DRAFT

SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

SILVA VALLEY PARKWAY INTERCHANGE PROJECT

(SCH NO. 1988050215)

EL DORADO COUNTY, CALIFORNIA

LSA

January 2011

DRAFT

SUPPLEMENTAL

ENVIRONMENTAL IMPACT REPORT

SILVA VALLEY PARKWAY INTERCHANGE PROJECT

(SCH NO. 1988050215)

EL DORADO COUNTY, CALIFORNIA

Submitted to:

County of El Dorado
Department of Transportation
2850 Fairlane Court, Building C
Placerville, California 95667
(530) 621-5988

Prepared by:
LSA Associates, Inc.
4200 Rocklin Road, Suite 11B
Rocklin, California 95677
(916) 630-4600

LSA Project No. MKT530

LSA

January 2011

TABLE OF CONTENTS

APPENDICES (A through J on attached CD)

FIGURES AND TABLES

FIGURES

TABLES

ACRONYM LIST

AADT	annual average daily traffic
AAQS	ambient air quality standards
Ac	acres
ACM	asbestos containing materials
ADL	aerially deposited lead
ADP	Attainment Demonstration Plan
APN	Assessor's Parcel Number
ARB	Air Resources Board
BMP	best management practices
BO	biological opinion
CAA	Clean Air Act
CAFE	Corporate Average Fuel Economy
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CNPS	California Native Plant Society
cfs	cubic feet per second
County	County of El Dorado
CO	carbon monoxide
CWA	Clean Water Act
dBA	A-weighted decibel
dbh	diameter at breast height
DEIR	Draft Environmental Impact Report
EB	eastbound
EDCAQMD	El Dorado County Air Quality Management District
EDCDOT	El Dorado County Department of Transportation
EDHIC	El Dorado Hills Boulevard Interchange
EID	El Dorado Irrigation District
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
FEIR	Final Environmental Impact Report
FESA	Federal Endangered Species Act
ft	feet
GHG	Greenhouse Gases
HOV	High Occupancy Vehicle
IPCC	Intergovernmental Panel on Climate Change
LCP	lead containing paint

L_{dn}	day-night average noise
L_{max}	maximum noise level
LOS	level of service
MBTA	Migratory Bird Treaty Act
MCAB	Mountain Counties Air Basin
mph	miles per hour
MUTCD	Manual on Uniform Traffic Control Devices
NA	not applicable
NAAQS	national ambient air quality standards
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO_x	Nitrogen Oxides
NOA	naturally occurring asbestos
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
O_3	Ozone
OHWM	ordinary high water mark
OPR	Office of Planning and Research
PCAPCD	Placer County Air Pollution Control District
PG&E	Pacific Gas and Electric Company
PM	post mile
PM_{10}	particulate matter less than 10 microns in diameter
ppm	parts per million
PSR	project study report
ROG	Reactive Organic Gases
RWQCB	Regional Water Quality Control Board
SCH	State Clearing House
SEIR	Supplemental Environmental Impact Report
SFNA	Sacramento Federal Non-attainment Area
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	Sulfur Dioxide
SPCP	Spill Prevention and Countermeasure Plan
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
USACOE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
vph	vehicles per hour
WB	westbound
YSAQMD	Yolo-Solano Air Quality Management District
1991 EIR	Original Draft Environmental Impact Report approved in 1989

EXECUTIVE SUMMARY

El Dorado County (the County), as Lead Agency, has prepared this Supplement to the 1991 Silva Valley Parkway Interchange with U.S. Highway 50 Environmental Impact Report (EIR), in association with responsible agencies: the California Department of Transportation and the El Dorado Irrigation District, to evaluate minor changes to the project design. The County elected to prepare this Supplement to the 1991 EIR because the proposed project will remain very similar to the project described in the original certified EIR and approved by the County. This document has been prepared to comply with the requirements of the California Environmental Quality Act (CEQA) of 1970, as amended (Public Resources Code, Section 21000, et seq.).

Referred to as the "Ridge Design" (the preferred alternative approved by the Board of Supervisors in 1990) the proposed project improvements include: loop on-ramps in the northeast and southwest quadrants; diagonal on- and off-ramps in each direction; an overcrossing for Silva Valley Parkway; safety lighting; and on-ramps designed to accommodate future ramp metering, HOV lanes, and California Highway Patrol enforcement areas.

The 1991 EIR identified that the proposed project could have potentially significant impacts in the categories of: Land Use, Aesthetics, Geology and Soils, Hydrology and Water Quality, Biological Resources, Public Services, Traffic, Air Quality, Noise, and Cultural Resources. This Draft Supplemental EIR (SEIR) finds that the modified project would not result in new significant impacts from those previously identified and addressed in the original EIR. Minor modifications to the previously adopted mitigation measures will be required. The format of this SEIR addresses the questions included in the standard CEQA checklist. However, some issue areas and/or questions are not represented here. If an issue area was determined to have no impact during the Notice of Preparation period, that issue area was not addressed in this document (see Appendix A for the NOP Initial Study Checklist).

Information in the following table, Table 1: Summary of Impacts, presents the potential effects from the proposed project, mitigation measures, and level of significance before and after mitigation measures are implemented.

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
AESTHETICS			
Impact VIS-1: Have a substantial adverse effect on a scenic vista?	LTS	No mitigation required.	LTS
Impact VIS-2: Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	LTS	No mitigation required.	LTS
Impact VIS-3: Substantially degrade the existing visual character or quality of the site and its surroundings?			
Impact VIS-3a: Visual disparity with the existing rural setting caused by the alteration of viewsheds and increased ambient night lighting.	LTS	No mitigation required.	LTS
Impact VIS-3b: Conflicts with the residential land uses planned for the area near the Interchange.	PS	**Mitigation Measure VIS-1:** The County shall enter into a Cooperative Agreement with Caltrans that ensures that Interchange landscaping is designed, constructed, and maintained. Landscape plans shall be prepared by a licensed Landscape Architect. Interchange landscape design shall comply with applicable Caltrans and County standards and shall be consistent with the natural landscape characteristics.	LTS
Impact VIS-4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	LTS	No mitigation required.	LTS
AIR QUALITY & GLOBAL CLIMATE CHANGE			
Impact AIR-1: Conflict with or obstruct implementation of the applicable air quality plan?			
Impact AIR-1a: Construction equipment powered by internal combustion engines emitting an indeterminable quantity of nitrogen oxides, hydrocarbons, particulates, sulfur dioxides, and carbon monoxide.	PS	**Mitigation Measure AIR-1:** The prime contractor shall provide an approved plan demonstrating that heavy-duty (i.e., greater than 50 horsepower) off-road vehicles to be used in the construction project, and operated by either the prime contractor or any subcontractor, will achieve, at a minimum, a fleet-averaged 15 percent NOx reduction compared to the most recent ARB fleet average. The prime	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		contractor shall submit a comprehensive inventory to the El Dorado County AQMD of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours (total) during the construction project. The inventory shall include the horsepower rating, engine production year, and hours of use or fuel throughput for each piece of equipment. The inventory list shall be updated and submitted monthly throughout the duration of the construction period.	
Impact AIR-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			
Impact AIR-2a: No violations of either the 1-hour or 8-hour state and federal CO standards in the immediate vicinity of the proposed Interchange.	LTS	No mitigation required.	LTS
Impact AIR-2b: Higher CO concentrations at the El Dorado Hills Blvd Interchange than the concentrations in the immediate vicinity of the proposed Interchange (lower than concentrations under the No-Project condition) but approaching the 8-hour 9 ppm CO standard.	LTS	No mitigation required.	LTS
Impact AIR-2c: Lower concentrations at the Bass Lake Road Interchange than CO concentrations in the immediate vicinity of the proposed Interchange.	LTS	No mitigation required.	LTS
Impact AIR-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			
Impact AIR-3a: No direct increase in ozone precursors.	LTS	No mitigation required.	LTS
Impact AIR-4: Expose sensitive receptors to substantial pollutant concentrations?			
Impact AIR-4a: Dust being generated during construction, causing a nuisance to neighboring land	PS	**Mitigation Measure AIR-3:** The County shall require construction contractors to comply with El Dorado County	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
owners.		APCD Rules 223, 223-1, and 223-2. Compliance shall include, but is not limited to, implementation of the following measures: • Application of water hygroscopic materials, or non-toxic chemical stabilizers or other specified covering on material stockpiles, wrecking activity, excavation, grading, sweeping, or clearing of land; • Installation and use of hoods, fans and filters to enclose, collect, and clean the emissions of dusty materials; • Covering or wetting at all times when in motion of open-bodied trucks, trailers or other vehicles transporting materials, which create a nuisance by generating particulate matter in areas where the general public has access; • Application of asphalt, oil, water or suitable chemicals on dirt roads; • Alternate means of control as approved by the Air Pollution Control Officer. Pursuant to Rule 223, a person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area, such that the presence of such fugitive dust remains visible, or exceed shade darker as that designated as No. 0 on the Ringelmann Chart, or exceed 0% opacity as determined in accordance with U.S.	

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		EPA Method 9, in the atmosphere beyond the boundary line of the emission source. **Mitigation Measure AIR-4:** Pursuant to El Dorado County APCD Rule 223-1, the County shall submit a Fugitive Dust Control Plan to the Air Pollution Control Officer prior to the start of any construction activity. Construction activities shall not commence until the Air Pollution Control Officer has approved or conditionally approved the Fugitive Dust Control Plan. The County shall provide written notification to the Air Pollution Control Officer at least 10 days prior to the initial commencement of earthmoving activities via fax, e-mail, or mail. The Fugitive Dust Control Plan shall describe all fugitive dust control measures to be implemented before, during and after any dust generating activity. Fugitive Dust Control Plan shall contain all the information described in Section 223-1.5.B of Rule 223-1. The Air Pollution Control Officer shall approve, disapprove or conditionally approve the Fugitive Dust Control Plan within 30 days of plan submittal. Rule 223-1 requires that visible emissions shall not exceed the shade designated as No. 0 on the Ringelmann Chart, or 0% opacity as determined in accordance with U.S. EPA Method 9, at 50 feet from the point-of-origin and at the project area boundary. Visible emissions shall not exceed the shade designated as No. 1 on the Ringelmann Chart, or 20% opacity as determined in accordance with U.S. EPA Method	

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		9 at the point-of-origin. The construction contractor shall retain a copy of an approved Fugitive Dust Control Plan at the project site. The approved Fugitive Dust Control Plan shall remain valid until the termination of all dust generating activities. **Mitigation Measure AIR-5:** Pursuant to El Dorado County APCD Rule 223-2, the County shall submit an Asbestos Dust Mitigation Plan to the Air Pollution Control Officer prior to the start of any construction activity. Construction activities shall not commence until the Air Pollution Control Officer has approved or conditionally approved the Asbestos Dust Mitigation Plan. The County shall provide written notification to the Air Pollution Control Officer at least 10 days prior to the commencement of earthmoving activities via fax or mail. The Asbestos Dust Mitigation Plan shall describe all dust mitigation measures to be implemented before, during and after any dust generating activity. The Asbestos Dust Mitigation Plan shall contain all the information described in Section 223-2.5.B of Rule 223-2. The Air Pollution Control Officer shall approve, disapprove, or conditionally approve the Asbestos Dust Mitigation Plan within 30 days of plan submittal. Rule 223-2 requires that visible emissions shall not exceed the shade designated as No. 0 on the Ringelmann Chart, or	

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		0% opacity as determined in accordance with U.S. EPA Method 9, at 25 feet from the point-of-origin and at the project area boundary. Visible emissions shall not exceed the shade designated as No. 1 on the Ringelmann Chart, or 20% opacity as determined in accordance with U.S. EPA Method 9 at the point-of-origin. The construction contractor shall retain a copy of an approved Asbestos Dust Mitigation Plan at the project site. The approved Asbestos Dust Mitigation Plan shall remain valid until the termination of all dust generating activities.	
Impact AIR-4b: Blasting emitting an indeterminable amount of fugitive dust into the atmosphere during construction as well as smoke from the blasting charges.	PS	**Mitigation Measure AIR-2:** Notify local residents of blasting operations and comply with all applicable local, state, and general safety and air quality regulations.	LTS
Impact AIR-5: Create objectionable odors affecting a substantial number of people?	LTS	No mitigation required.	LTS
Impact GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	PS	**Mitigation Measure AIR-1.**	LTS
Impact GHG-2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	LTS	No mitigation required.	LTS
BIOLOGICAL RESOURCES			
Impact BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			
Impact BIO-1a: Diminished habitat for plants and wildlife.	PS	**Mitigation Measure BIO-1:** Prepare and implement a detailed biological mitigation plan (see Mitigation Measures	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		BIO-2 thru BIO-8).	
Impact BIO-1b: Elimination or disturbance of the annual grasslands in the project area.	LTS	No mitigation required.	LTS
Impact BIO-1c: Loss of annual grassland habitat, thereby displacing or eliminating wildlife species.	LTS	No mitigation required.	LTS
Impact BIO-1d: Elimination of purple needlegrass grassland.	LTS	No mitigation required.	LTS
Impact BIO-1e: Elimination of habitat for wildlife species associated with the purple needlegrass grassland.	LTS	No mitigation required.	LTS
Impact BIO-1f: No impacts to any special-status plant species.	LTS	No mitigation required.	LTS
Impact BIO-1g: Loss of possible foraging habitat for Swainson's hawks.	PS	**Mitigation Measure BIO-2:** Construction activities shall be initiated outside of the Swainson's hawk breeding season (which begins in late February until August) to avoid disturbing active nests to the extent feasible. If construction must begin during the breeding season, the County/contractor shall retain a Qualified Biologist to conduct a preconstruction survey in accordance with current CDFG guidelines. The survey shall be conducted before grading activities and no more than 30 days before the beginning of construction. If no nests are found, no further mitigation is required. If active nests are found, no construction activities shall take place within 0.25 mile of the nest until the young have fledged or authorization has been obtained from a Qualified Biologist with concurrence from CDFG. Weekly monitoring reports summarizing nest activities shall be submitted to the	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		County and CDFG until the young have fledged and the nest is determined to be inactive. Trees found to contain active nests that must be removed as a result of project implementation shall be removed during the non-breeding season (late Sept. to late February).	
Impact BIO-1h: Loss of possible foraging habitat for burrowing owls.	PS	**Mitigation Measure BIO-3:** Prior to grading, a Qualified Biologist tshall conduct preconstruction surveys (in accordance with current CDFG guidelines) of the project area and in a 250-foot wide buffer zone around the project site (excluding paved areas) to locate active burrowing owl burrows. If no burrowing owls are detected, a letter report documenting survey methods and findings will be prepared and no further mitigation is required. If active burrowing owl burrows are detected, the following mitigation will be required: • Occupied burrows will not be disturbed during the nesting season (2/1 – 8/31). This shall be accomplished by establishing a 250-foot buffer around the occupied burrows. The size of the buffer may be reduced if a Qualified Biologist and CDFG determine that the reduction of the buffer would not have an adverse effect on the owls. • If destruction of an occupied burrow is unavoidable during the nonbreeding season (9/1 – 1/31), passive relocation techniques approved by CDFG, such as installing on-way doors at the burrow entrance, will be used instead of trapping the owls. At least 1 week will	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		be necessary to accomplish the passive relocation and allow the owls to acclimate to alternative burrows. After the owls have been confirmed to be absent from the burrows, the burrow entrances should be collapsed to prevent owls from re-entering the burrows.	
Impact BIO-1i: No loss of possible habitat for the tricolored blackbird.	PS	**Mitigation Measure BIO-4:** Conduct a preconstruction nesting bird survey for MBTA-regulated species 30 days prior to construction activities would be necessary. If an active nest is found, subsequent surveys will be necessary to determine when the nest is no longer active. If no active nests are found, no further mitigation is expected to be required.	LTS
Impact BIO-1j: Loss of possible habitat for the red-legged frog.	PS	**Mitigation Measure BIO-5:** Retain a Qualified Biologist to conduct a habitat assessment per USFWS protocols in areas with potentially suitable habitat that will be affected. Should no suitable CRLF habitat occur on or adjacent to the site following the habitat assessment, then no further mitigation shall be required. If CRLF habitat is determined to be present, then a presence/absence survey shall be conducted. If CRLF are not observed during the survey, then no further mitigation is expected to be necessary. If CRLF are observed, the following shall be required: obtain a no jeopardy biological opinion from the USFWS in conjunction with the Clean Water Act Permit (see BIO-11). All the terms and conditions of the BO from the USFWS shall be implemented. While at the discretion of the USFWS, the terms and conditions of the Biological will include measures to avoid and/or minimize incidental take of the species and	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		conservation measures to ensure habitat protection.	
Impact BIO-1k: No loss of elderberry shrubs and, therefore, no impacts to valley elderberry longhorn beetle (VELB).	PS	**Mitigation Measure BIO-6:** Implement elderberry mitigation per USFWS guidelines. Specifically, to minimize impacts on VELB habitat, the following measures shall be implemented consistent with USFWS's Compensation Guidelines for verified VELB habitat and prior to commencement of construction: • A qualified biologist will identify and mark all elderberry shrubs in the study area containing stems 1.0 inch or greater. Orange construction barrier fencing will be installed at least 20 feet from the dripline of all elderberry shrubs or per USFWS that will be avoided to identify and protect the shrubs. No construction activities will be allowed within the fenced area without consent of the USFWS. • Signs will be posted on the environmentally sensitive area fencing and maintained for the duration of construction. The signs will state, "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended." • Obtain a biological opinion from the USFWS under Section 7 and in conjunction with the Clean Water Act Permit. • Coordination with the USFWS shall be required through preparation of the BO and VELB mitigation plan to	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		determine that one or more of the following measures will be implemented to fully mitigate for impacts to VELB: o A. Transplant elderberry shrubs to a conservation area in accordance with USFWS' current Conservation Guidelines for Valley Elderberry Longhorn Beetle; o B. Replace shrubs at a ratio from 1:1 through 8:1, depending on the diameter of the stem at ground level, whether the shrub is located in riparian or upland habitat, and if the shrub has evidence of exit holes; o C. Plant elderberry shrubs, and five seedlings and five associated native plants, in an area of at least 1,800 square feet per transplant; o D. Perform maintenance, implement remedial measures, and submit reports, following the requirements in the USFWS guidelines (1999); or o E. To compensate for loss of habitat for VELB, the County may either acquire and manage in perpetuity a local mitigation site that is approved by USFWS for the sole purpose of compensating project impacts on VELB; or participate in a local USFWS-approved mitigation bank. • The VELB mitigation plan shall be completed and submitted to the County and USFWS prior to grading or	

