction equipment under this alternative. Fire prevention measures and measures for proper storage and handling of hazardous materials would be incorporated into the Original Alignment Alternative to reduce these impacts to a less-than-significant level. Therefore, the Original Alignment Alternative would have a less-than-significant impact on hazards and hazardous materials. The impacts of the Original Alignment Alternative on hazards and hazardous materials would be similar to those of the proposed project.

16.1.3 SUMMARY OF ALTERNATIVES ANALYSIS

A comparison of the proposed project, the No Project Alternative, and the Original Alignment Alternative is presented in Table 16-1 below. This table shows the advantages and disadvantages of the No Project Alternative and the Original Alignment Alternative relative to the proposed project.

Table 16-1
Summary of Alternatives Analysis

Issue Area	Proposed Project	No Project (Alternative 1)		Original Alignment (Alternative 2)	
Land Use	Less than significant	No impact	❑	Less than significant	★
Population, Employment, and Housing	No impact	No impact	★	No impact	★
Biological Resources	Less than significant	No impact	❑	Less than significant	★
Cultural Resources	Less than significant	No impact	❑	Less than significant	★
Visual Resources	Less than significant	No impact	❑	Less than significant	★
Transportation and Circulation	Less than significant	No impact	❑	Less than significant	★
Air Quality	Less than significant	No impact	❑	Less than significant	★
Noise	Less than significant	No impact	❑	Less than significant	★
Soils, Geology, and Seismicity	Less than significant	No impact	❑	Less than significant[1]	■
Hydrology and Water Quality	Less than significant	No impact	❑	Less than significant[1]	■
Public Services	Less than significant	No impact	❑	Less than significant	★
Public Utilities	No impact	No impact	★	No impact	★
Recreation	Less than significant	Potentially significant	■	Less than significant	★
Hazardous Materials and Hazards	Less than significant	No impact	❑	Less than significant	★

Key:
■ Proposed project is environmentally advantageous compared to the alternative
❑ Alternative is environmentally advantageous compared to the proposed project
★ No clear environmental advantage exists between the alternative and the proposed project
[1] Although these impacts would be less than significant under the proposed project and the Original Alignment Alternative, the proposed project is environmentally advantageous compared to the Original Alignment Alternative in these areas, because it would have reduced erosion and water quality issues compared to the Original Alignment Alternative.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The environmentally superior alternative would be the No Project Alternative; however, according to the State CEQA Guidelines, if the environmentally superior alternative is the No Project Alternative, an environmentally superior alternative must be selected from the other alternatives. The environmentally superior alternative among the other alternatives is the proposed project. The proposed project would be environmentally superior to the Original Alignment Alterative with regard to soils, geology, and seismicity, and hydrology and water quality.

16.2 SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

CEQA Section 21100(b)(2)(A) provides that an EIR shall include a detailed statement setting forth "[i]n a separate section… [a]ny significant effect on the environment that cannot be avoided if the project is implemented." State CEQA Guidelines Section 15126.2(b) requires that an EIR describe any significant impacts, including those that can be mitigated but not reduced to a level of insignificance. Chapters 4.0 through 15.0 of this DEIR provide descriptions of the potential environmental effects of the proposed project for all applicable environmental topic areas, as well as mitigation measures to mitigate project effects to the extent feasible. Cumulative impacts of the proposed project are discussed in Section 16.5 below. Implementation of the proposed mitigation measures would reduce all of the identified significant impacts to less-than-significant levels. Therefore, the proposed project would not result in any significant unavoidable effects on the environment.

16.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Section 21100(b)(2)(B) provides that an EIR shall include a detailed statement setting forth "[i]n a separate section… [a]ny significant effect on the environment that would be irreversible if the project is implemented." State CEQA Guidelines Section 15126.2(c) provides the following guidance for an analysis of significant irreversible changes of a project:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible because a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement that provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

As discussed in Chapter 3.0, "Project Description," initial vegetation clearing along the proposed trail alignment would be performed by hand. A 6-foot-wide area would be cleared, but the area cleared could be up to approximately 15 feet where needed to promote safe lines of sight. The proposed trail alignment would be cleared of vegetation to a height of 10 feet to accommodate equestrian use.

Both hand and mechanical construction techniques would be used to construct the proposed trail. The proposed project would include construction of ancillary features such as retaining walls, creek fords, staging termini, and bridges at four stream crossings.

The tread width of the proposed trail alignment would be generally 6 feet; full-bench construction techniques would be used. The trail width would vary as needed based on geologic and safety conditions. The trail tread would be excavated using a Sweco trail dozer, mini excavator, hand construction, and/or other machinery.

The proposed project would enhance access to an open, relatively remote area that had more limited access for recreational users in the past. The proposed project is a relatively small scale trail that could be restored to a

natural condition in the future, if desired by the County or State Parks. Therefore, the environmental effects associated with trail construction could be reversed in the future, which indicates the effects are not irreversible.

Implementing any of the alternatives would require irretrievable commitments of both renewable and nonrenewable energy and material resources for clearing of the proposed trail alignment and construction of related project elements. As described in Chapter 3.0, "Project Description," these activities would require use of construction equipment that uses petroleum fuels, such as gasoline and diesel. This temporary energy expenditure would occur over the short term and would not substantially increase the overall demand for electricity or natural gas. Nevertheless, construction of the proposed trail would result in an incremental increase in consumption of fossil fuels and use of construction materials, including timber, concrete, fiberglass, steel, or composite material.

Resources in the form of construction materials and labor, fuels, and other energy sources for vehicles and equipment would also be committed with the implementation of all the other alternatives except for the No Project Alternative.

16.4 GROWTH-INDUCING EFFECTS

CEQA Section 21100(b)(5) specifies that the growth-inducing impacts of a project must be addressed in an EIR. Section 15126.2(d) of the State CEQA Guidelines states that a proposed project is growth-inducing if it could "foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Direct growth inducement would result if a project involved, for example, the construction of new housing. Indirect growth inducement would result if a project established substantial new permanent employment opportunities (e.g., new commercial, industrial, or governmental enterprises), involved a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services, or removed an obstacle to housing development. Examples of growth-inducing actions include developing water, wastewater, fire, or other types of service areas in not previously served, extending transportation routes into previously undeveloped areas, and establishing major new employment opportunities.

The proposed project would involve construction of a multiple-use trail along the North Fork American River within the undeveloped, open space, recreational setting of the Auburn SRA. Implementation of the proposed project would occur in stages (see Chapter 3.0, "Project Description"), and the work would be performed by one or more crews from the California Conservation Corps, inmate crews, licensed contractors, volunteers, and/or County staff whose work would be overseen by State Parks. These activities would generate short-term employment opportunities; however, the work would be temporary and would occur over a 3-year period, with certain activities starting and stopping for shorter durations within this time period. Because of the limited number and type of new jobs that would be generated and the temporary nature of those jobs, it is anticipated that the new jobs would be filled using the existing local employment pool. Existing available housing in the region would easily accommodate any workers who relocate from outside the area, if needed. No new staff would be required to manage or maintain the trail; existing County staff would manage the trail and trail uses in coordination with State Parks, with assistance from local volunteers and organized recreation groups (e.g., International Mountain Bicycling Association). No new long-term (i.e., full-time) jobs would result from the proposed project. For these reasons, indirect growth-inducing impacts resulting from implementation of the proposed project are considered less than significant.

The proposed project would occur on land that is managed by State Parks under a cooperative agreement funded by the U.S. Bureau of Reclamation (Reclamation). These properties are managed by State Parks for open space and recreational uses. The proposed project is consistent with the purposes for which the Auburn SRA was established. Construction and operation (use and maintenance) of the proposed trail would not involve construction of housing, nor would it involve extension of public services facilities or development of a service area; therefore, the proposed project would not result in direct growth-inducing effects, and no impact would occur.