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		ground-disturbing activity within 100 feet of VELB habitat or potential habitat.	
Impact BIO-11: Elimination of foraging habitat for several special-status raptors.	PS	**Mitigation Measure BIO-7:** To avoid removal of migratory bird or raptor active nests, vegetation removal and trimming should be conducted during the non-breeding season (August 16–January 31). If this is not possible, the following measure will be implemented: If construction activities are anticipated to occur mainly during the nesting season for migratory birds and raptors (generally February through August), the County will retain a qualified biologist to conduct preconstruction surveys for nesting birds for all construction activities that occur within or near suitable breeding habitat. The surveys will be conducted no more than 30 days prior to the start of construction activities and will cover all affected areas, including construction areas and staging areas where ground disturbance or vegetation clearing is required. If no active nests are detected, no additional mitigation measures are required. If surveys indicate that migratory bird or raptor nests occur in areas where construction activities will take place, a no-disturbance buffer will be established around the nest site to avoid disturbance or destruction of the nest site until after the breeding season or until a wildlife biologist determines that the young have fledged. Generally, the buffer zones are 50–100 feet for nesting passerine birds and 300 feet for nesting raptors other than Swainson's hawks. However, the extent of	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		these buffers will be determined through coordination with CDFG and will depend on the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. These factors will be analyzed to make an appropriate decision on buffer distances. Active nests occurring in or near the study area will be monitored during construction by the onsite monitor. If the onsite monitor determines that birds on the nest are stressed (e.g., a bird constantly leaving an active nest or a bird not returning to the nest regularly to feed chicks), construction will be halted and the County/ DFG contacted to determine a further course of action.	
Impact BIO-1m: Although not analyzed in the 1991 EIR, the project may have a potentially significant impact on western pond turtle.	PS	**Mitigation Measure BIO-8:** Retain a Qualified Biologist to conduct, not more than 15 days prior to construction, a preconstruction survey for adult western pond turtle(s), hatchlings and eggs, focusing on perennial marsh habitat areas and uplands within 300 feet of such potential habitat. If adult pond turtles are located in the construction area, the biologist will consult with CDFG about relocating the turtle to a suitable aquatic site outside the construction area. If an active pond turtle nest containing either pond turtle hatchlings or eggs is found, a no-disturbance buffer of 300 feet around the nest site will be established until the hatchlings have moved to a nearby aquatic site or have been relocated.	LTS
Impact BIO-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
Impact BIO-2a: Bypassing and eliminating creek channel habitat for culvert extension and new culverts.	PS	**Mitigation Measure BIO-9:** Implement wetland/waters of the U.S. mitigation as determined by Section 404 permit and agreed upon by the Corps (See BIO-11).	LTS
Impact BIO-3: Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			
Impact BIO-3a: Possible construction-related impacts to both creeks if debris or soil are sidecast into the channel from adjacent areas.	PS	**Mitigation Measure BIO-10:** Protect riparian habitat and associated wetlands from construction areas according to the standards established in California Fish and Game Code 1600 and Sections 402 and 404 of the Clean Water Act. Comply with wetland/waters of the U.S. mitigation required by Section 404 of the Clean Water Act and Section 1600 of California Fish and Game Code. At a minimum, this will include replacement or restoration of disturbed habitat sufficient to achieve no net loss of function. (see also Mitigation Measures HYD-1, HYD-6 and GEO-2).	LTS
Impact BIO-3b: Elimination of wetlands including freshwater marsh habitat dominated by dense sedge (Ridge Design would eliminate 1.6 ac including 1.1 ac of freshwater marsh and 0.5 ac of habitat dominated by dense sedge).	PS	**Mitigation Measure BIO-11:** The County shall require avoidance of wetlands to the extent practicable. Prior to any construction activities that could directly or indirectly impact jurisdictional wetlands within the project area, the contractor and/or County shall obtain a Section 404 permit from the Army Corps of Engineers (Corps), as needed, and mitigate for the effects at a minimum 1:1 ratio to ensure "no-net-loss" through either wetland creation and/or restoration as agreed upon with the Corps. The County shall be provided with evidence of fulfillment of this measure, including but not limited to proof of purchase of credits in a mitigation bank, or with a Habitat Mitigation and Monitoring Plan for creation of wetlands coupled with	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		proof that the mitigation site will be preserved in perpetuity.	
Impact BIO-3c: Loss of marsh habitat, thereby eliminating sources of water for wildlife.	PS	**Mitigation Measure BIO-11**	LTS
Impact BIO-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	LTS	No mitigation required.	LTS
Impact BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			
Impact BIO-5a: Elimination of blue oaks (Ridge Design would eliminate 59 blue oaks [51 with dbh exceeding 12 inches and 8 with a dbh range of 6-12 inches].	PS	**Mitigation Measure BIO-12:** A certified arborist shall conduct an oak woodland canopy survey in accordance with requirements of the OWMP, which include: An Oak Woodland Canopy Report shall be prepared and submitted to the County for review and approval. The report shall contain survey methodology and results and the survey results will be used to quantify impacts and mitigation requirements (i.e., percentage of canopy that would be removed, retained, and replaced) prior to tree removal. If possible, the retention standards stipulated in the OWMP (see Table 4.4-3) shall be adhered to. If retention requirements cannot be met, then mitigation for the total area of oak woodland canopy impacted shall occur in accordance with either Option A (On-Site Mitigation, Replanting and Replacement), Option B (Conservation Fund In-Lieu Fee), or a combination of these.	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
Impact BIO-5b: Loss or displacement of wildlife species of the blue oak woodland.	PS	**Mitigation Measure BIO-12**	LTS
Impact BIO-5c: Elimination of interior live oak trees and riparian shrubs.	PS	**Mitigation Measure BIO-10 & BIO-12**	LTS
Impact BIO-5d: Loss of interior live oak woodland habitat and subsequent elimination or displacement of wildlife species associated with this habitat.	PS	**Mitigation Measure BIO-12**	LTS
Impact BIO-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	LTS	No mitigation required.	LTS
CULTURAL RESOURCES			
Impact CULT-1: Would the project cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?			
Impact CULT-1a: Possible adverse impacts to unknown sites.	PS	**Mitigation Measure CULT-1**: Before initiation of construction or ground-disturbing activities associated with the project, for all project phases, all construction personnel shall attend a training session so they are alerted to the possibility of buried cultural resources within the project site. The general contractor and its supervisory staff shall be responsible for monitoring the construction project for disturbance of cultural resources. Should any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains be encountered during any development activities, work shall be suspended and the County shall be notified immediately. The County shall retain a qualified archaeologist who shall conduct a field investigation of the specific site and recommend mitigation deemed necessary	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		for the protection or recovery of any cultural resource concluded by the archaeologist to represent historical resources or unique archaeological resources. The County shall be responsible for approval of recommended mitigation if it is determined by the County to be feasible in light of approved land uses. Work shall be suspended only in the immediate vicinity of the find and not across the entire project. Therefore, work may continue in other parts of the project area while evaluation and any mitigation are conducted at the location of the find. In accordance with the California Health and Safety Code, if human remains are uncovered during construction at the project site, work within 50 feet of the remains shall be suspended immediately, and the County and the County Coroner shall be notified immediately. If the remains are determined by the County Coroner to be Native American, the NAHC shall be notified within 24 hours of that determination (Health and Safety Code Section 7050[c]), and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The NAHC will then assign a Most Likely Descendant (MLD) to serve as the main point of Native American contact and consultation. Following the coroner's findings, the MLD and the archaeologist shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The County shall be required to implement any feasible, timely-formulated mitigation deemed necessary for the	

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		protection of the burial remains. Construction work in the vicinity of the burials shall not resume until the mitigation is completed. This measure shall be included in all grading and improvement plans for all project phases.	
Impact CULT-1b: Disturbance to CA-ELD-558-H.	LTS	No mitigation required.	LTS
Impact CULT-1c: Disturbance to portions of CA-ELD-585-H including the adits, and possibly the stamp mill, Cabin and terraces, which lie near the edge of the proposed right-of-way.	PS	**Mitigation Measure CULT-2:** Preserve CA-ELD-585-H or require additional work. **Mitigation Measure CULT-3:** Prior to any ground disturbing activity within the vicinity of CA-ELD-585-H, place temporary construction fencing around the stamp mill/terrace and cabin features supervised by a qualified archaeologist.	LTS
Impact CULT-1d: No adverse effects to the Byram House.	LTS	No mitigation required.	LTS
Impact CULT-1e: Possible adverse effects on the State Historical Landmark monument designating the site of the Mormon Tavern.	PS	**Mitigation Measure CULT-4**: If impacted by construction, relocate the State Historical Landmark Monument. Approval must be sought from the State Office of Historic Preservation and the monument moved prior to construction in the vicinity.	LTS
Impact CULT-1f: In addition to the impacts identified in the 1991 EIR, the updated Cultural Resource Study prepared for the proposed project found additional cultural resources in the area.	PS	**Mitigation Measure CULT-5:** Prior to any ground disturbance within the vicinity of the Tong cemetery, remote sensing such as ground-penetrating radar supervised by a qualified archaeologist shall be undertaken between the cemetery and the freeway. If graves are discovered during or subsequent to the remote sensing, and cannot be avoided by construction, then the archaeologist will coordinate with El Dorado County to disinter, remove, transport and re-inter the remains. In addition, temporary construction fencing shall be	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		placed around the cemetery to protect it from accidental damage prior to construction of the retaining wall and/or utilities. Placement of the temporary fencing and construction of the retaining wall and any above-ground or below-ground utilities shall be monitored by a qualified archaeologist. **Mitigation Measure CULT-6:** As previous efforts through archival research and surface examination to precisely locate the Hall/Richmond cemetery have failed, physical efforts such as remote sensing and/or mechanized test excavation shall be undertaken prior to any ground disturbing activity between the freeway and the existing Tong Road. A qualified archaeologist shall be consulted to locate the grid for remote sensing, such as ground penetrating radar. If mechanized test excavations are undertaken, a qualified archaeologist shall supervise the excavations. If graves are discovered and cannot be avoided by construction, then the archaeologist will coordinate with El Dorado County to disinter, remove, transport and re-inter the remains. If graves can be avoided, but surface of cemetery must be graded or otherwise adversely affected, then cemetery and/or graves shall be marked to avoid future disturbance.	
Impact CULT-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?			
Impact CULT-2a: Disturbance to a portion of CA-ELD-600-H.	LTS	No mitigation required.	LTS
Impact CULT-3: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	LTS	No mitigation required.	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
Impact CULT-4: Would the project disturb any human remains, including those interred outside of formal cemeteries?			
Impact CULT-4a: No adverse effects to the Tong Cemetery portion of CA-ELD-585-H, because a retaining wall has been designed to protect this portion of the site.	PS	**Mitigation Measure CULT-5**	LTS
Impact CULT-4b: Possible disturbance to the Hall/Richmond Cemetery.	PS	**Mitigation Measures CULT-6**	LTS
GEOLOGY & SOILS (AND HAZARDOUS WASTE)			
Impact GEO-1: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault?	LTS	No mitigation required.	LTS
Impact GEO-2: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?	PS	**Mitigation Measure GEO-1:** A project specific geotechnical report shall be prepared. All recommendations included in the geotechnical report shall be implemented, including recommended materials specifications.	LTS
Impact GEO-3: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?	LTS	No mitigation required.	LTS
Impact GEO-4: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?	LTS	No mitigation required.	LTS
Impact GEO-5: Would the project result in substantial soil erosion or the loss of topsoil?			
Impact GEO-5a: Modification of natural runoff patterns.	LTS	No mitigation required.	LTS
Impact GEO-5b: Temporary increased erosion.	LTS	No mitigation required.	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
Impact GEO-5c: Temporary degradation of streams.	PS	**Mitigation Measure GEO-2:** Develop and implement a project-wide erosion control program.	LTS
Impact GEO-5d: Temporary degradation of springs/seepage areas.	PS	**Mitigation Measure GEO-3:** Conditions listed within the 404 permit shall be applied to springs and seepage areas.	LTS
Impact GEO-6: Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			
Impact GEO-6a: Substantial alteration of the natural landscape.	PS	**Mitigation Measure GEO-1.**	LTS
Impact GEO-6b: Natural slope instability.	LTS	No mitigation required.	LTS
Impact GEO-6c: Man-caused slope instability.	PS	**Mitigation Measure GEO-1.**	LTS
Impact GEO-6d: Blasting effects for construction.	PS	**Mitigation Measure GEO-4:** The proposed project shall comply with all applicable local, state, and federal safety regulations regarding blasting activities.	LTS
Impact GEO-6e: Prevention of mineral resource extraction.	LTS	No mitigation required.	LTS
Impact GEO-7: Would the project be located on expansive soil, creating substantial risks to life or property?			
Impact GEO-7a: Construction on expansive soils.	LTS	No mitigation required.	LTS
Impact GEO-8: Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	LTS	No mitigation required.	LTS
Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	PS	**Mitigation Measure HAZ-1:** All recommended measures listed in the 2007 Initial Site Assessment shall be implemented. **Mitigation Measure HAZ-2:** A NOA monitoring plan will be required prior to grading. This plan shall include:	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		• A geologist trained in the recognition of NOA should be intermittently present during grading operations. • The geologist shall observe site conditions and implement special grading conditions when NOA is present. • BMPs for fugitive dust control shall be practiced during all grading operations consistent with El Dorado County AQMD regulations. **Mitigation Measure HAZ-3:** If NOA is present at the project site, the El Dorado Air Quality Management District NOA regulations for Road Construction and Maintenance shall be followed.	
Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	PS	**Mitigation Measure HAZ-4:** A Spill Prevention and Containment Plan (SPCP) shall be prepared prior to the commencement of any construction and grading activities. The SPCP shall identify any and all hazardous materials that will be used or stored on site, and will also identify any hazardous wastes that might be generated by the proposed project. The SPCP shall detail proper measures to handle and/or transport hazardous materials. The plan shall also present procedures to contain or initiate cleanup of any spills. The phone number of the appropriate government agency shall be contained on the plan in the event of any release of hazardous substances. **Mitigation Measure HAZ-5:** For any previously unknown hazardous waste/material encountered during construction,	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		Caltrans Construction Hazardous Waste Contingency Plan shall be followed (Appendix E).	
Impact HAZ-3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	LTS	No mitigation required.	LTS
Impact HAZ-4: Would the project be located on a site which is included on a list of hazardous materials sites and, as a result, create a significant hazard to the public or the environment?	PS	**Mitigation Measure HAZ-1**.	LTS
Impact HAZ-5: Would the project be located within an airport land use plan or in the vicinity of a private airstrip?	LTS	No mitigation required.	LTS
Impact HAZ-6: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	LTS	No mitigation required.	LTS
Impact HAZ-7: Would the project 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?	LTS	No mitigation required.	LTS
HYDROLOGY & WATER QUALITY			
Impact HYD-1: Would the project violate any water quality standards or waste discharge requirements?			
Impact HYD-1a: Increased turbidity and sediment loading from construction and grading activities.	PS	**Mitigation Measure HYD-1:** Prior to the approval of grading permits and improvement plans a SWPPP must be prepared consistent with the existing statewide NPDES storm water permit for general construction activity. The appropriate NOIs shall also be prepared and submited and	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		any other necessary engineering plans and specifications for pollution prevention and control to the RWQCB. The SWPPP and other appropriate plans shall identify and specify: • The use of erosion and sediment-control BMPs, including construction techniques, that shall reduce the potential for runoff as well as other measures to be implemented during construction; • The implementation of approved local plans, nonstormwater-management controls, permanent post construction BMPs, and inspection and maintenance responsibilities; • The pollutants that are likely to be used during construction that could be present in stormwater drainage and nonstormwater discharges, including fuels, lubricants, and other types of materials used for equipment operation; • Spill prevention and contingency measures, including measures to prevent or clean up spills of hazardous waste and of hazardous materials used for equipment operation, and emergency procedures for responding to spills; • Personnel training requirements and procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP; and	

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		• The appropriate personnel responsible for supervisory duties related to implementation of the SWPPP. BMPs identified in the SWPPP shall be in place throughout all site work and construction/demolition activities and shall be used in all subsequent site development activities. BMPs may include but not be limited to the following: • Implementing temporary erosion-control measures in disturbed areas to minimize discharge of sediment into nearby drainage conveyances. These measures may include silt fences, staked straw bales or wattles, sediment/silt basins and traps, geofabric, sandbag dikes, and temporary vegetation. • Establishing permanent vegetative cover to reduce erosion in areas disturbed by construction by slowing runoff velocities, trapping sediment, and enhancing filtration and transpiration. • Using drainage swales, ditches, and earth dikes to control erosion and runoff by conveying surface runoff down sloping land, intercepting and diverting runoff to a watercourse or channel, preventing sheet flow over sloped surfaces, preventing runoff accumulation at the base of a grade, and avoiding flood damage along roadways and facility infrastructure. All construction contractors shall retain a copy of the approved SWPPP on the construction site.	

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
Impact HYD-1b: Increased runoff containing sediment, oil, grease, and other pollutants from paved areas.	PS	**Mitigation Measure HYD-1.**	LTS
Impact HYD-1c: No change to subsurface water quality because surface water would infiltrate the soil and be cleansed prior to possible use.	LTS	No mitigation required.	LTS
Impact HYD-2: Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level?	LTS	No mitigation required.	LTS
Impact HYD-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-or off-site?			
Impact HYD-3a: A minor increase in impervious surfaces with minor changes in peak flow characteristics and runoff volumes.	LTS	No mitigation required.	LTS
Impact HYD-4: Would the project substantially alter the existing drainage pattern of the site or area, including though the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			
Impact HYD-4a: Alteration of topographic features and roadways, thereby altering runoff drainage paths.	LTS	No mitigation required.	LTS
Impact HYD-4b: Installation of numerous culverts to convey onsite drainage and streamflows over the site and ease possible flooding problems.	PS	**Mitigation Measure HYD-2:** Size culverts in accordance with El Dorado County and Caltrans requirements.	LTS
Impact HYD-4c: Increased flow velocities as water travels through the culverts.	PS	**Mitigation Measure HYD-3:** Install erosion control measures at outlets and implement El Dorado County Resource Conservation District (RCD) requirements.	LTS
Impact HYD-4d: Possible alteration or covering of naturally occurring seeps.	PS	**Mitigation Measure HYD-4:** Provide adequate subgrade drains as determined necessary by a geotechnical engineer.	LTS
Impact HYD-4e: Possible alteration of the flow of water from Carson Creek spring (Ridge Design has higher	PS	**Mitigation Measure HYD-5:** Require review of the design plans by a geotechnical engineer. Minimize activity in the	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
possibility because of greater activity in the spring area).		spring area. Implement a water quality monitoring program. **Mitigation Measure HYD-6:** Before commencement of construction activities, a detailed hydrology plan shall be prepared by a qualified engineer. This plan shall finalize the water quality improvements and further detail the structural and nonstructural BMPs proposed for the project. The plans shall include the following: • A quantitative analysis of proposed conditions incorporating the proposed drainage design features; • Pre-development and post-development calculations demonstrating that the proposed water quality BMPs meet or exceed requirements established by the RWQCB.	
Impact HYD-5: Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	PS	**Mitigation Measure HYD-6.**	LTS
Impact HYD-6: Would the project otherwise substantially degrade water quality?			
Impact HYD-6a: Possible alteration of the livestock value of the spring if construction activities degrade the water quality.	LTS	No mitigation required.	LTS
Impact HYD-7: Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	LTS	No mitigation required.	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
Impact HYD-8: Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?	LTS	No mitigation required.	LTS
Impact HYD-9: Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	LTS	No mitigation required.	LTS
Impact HYD-10: Would the project cause inundation by seiche, tsunami, or mudflow?	PS	**Mitigation Measure GEO-1.**	LTS
LAND USE & PLANNING			
Impact LU-1: Would the project physically divide an established community?			
Impact LU-1a: Closure of Tong Road, which is the local access road to reach the private properties north of U.S. 50.	PS	**Mitigation Measure LU-1:** Construct the alternative access road, provide driveways to the residential structures, and ensure that continuous access is provided during construction.	LTS
Impact LU-2: Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect?			
Impact LU-2a: Loss of grazing land.	LTS	No mitigation required.	LTS
Impact LU-2b: Acquisition of private property.	PS	**Mitigation Measure LU-2:** Provide "just compensation" to the property owners.	LTS
Impact LU-2c: Land use conflicts between the Interchange and existing low-density residential development.	LTS	No mitigation required.	LTS
Impact LU-2d: Possible land use conflicts with future planned land uses, although the timing of the Interchange construction is estimated to be approx. 10 years from now, when the approved El Dorado Hills Specific Plan area would be at least partially developed.	PS	**Mitigation Measure VIS-1.**	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
Impact LU-2e: Removal of agricultural lands currently in Williamson Act contracts.	LTS	No mitigation required.	LTS
Impact LU-3: Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?	LTS	No mitigation required.	LTS
TRANSPORTATION & TRAFFIC			
Impact TRAF-1: Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			
Impact TRAF-1a: No substantial construction impact.	PS	**Mitigation Measure TRAF-1:** A traffic control and safety plan shall be prepared before construction begins, and shall comply with all County and Caltrans standards.	LTS
Impact TRAF-2: Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			
Impact TRAF-2a: Improvement from LOS E (No-Project Alternative) to LOS D during the p.m. peak hour at the Latrobe Road/U.S. 50 EB Ramps intersection.	LTS	No mitigation required.	LTS, B
Impact TRAF-2b: Improvement from LOS D (No-Project Alternative) to LOS C during the a.m. peak hour at the El Dorado Hills Blvd/U.S. 50 WB Ramps intersection.	LTS	No mitigation required.	LTS, B
Impact TRAF-2c: No change from LOS D (No-Project Alternative) to LOS D during the p.m. peak hour at the Bass Lake Road/U.S. 50 EB Ramps intersection.	LTS	No mitigation required.	LTS, B
Impact TRAF-2d: Improvement from LOS F (No-Project Alternative) to LOS C during the p.m. peak hour at the White Rock Road/Latrobe Road intersection.	LTS	No mitigation required.	LTS, B

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
Impact TRAF-2e: Improvement from LOS F (No Project Alternative) to LOS C during the am peak hour at the EB on-ramp of the El Dorado Hills Boulevard/U.S. 50 interchange.	LTS	No mitigation required.	LTS, B
Impact TRAF-2f: No change from LOS F (No-Project Alternative) to LOS F during the p.m. peak hour at the EB on-ramp of the El Dorado Hills Blvd/U.S. 50 interchange but a substantial reduction in the V/C ratio from 2.35 to 1.06.	LTS	No mitigation required.	LTS, B
Impact TRAF-2g: No change from LOS F (No-Project Alternative) to LOS F during the a.m. peak hour at the WB on-ramp of the El Dorado Hills Blvd/U.S. 50 interchange but a reduction in the V/C ratio from 1.44 to 1.24.	LTS	No mitigation required.	LTS, B
Impact TRAF-2h: No change from LOS F (No-Project Alternative) to LOS F during the p.m. peak hour at the WB on-ramp of the El Dorado Hills Blvd/U.S. 50 interchange.	LTS	No mitigation required.	LTS, B
Impact TRAF-2i: Improvement from LOS F and E (No-Project Alternative) to LOS B during the a.m. and p.m. peak hour, respectively, at the WB slip off-ramp of the El Dorado Hills Blvd/U.S. 50 interchange.	N/A	No mitigation required.	N/A
Impact TRAF-2j: Improvement from LOS F (No-Project Alternative) to LOS B during the a.m. and p.m. peak hour at the WB loop off-ramp of the El Dorado Hills Blvd/U.S. 50 interchange.	LTS	No mitigation required.	LTS, B
Impact TRAF-2k: No change from LOS F (No-Project Alternative) to LOS F during the a.m. and p.m. peak hours, respectively, at the WB on-ramp of the Bass	LTS	No mitigation required.	LTS, B

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
Lake Road/U.S. 50 interchange.			
Impact TRAF-2l: No change from LOS F (No-Project Alternative) to LOS F on the U.S. 50 mainline in the project vicinity.	LTS	No mitigation required.	LTS, B
Impact TRAF-2m: LOS F during the p.m. peak hour at the EB slip on-ramp of the Silva Valley Parkway/U.S. 50 interchange.	SU	No mitigation required.	SU
Impact TRAF-2n: LOS F during the p.m. peak hour at the WB off-ramp of the Silva Valley Parkway/U.S. 50 interchange.	LTS	No mitigation required.	LTS
Impact TRAF-2o: LOS E and F during the a.m. and p.m. peak hours, respectively, on the eastbound mainline of U.S. 50 between the Silva Valley Parkway and El Dorado Hills Boulevard interchanges due to weaving.	LTS	No mitigation required.	LTS
Impact TRAF-2p: Under 2020 with project conditions, LOS F during the p.m. peak hour at the Valley View Parkway/White Rock Road intersection.	PS	**Mitigation Measure TRAF-2:** In 2020 for the Valley View Parkway/White Rock Road intersection: provide dual left turn lanes on the westbound approach. These improvements are identified in the County CIP.	LTS
Impact TRAF-2q: Under 2030 with project conditions, LOS F during the p.m. peak hour at the Valley View Parkway/White Rock Road intersection.	PS	**Mitigation Measure TRAF-3:** In 2030 for the Valley View Parkway/White Rock Road intersection: widen the northbound approach to provide a left turn, a shared left-through, and a dedicated right turn lane as well as provide dual left turn lanes on the westbound approach and a dedicated right turn on the eastbound approach. These improvements are identified in the County CIP.	LTS
Impact TRAF-2r: Under 2030 with project conditions, LOS F at both the a.m. and p.m. peak hours at the	PS	**Mitigation Measure TRAF-4:** In 2030, for the Latrobe Road/White Rock Road intersection: provide a northbound	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
Latrobe Road/White Rock Road intersection.		right and left-turn lane, a third eastbound through late, and a dedicated eastbound right-turn lane. These improvements are identified in the County CIP and 2010-2030 RTP.	
Impact TRAF-2s: Under 2030 with project conditions, LOS F to during the a.m. and p.m. peak hour at the WB on-ramp of the El Dorado Hills/U.S. 50 interchange.	LTS	No mitigation required.	LTS, B
Impact TRAF-3: Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	LTS	No mitigation required.	LTS
Impact TRAF-4: Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	LTS	No mitigation required.	LTS
Impact TRAF-5: Would the project result in inadequate emergency access?	LTS	No mitigation required.	LTS
Impact TRAF-6: Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	LTS	No mitigation required.	LTS
PUBLIC SERVICES & ENERGY			
Impact PS-1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any public services, including: fire protection, police protection, schools, parks, or other public facilities?			
Impact PS-1a: Relocation of two 115-kV lines, one 60-kV transmission line, and two distribution lines (underbuilt on the 60-kV transmission line).	PS	**Mitigation Measure PS-1:** Relocation of public utilities will be performed in accordance with State law and regulations and the State's policies concerning utility encroachments.	LTS
Impact PS-1b: Conflict with the planned expansion of	PS	**Mitigation Measure PS-2:** Provide for electrical and gas	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
PG&E electric and gas facilities.		line conduits in the Interchange design.	
Impact PS-1c: No interference with the access road or encroachment on the PG&E substation property.	LTS	No mitigation required.	LTS
Impact PS-1d: Relocation of EID Water and Sewer Lines.	PS	**Mitigation Measure PS-1**. **Mitigation Measure PS-3:** Relocate EID Water and Sewer Lines in conflict with proposed Interchange during construction.	LTS
Impact EN-1: Would the project consume excessive amounts of energy?	LTS	No mitigation required.	LTS
NOISE			
Impact NOI-1: Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			
Impact NOI-1a: Peak hour L_{eq} noise levels in excess of 60 dBA within approximately 300 feet of the centerline of Silva Valley Parkway.	LTS	No mitigation required.	LTS
Impact NOI-2: Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			
Impact NOI-2a: Possible vibration-induced annoyance to residents or vibration-induced damage to structures on adjacent properties.	PS	**Mitigation Measure NOI-1:** To reduce construction noise impacts to a less-than-significant level, the project sponsor shall ensure the contractor complies with the County's hours of construction, as outlined below, as well as the other following measures: • Noise producing construction activities shall be limited to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday, and between 8:00 a.m. and 5:00 p.m. on weekends and federal holidays. In addition, in community regions and adopted plan areas, maximum noise levels from construction activities during these	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
		hours shall not exceed 90 dBA Lmax at commercial, public facility, or industrial land uses. • The project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards; • The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site; and • The construction contractor shall locate equipment staging in areas that will create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.	
Impact NOI-3: Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	LTS	No mitigation required.	LTS
Impact NOI-4: Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above or groundborne noise levels?			
Impact NOI-4a: Temporary construction-related noise in proximity to existing residential land uses north and south of the project site.	PS	**Mitigation Measures NOI-1.**	LTS
Impact NOI-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public	LTS	No mitigation required.	LTS

Table 1: Summary of Impacts

Environmental Impacts	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance with Mitigation
use airport, would the project expose people residing or working in the project area to excessive noise levels?			
Impact NOI-6: For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	LTS	No mitigation required.	LTS

[1] SU=Significant and Unavoidable, S=Significant, LTS=Less than Significant, B=Beneficial

CHAPTER 1.0 INTRODUCTION

This chapter explains the background and purpose of this Supplement to the Silva Valley Parkway Interchange with U.S. Highway 50 Project. This document has been prepared to comply with the requirements of the California Environmental Quality Act (CEQA) of 1970. El Dorado County is the lead agency for the project for purposes of environmental review under CEQA.

1.1 PURPOSE OF THE SEIR

The conditions requiring a subsequent EIR for the proposed project are not met as further explained below.

In accordance with the CEQA statute and State CEQA Guidelines, Section 15163, the lead agency may choose to prepare a supplement to an EIR:

1. Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and
2. Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

The EDCDOT elected to prepare this Supplement to the 1991 EIR because the minor alterations to the project design were determined to result in only minor additions or changes needed to make the 1991 EIR adequately apply to the modified project. These modifications include: installation of safety lighting, on-ramps designed to accommodate future ramp metering, HOV lanes, and California Highway Patrol enforcement areas, additional lanes added at the off-ramp intersections to improve traffic operations, and project phasing.

The purposes of this SEIR are to:

- Supplement the 1991 EIR project description with minor design changes.
- Address changes to environmental regulations that have occurred since certification of the 1991 EIR.
- Address changes to the existing physical setting.
- Address impacts to the physical environment related to minor improvements to the original project design.
- Recommend mitigation measures to avoid any new significant impacts to reduce any new impacts to less-than-significant level.

The CEQA statute and guidelines (State CEQA Guidelines, Section 15162), require preparation of a subsequent EIR rather than a Supplemental EIR when one or more of the following conditions are met:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:

    A. The project will have one or more significant effects not discussed in the previous EIR;
    B. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
    C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternatives; or
    D. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one ore more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

1.2 SCOPE OF THE DRAFT SEIR

This document supplements the 1991 EIR that was previously certified for the Silva Valley Parkway Interchange with U.S. Highway 50 Project. In determining the appropriate type of environmental document to analyze the Silva Valley Parkway Interchange with U.S. Highway 50 Project, a lead agency must consider the conditions discussed in CEQA Guidelines sections 15162 and 15163, which are quoted in full in Section 1.1, "Purpose of the SEIR." Sections 15162 and 15163 of the CEQA Guidelines establish that a supplement to a final EIR is the appropriate documentation when the lead agency has determined that none of the conditions described in section 15162 calling for the preparation of a subsequent EIR or negative declaration exist. Through preparation of an Initial Study for the project, the County determined that minor changes have occurred in the circumstances of the project and new information triggered the need for additional environmental review. In general, the scope of the SEIR is limited to the minor changes to the Interchange configuration, in addition to the project's phasing and location of the overhead high voltage power lines. The minor project changes and new information relevant to the project are discussed in greater detail in Section 2.3. Therefore, the County has determined that a Supplemental EIR is the appropriate environmental document to update the 1991 EIR certified by the County Board of Supervisors for the Silva Valley Parkway Interchange with U.S. Highway 50 Project.

This SEIR is intended to provide additional information to public agencies, the general public, and decision-makers regarding potential environmental impacts related to adoption and implementation of

the project. According to CEQA Guidelines section 15163, subdivision (b), this SEIR need include only the information necessary to make the previous environmental document adequate for the project. As a result, it is not necessary to recirculate the entire 1991 EIR, but rather, only the portions that constitute the supplement to the EIR. (CEQA Guidelines, § 15163, subd. (d).) The information and analyses in the 1991 EIR relevant to the changed project components are briefly summarized or described, rather than repeated, as explained in Section 1.5, "Documents Incorporated by Reference." Nonetheless, the entire 1991 EIR has been included for ease of reference in Appendix I in an electronic format.

1.3 DRAFT SEIR CONTENTS AND ORGANIZATION

This Draft SEIR is organized as follows:

- The Executive Summary summarizes the proposed project and significant environmental effects that would result from project implementation.
- Chapter 1, Introduction, describes the purpose of the SEIR, the scope of the Draft SEIR, and a summary of the Draft SEIR public review process.
- Chapter 2, Project Description, describes the project background, provides an overview of the project as it existed when the 1991 EIR was certified, describes the proposed minor changes to the original Ridge Design project that are the subject of this Draft SEIR, and describes modifications to the approvals required by the project.
- Chapter 3, Alternatives Considered, provides a description of the alternative Interchange designs that were previously considered, including those alternatives that have been eliminated from further consideration.
- Chapter 4, Environmental Analysis, evaluates the impacts to the physical environment that could result from the proposed project modifications and establishes mitigation measures that reduce these impacts to less than significant.
- Chapter 5, References, contains a comprehensive listing of the sources of information used in the preparation of the Draft SEIR.
- Chapter 6, List of Preparers, identifies the preparers of this Draft SEIR.
- Appendix A: Notice of Preparation and Modified Initial Study/Environmental Checklist.
- Appendices B – J: Technical Reports and Analysis.

1.4 DOCUMENTS INCORPORATED BY REFERENCE

CEQA Guidelines Section 15150(a) states that an EIR "may incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public. Where all or part of another document is incorporated by reference, the incorporated language shall be considered to be set forth in full as part of the text of the EIR." The CEQA guidelines further state that incorporated text shall be briefly summarized and the entire document be made available for public review (CEQA Guidelines 15150(b) and (c)). Because this SEIR is focused on proposed minor

improvements to the Silva Valley Parkway Interchange with U.S. Highway 50 project as described and evaluated in the 1991 EIR (State Clearinghouse No. 88050215), the entire 1991 EIR is incorporated by reference and included in Appendix I. Where appropriate, this SEIR provides new environmental setting and regulatory setting information to evaluate the new or modified environmental impacts. It should be noted that the 1991 EIR described and included an analysis of two preferred design alternatives: the Ridge Design alternative, and the Undercrossing Design alternative. This SEIR only focuses on the Ridge Design alternative as the Undercrossing Design alternative has been eliminated. The 1991 EIR is available for review in hard copy at the County DOT Office, 2850 Fairlane Court (Building C), Placerville, CA 95667 during normal business hours.

1.5 DRAFT SEIR REVIEW AND PUBLIC COMMENT

The EDCDOT filed a Notice of Preparation (NOP) of a Supplement to the EIR for the Silva Valley Parkway Interchange with U.S. Highway 50 Project. The NOP was filed on May 1, 2010 with the State Clearinghouse (SCH) (SCH No. 88050215). The 30-day public comment period on the NOP ended on May 30, 2010. Comments received on the NOP were used in part to define the scope of this Draft SEIR. The NOP and copies of the comments received are included in Appendix A.

In accordance with CEQA review requirements, this Draft SEIR is being distributed for public and agency review and comment for a 45-day period, which begins on January 21, 2011 and ends on March 7, 2011. This public review period and Draft SEIR distribution ensures that interested parties have an opportunity to express their views regarding the significant environmental effects of the project as revised by this document and to ensure that information pertinent to permits and approvals is provided to the decision makers. This document is available for review, along with the 1991 EIR, during normal business hours at the DOT public counter, 2850 Fairlane Court (Building C) in Placerville, California 95667 (530-621-5900). This document is also available at the County Libraries in Placerville at 345 Fairlane and in El Dorado Hills, 7455 Silva Valley Parkway. Additionally, the public can download the EIR and supporting documents in entirety on the DOT CEQA website at http://www.edcgov.us\DOT\ceqa.htm.

Written comments from the public, reviewing agencies, and stakeholders will be accepted throughout the public comment period. Comments must be received by the EDCDOT by March 7, 2011 at 4 p.m. Written comments postmarked by March 7, 2011 will be accepted. Delivered, faxed, or e-mailed comments received by March 7, 2011 at 5 p.m. will be accepted. Please direct your comments to Ms. Janet Postlewait, 2850 Fairlane Court (Building C), Placerville, CA 95667. The fax number is 530-642-0387. The e-mail address is jpostlewait@co.el-dorado.ca.us. If comments are provided via e-mail, please include the project title in the subject line and include the commenter's U.S. Postal Service mailing address. It should be noted that public comments should focus on the adequacy of the Draft SEIR, and not on the 1991 EIR.