A slight increase in economic growth may be realized from the proposed project. Construction of the proposed trail would increase the capacity and quality of the regional trail system, which may draw more people to recreate in the project area. By stimulating visitation for recreational activities, the proposed trail would also be expected to result in a slight increase in related recreational spending levels. This is anticipated to lead to a minor, long-term increase in local economic activity. Such economic benefits would likely be concentrated in the sectors of the local business community that serve recreationists, specifically trail users. The proposed trail could also generate an increase in fee revenues collected by State Parks for its various recreation facilities in the Auburn SRA based on a general increase in visitation to this park unit; however, the proposed trail would be free to the public. Effects on the local economy would be minimal, resulting in no significant growth-inducing effects.

16.5 CUMULATIVE IMPACTS

Section 15130 of the State CEQA Guidelines requires that an EIR discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." According to State CEQA Guidelines Section 15065, "Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects as defined in Section 15130." Sections 15130 and 15355 of the State CEQA Guidelines both stress cumulative impacts in the context of closely related projects and from projects causing related impacts.

The term "considerable" is subject to interpretation. The standards used herein to determine whether an effect is considerable are that either the impact of the proposed project would contribute in any manner to the existing significant cumulative impact, or the cumulative impact would exceed an established threshold of significance when the proposed project's incremental effects are combined with similar effects from other projects.

State CEQA Guidelines Section 15130(b) directs the crafting of an adequate discussion of cumulative impacts:

> The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

A cumulative analysis may employ either of two methods for evaluating cumulative impacts; this EIR uses the list method in accordance with Section 15130(b)(1)(A) of the State CEQA Guidelines, which allows the lead agency to consider "past, present, and probable future projects producing related or cumulative impacts…." The environmental influences of past projects and present projects that have been implemented already exist as a part of current conditions in the project area. Therefore, the contributions of past and present projects to environmental conditions are adequately captured in the description of the existing setting and need not be specifically listed here. This cumulative impact analysis focuses on the potential cumulative physical changes to the existing setting that could occur as a result of a combination of this proposed trail project and probable future projects.

16.5.1 CAPITAL-TO-CAPITAL TRAIL CONCEPT

In the 1960s, the idea of a continuous Capital-to-Capital (or "Cap-to-Cap") Regional Trail from Sacramento to Carson City, Nevada was introduced. However, plans for implementation of this ambitious trail concept have not been developed or advanced, and several barriers to its development have been identified. There have been no specific proposals submitted for further development of this concept by any agencies with jurisdiction over the Cap-to-Cap route. There has been no funding identified or proposals to locate funding for development of this concept. Currently, there has been no physical alignment proposed for the Cap-to-Cap trail concept and; therefore, it would be too speculative at this time to attempt to evaluate potential impacts associated with this concept. Because of the speculative nature of the Cap-to-Cap trail concept, and the lack of any specific proposal for its

development, it is not considered reasonably foreseeable, probable future project and, therefore, is not among the projects included in this cumulative project analysis. An overview of the history of the Cap-to-Cap trail concept is included in this section for informational purposes.

County staff began meeting with the primary land management agencies that had jurisdiction over the area between Sacramento and Carson City to discuss the feasibility of implementing this concept. Additional meetings with trail user groups were conducted to gauge interest and to gain support for the idea. As momentum increased and some funding sources were tentatively identified, the County entered into negotiations with Reclamation and State Parks because portions of the conceptual route would cross both the Auburn SRA and the Folsom SRA. (State Parks has operating agreements to manage both recreation areas on behalf of Reclamation). As a result of these negotiations, State Parks identified a number of concerns about the trail concept:

- potential user conflicts resulting from the different allowable uses on the proposed trail,
- poor condition of existing trails along the route,
- proximity of the proposed trail alignment to the river,
- the need for future maintenance of the trail, and
- identification of a common vision for the trail among the involved agencies.