Following consideration of these comments, the EDCDOT will prepare written responses to comments on environmental issues and prepare a Final SEIR that will describe any significant environmental issues raised in the comments on the Draft SEIR. Written responses must be provided to public agencies on comments made by those agencies at least 10 days before the SEIR can be certified. (Pub. Resources Code, § 21092.5, subd. (a).) Following this 10-day period, the County Board of Supervisors will consider certifying the Final SEIR if it is determined to be in compliance with CEQA and will rely on the certified Final SEIR when considering project approval.

CHAPTER 2.0 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

This chapter describes the proposed changes to the Silva Valley Parkway Interchange with U.S. Highway 50 (U.S. 50) Project since certification of the Project's EIR in June 1991. The original project need, objectives, location, and existing environmental setting are presented in detail in the 1991 EIR, have not changed substantially, and are briefly summarized below. This Supplement to the 1991 EIR focuses on the modifications to the Project that could result in potentially significant environmental impacts that were not analyzed in the 1991 EIR and that could require new mitigation not identified in the 1991 EIR. It should be noted that the original draft EIR was approved in 1989, the original final EIR was approved in 1990, and the original Project Report was approved by Caltrans in 1991. Since the project will ultimately be a Caltrans interchange, the original environmental document is referred to throughout this document as the "1991 EIR".

The County of El Dorado is proposing to construct a new Silva Valley Parkway Interchange on U.S. 50 between the El Dorado Hills Blvd/Latrobe Road Interchange and the Bass Lake Road Interchange, near the existing Clarksville Road undercrossing (e.g., existing Silva Valley Parkway) within the County of El Dorado (see Figure 1). The purpose of the project is to accommodate planned growth as noted in the County's General Plan and to accommodate commercial and residential development of the areas surrounding the proposed Interchange.

The project has been previously approved by El Dorado County and Caltrans. El Dorado County certified an EIR (SCH No. 88050215) for the Silva Valley Parkway Interchange and approved the project in 1990 (referred to herein as the 1991 EIR). Caltrans approved the related Project Report in 1991.

Existing Facility
U.S. 50 is the primary transportation corridor extending through the county from west to east and serves all of the county's major population centers, including El Dorado Hills, Cameron Park, Placerville, and South Lake Tahoe. U.S. 50 is also the major commute route to employment locations in the greater Sacramento area and the major shipping route for goods movement by truck. The existing facility is a divided freeway, constructed in 1965, and widened in 2000/2002. Currently, HOV lanes are being constructed in both directions. Once completed, in the eastbound direction there will be four lanes (2 mixed flow, 1 HOV lane, and 1 truck climbing lane) and the westbound direction will have three lanes (2 mixed-flow and 1 HOV lane) within the project area. High occupancy vehicle lanes are restricted to carpools (i.e., vehicles with two or more people), vanpools, and buses during morning and evening peak hours.

Within the project area, there are two existing and two planned Interchanges along U.S. 50. The two existing Interchanges are located at El Dorado Hills Boulevard and Bass Lake Road. The El Dorado Hills/Latrobe Road Interchange is located at PM 0.86. The Bass Lake Interchange is located at PM 3.23. The two planned Interchanges are the proposed project and a future Interchange at Empire

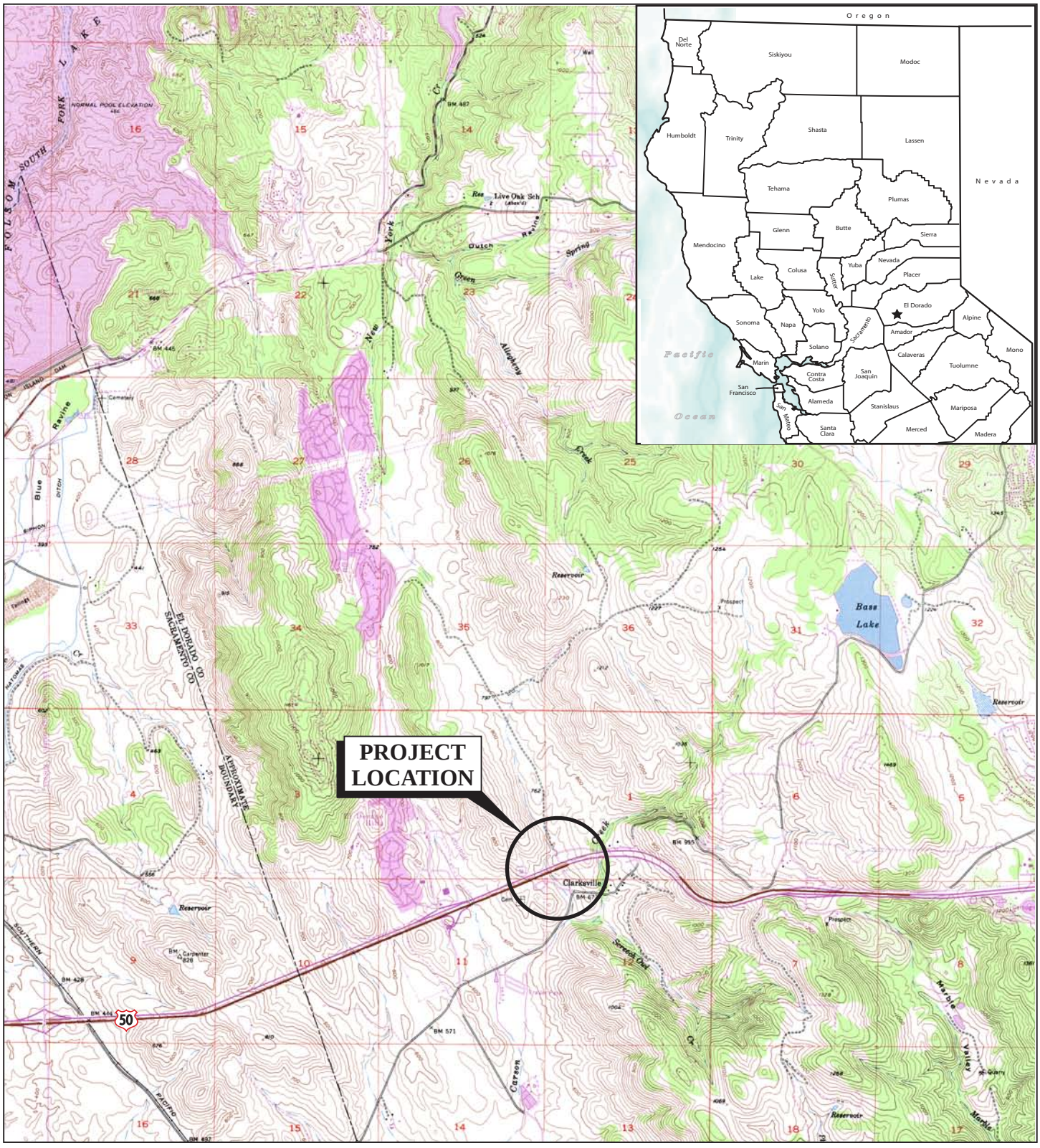


FIGURE 1

LSA

Silva Valley Parkway Interchange
Project Location and Vicinity

SOURCE USGS 7.5' QUAD-Clarksville
P:\MKT530\Graphics\Figure1 (5\05\10)

Ranch Road in the City of Folsom/El Dorado County boundary approximately 1 mile west of El Dorado Hills Boulevard. The proposed Silva Valley Interchange will be constructed at PM 1.79.

The existing U.S. 50 freeway has standard 12-foot lanes, 10-foot out side shoulders and a minimum of 10-foot inside shoulders (with HOV project completed, the shoulders range from 10-foot wide to 25-foot). There is an eastbound truck-climbing lane on Bass Lake Grade through the proposed Silva Valley Parkway Interchange location to provide for slow trucks on the existing 7% mainline grade east of the proposed Interchange. This truck climbing lane terminates at the top of the grade just before the Bass Lake Road Interchange.

The existing "Old" Silva Valley Parkway is a north-south arterial serving the El Dorado Hills Community. Silva Valley Parkway is a 2-lane facility crossing under U.S. 50 and transitioning into White Rock Road.

The U.S. 50/Silva Valley Parkway Interchange will include a six lane overcrossing (four through lanes and two deceleration lanes to the loop on-ramps), new signalized diagonal off-ramps, diagonal on-ramps, and loop on-ramps. The mainline will be improved to include east and west auxiliary lanes between El Dorado Hills Boulevard and the new Interchange.

The project site is located approximately 5,000 feet east of the U.S. 50/El Dorado Hills Boulevard Interchange. The terrain within the project footprint is hilly ranging from an elevation of 605 feet on the west end to an elevation of 880 feet on the east end. The cut slopes along U.S. 50 range between 1:1.5 (horizontal:vertical) to 1:0.75 (horizontal:vertical) and the embankment slopes are typically 2:1 (horizontal:vertical). The soil is rocky serpentine material.

The Silva Valley Interchange will connect to the existing Silva Valley Parkway to the north at the western boundary of the APN 122-720-09-100, where the County of El Dorado has proposed to widen the existing 2 lane roadway to a 4 lane divided roadway. Previous environmental reviews have been completed for the Silva Valley Parkway extension (see the White Rock Road East MND available on the county's website http://www.edcgov.us\DOT\ceqa.htm).

Silva Valley Parkway will connect to the existing White Rock Road to the south and transition from the proposed 4 lane divided roadway to the existing 2 lane roadway approximately +/- 1,300 linear feet south of the existing Joerger cutoff.

More specifically, the project includes the following improvements:

- The Interchange design is a partial cloverleaf with loop on-ramps in the northeast and southwest quadrants and diagonal on- and off-ramps in each direction of travel on the freeway.
- Continuous auxiliary lanes are proposed between El Dorado Hills Boulevard and the Silva Valley Parkway Interchange connecting the on-ramps with off-ramps.
- A 1,000' and 1,300' auxiliary lane will be constructed at the eastbound diagonal on-ramp and westbound diagonal off-ramp, respectively.
- The Silva Valley Parkway overcrossing would be constructed over the freeway (U.S. 50) and would provide a minimum of 16.5 feet of vertical clearance over U.S. 50. The structure would

have four lanes for through traffic on Silva Valley Parkway in addition deceleration lanes for the loop on-ramps and turn pockets at the intersections.

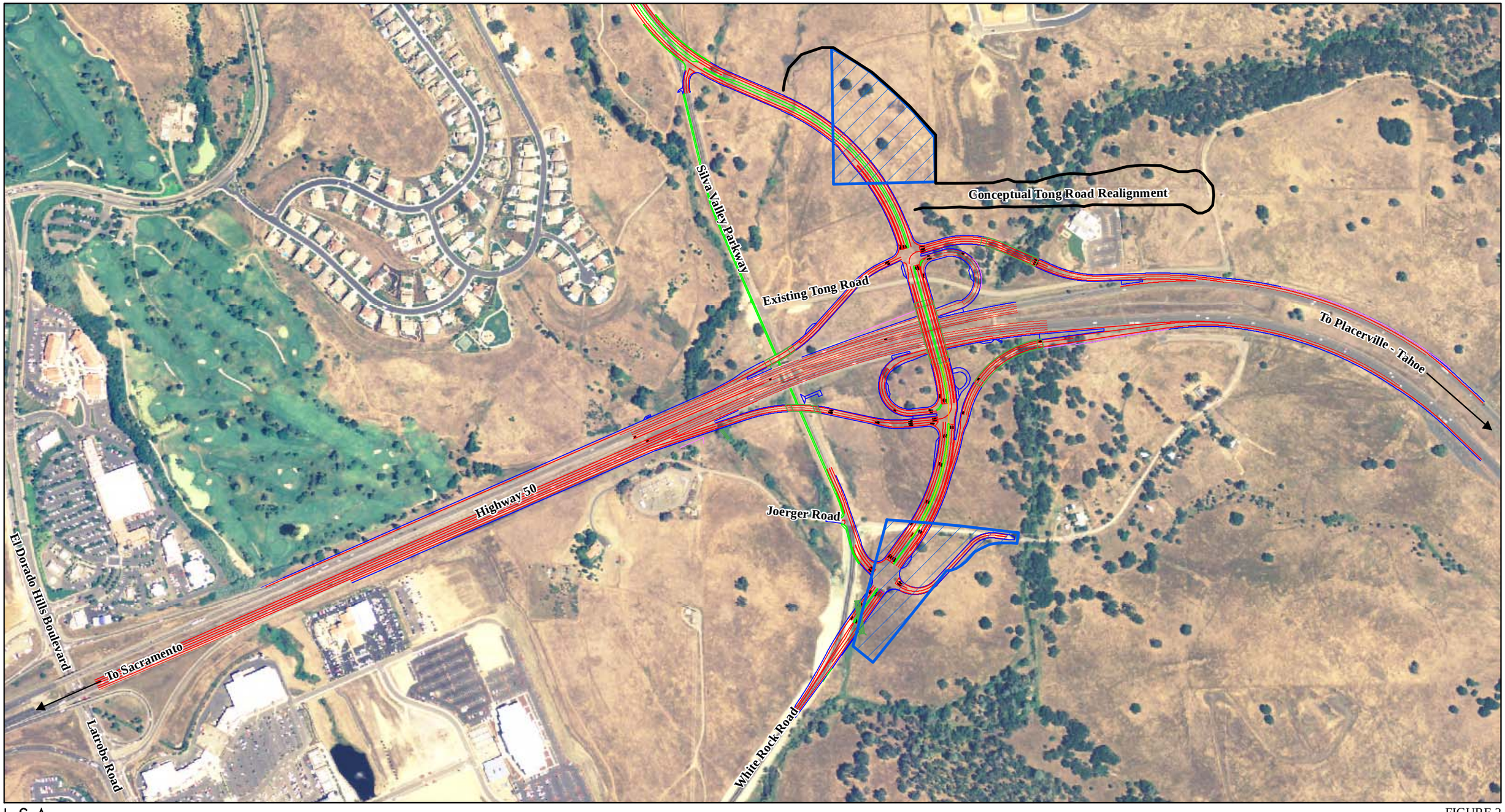
- The ramp intersections will be signalized.
- New ramp crossings at Carson Creek and Old Silva Valley Parkway (renamed Clarksville Road) will require new structures. The new Clarksville Road ramp undercrossings will have a vertical clearance of 15 feet minimum.
- Safety lighting and signs will be constructed.
- On-ramps would be designed to accommodate future ramp metering, HOV lanes and California Highway Patrol enforcement areas.
- The existing Silva Valley Parkway at the Clarksville Underpass will remain a 2 lane local road with Class II bike lanes on each side of the road and a concrete sidewalk on the west side.
- Class II bicycle facilities will be provided either as part of the new Interchange, and as part of the existing undercrossing.
- The existing Tong Road north of the freeway will be relocated to provide access to the parcels in the northeast quadrant and connect to Silva Valley Parkway. This connection is temporary and will be removed once County Club Drive is constructed. The County is currently designing Country Club Drive as a separate project. The general location of the Tong Road realignment is shown in Figure 2.
- All public utility facilities impacted by the proposed project will be relocated and/or accommodated as necessary within one of three potential utility corridors.

The El Dorado Irrigation District (EID) has various facilities located within the project area. The following facilities will be abandoned in place:

- Approximately 2,500 linear feet of 12 inch recycled water pipeline parallel to U.S. 50.
- Approximately 3,000 linear feet of 12 inch potable water pipeline in Tong Road

The following EID facilities will be relocated as part of the project (see Figure 11):

- Relocation of existing blow offs, ARVs and valves on the recycled water line in existing Silva Valley Parkway
- Relocation of existing blow offs, ARVs, sampling stations, fire hydrants and valves on the potable water line in existing Silva Valley Parkway
- Replacing and raising approximately six existing sanitary sewer manholes in existing Silva Valley Parkway to accommodate project grade changes, or the relocation of these impacted facilities out of the project fill areas.
- Relocation of an existing pressure reduction valve on the potable water line in existing Tong Road.



LSA

FIGURE 2

LEGEND

Potential Borrow Sites

N

0 250 500

FEET

SOURCE: Basemap - El Dorado County NIAP (5/2005); Mapping - Mark Thomas Engineering (2010)

I:\MKT530\GIS\prj_design4.mxd (12/8/10)

Silva Valley Parkway Interchange

Project Design

The following EID facilities will be constructed to replace abandonments:

- Installation of approximately 1,000 feet of new waterline to maintain service to the Korean Church, which is impacted by the Tong Road abandonment. Work involves connecting to the existing 12 inch waterline in the old "Lincoln Highway" to the east of the church.
- Installation of approximately 2,500 linear feet of 12 inch recycled water line in a new private easement parallel to U.S. 50.

Lastly, Pacific Gas & Electric Company (PG&E) has various facilities located within the project area. The following facilities will be removed and relocated to accommodate the interchange:

- Approximately 2,900 linear feet of 60 kV power lines parallel to U.S. 50.
- Approximately 1,000 linear feet of 21 kV power lines crossing U.S. 50 and existing White Rock Road.
- Underground vault boxes and transformers in existing Silva Valley Parkway to accommodate project grade changes, or the relocation of these impacted facilities out of the project fill areas.

In addition to these design features, the environmental analysis evaluates potential borrow sites within the project area, and the need for retaining walls to minimize environmental impacts and right-of-way acquisition along the project corridor including the PG&E Clarksville Substation and Carson Creek. Figure 2 illustrates the project design and potential borrow site locations. The proposed project will be constructed in two phases, as illustrated in Figure 3. Phase 1 is expected to be operational by year 2020. Phase 2 improvements (Interchange build-out) are anticipated by year 2030 or later.

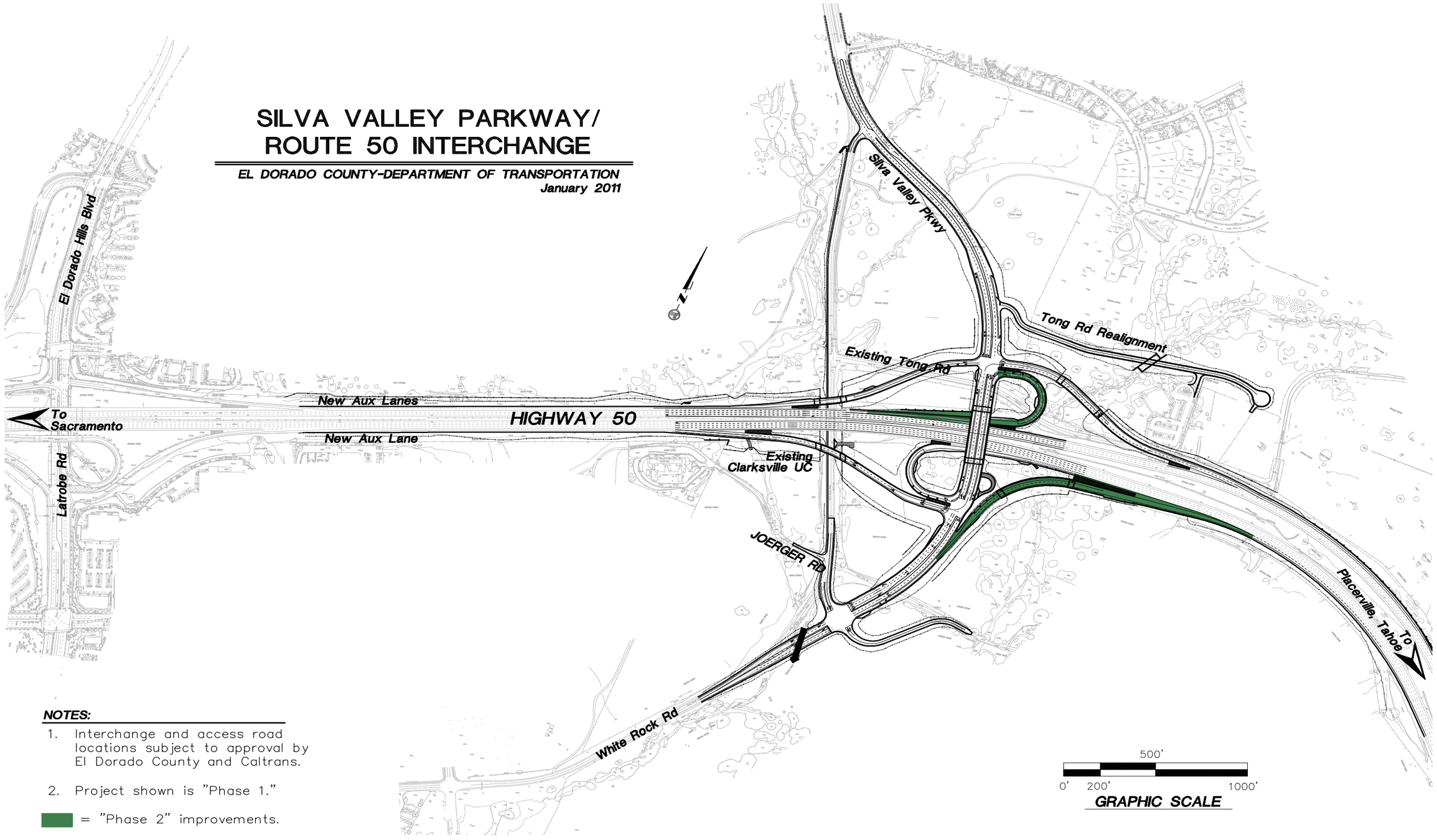
2.2 SUMMARY DESCRIPTION OF THE PROJECT ANALYZED IN THE 1991 SILVA VALLEY PARKWAY INTERCHANGE WITH U.S. HIGHWAY 50 EIR

This section describes the Ridge Design Alternative as described in the 1991 EIR:

> "The Ridge Design site is located approximately 5,000 feet east of the El Dorado Hills Boulevard/U.S. 50 Interchange. White Rock Road is a two-lane, roughly north-south county road that passes between two ridges. The road follows a small, unnamed drainage channel in the vicinity of the highway. White Rock Road is paved south of the highway and unpaved just north of the highway." (White Rock Road becomes Silva Valley Road/Clarksville Road north of the highway and was constructed in 2005).
>
> Design Features Of The Ridge Design
> The Ridge Design is called a "Parclo A" (partial cloverleaf with the loop on-ramps in the northeast and southwest quadrants). Parclo A designs consist of two entrance ramps (a loop on-ramp and directional on-ramp) and one exit ramp in each direction of travel on the freeway. The overcrossing would span the ridge, yielding approximately 16.5 feet of vertical

SILVA VALLEY PARKWAY/ ROUTE 50 INTERCHANGE

EL DORADO COUNTY-DEPARTMENT OF TRANSPORTATION
January 2011



NOTES:

1. Interchange and access road locations subject to approval by El Dorado County and Caltrans.
2. Project shown is "Phase 1."

= "Phase 2" improvements.

LSA

FIGURE 3

Silva Valley Parkway Interchange
Phasing Plan

SOURCE: El Dorado County Department of Transportation (2010)

P:\MKT530\Graphics\Figure3.pdf (1-13-11)

clearance over U.S. 50. This overcrossing would have four lanes for through traffic on Silva Valley Parkway.

The tapers for the loop on-ramps would begin at the end of the overcrossing. The overcrossing would have 8-foot-wide shoulders on the outside and a 20-foot-wide median (16-foot-wide divider with a 2-foot-wide curb clearance on each side) from edge of traveled way to edge of traveled way. The profile of the overcrossing shows a 6-percent grade on the south side of the highway and 4 percent on the north side of the highway, with a design speed of 50 mph. The loop on-ramps would be 28 feet wide, including a single 16-foot-wide lane and a 4-foot-wide left and 8-foot-wide right shoulder. These on-ramps would descend from the overcrossing at the approximately a 6-percent grade. The radius of the loop on-ramps would be 175 feet, with a design speed of approximately 27 mph. The other two on-ramps and off-ramps would be 12-15 feet wide, with 8-foot-wide shoulders on the right sides, 4-foot-wide shoulders on the left sides, and a design speed of 40 mph or better.

The gradients for the eastbound on-ramp, eastbound off-ramp, westbound on-ramp, and westbound off-ramp would be approximately 1 percent, 4.5 percent, 6 percent, and 5.8 percent, respectively.

Auxiliary lanes are proposed and between the El Dorado Hills Boulevard/U.S. 50 Interchange and the Silva Valley Parkway/U.S. 50 Interchange. A truck-climbing lane, beginning at the eastbound U.S. 50 loop on-ramp, is also proposed, but only the portion within the Interchange area would be constructed. The remainder of the lane would be funded and constructed sometime in the future by Caltrans. (As previously noted, this truck climbing lane has since been constructed.)

In addition, implementation of the Ridge Design would entail the following tasks:

- realigning Silva Valley Parkway to the east and tying into White Rock Road,
- reconstructing a portion of White Rock Road to provide access to property south of the freeway,
- closing and removing a portion of the existing Tong Road north of the freeway and providing a new access road north of the four affected parcels,
- constructing bridges over Carson Creek for both the eastbound on-ramp and the westbound off-ramp,
- constructing a 290-foot-long retaining wall ranging in height from 4 to 28 feet where the eastbound off-ramp begins curving south to minimize impacts to the PG&E substation,
- constructing a 648-foot-long retaining wall ranging in height from 4 to 16 feet where the eastbound on-ramp joins the freeway to avoid the grave sites at the Tong Cemetery and the access road to the cemetery,
- constructing a 210-foot-long, 12-foot-high retaining wall where the existing eastbound freeway lane crosses Carson Creek to avoid impacts of the truck-climbing lane on an identified spring in Carson Creek; and,

- constructing a 176-foot-long retaining wall, varying in height from 20 to 30 to 16 feet, along the outside of the northbound to westbound loop on-ramp to minimize impacts to Carson Creek."

2.3 PROPOSED MODIFICATIONS TO THE RIDGE DESIGN

The proposed project design will cause the new project to differ from the Ridge Design proposed in the 1991 EIR in the following ways:

Interchange Configuration Modifications:

- Safety lighting will be installed.
- On-ramps will be designed to accommodate future ramp metering, HOV lanes, and California Highway Patrol enforcement areas.
- Additional lanes have been added at the off-ramp intersections to improve traffic operations.
- Deceleration lanes on the overcrossing structure on the approach to the loop on-ramps.
- The eastbound off-ramp is now a two lane off-ramp to improve weaving operations between the eastbound El Dorado Hills Blvd on-ramp and the Silva Valley eastbound off-ramp.
- Class 2 bike lanes will be constructed.

Other Modifications

- Due to funding limitations, the Silva Valley Parkway Interchange will now be constructed in two phases. Phase 1 will include the majority of Interchange improvements (expected to be operational in year 2020) with the exception of the eastbound diagonal on-ramp and the westbound loop on-ramp. These ramps will be constructed in Phase 2, which is anticipated to begin construction after 2020. Phase 2 is expected to be operational by year 2030.
- The original project proposed relocating all of the utilities outside of the proposed State right of way. It is now possible that the existing 115 kV PS&E overhead line remain in place.

2.4 REQUIRED PERMITS AND APPROVALS

2.4.1 Lead Agency Approvals

The discretionary approvals required by the County as the lead agency under CEQA for project implementation include the following:

- Approval of Supplemental Project Report by Caltrans
- Certification of the Supplemental Environmental Impact Report

- Approval of final engineering designs and advertisement of construction bids for the proposed Interchange Project
- Approval to award the construction contract for the proposed Interchange project
- Approval of encroachment permits

2.4.2 Approval by Other Agencies

The following agencies are expected to use the 1991 EIR and this SEIR for approval of the following actions:

- U.S. Army Corps of Engineers-Section 404 permit under the Clean Water Act;
- California Department of Fish and Game-Section 1602 Streambed Alteration Agreement;
- Regional Water Quality Control Board-Section 401 Clean Water Act Water Quality Certification;
- Approval of encroachment permits by Caltrans.
- Approval of utility relocations by El Dorado Irrigation District

CHAPTER 3.0 ALTERNATIVES CONSIDERED

3.1 ALTERNATIVES CONSIDERED AND REJECTED IN THE 1991 EIR

During the preliminary engineering phase of the 1991 project, several alternatives were considered and rejected. These alternatives and the reason for their rejection are set forth in the 1991 EIR, page 19, as follows:

> *"Parclo B - Existing Undercrossing. This design would result in a weaving distance between the El Dorado Hills Boulevard/U.S. 50 Interchange on-ramp and the eastbound off-ramp that would not meet the minimum requirements of Caltrans or El Dorado County. This short distance would create extremely hazardous conditions for motorists entering eastbound U.S. 50 from El Dorado Hills Boulevard and those maneuvering to exit the highway at the eastbound off-ramp. This alternative would have a substantial impact on the operation and maintenance of the PG&E substation and probably require its relocation.*
>
> *Parclo A-B – Existing Undercrossing. This unusual Interchange includes two loop ramps on the east side of Silva Valley Parkway: a westbound loop on-ramp in the northeast quadrant and an eastbound loop off-ramp in the southeast quadrant. The capacity of this design is lower than that of either a Parclo A or Parclo B design because of the larger number of conflicting movements (left turns across lanes). This Interchange design was rejected from further environmental review because it is a nonstandard configuration, it is not preferred by Caltrans, and it would not be able to accommodate the projected traffic volumes.*
>
> *Diamond – Existing Undercrossing. The capacity of a diamond Interchange is low because of the large number of conflicting turning movements at the ramp intersections. Each intersection would require signalization. The existing undercrossing structure would constrain the storage provided for left-turn movements.*
>
> *Parclo A – Ridge. The capacity of a Parclo A design is lower than that of a Parclo B design because it has more conflicting movements. The weaving distance between the westbound on-ramp and the El Dorado Hills Boulevard/U.S. 50 Interchange would be shorter than that of the proposed Parclo B at this location. In addition, the loop off-ramps would require a rapid deceleration by motorists exiting the freeway at high speeds, increasing the likelihood of accidents. This Interchange design was rejected from further environmental review because of these issues. This alternative would have a significant impact on Carson Creek on the south side of U.S. 50 and the Tong Cemetery.*
>
> *Diamond – Ridge. In addition to the aforementioned capacity constraints, the ridge structure would also require a wider overcrossing structure to accommodate left-turn pockets. Both diamond designs were rejected from further evaluation because of their low capacity and structural constraints and requirements."*

3.2 ALTERNATIVES ANALYZED IN THE 1991 EIR

The 1991 EIR analyzed at equal weight two build alternatives, The Ridge Design and the Undercrossing Design, as well as a No-Build Alternative. The Ridge Design is described in Section 2.2. The Undercrossing Design would construct a similar partial cloverleaf Interchange, on the current Silva Valley Parkway alignment (i.e., Clarkesville Road Undercrossing).

3.3 ALTERNATIVES CONSIDERED IN THIS SEIR

The SEIR will consider only the previously approved Ridge Design (proposed project) with minor changes. Figure 2 illustrates the proposed project. The Ridge Design, which the 1991 EIR found to be environmentally superior, was found to be adequate by the Board of Supervisors in February of 1990 and selected the ridge design as the preferred alternative. A number of factors have occurred that have prevented construction of the Interchange as approved, including but not limited to the current fiscal crisis and downturn in the residential housing market. As a result of the delay in implementation, the project engineers have re-examined the project and determined that the Undercrossing Design is infeasible because it does not meet Caltrans's current Interchange spacing standards and because of other site constraints. The Undercrossing Design would require a design exception to locate a new Interchange closer than 1 mile from an existing Interchange. The Ridge Design is therefore the only feasible design remaining from those originally analyzed. Considering that the proposed project includes only minor modifications to the Ridge Design, and will not result in any new significant or unavoidable environmental impacts (see Chapter 4), no additional alternatives have been evaluated in this SEIR. Further, CEQA Guidelines Section 15163 (b) states that "The supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised." The consideration of additional alternatives is not required to make the previous EIR adequate, and therefore have not been considered in this SEIR.

CHAPTER 4.0 ENVIRONMENTAL ANALYSIS

Format for Environmental Analysis

The purpose of this chapter is to present information on the various environmental topics that are relevant to the Silva Valley Parkway Interchange project site and region. With this information, analyses of potential project impacts on the environment are provided, thus presenting the reader with information about the project and the potential effects resulting from implementation of the project. This SEIR documents how the proposed modifications to the project would change the environmental analyses contained in the 1991 EIR prepared for the Silva Valley Parkway Interchange with U.S. Highway 50 project.

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

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

- Existing Setting
- Existing Policies and Regulations
- Impacts and Mitigation Measures

Under Existing Setting, those elements associated with the current site and area conditions have been documented only when different from the original EIR. These conditions help to define constraints to the project, describe previous analyses and assumptions, and outline potential concerns and issue areas.

After documenting the concerns and issues in Existing Setting, the existing policies and regulations associated with the project area are described, if different from those described in the original EIR.

Lastly, each section includes an Impacts and Mitigation Measures discussion. This discussion includes impacts (organized by standard CEQA checklist questions), mitigation measures, and levels of significance before and after mitigation measure implementation. All impacts from the 1991 EIR are discussed under each applicable CEQA checklist question. It should be noted that new environmental impacts have also been added to certain sections as CEQA now requires the analysis of certain issue areas (i.e. Global Climate Change) that were not required at the time the original 1991 EIR was prepared. Since preparation of the 1991 EIR, the California state government has amended the CEQA Guidelines to require consideration of a project's impacts with respect to greenhouse gas emissions.

Level Of Significance Definitions

The following terms are used within the subsequent sections to describe different levels of environmental impact consistent with the original 1991 EIR process:

Less-than-significant (LTS): is considered to cause no substantial adverse change in the environment (impact falls below the thresholds of significance).

Potentially significant (PS): is one the report preparer considers, but cannot determine for certain, to be significant.

Significant (S): is considered to cause a substantial adverse effect on the environment (impact exceeds the thresholds of significance, but can be eliminated or reduce with implementation of mitigation measures).

Significant and Unavoidable (SU): is considered to cause a substantial adverse effect on the environment and for which no mitigation is available to reduce the impact to a less-than-significant level.

Beneficial (B): is considered to cause a beneficial effect on the environment. Within the Traffic and Transportation section, "beneficial" is defined as an impact that increases the LOS by one letter, or a 10% decrease in volume (in vehicles per hour), vehicle delay (at intersections) or density (at off/on ramps and mainline) with the Proposed Project when compared to No Project conditions.

4.1 AESTHETICS

4.1.1 Existing Setting

The project site is located in unincorporated El Dorado County on U.S. 50. The proposed Interchange is east of the City of Folsom, and south of the community of El Dorado Hills. Lands north and south of U.S. 50 at the project site contain scattered rural residential and commercial land uses. Views from project roadways include rolling hills covered with low grasses, rocks and boulders, and occasional trees. The 1991 EIR describes the project site as rural, with U.S. 50 being the principal urban feature. Since that time, the project area has become more urbanized. Development in the region is evident given that housing developments, although set back from U.S. 50 by approximately 800 feet, are still visible to drivers.

Lighting in the project area is restricted to existing commercial and residential uses adjacent to the roadway. No street lighting currently exists in the project area. There are no scenic vistas or substantial scenic resources located in the immediate vicinity of the site. This segment of U.S. 50 is not a designated scenic highway.

4.1.2 Regulatory Setting

The following policies from the 2004 El Dorado County General Plan relate to visual and aesthetic resources:

Policy TC-1w: New streets and improvements to existing rural roads necessitated by new development shall be designed to minimize visual impacts, preserve rural character, and ensure neighborhood quality to the maximum extent possible consistent with the needs of emergency access, on street parking, and vehicular and pedestrian safety.

Goal 2.3: Natural Landscape Features - Maintain the characteristic natural landscape features unique to each area of the County.

Objective 2.3.1: Topography and Native Vegetation - Provide for the retention of distinct topographical features and conservation of the native vegetation of the County.

Policy 2.3.1.1: The County shall continue to enforce the tree protection provisions in the Grading Erosion and Sediment Control Ordinance and utilize the hillside road standards.

Policy 2.3.1.2: The Zoning Ordinance shall include consideration of a standard for parking lot shading and provision of street trees in all new development projects.

Objective 2.3.2: Hillsides and Ridgelines - Maintain the visual integrity of hillsides and ridge lines.

Policy 2.3.2.1: Disturbance of slopes thirty (30) percent or greater shall be discouraged to minimize the visual impacts of grading and vegetation removal.

Goal 2.6: Corridor Viewsheds - Protection and improvement of scenic values along designated scenic road corridors.

Objective 2.6.1: Scenic Corridor Identification - Identification of scenic and historical roads and corridors.

Policy 2.6.1.1: A Scenic Corridor Ordinance shall be prepared and adopted for the purpose of establishing standards for the protection of identified scenic local roads and State highways. The ordinance shall incorporate standards that address at a minimum the following:

A. Mapped inventory of sensitive views and viewsheds within the entire County;
B. Criteria for designation of scenic corridors;
C. State Scenic Highway criteria;
D. Limitations on incompatible land uses;
E. Design guidelines for project site review, with the exception of single family residential and agricultural uses;
F. Identification of foreground and background;
G. Long distance viewsheds within the built environment;
H. Placement of public utility distribution and transmission facilities and wireless communication structures;
I. A program for visual resource management for various landscape types, including guidelines for and restrictions on ridgeline development;
J. Residential setbacks established at the 60 CNEL noise contour line along State highways, the local County scenic roads, and along the roads within the Gold Rush Parkway and Action Program;
K. Restrict sound walls within the foreground area of a scenic corridor; and
L. Grading and earthmoving standards for the foreground area.