The County originally identified construction of a new section of trail from the confluence to the Ponderosa Bridge in the Auburn SRA (i.e., the proposed project) as a potential "Phase 1" of the Cap-to-Cap trail concept. In subsequent meetings with State Parks, the County modified the original proposal to address many of State Parks's concerns by:

- acknowledging that State Parks and Reclamation would need to approve the trail alignment,
- agreeing that some separation between the trail and river would be necessary,
- agreeing that the North Fork Trail be developed and constructed as a stand-alone trail,
- agreeing on a plan for future maintenance of the trail, and
- agreeing to assist with the assessment of trail repairs needed on existing trails along the proposed Cap-to-Cap trail route (Placer County 2003a).

The County agreed to design the trail section from the confluence to the Ponderosa Bridge to function as a stand-alone trail segment with adequate parking and staging termini that would connect to existing trails. Under these conditions, State Parks agreed to explore development of the North Fork American River Trail from the confluence to the Ponderosa Bridge.

The Cap-to-Cap Trail remains a concept and not a reasonably foreseeable, probable future project. Many barriers to precisely defining and considering the completion of such a trail in the upper portions of the North Fork American River canyon have been identified. These barriers include lack of funding (no funding sources have been confirmed), private land ownership along portions of potential routes, extreme topography along portions of the potential routes, and potential incompatibility with Wild and Scenic River and Wilderness designations. Based on the results of past discussions, State Parks has indicated that developing a trail from the confluence to the Ponderosa Bridge as a stand-alone project is appropriate recognizing the feasible topography and other physical characteristics along the proposed trail alignment, on preliminary assessments indicating that such a trail is compatible with existing uses in this portion of the canyon, and on indications that the stand-alone trail project may be generally consistent with existing management plans for the area. State Parks has not decided to support the Cap-to-Cap concept and has not signed the County Memorandum of Understanding regarding the Cap-to-Cap concept because of the concerns listed above (Michaels, pers. comm., 2006). State Parks will not consider planning or defining any potential sections of trail in the North Fork American River canyon above the Ponderosa Bridge until the update for the Auburn SRA GP/IRMP has been completed. The Auburn SRA GP/IRMP is

currently being updated and scoping meetings are being held to get input on the document. The County is not undertaking any planning efforts or pursuing any funding sources for the Cap-to-Cap Trail.

16.5.2 OTHER RELEVANT PROJECTS

AMERICAN RIVER TRAIL (PROPOSED FUTURE PROJECT)

The American River Trail is a proposed multiple-use trail that would extend 8 miles along the South Fork American River from Salmon Falls Road at Folsom Lake to Greenwood Creek at State Route 49 near Coloma. The trail will be a multiple-use trail for hikers, bikers, and equestrians (El Dorado County 2005).

CONNECTOR TRAIL (EXISTING PROJECT)

The approximately 6.7-mile Connector Trail was constructed by the County several years ago. This trail connects the Lake Clementine Trail and the Foresthill Divide Loop Trail and is primarily a mountain bike trail. The Connector Trail starts on the north side of Foresthill Road near the proposed Foresthill Bridge Staging Terminus and proceeds to the northeast following the ridgeline of the Foresthill Divide. The trail connects to Lake Clementine Road and the Lake Clementine Access Trail, then continues on to where it connects to the Foresthill Divide Loop Trail.

16.5.3 CUMULATIVE IMPACTS

Cumulative impacts of the proposed project are evaluated separately for each environmental topic area addressed in this DEIR. Within each topic area, the cumulative impact analysis focuses on the potential cumulative physical changes to the existing setting that could occur as a result of a combination of the proposed project and probable future projects described above.

LAND USE

Chapter 4.0 identifies the effects of the proposed project on land use and planning. The proposed project would be consistent with the land uses and zoning of the project area, including the goals and policies of the Auburn SRA IRMP. Other existing and proposed trails in the project area are also consistent with land uses in the project area. Therefore, the proposed project, either alone or combined with other projects, would not have a significant cumulative effect on land use. The proposed project would not contribute to a significant cumulative effect on land use.