Goal 2.8: Lighting - Elimination of high intensity lighting and glare consistent with prudent safety practices.

Objective 2.8.1: Lighting Standards - Provide standards, consistent with prudent safety practices, for the elimination of high intensity lighting and glare.

Policy 2.8.1.1: Development shall limit excess nighttime light and glare from parking area lighting, signage, and buildings. Consideration will be given to design features, namely directional shielding for street lighting, parking lot lighting, sport field lighting, and other significant light sources, that could reduce effects from nighttime lighting. In addition, consideration will be given to the use of automatic shutoffs or motion sensors for lighting features in rural areas to further reduce excess nighttime light.

4.1.3 Impacts and Mitigation Measures

Impact VIS-1: Have a substantial adverse effect on a scenic vista?

The project area includes scattered rural residential and commercial land uses. Views from project roadways include rolling hills covered with low grasses, rocks and boulders, and occasional trees. No scenic vistas occur in the project area. This impact is considered less than significant and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact VIS-2: Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No substantial scenic resources are located in the immediate vicinity of the site. This segment of U.S. 50 is not a designated scenic highway. Therefore, the proposed project will not substantially damage scenic resources. This impact is considered less than significant and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact VIS-3: Substantially degrade the existing visual character or quality of the site and its surroundings?

The 1991 EIR found two impacts that would potentially degrade the existing visual character or quality of the site and its surroundings:

Impact VIS-3a: Visual disparity with the existing rural setting caused by the alteration of viewsheds and increased ambient night lighting - The proposed project will cause some visual discrepancy when compared to the semi-rural nature of the project area. However, the surrounding areas have been steadily developed and urbanized in recent years. It should also be noted that utilizing the northern and southern borrow sites (see Figure 2) may alter the visual character of that area, as the sites will likely be contour graded. However, this is a small area (approximately 12 acres), and the visual impact will be minor. No change in the aesthetic impact from ambient lighting has occurred. This is a less than significant impact and no mitigation is required.

Impact VIS-3b: Conflicts with the residential land uses planned for the area near the Interchange – The 1991 EIR found this impact to be potentially significant and offered mitigation to reduce the impact. Minor changes to the mitigation measure (see Mitigation Measure VIS-1) are necessary due

to new policies and regulations. It should also be noted that, according to the 2004 County General Plan, land uses in the area are compatible with the proposed project.

Level of Significance before Mitigation: Potentially Significant (Impact *VIS-3b),* Less than Significant (Impact *VIS-3a)*.

Mitigation Measure VIS-1: The County shall enter into a Cooperative Agreement with Caltrans that ensures that Interchange landscaping is designed, constructed, and maintained. Landscape plans shall be prepared by a licensed Landscape Architect. Interchange landscape design shall comply with applicable Caltrans and County standards and shall be consistent with the natural landscape characteristics.

Level of Significance after Mitigation: Less than Significant.

Impact VIS-4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Existing light sources in the area are limited to rural residential uses. Additional lighting will be added at the Interchange as part of the proposed project. The addition of the street lighting is not expected to change the existing character of the immediate area. Also, the new lighting will be directed downward and shielded to prevent light and glare spillage into adjacent properties. Nighttime construction may occur on a temporary basis, if required to facilitate construction. If nighttime construction is required, the duration will be minimized avoiding prolonged use of construction lighting, and therefore, would be a less than significant impact and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

4.2 AIR QUALITY (and GLOBAL CLIMATE CHANGE)

This section has been prepared using methodologies and assumptions recommended in the air quality impact assessment guidelines of the El Dorado County Air Quality Management District (EDCAQMD). In keeping with these guidelines, this chapter describes existing air quality, impacts of future traffic on local carbon monoxide levels, and impacts of land use-related vehicular emissions that have regional effects. This chapter also contains background information on global climate change and describes the project's contribution of greenhouse gas emissions. Mitigation measures to reduce or eliminate potentially significant air quality impacts are identified, where appropriate.

4.2.1 Existing Setting

The following discussion provides an overview of existing air quality conditions in the region. Climate, air quality conditions, and typical air pollutant types and sources are described.

Regional Air Quality. Air quality is a function of both local climate and local sources of air pollution. The amount of a given pollutant in the atmosphere is determined by the amount of the pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain, and for photochemical pollutants, sunshine. A region's topographic features have a direct correlation with air pollution flow and therefore are used to determine the boundary of air basins.

The project area is located within the Mountain Counties Air Basin (MCAB). The San Francisco Bay Area Air Basin and the Sacramento Valley Air Basin lay to the west, and the San Joaquin Valley Air Basin is located to the south. The MCAB is comprised of Plumas, Sierra, Nevada, Placer (middle portion), El Dorado (western portion), Amador, Calaveras, Tuolumne, and Mariposa counties. The basin lies along the northern Sierra Nevada mountain range, close to or contiguous with the Nevada border, and covers an area of roughly 11,000 square miles. The western slope of El Dorado County, from Lake Tahoe on the east to the Sacramento County boundary on the west, lies within the MCAB. Elevations range from over 10,000 feet at the Sierra crest down to several hundred feet above sea level at the Sacramento County boundary. Throughout the county, the topography is highly variable, and includes rugged mountain peaks and valleys with extreme slopes and differences in altitude in the Sierras, as well as rolling foothills to the west.

The general climate of the MCAB varies considerably with elevation and proximity to the Sierra ridge. The terrain features of the basin make it possible for various climates to exist in relatively close proximity. The pattern of mountains and hills causes a wide variation in rainfall, temperature, and localized winds throughout the basin. Temperature variations have an important influence on basin wind flow, dispersion along mountain ridges, vertical mixing, and photochemistry. The Sierra Nevada receives large amounts of precipitation from storms moving in from the Pacific in the winter, with lighter amounts from intermittent "Monsoonal" moisture flows from the south and cumulus buildup in the summer. Precipitation levels are high in the highest mountain elevations but decline rapidly toward the western portion of the basin. Winter temperatures in the mountains can be below freezing for weeks at a time, and substantial depths of snow can accumulate, but in the western foothills, winter temperatures usually dip below freezing only at night and precipitation is mixed as rain or light snow. In the summer, temperatures in the mountains are mild, with daytime peaks in the 70s to low 80s degrees Fahrenheit (F), but the western end of the county can routinely exceed 100 degrees F.

From an air quality perspective, the topography and meteorology of the MCAB combine such that local conditions predominate in determining the effect of emissions in the basin. Regional airflows are affected by the mountains and hills, which direct surface air flows, cause shallow vertical mixing, and create areas of high pollutant concentrations by hindering dispersion. Inversion layers, where warm air overlays cooler air, frequently occur and trap pollutants close to the ground. In the winter, these conditions can lead to CO "hotspots" along heavily traveled roads and at busy intersections. During summer's longer daylight hours, stagnant air, high temperatures, and plentiful sunshine provide the conditions and energy for the photochemical reaction between reactive organic compounds (ROG) and oxides of nitrogen (NOx) that results in the formation of ozone. Because of its long formation time, ozone is a regional pollutant rather than a local hotspot problem.

In the summer, the strong upwind valley air flowing into the basin from the Central Valley to the west is an effective transport medium for ozone precursors and ozone generated in the Bay Area and the Sacramento and San Joaquin valleys. These transported pollutants predominate as the cause of ozone in the MCAB and are largely responsible for the exceedances of the State and federal ozone ambient air quality standards in the MCAB.

Air Pollution Constituents

Pursuant to the federal Clean Air Act (CAA) of 1970, the U.S. Environmental Protection Agency (EPA) established national ambient air quality standards (NAAQS). The NAAQS were established for major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health. The NAAQS are two tiered: primary, to protect public health, and secondary, to prevent degradation to the environment (e.g., impairment of visibility, damage to vegetation and property).

The criteria pollutants are ozone (O_3), carbon monoxide (CO), suspended particulate matter (less than 10 microns [PM_{10}] and less than 2.5 microns [$PM_{2.5}$]), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). The EPA established new national air quality standards for ground-level ozone and for fine particulate matter (particulate matter 2.5 microns or less in diameter, or $PM_{2.5}$) in 1997. The primary standards for these pollutants are shown in Table 2, and the health effects from exposure to the criteria pollutants are described later in this section.

Air quality monitoring stations are located throughout the nation and maintained by the local air districts and state air quality regulating agencies. Currently, the closest monitoring station to the project site is located in Placerville (approximately 20 miles east of the project site). The 1991 EIR sited a monitoring station located in Citrus Heights as the closest. Data collected at permanent monitoring stations are used by the EPA to identify regions as "attainment" or "nonattainment," depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas are imposed with additional restrictions as required by the EPA. In addition, different classifications of attainment, such as marginal, moderate, serious, severe, and extreme, are used to classify each air basin in the State on a pollutant by pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and comply with the NAAQS. The El Dorado County attainment status for each of the criteria pollutants is listed in Table 3.

Table 2: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]		Federal Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary[c,f]	Method[g]
Ozone (O_3)	1-Hour	0.09 ppm (180 $\mu g/m^3$)	Ultraviolet Photometry	No federal standard	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 $\mu g/m^3$)		0.075 ppm (147 $\mu g/m^3$)		
Respirable Particulate Matter (PM_{10})	24-Hour	50 $\mu g/m^3$	Gravimetric or Beta Attenuation	150 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 $\mu g/m^3$		–		
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	No Separate State Standard		35 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 $\mu g/m^3$	Gravimetric or Beta Attenuation	15 $\mu g/m^3$		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.03 ppm (57 $\mu g/m^3$)	Gas Phase Chemiluminescence	0.053 ppm (100 $\mu g/m^3$)	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.18 ppm (339 $\mu g/m^3$)		0.100 ppm[h]	None	
Lead (Pb)[i]	30-day average	1.5 $\mu g/m^3$	Atomic Absorption	–	–	–
	Calendar Quarter	–		1.5 $\mu g/m^3$	Same as Primary Standard	High-Volume Sampler and Atomic Absorption
	Rolling 3-month average[i]	–		0.15 $\mu g/m^3$		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	–	Ultraviolet Fluorescence	0.030 ppm (80 $\mu g/m^3$)	–	Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 $\mu g/m^3$)		0.14 ppm (365 $\mu g/m^3$)	–	
	3-Hour	–		–	0.5 ppm (1300 $\mu g/m^3$)	
	1-Hour	0.25 ppm (655 $\mu g/m^3$)		–	–	
Visibility-Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24-Hour	25 $\mu g/m^3$	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 $\mu g/m^3$)	Ultraviolet Fluorescence			
Vinyl Chloride[j]	24-Hour	0.01 ppm (26 $\mu g/m^3$)	Gas Chromatography			

Table notes on next page.

[a] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m3 is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
Contact U.S. EPA for further clarification and current federal policies.

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

[d] Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

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

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

[g] Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

[h] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

[i] National lead standard, rolling 3-month average: final rule signed October 15, 2008.

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

Source: California Air Resources Board (ARB), February 2010.

Table 3: El Dorado County Attainment Status of Criteria Pollutants

Pollutant	Federal Standards	State Standards
Ozone - 1 hour	No Federal Standard	Nonattainment
Ozone - 8 hour	Nonattainment/Severe	Nonattainment
PM_{10}	Attainment/Maintenance	Nonattainment
$PM_{2.5}$	Nonattainment	Unclassified
CO	Attainment	Attainment/Unclassified
NO_2	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead	*No Designation	Attainment
Hydrogen Sulfide	*No Federal Standard	Unclassified
Sulfates	*No Federal Standard	Attainment
Visibility Reducing Particles	*No Federal Standard	Unclassified

Source: EDCAQMD, 2010 http://www.edcgov.us/emd/apcd/index.html. EPA, 2010. http://epa.gov/airquality/greenbk

Ozone

Ozone (or smog) is formed by photochemical reactions between NO_X and reactive organic gases (ROG) rather than being directly emitted. O_3 is a pungent, colorless gas typical of smog. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children. O_3 levels peak during summer and early fall. Effective June 15, 2005, the EPA revoked in full the federal 1-hour ozone ambient air quality standard, including associated designations and classifications, in all areas except 14 early action compacts all of which are outside California. The entire Basin is designated as a nonattainment area for the State ozone standards. The EPA has designated the status in the El Dorado County for the 8-hour ozone standard as "severe" nonattainment.

Carbon Monoxide

CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. El Dorado County is an attainment area for State and federal carbon monoxide standards.

Nitrogen Oxides

Nitrogen Dioxide (NO_2), a reddish brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides, or NO_X. NO_X is a primary component of the photochemical smog reaction. It also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition (i.e., acid rain). NO_2 decreases lung function and may reduce resistance to infection. The entire Basin has not exceeded either federal or State standards for nitrogen dioxide in the past five years with published monitoring data. It is designated as an attainment area under the federal standards and an attainment area under the State standards.

Reactive Organic Gases

Reactive organic gases (ROG) are formed from combustion of fuels and evaporation of organic solvents. Consequently, ROG accumulates in the atmosphere much quicker during the winter when sunlight is limited and photochemical reactions are slower. ROG is an ozone precursor and a prime component of the photochemical reaction that forms ozone; however, ROG is not considered a criteria pollutant on its own.

Sulfur Dioxide

SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire Basin is in attainment with both federal and State sulfur dioxide standards.

Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles (all particles less than or equal to 10 micrometers in diameter, or PM_{10}) derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and resultant exhaust from power plants and diesel buses and trucks are primarily responsible for fine particle (less than 2.5 microns in diameter, or $PM_{2.5}$) levels. Fine particles can also be formed in the atmosphere through chemical reactions. Coarse particles (PM_{10}) can accumulate in the respiratory system and aggravate health problems such as asthma.

The EPA's scientific review concluded that fine particles ($PM_{2.5}$), which penetrate deeply into the lungs, are more likely than coarse particles to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by the current PM_{10} standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung functions (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms.

El Dorado County is a nonattainment area for the federal PM2.5 standards, and for State PM2.5 and PM10 standards. The County is in attainment for the federal PM10 standard.

Lead

Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the bloodstream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. The entire Basin is in attainment for federal and State lead standards.

Local Air Quality

The project is located within jurisdiction of the EDCAQMD. The ARB monitors air quality at several locations within El Dorado County. The closest multi-pollutant monitoring site that has data available is located in Placerville, and its air quality trends are representative of the ambient air quality in the project area.

Ozone emissions are not determined by proximity to individual sources, but show a relative uniformity over a region. Thus, the data shown in Table 4 for these pollutants provide a good characterization of levels of these pollutants near the project site. The pollutants monitored are CO, O_3, PM_{10}, $PM_{2.5}$, NO_2 and SO_2. Table 4 summarizes exceedances of State and federal standards at this monitoring site during the period 2007 through 2009.

The data shows that the monitoring results exceeded State PM_{10} 24-hour standards and both State and federal standards for ozone and $PM_{2.5}$. Table 4 shows that CO, NO_2 and SO_2 levels are well below relevant State and federal standards.

Table 4: Ambient Air Quality Monitoring Data from the Placerville Monitoring Station

Pollutant	Standard	2007	2008	2009
Carbon Monoxide (CO)				
Maximum 1 hour concentration (ppm)		3.5	2.9	ND
Number of days exceeded:	State: > 20 ppm	0	0	ND
	Federal: > 35 ppm	0	0	ND
Maximum 8 hour concentration (ppm)		2.9	2.49	2.77
Number of days exceeded:	State: > 9 ppm	0	0	0
	Federal: > 9 ppm	0	0	0
Ozone (O_3)				
Maximum 1 hour concentration (ppm)		0.115	0.139	0.113
Number of days exceeded:	State: > 0.09 ppm	4	16	6
Maximum 8 hour concentration (ppm)		0.106	0.118	0.095
Number of days exceeded:	State: > 0.07 ppm	20	52	32
	Federal: > 0.08 ppm	9	36	20
Coarse Particulates (PM_{10})				
Maximum 24 hour concentration ($\mu g/m^3$)		37.0	55.4	15.7
Number of days exceeded:	State: > 50 $\mu g/m^3$	0	1	0
	Federal: > 150 $\mu g/m^3$	0	0	0
Annual arithmetic average concentration ($\mu g/m^3$)		14	16	16
Exceeded for the year:	State: > 20 $\mu g/m^3$	No	No	No
Fine Particulates ($PM_{2.5}$)				
Maximum 24 hour concentration ($\mu g/m^3$)		61.0	74.4	49.8
98th Percentile 24 hour concentration ($\mu g/m^3$)		53.0	54.9	38.7
Exceeded 98th Percentile[1]:	Federal: > 35 $\mu g/m^3$	Yes	Yes	Yes
State Annual Standard Design Value ($\mu g/m^3$)		12.3	18.9	15.5
Exceeded for the year:	State: > 12 $\mu g/m^3$	No	Yes	Yes
National Annual Standard Designation Value ($\mu g/m^3$)		12.2	13.2	10.6
Exceeded for the year:	Federal: > 15 $\mu g/m^3$	No	No	No
Nitrogen Dioxide (NO_2)				
Maximum 1 hour concentration (ppm)		0.051	0.058	0.049
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.011	0.011	0.011
Exceeded for the year:	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO_2)				
Maximum 1 hour concentration (ppm)		0.017	0.004	ND
Number of days exceeded:	State: > 0.25 ppm	0	0	ND
Maximum 3 hour concentration (ppm)		0.011	0.003	ND
Number of days exceeded:	Federal: > 0.5 ppm	0	0	ND
Maximum 24 hour concentration (ppm)		0.004	0.004	0.004
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.001	0.001	ND
Exceeded for the year:	Federal: > 0.030 ppm	0	0	ND

Source: ARB. http://www.arb.ca.gov/adam/welcome.html; EPA. http://www.epa.gov/air/data/geosel.html. 2010.
ND = No data. There was insufficient (or no) data to determine the value.
CO and $PM_{2.5}$ data from Sacramento – Del Paso Manor air quality monitor
ppm = parts per million $\mu g/m^3$ = micrograms per cubic meter

4.2.2 Regulatory Setting

The 1976 Lewis Air Quality Management Act established the EDCAQMD and other air districts throughout the State. The Federal Clean Air Act Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the state.

ARB coordinates and oversees both State and federal air pollution control programs in California. ARB oversees activities of local air quality management agencies and is responsible for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for federal Environmental Protection Agency (EPA) approval. ARB maintains air quality monitoring stations throughout the State in conjunction with local air districts. Data collected at these stations are used by ARB to classify air basins as "attainment" or "nonattainment" with respect to each pollutant and to monitor progress in attaining air quality standards. ARB has divided the State into 15 air basins. Significant authority for air quality control within the air basins has been given to local air districts that regulate stationary source emissions and develop local nonattainment plans.

The California Clean Air Act (CCAA) provides the EDCAQMD with the authority to manage transportation activities at indirect sources and regulate stationary source emissions. Indirect sources of pollution are generated when minor sources collectively emit a substantial amount of pollution. An example of this would be the motor vehicles at an intersection, at a mall, and on highways. As a state agency, ARB regulates motor vehicles and fuels for their emissions.

Regional Air Quality Management Plan

The EDCAQMD is responsible for formulating and implementing Attainment Demonstration Plans (ADP) for the Air Basin. The latest plans address several State and federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools.

The Sacramento Federal Non-attainment Area (SFNA), which includes all of Sacramento and Yolo Counties, the eastern portions of Solano County, Placer and El Dorado Counties excluding the Lake Tahoe Basin, and the southern portion of Sutter County, is designated as an ozone nonattainment area for the federal 8-hour ozone standard. As a nonattainment area, the region is also required to submit rate-of-progress milestone evaluations in accordance with the CAAA. These milestone reports include compliance demonstrations that the requirements have been met for the Sacramento nonattainment area. The AQAPs and reports present comprehensive strategies to reduce ROG, NO_X, and PM_{10} emissions from stationary, area, mobile, and indirect sources.

An update to the ADP is currently in progress to address the new 8-hour ozone standard and the associated control strategies that would be required to meet the new standards. The 8-Hour Ozone Attainment and Reasonable Further Progress Plan is being prepared as a joint project with the Sacramento Metropolitan Air Quality Management District (SMAQMD), El Dorado County Air Quality Management District (EDCAQMD), Feather River Air Quality Management District (FRAQMD), Placer County Air Pollution Control District (PCAPCD), and Yolo-Solano Air Quality Management District (YSAQMD).

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

The air districts in the Sacramento Valley 8-hour Ozone Planning Area held public hearings in early 2009 to adopt the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan. The Plan shows that the region is meeting minimum emission reduction progress and would reach the air quality standard no later than 2018. In addition, the plan makes commitments to adopt and implement new reasonably-available control measures.

Local Standards

Local air quality regulations are established and regulated by the EDCAQMD. The EDCAQMD Board of Directors adopted amended and new fugitive dust rules on July 19, 2005. The complete rules can be found in Appendix J. These rules are summarized below and would be applicable to the proposed project:

- Rule 223 Fugitive Dust – General Requirements. This rule reduces the amount of particulate matter entrained in the ambient air as a result of man-made fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.
- Rule 223-1 Fugitive Dust – Construction Requirements. This rule limits fugitive dust emissions from construction, and construction related activities and applies to all construction related activities such as land clearing, grubbing, scraping, travel on site, and travel on access roads. It limits visible emissions, vehicle speeds on construction sites and requires a fugitive dust control plan.
- Rule 223-2 Fugitive Dust - Asbestos Hazard Mitigation (if certain conditions are found to be present, this rule may apply). This rule reduces the amount of asbestos particulate matter entrained in the ambient air as a result of any construction or construction related activities that disturbs, or potentially disturbs naturally occurring asbestos by requiring actions to prevent, reduce or mitigate asbestos emissions.

The EDCAQMD rules listed above regulate fugitive dust (including that potentially containing naturally occurring asbestos) generated by construction activities and require appropriate mitigation measures to reduce air quality impacts. The project will also be subject to AQMD Rule 224, which prohibits the use of "cutback asphalt," which is asphalt cement that has been liquefied by blending with petroleum solvents.

The EDCAQMD has adopted rules related to construction analysis would apply and revised significance criteria for construction emissions have been adopted. These rules and significance criteria apply to the proposed project. EDCAQMD's Guide to Air Quality Assessment (2002)

specifies specific daily emissions thresholds that can be used to determine the significance of project emissions. Thresholds of significance for specific pollutants of concern are as follows: ROG and NOx - less than 82 lbs/day; and CO and PM10 - do not to exceed Ambient Air Quality Standards (AAQS).

Global Climate Change

Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other significant changes in climate (such as precipitation or wind) that last for an extended period of time. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures. Global surface temperatures have risen by 0.74°C ± 0.18°C over the last 100 years (1906 to 2005). The rate of warming over the last 50 years is almost double that over the last 100 years.[1] The prevailing scientific opinion on climate change is that much of the warming observed over the last 50 years is attributable to human activities.

Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6) are the principal greenhouse gases (GHGs). The increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-induced component of warming. GHGs are released by the burning of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.[2]

Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming is taking place, including substantial ice loss in the Arctic.[3]

However, the understanding of GHG emissions, particulate matter, and aerosols on global climate trends remains uncertain. In addition to uncertainties about the extent to which human activity rather than solar or volcanic activity is responsible for increasing warming, there is also evidence that some human activity has cooling, rather than warming, effects, as discussed in detail in numerous publications by the International Panel on Climate Change (IPCC), namely "Climate Change 2001, The Scientific Basis"(2001).[4]

---

[1] Intergovernmental Panel on Climate Change (IPCC), 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC.*

[2] The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse lets heat from sunlight in and reduce the amount of heat that escapes, greenhouse gases like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of greenhouse gas results in global warming, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

[3] International Panel on Climate Change (IPCC) *Special Report on Emissions Scenarios, 2000,* www.grida.no/climate/ipcc/emission/002.htm, accessed July 24, 2007.

[4] The IPCC was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme to assess scientific, technical and socio-economic information relevant for the understanding of climate change, its potential impacts and options for adaptation and mitigation.

The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects, according to the IPCC.[1]

- Snow cover is projected to contract, with permafrost areas sustaining thawing.
- Hot extremes, heat waves, and heavy precipitation events are likely to increase in frequency.
- Future tropical cyclones (typhoons and hurricanes) will likely become more intense.
- Warming is expected to be greatest over land and at most high northern latitudes, and least over the Southern Ocean and parts of the North Atlantic Ocean.

Potential secondary effects from global climate change include global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. According to ARB, some of the potential impacts in California of global climate change may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years.[2] Several recent studies have attempted to explore the possible negative consequences that climate change, left unchecked, could have in California. These reports acknowledge that climate scientists' understanding of the complex global climate system, and the interplay of the various internal and external factors that affect climate change, remains too limited to yield scientifically valid conclusions on such a localized scale. Substantial work has been done at the international and national level to evaluate climatic impacts, but far less information is available on regional and local impacts. In addition, projecting regional impacts of climate change and variability relies on large-scale scenarios of changing climate parameters, using information that is typically at too general a scale to make accurate regional assessments.[3]

While climate change has been a concern since at least 1988 as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to GHG emissions reduction and climate change research and policy has increased dramatically in recent years. The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the Environmental Protection Agency (EPA) has the authority to regulate CO_2 emissions under the federal Clean Air Act (CAA). While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the EPA commenced several actions in 2009 that are required to implement a regulatory approach to global climate change.

On September 30, 2009, the EPA announced a proposal that focuses on large facilities emitting over 25,000 tons of GHG emissions per year. These facilities would be required to obtain permits that would demonstrate they are using the best practices and technologies to minimize GHG emissions.

On December 7, 2009, the EPA Administrator signed a final action under the CAA, finding that six greenhouse gases (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6) constitute a threat to public health and welfare,

[1] Ibid.
[2] California Air Resources Board (ARB), 2006c. *Public Workshop to Discuss Establishing the 1990 Emissions Level and the California 2020 Limit and Developing Regulations to Require Reporting of Greenhouse Gas Emissions*, Sacramento, CA. December 1.
[3] Kiparsky, M. and P.H. Gleick, 2003. *Climate Change and California Water Resources: A Survey and Summary of the Literature*. Oakland, CA: Pacific Institute for Studies in Development. July.

and that the combined emissions from motor vehicles cause and contribute to global climate change. This EPA action does not impose any requirements on industry or other entities. However, the findings are a prerequisite to finalizing the GHG emission standards for light-duty vehicles mentioned below.

On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a final joint rule to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce greenhouse gas emissions and improve fuel economy. EPA is finalizing the first-ever national greenhouse gas emissions standards under the Clean Air Act, and NHTSA is finalizing Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. The EPA GHG standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide (CO_2) per mile in model year 2016, equivalent to 35.5 miles per gallon (mpg).

The State of California has enacted legislation and issued Executive Orders that address global climate change and greenhouse gas emissions. The following is a summary of those efforts:

California Assembly Bill (AB) 1493. On July 1, 2002, the California Assembly passed Assembly Bill 1493 (signed into law on July 22, 2002), requiring the ARB to "adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." The regulations were to be adopted by January 1, 2005. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year; however, in order to enact the standards California needed a waiver from the U.S. EPA. The waiver was denied by EPA in December 2007 (see California v. Environmental Protection Agency, 9th Cir. Jul. 25, 2008, No. 08-70011). However, on January 26, 2009, it was announced that EPA will reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 mpg fuel economy standard for automobiles and light duty trucks which will take effect in 2012. On June 30, 2009 EPA granted California the waiver. California is expected to enforce its standards for 2009 to 2011 and then look to the federal government to implement equivalent standards for 2012 to 2016. The granting of the waiver will also allow California to implement even stronger standards in the future. The State is expected to start developing new standards for the post-2016 model years later this year.

Executive Order (EO) S-3-05. On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. This EO provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent of 1990 levels. Executive Order S-20-06 further directs State agencies to begin implementing AB 32, including the recommendations made by the State's Climate Action Team.

California Assembly Bill 32 (AB 32). On August 31, 2006, the California Assembly passed Bill 32 (signed into law on September 27, 2006), the California Global Warming Solutions Act of 2006. AB 32 commits California to reduce GHG emissions to 1990 levels and establishes a multi-year regulatory process under the jurisdiction of the ARB to establish regulations to achieve these goals.

Executive Order S-01-07. Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

California Senate Bill 97 (SB 97). An act to add Section 21083.05 to, and to add and repeal Section 21097 of, the Public Resources Code, relating to the California Environmental Quality Act. Governor Schwarzenegger signed SB 97 (Chapter 185, Statutes 2007) into law on August 24, 2007. The legislation provides partial guidance on how greenhouse gases should be addressed in certain CEQA documents. SB 97 requires the Governor's Office of Planning and Research ("OPR") to prepare CEQA Guidelines for the mitigation of GHG emissions, including, but not limited to, effects associated with transportation or energy consumption. The second part of SB 97 codifies safe harbor for highways and flood control projects. It provides that the failure of a CEQA document for a project funded by Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or the Disaster Preparedness and Flood Prevention Bond Act of 2006 to adequately analyze the effects of GHG emission otherwise required to be reduced pursuant to the regulations adopted under the Global Warming Solutions Act (which are not slated for adoption until January 1, 2012), does not create a cause of action for a violation of CEQA. This portion of SB 97 has a sunset date of January 1, 2010.

California Senate Bill 375 (SB 375). SB 375 amends Government Code sections 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, and 65588. It adds Government Code sections 14522.1, 14522.2, and 65080.01. SB 375 also amends Public Resources Code section 21061.3 and adds Section 21159.28 and Chapter 4.2 (commencing with Section 21155) to Division 13. SB 375 was signed into law on October 1, 2008, which provides emissions-reduction goals and provides incentives for local governments and developers to follow new conscientiously planned growth patterns. SB 375 enhances the ARB's ability to reach AB 32 goals by directing ARB to develop regional greenhouse gas emission reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035. ARB will also work with California's 18 metropolitan planning organizations to align their regional transportation, housing, and land use plans and prepare a "sustainable communities strategy" to reduce the number of vehicle miles traveled in their respective regions and demonstrate the region's ability to attain its greenhouse gas reduction targets.

AB 32 requires ARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. As part of its supporting documentation for the Scoping Plan, ARB released an updated version of the GHG inventory for California. The Scoping Plan was approved by ARB on December 11, 2008, and includes measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures.[1] The measures in the Scoping Plan will not be binding until after they are adopted through the normal rulemaking process. The ARB rulemaking process includes preparation and release of each of the draft measures, public input through workshops and a public comment period, followed by an ARB Board hearing and rule adoption.

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made

[1] California Air Resources Board. 2008. *Climate Change Proposed Scoping Plan: a framework for change*. October.

GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.[1]

Project impacts to global climate change are considered on a cumulative basis. An individual project does not generate enough GHG emissions to significantly influence global climate change. Cumulative impacts are the collective impacts of one or more past, present, or future projects, that when combined, result in adverse changes to the environment. Climate change is a global environmental problem in which: (a) any given development project contributes only a small portion of any net increase in GHGs and (b) global growth is continuing to contribute large amounts of GHGs across the world.

El Dorado County Resolution No. 29-2008. El Dorado County adopted Resolution No. 29-2008, which identifies the County's goals in regards to reduction in GHG emissions. The Resolution identifies a goal of reducing greenhouse gas emissions through several sources including transportation, traffic and transit. This includes reducing carbon emissions and greenhouse gases through the promotion of carpooling and reduction of vehicle miles traveled, the promotion of pedestrian and bicycling commuting, expanding transit opportunities, utilization of clean-fueled vehicles and the promotion of programs and designs that reduce traffic congestion.

4.2.3 Impacts and Mitigation Measures

Impact AIR-1: Conflict with or obstruct implementation of the applicable air quality plan?

The 1991 EIR identified one impact that could potentially conflict with the applicable air quality plan:

Impact AIR-1a: Construction equipment powered by internal combustion engines emitting an indeterminable quantity of nitrogen oxides, hydrocarbons, particulates, sulfur dioxides, and carbon monoxide. – For the proposed project, new El Dorado County Air Quality Management District (EDCAQMD) rules related to construction analysis would apply and revised significance criteria for construction emissions have been adopted. EDCAQMD's Guide to Air Quality Assessment (2002) specifies specific daily emissions thresholds that can be used to determine the significance of project emissions. Thresholds of significance for specific pollutants of concern are as follows: ROG and NOx less than 82 lbs/day, and CO and PM10 do not exceed AAQS. Assuming the project has a maximum area disturbed per day of 6 acres, the project would generate a 92.7 lbs/day NOx, which would exceed the significance criteria and conflict with an applicable air quality plan. Mitigation Measure AIR-1 listed below will reduce this impact to a less than significant level.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure AIR-1: The prime contractor shall provide an approved plan demonstrating that heavy-duty (i.e., greater than 50 horsepower) off-road vehicles to be used in the construction project, and operated by either the prime contractor or any subcontractor, will achieve, at a minimum, a fleet-averaged 15 percent NOx reduction compared to the most recent ARB fleet average. The prime contractor shall submit a comprehensive inventory to the El Dorado County AQMD of all off-road

[1] Available at http://www.dot.ca.gov/docs/ClimateReport.pdf.

construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours (total) during the construction project. The inventory shall include the horsepower rating, engine production year, and hours of use or fuel throughput for each piece of equipment. The inventory list shall be updated and submitted monthly throughout the duration of the construction period.

Level of Significance after Mitigation: Less than Significant.

Impact AIR-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

The 1991 EIR identified three impacts that could potentially violate air quality standards:

Impact AIR-2a: No violations of either the 1-hour or 8-hour state and federal CO standards in the immediate vicinity of the proposed Interchange. – For the proposed project, a CO analysis indicates that 8-hour CO concentrations at key intersections range from 3.6 to 4.1 ppm, which is well below the 9.0 ppm federal and state standards. 1-hour CO concentrations range from 5.0 to 5.7 ppm. Violations of either the 1-hour or 8-hour state or federal CO standards in the immediate vicinity of the proposed Interchange would not occur. Additionally, background concentrations of CO have improved since 1991 EIR was prepared and vehicle CO emissions have also improved. Therefore, CO impacts will be less under the new analysis and no mitigation is required.

Impact AIR-2b: Higher CO concentrations at the El Dorado Hills Blvd Interchange than the concentrations in the immediate vicinity of the proposed Interchange (lower than concentrations under the No-Project condition) but approaching the 8-hour 9 ppm CO standard. - The El Dorado Hills Blvd Interchange has been, and continues to be, improved. Future CO concentrations would be well below State and federal standards and no mitigation is required.

Impact AIR-2c: Lower concentrations at the Bass Lake Road Interchange than CO concentrations in the immediate vicinity of the proposed Interchange. - Due to continued roadway improvements in the region, future CO concentrations would be well below State and federal standards and no mitigation is required.

Therefore, the proposed project is not expected to violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact AIR-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality

standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The 1991 EIR found one potential impact that could result in a cumulatively considerable net increase of a criteria pollutant:

Impact AIR-3a: No direct increase in ozone precursors. – Air quality has improved in the project area because long-range traffic forecasts have been reduced, so emission levels of ozone precursors will also be lessened. The proposed project will improve traffic flow and reduce congestion, resulting in lower emissions. This impact is considered less than significant and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact AIR-4: Expose sensitive receptors to substantial pollutant concentrations?

The 1991 EIR found two impacts that could potentially expose sensitive receptors to substantial pollutant concentrations:

Impact AIR-4a: Dust being generated during construction, causing a nuisance to neighboring land owners. – Implementation of Mitigation Measures AIR-3 through AIR-5 will reduce this impact to a less than significant level.

Impact AIR-4b: Blasting emitting an indeterminable amount of fugitive dust into the atmosphere during construction as well as smoke from the blasting charges. – The proposed project has the potential to expose sensitive receptors to fugitive dust and smoke associated with blasting activities. Mitigation Measure AIR-2 listed below will reduce this impact to a less than significant level.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure AIR-2: Notify local residents of blasting operations and comply with all applicable local, state, and general safety and air quality regulations.

Mitigation Measure AIR-3: The County shall require construction contractors to comply with El Dorado County APCD Rules 223, 223-1, and 223-2. Compliance shall include, but is not limited to, implementation of the following measures:

- Application of water hygroscopic materials, or non-toxic chemical stabilizers or other specified covering on material stockpiles, wrecking activity, excavation, grading, sweeping, or clearing of land;
- Installation and use of hoods, fans and filters to enclose, collect, and clean the emissions of dusty materials;

- Covering or wetting at all times when in motion of open-bodied trucks, trailers or other vehicles transporting materials, which create a nuisance by generating particulate matter in areas where the general public has access;
- Application of asphalt, oil, water or suitable chemicals on dirt roads;
- Alternate means of control as approved by the Air Pollution Control Officer.

Pursuant to Rule 223, a person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area, such that the presence of such fugitive dust remains visible, or exceed shade darker as that designated as No. 0 on the Ringelmann Chart, or exceed 0% opacity as determined in accordance with U.S. EPA Method 9, in the atmosphere beyond the boundary line of the emission source.