BIOLOGICAL RESOURCES

Chapter 5.0 identifies the effects of the proposed project on biological resources. The proposed project could affect foothill yellow-legged frog, raptors and other nesting birds, special-status plants, and waters of the United States. Construction of the proposed project could also introduce invasive weeds into the project area. The impacts of the proposed project on biological resources in the project area could be potentially significant cumulative effects.

Mitigation for the proposed project consists of establishing buffers around sensitive resources, conducting preconstruction surveys, obtaining and complying with terms of applicable permits, and taking measures to prevent the introduction of invasive weeds. The proposed project would implement site-specific mitigation consistent with regulations of the U.S. Fish and Wildlife Service, California Department of Fish and Game, and U.S. Army Corps of Engineers that would reduce these impacts to a less-than-significant level. Therefore, the incremental effect of the proposed project is not cumulatively considerable when considered with other past, present, and reasonably foreseeable projects. This impact would be less than significant.

CULTURAL RESOURCES

Chapter 6.0 identifies the effects of the proposed project on cultural resources. The proposed project has the potential to affect potentially significant cultural resources or to uncover unknown or undocumented subsurface cultural remains or human interments. The impacts of the proposed project on cultural resources in the project area are potentially significant and could be cumulatively considerable.

Mitigation for impacts of the proposed project includes aligning the proposed trail to avoid the potentially significant cultural resources, and halting construction immediately and notifying a qualified professional archaeologist of any discovery of cultural materials or human interments. The archaeologist would determine whether the resource is potentially significant as per the California Register of Historical Resources and would develop appropriate mitigation. If a Native American burial is discovered, California Health and Safety Code Sections 7050.5 and 7052 and California Public Resources Code Section 5097 would be complied with to ensure that the site is properly protected. Because the proposed project would implement site-specific mitigation consistent with the California Health and Safety Code and the California Public Resources Code, the incremental effect of the proposed project is not cumulatively considerable when considered with other past, present, and reasonably foreseeable projects. Therefore, the proposed project would not have a cumulatively considerable effect on cultural resources when considered with other past, present, and reasonably foreseeable projects. The proposed project would not contribute to a significant cumulative effect on cultural resources.

VISUAL RESOURCES

Chapter 7.0 identifies the effects of the proposed project on visual resources. As shown in the visual simulations (Exhibits 7-8 through 7-20), the proposed project would not be visible from any scenic vistas. The proposed project would not introduce any new sources of light and glare into the project area. Project features would incorporate natural colors and materials to the extent possible so that they would blend with the surrounding environment. Therefore, the proposed project would not have a cumulatively considerable effect on visual resources when considered with other past, present, and reasonably foreseeable projects. The proposed project would not contribute to a significant cumulative effect on visual resources.

TRANSPORTATION AND CIRCULATION

Chapter 8.0 identifies the effects of the proposed project on transportation and circulation. Construction and operation (use and maintenance) of the proposed trail would cause a slight increase in traffic in the project area. However, this increase in traffic would not be significant relative to the existing load and capacity of the surrounding roadways. The proposed project would provide adequate parking for trail users. Although the proposed trail and other existing and future trails in the project area would cause some increases in traffic, the majority of trail users would be visitors to the Auburn SRA who are currently making trips to the project area. Parking provided by the proposed project in combination with existing parking would be adequate for visitors to the project area. Therefore, the proposed project would not have a cumulatively considerable effect on transportation and circulation when considered with other past, present, and reasonably foreseeable projects. The proposed project would not contribute to a significant cumulative effect on transportation or circulation.

AIR QUALITY

Chapter 9.0 identifies the effects of the proposed project on air quality. The proposed project would result in construction-related effects on air quality, as trail construction would generate criteria pollutants such as NO_X, ROG, and PM_{10}. All construction activities within the air basin would contribute to current air quality violations similar to those of the proposed project. The air basin is in nonattainment status; however, the air quality effects of the proposed project would be minimal and temporary. Because air quality impacts associated with the proposed project would be minimal and it is assumed that other projects in the area would use mitigation as

necessary to reduce their impact on air quality, the project's incremental contribution to the significant cumulative effect is not cumulatively considerable.

Please refer to Chapter 9.0, "Air Quality," for information on greenhouse gas (GHG) emissions, global climate change, and regulatory information on this topic.

Implementation of the proposed project is expected to result in a slight temporary net increase in GHG emissions associated with short-term construction activities. Operation of the proposed project would also result in a slight net increase of GHG emissions associated with the slightly increased need for maintenance activities. Future trail visitors would consist primarily of existing trail users, and thus would not contribute a net increase in GHG emissions from vehicle trip emissions (see Impact 8-2, "Increase in Traffic with Use of the North Fork Trail," in Chapter 8.0, "Transportation and Circulation"). No stationary sources of GHG emissions would be associated with the project.

GHG emissions generated during construction and operation of the proposed project would predominantly be in the form of carbon dioxide (CO_2). In comparison to criteria air pollutants, such as ozone and PM_{10}, CO_2 and other GHG emissions persist in the atmosphere for a much longer period of time. While any increase in GHG emissions would add to the global inventory of gases that would contribute to global climate change, the proposed project would result in only very slight increases in GHG emissions from temporary or existing sources. The project's contribution to a net increase in GHG emissions would be less-than-considerable. This cumulative impact would be less than significant.

NOISE

Chapter 10.0 identifies the effects of the proposed project on noise. Noise levels associated with project construction could create a substantial temporary increase in ambient noise levels in the project area; however, these increases in noise levels would be temporary, and the closest noise-sensitive receptors are 2 miles away. The proposed project would also comply with the requirements of the Placer County Noise Ordinance. Therefore, the proposed project would not have a cumulatively considerable effect on noise levels when considered with other past, present, and reasonably foreseeable projects. The proposed project would not contribute to a significant cumulative effect on noise levels.

SOILS, GEOLOGY, AND SEISMICITY

Chapter 11.0 identifies the effects of the proposed project on soils, geology, and seismicity. Disturbance of topsoil and removal of vegetation during construction of the proposed project and steep slopes in the project area increase the potential for wind and water erosion. Although the proposed project would not include any structures for human occupancy, it involves construction of structures, such as the trail and bridges that could be subject to ground shaking, liquefaction, and landslides. These impacts on soils, geology, and seismicity in the project area are potentially significant and could be cumulatively considerable.

Mitigation for the proposed project would consist of preparing and implementing a storm water pollution prevention plan (SWPPP) that would include measures to control soil erosion and waste discharges from the project area. The construction contractor would also submit a notice of intent (NOI) to the Central Valley Regional Water Quality Control Board (RWQCB) for stormwater discharges associated with general construction activities. The proposed project would also implement measures to reduce the potential for exposure to seismic hazards. Because the proposed project would implement site-specific mitigation consistent with the Central Valley RWQCB program, the incremental effect of the proposed project is not cumulatively considerable when considered with other past, present, and reasonably foreseeable projects. The proposed project would not contribute to a significant cumulative effect on soils, geology, or seismicity.

HYDROLOGY AND WATER QUALITY

Chapter 12.0 identifies the effects of the proposed project on hydrology and water quality. The proposed project could result in temporary discharges of sediment and other contaminants in intermittent drainages in the project area. These intermittent drainages are ultimately discharged to the North Fork American River. Because some soil erosion and sedimentation in the project area could occur, this is a potentially significant impact on water quality. The contribution of the proposed project to water quality degradation in the project area could be a potentially significant cumulative effect.

As mentioned above under "Soils, Geology, and Seismicity," mitigation for the proposed project consists of preparing and implementing a SWPPP that would include measures to control soil erosion and waste discharges from construction areas. The construction contractor would also submit an NOI to the Central Valley RWQCB for stormwater discharges associated with general construction activities. Because the proposed project would implement site-specific mitigation consistent with the Central Valley RWQCB program, the incremental effect of the proposed project is not cumulatively considerable when considered with other past, present, and reasonably foreseeable projects. The proposed project would not contribute to a significant cumulative effect on water quality or hydrology.

PUBLIC SERVICES

Chapter 13.0 identifies the effects of the proposed project on public services. Use of the proposed trail could increase the demand for emergency services in the project area; however, this increased demand would be small and would not result in the need for a significant increase in emergency services. The proposed project would not have any effect on public utilities. Therefore, the proposed project would not contribute to any cumulative effect on public services or utilities when considered with other past, present, and reasonably foreseeable projects. The proposed project would not contribute to a significant cumulative effect on public services or utilities.

RECREATION

Chapter 14.0 identifies the effects of the proposed project on recreation. The proposed project could increase the chances for adverse human-wildlife interactions. The proposed project may also result in increased user conflicts in the project area. The proposed project would not cause an increase in the demand for more parks or recreational facilities, nor would it negatively affect existing recreational opportunities. Because the project would incorporate signage to educate users on these issues and because adverse human-wildlife interactions are rare, the proposed project would not contribute to any cumulative effect on recreation when considered with other past, present, and reasonably foreseeable projects. The proposed project would not contribute to a significant cumulative effect on recreation.

HAZARDOUS MATERIALS AND HAZARDS

Chapter 15.0 identifies the effects of the proposed project on hazardous materials and hazards. Sparks from construction and maintenance equipment, could generate fire risks in the project area, which has been identified as an extreme fire hazard area; trail users could also generate fire risks (e.g., from discarded cigarette butts). However, General Fire Prevention Requirements provided by the County Fire Captain would be implemented to reduce the risk of fire in the project area. Accidental spills of hazardous materials could occur during trail construction or maintenance. However, an accidental-spill prevention and response plan would be implemented, employees handling hazardous materials would be trained in safety measures, and an appropriate staging area for storage of hazardous materials would be identified. In addition, as mentioned above under "Soils, Geology, and Seismicity" and "Hydrology and Water Quality," a SWPPP would be prepared and implemented that would include measures to control soil erosion and waste discharges from construction areas, and the construction contractor would submit an NOI to the Central Valley RWQCB for stormwater discharges associated with general construction activities. Because the proposed project would implement this site-specific mitigation, the

incremental effect of the proposed project is not cumulatively considerable when considered with other past, present, and reasonably foreseeable projects. The proposed project would not contribute to a significant cumulative effect on hazardous materials and hazards.

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18.2 PERSONS CONSULTED

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Fisher, Andrew. Project manager. Placer County Facility Services Department, Auburn, CA. February 13, 2004—personal communication with Connie Gallippi of EDAW for clarification of the project description.

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Galloway, Jay. Superintendent, Auburn State Recreation Area. California Department of Parks and Recreation, Auburn, CA. April 6, 2006—personal communication with Stephanie Bradley of EDAW regarding Auburn SRA.

Gould, Gordon. BIOS project biologist. Wildlife and Habitat Data Analysis Branch. California Department of Fish and Game, Sacramento, CA. February 2, 2004—email to Lisa Clement of EDAW regarding California spotted owl records in the project vicinity.

Hendricks, Phil. Trails specialist. EDAW, Inc., Fort Collins, CO. May 11, 2006—personal communication with Debra Bishop of EDAW regarding trail user conflicts.

Michaels, Jim. Staff Park and Recreation Specialist. Folsom, CA. August 16, 2006—email to Andy Fisher of Placer County and Debra Bishop of EDAW regarding comments on ADEIR.

Salinas, Julio. Staff toxicologist. Office of Environmental Health Hazard Assessment, Sacramento, CA. August 3, 2004—telephone conversation with Kurt Legleiter of EDAW regarding exposure period for determining health risk.

Wells, Greg. Trail coordinator/resource specialist. North Fork Associates, Auburn, CA. January 29, 2004—personal communication with Connie Gallippi of EDAW regarding construction time frames; January 29, 2004—personal communication with Petra Unger and Misa Ward of EDAW regarding frequency of flows in drainages; April 17, 2006—email to Stephanie Bradley of EDAW regarding long-term trail maintenance.