Mitigation Measure AIR-4: Pursuant to El Dorado County APCD Rule 223-1, the County shall submit a Fugitive Dust Control Plan to the Air Pollution Control Officer prior to the start of any construction activity. Construction activities shall not commence until the Air Pollution Control Officer has approved or conditionally approved the Fugitive Dust Control Plan. The County shall provide written notification to the Air Pollution Control Officer at least 10 days prior to the initial commencement of earthmoving activities via fax, e-mail, or mail.

The Fugitive Dust Control Plan shall describe all fugitive dust control measures to be implemented before, during and after any dust generating activity. Fugitive Dust Control Plan shall contain all the information described in Section 223-1.5.B of Rule 223-1. The Air Pollution Control Officer shall approve, disapprove or conditionally approve the Fugitive Dust Control Plan within 30 days of plan submittal.

Rule 223-1 requires that visible emissions shall not exceed the shade designated as No. 0 on the Ringelmann Chart, or 0% opacity as determined in accordance with U.S. EPA Method 9, at 50 feet from the point-of-origin and at the project area boundary. Visible emissions shall not exceed the shade designated as No. 1 on the Ringelmann Chart, or 20% opacity as determined in accordance with U.S. EPA Method 9 at the point-of-origin.

The construction contractor shall retain a copy of an approved Fugitive Dust Control Plan at the project site. The approved Fugitive Dust Control Plan shall remain valid until the termination of all dust generating activities.

Mitigation Measure AIR-5: Pursuant to El Dorado County APCD Rule 223-2, the County shall submit an Asbestos Dust Mitigation Plan to the Air Pollution Control Officer prior to the start of any construction activity. Construction activities shall not commence until the Air Pollution Control Officer has approved or conditionally approved the Asbestos Dust Mitigation Plan. The County shall provide written notification to the Air Pollution Control Officer at least 10 days prior to the commencement of earthmoving activities via fax or mail.

The Asbestos Dust Mitigation Plan shall describe all dust mitigation measures to be implemented before, during and after any dust generating activity. The Asbestos Dust Mitigation Plan shall contain all the information described in Section 223-2.5.B of Rule 223-2. The Air Pollution Control Officer

shall approve, disapprove, or conditionally approve the Asbestos Dust Mitigation Plan within 30 days of plan submittal.

Rule 223-2 requires that visible emissions shall not exceed the shade designated as No. 0 on the Ringelmann Chart, or 0% opacity as determined in accordance with U.S. EPA Method 9, at 25 feet from the point-of-origin and at the project area boundary. Visible emissions shall not exceed the shade designated as No. 1 on the Ringelmann Chart, or 20% opacity as determined in accordance with U.S. EPA Method 9 at the point-of-origin.

The construction contractor shall retain a copy of an approved Asbestos Dust Mitigation Plan at the project site. The approved Asbestos Dust Mitigation Plan shall remain valid until the termination of all dust generating activities.

Level of Significance after Mitigation: Less than Significant.

Impact AIR-5: Create objectionable odors affecting a substantial number of people?

The proposed project is not expected to generate objectionable odors affecting a substantial number of people. The project would generate some odors during the construction period due to the use of diesel equipment; however, these odors would be temporary and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The proposed project would result in short-term construction emissions (including GHG emissions) that may contribute to global climate change. During the construction phase of the project, there is the potential to contribute to the generation of GHG emissions. Construction emissions were estimated for the project using the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 6.3.2. Total CO2 emissions for construction of the project are estimated at 696 metric tons.

Air Quality mitigation measure AIR-1 will reduce the project's GHG contribution for construction emissions. Project operational CO2 emissions associated with the project are not new emissions because the project would accommodate existing trips rather than create new operational emissions as would, for example, a shopping center project. As a result, the project represents a continuation of the same rate of CO2 emissions as under current operating conditions, rather than new CO2 emissions. Therefore, the proposed project would not result in a net increase in GHG emissions from project operations.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure: Refer to Mitigation Measure AIR-1.

Level of Significance after Mitigation: Less than Significant.

Impact GHG-2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

El Dorado County adopted Resolution No. 29-2008, which identifies the County's goals in regards to reduction in GHG emissions. The Resolution identifies a goal of promoting designs that reduce traffic congestion, which would be accomplished by the proposed project. The proposed project would not conflict with the State goal of reducing GHG emissions and would not conflict with the AB 32 Scoping Plan or the early action measures. No mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

4.3 BIOLOGICAL RESOURCES

(Former heading in 1991 EIR: Vegetation, Wildlife, and Aquatic Resources)

4.3.1 Existing Setting

The following is a description of the current project area setting as compared to the setting described in the original 1991 EIR (see Figure 4). Though the setting of the project site is generally the same, the original fieldwork was conducted in 1987 and some changes have occurred.

The vegetative communities of annual grassland and blue oak woodland described in the 1991 EIR are consistent in location and description with the currently existing conditions. The purple needlegrass grassland is described in the original EIR as being located at the drier margins of the freshwater marsh, and is mapped along the edges of the marsh areas. The current population of purple needlegrass appears to have expanded slightly from the 1987 location, with a new population located north of U.S. 50. The current area of purple needlegrass grassland is approximately one acre.

The plant community previously identified and mapped as live oak riparian woodland corresponds with valley foothill riparian habitat in the current map. In 1987, these riparian areas were dominated by live oak, with occasional trees and saplings of valley oak, cottonwood, and Gooding's willow. A current description reveals that valley oak and cottonwood are now dominant, with alder, buckeye, and assorted willows present. Canopy cover currently ranges from 20% to 80%.

Conditions at Carson Creek have also changed. Lower Carson Creek was previously described as being low gradient, with little cover, and silt and cobble substrates. Recent fieldwork shows that the creek experiences routine high-flow events that scour and flush the streambed, and destroy some of the adjacent emergent vegetation.

Two definitive changes have occurred in the project site since the 1987 fieldwork was conducted. One is the presence of elderberry shrubs, which provide potential habitat for the Valley Elderberry Longhorn Beetle (VELB); the other is the creation of a small pond.

In 1987, no elderberry shrubs were documented in the project area; four elderberries now exist just south of U.S. 50. Six shrubs are present just outside the project boundary to the southwest, by Joerger Road. No VELB exit holes were observed in the elderberries within the project boundary.

A small, man-made pond of approximately 0.02 acre was created north of U.S. 50 in the eastern half of the study area, but outside of the project site. The pond was not in existence in 1987. The pond provides suitable habitat for the California Red Legged Frog (CRLF); the majority of the pond is open water and the edges support rushes and cattails.

4.3.2 Regulatory Setting

The following describes federal, state, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process.

HABITAT IMPACTS ACREAGES

HABITAT TYPE	IMPACTS IN PROJECT SITE	IMPACTS AVOIDED	TOTAL
Annual Grassland	34.31	90.95	125.26
Blue Oak Woodland	5.58	11.84	17.42
Perennial Wetland	0.17	3.35	3.52
Pond		0.02	0.02
Purple Needlegrass Grassland	0.09	1.58	1.67
Roadway/ Development	27.33	25.17	52.50
Seasonal Wetland	0.20	0.87	1.07
Valley Foothill Riparian	0.70	11.17	11.87
TOTAL	68.38	144.95	213.33

OTHER HABITAT IMPACTS

FEATURE	IMPACTS	IMPACTS AVOIDED	TOTAL
Elderberry	4	1	5

OTHER FEATURES

Limit of Disturbance

Limit of Study

UTILITY CORRIDOR ADDITIONAL HABITAT IMPACT ACREAGES

See Figure 5 for Utility Corridors

HABITAT TYPE	ALT. 1	ALT. 2	ALT. 3
Annual Grassland	4.80	8.43	0.44
Blue Oak Woodland	1.64	4.37	
Perennial Wetland	0.01	0.84	
Purple Needlegrass Grassland	0.37	0.78	0.08
Roadway/ Development	0.89	0.66	0.04
Seasonal Wetland		0.57	
Valley Foothill Riparian	0.37	1.69	0.03
TOTAL	8.08	17.34	0.59

Aerial Photo: USGS 1ft Sacramento Urban Aerial, 2008.

LSA

N

NOT TO SCALE

SOURCE: Foothill and Associates (2011)

FIGURE 4

Silva Valley Parkway Interchange

Biological Habitat Map

P:\MKT530\Graphics\Figure4.pdf (1-20-11)

Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

FESA and Clean Water Act (CWA) Section 404 guidelines prohibit the issuance of wetland permits for projects that jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species. The U.S. Army Corps of Engineers (Corps) must consult with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) when threatened or endangered species under their jurisdiction may be affected by a proposed project. In the context of the proposed project, FESA would be initiated if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

California Fish and Game Code

Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with the California Department of Fish and Game (CDFG) when preparing California Environmental Quality Act (CEQA) documents. The purpose is to ensure that the State

lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFG on projects or actions that could affect listed species, directs CDFG to determine whether jeopardy would occur and allows CDFG to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFG to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

CDFG Species of Concern

In addition to formal listing under FESA and CESA, species receive additional consideration by CDFG and local lead agencies during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFG. It tracks species in California whose numbers, reproductive success, or habitat may be threatened.

California Native Plant Society

The California Native Plant Society (CNPS) maintains a list of plant species native to California that has low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS listed plants receive consideration under CEQA review. The following identifies the definitions of the CNPS listings:

- List 1A: Plants presumed Extinct in California
- List 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- List 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- List 3: Plants about which we need more information – A Review List
- List 4: Plants of limited distribution – A Watch List

Jurisdictional Waters of the United States

Federal Jurisdiction
The Corps regulates discharge of dredge or fill material into waters of the United States under Section 404 of the CWA. "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a Federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.
- The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

State Jurisdiction
CDFG is a trustee agency that has jurisdiction under Section 1600 et seq. of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFG if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to Section 1601." If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFG may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFG identifying the approved activities and associated mitigation measures.

4.3.3 Impacts and Mitigation Measures

Impact BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The 1991 EIR found twelve impacts that have the potential to effect sensitive or special status species:

Impact BIO-1a: Diminished habitat for plants and wildlife – Analysis in the 1991 EIR remains valid. With implementation of mitigation measure BIO-1, impacts would be reduced to less than significant.

Impact BIO-1b: Elimination or disturbance of the annual grasslands in the project area – Analysis in the 1991 EIR remains valid. Impacts to annual grasslands are not regulated; therefore, impacts would be less than significant and no mitigation is required.

Impact BIO-1c: Loss of annual grassland habitat, thereby displacing or eliminating wildlife species - Analysis in the 1991 EIR remains valid. Impacts to annual grasslands are not regulated; therefore, impacts would be less than significant and no mitigation is required.

Impact BIO-1d: Elimination of purple needlegrass grassland - Purple needlegrass grassland is listed as a sensitive plant community of the CDFG Natural Communities List and is required to be considered in CEQA documents. The amount of purple needlegrass grassland on the site has increased in size since the 1991 EIR. The total acreage of purple needlegrass in the study area is 1.67 acres. Due to its proximity to roads and the presence of moderate amounts of annual grasses the purple needlegrass grassland on the project site is not considered high-quality. The proposed project will eliminate approximately 0.09-acre of purple needlegrass. This is a less than significant impact and no mitigation is required.

Impact BIO-1e: Elimination of habitat for wildlife species associated with the purple needlegrass grassland – The proposed project will impact approximately 0.09 acres of purple needlegrass grassland. This is considered a less than significant impact and no mitigation is required.

Impact BIO-1f: No impacts to any special-status plant species – Analysis in the 1991 EIR remains valid. No impacts will occur to special-status plant species as a result of the proposed project. No mitigation is required.

Impact BIO-1g: Loss of possible foraging habitat for Swainson's hawks - The disturbed annual grassland onsite provides suitable foraging habitat for Swainson's hawk. The loss of foraging habitat for Swainson's hawks is less than significant, but potential impacts to active Swainson's hawk nests would be significant. Therefore, mitigation measure BIO-2 will be required.

Impact BIO-1h: Loss of possible foraging habitat for burrowing owls - The disturbed annual grassland onsite provides suitable foraging and nesting habitat for western burrowing owl. The loss of possible foraging habitat for western burrowing owl is less than significant, but potential impacts to active western burrowing owl nests would be significant. Therefore, mitigation measure BIO-3 will be required.

Impact BIO-1i: No loss of possible habitat for the tricolored blackbird - Portions of the marsh habitat provide suitable nesting substrate for tricolored blackbird. The loss of possible habitat for tricolored blackbird is less than significant, but potential impacts to active tricolored blackbird nests would be significant. Therefore, mitigation measure BIO-4 will be required.

Impact BIO-1j: Loss of possible habitat for the red-legged frog - Although the biological assessments prepared for the project support the SEIR's conclusion that California red-legged frogs are not expected to occur onsite and, to the extent that potential habitat could exist, would be avoided. The mitigation (BIO-5) listed below will be required.

Impact BIO-1k: No loss of elderberry shrubs and, therefore, no impacts to valley elderberry longhorn beetle (VELB) - Five elderberry shrubs were identified in the study area. Four elderberry shrubs are expected to be impacted. Therefore, mitigation measure BIO-6 will be required.

Impact BIO-1l: Elimination of foraging habitat for several special-status raptors - The loss of foraging habitat for several species of special-status raptors is not significant, but impacts to nests of such raptors would be significant. Therefore, mitigation measure BIO-7 will be required.

Impact BIO-1m: Although not analyzed in the 1991 EIR, the project may have a potentially significant impact on western pond turtle, as marsh and riparian habitats in the project area provide suitable habitat. Therefore, mitigation measure BIO-8 will be required.

Level of Significance before Mitigation: Potentially Significant (Impact *BIO-1a, and BIO-1g through BIO-1m*), Less than Significant (Impact *BIO-1b through BIO-1f*).

Mitigation Measure BIO-1: Prepare and implement a detailed biological mitigation plan (see Mitigation Measures BIO-2 thru BIO-8).

Mitigation Measure BIO-2: Construction activities shall be initiated outside of the Swainson's hawk breeding season (which begins in late February until August) to avoid disturbing active nests to the extent feasible. If construction must begin during the breeding season, the County/contractor shall retain a Qualified Biologist to conduct a preconstruction survey in accordance with current CDFG guidelines. The survey shall be conducted before grading activities and no more than 30 days before the beginning of construction. If no nests are found, no further mitigation is required.

If active nests are found, no construction activities shall take place within 0.25 mile of the nest until the young have fledged or authorization has been obtained from a Qualified Biologist with concurrence from CDFG. Weekly monitoring reports summarizing nest activities shall be submitted to the County and CDFG until the young have fledged and the nest is determined to be inactive. Trees found to contain active nests that must be removed as a result of project implementation shall be removed during the non-breeding season (late Sept. to late February).

Mitigation Measure BIO-3: Prior to grading, a Qualified Biologist shall conduct preconstruction surveys (in accordance with current CDFG guidelines) of the project area and in a 250-foot wide buffer zone around the project site (excluding paved areas) to locate active burrowing owl burrows. If no burrowing owls are detected, a letter report documenting survey methods and findings will be prepared and no further mitigation is required.

If active burrowing owl burrows are detected, the following mitigation will be required:

- Occupied burrows will not be disturbed during the nesting season (2/1 – 8/31). This shall be accomplished by establishing a 250-foot buffer around the occupied burrows. The size of the buffer may be reduced if a Qualified Biologist and CDFG determine that the reduction of the buffer would not have an adverse effect on the owls.
- If destruction of an occupied burrow is unavoidable during the nonbreeding season (9/1 – 1/31), passive relocation techniques approved by CDFG, such as installing on-way doors at the burrow entrance, will be used instead of trapping the owls. At least 1 week will be necessary to accomplish the passive relocation and allow the owls to acclimate to alternative burrows. After the owls have been confirmed to be absent from the burrows, the burrow entrances should be collapsed to prevent owls from re-entering the burrows.

Mitigation Measure BIO-4: Conduct a preconstruction nesting bird survey for MBTA-regulated species 30 days prior to construction activities would be necessary. If an active nest is found, subsequent surveys will be necessary to determine when the nest is no longer active. If no active nests are found, no further mitigation is expected to be required.

Mitigation Measure BIO-5: Retain a Qualified Biologist to conduct a habitat assessment per USFWS protocols in areas with potentially suitable habitat that will be affected.

Should no suitable CRLF habitat occur on or adjacent to the site following the habitat assessment, then no further mitigation shall be required. If CRLF habitat is determined to be present, then a presence/absence survey shall be conducted. If CRLF are not observed during the survey, then no further mitigation is expected to be necessary. If CRLF are observed, the following shall be required: obtain a no jeopardy biological opinion from the USFWS in conjunction with the Clean Water Act Permit (see BIO-11). All the terms and conditions of the BO from the USFWS shall be implemented. While at the discretion of the USFWS, the terms and conditions of the Biological will include measures to avoid and/or minimize incidental take of the species and conservation measures to ensure habitat protection.

Mitigation Measure BIO-6: Implement elderberry mitigation per USFWS guidelines. Specifically, to minimize impacts on VELB habitat, the following measures shall be implemented consistent with USFWS's Compensation Guidelines for verified VELB habitat and prior to commencement of construction:

- A qualified biologist will identify and mark all elderberry shrubs in the study area containing stems 1.0 inch or greater. Orange construction barrier fencing will be installed at least 20 feet from the dripline of all elderberry shrubs or per USFWS that will be avoided to identify and protect the shrubs. No construction activities will be allowed within the fenced area without consent of the USFWS.
- Signs will be posted on the environmentally sensitive area fencing and maintained for the duration of construction. The signs will state, "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended."
- Obtain a biological opinion from the USFWS under Section 7 and in conjunction with the Clean Water Act Permit.
- Coordination with the USFWS shall be required through preparation of the BO and VELB mitigation plan to determine that one or more of the following measures will be implemented to fully mitigate for impacts to VELB:
    - A. Transplant elderberry shrubs to a conservation area in accordance with USFWS' current Conservation Guidelines for Valley Elderberry Longhorn Beetle;
    - B. Replace shrubs at a ratio from 1:1 through 8:1, depending on the diameter of the stem at ground level, whether the shrub is located in riparian or upland habitat, and if the shrub has evidence of exit holes;
    - C. Plant elderberry shrubs, and five seedlings and five associated native plants, in an area of at least 1,800 square feet per transplant;

  - D. Perform maintenance, implement remedial measures, and submit reports, following the requirements in the USFWS guidelines (1999); or
  - E. To compensate for loss of habitat for VELB, the County may either acquire and manage in perpetuity a local mitigation site that is approved by USFWS for the sole purpose of compensating project impacts on VELB; or participate in a local USFWS-approved mitigation bank.
- The VELB mitigation plan shall be completed and submitted to the County and USFWS prior to grading or ground-disturbing activity within 100 feet of VELB habitat or potential habitat.

Mitigation Measure BIO-7: To avoid removal of migratory bird or raptor active nests, vegetation removal and trimming should be conducted during the non-breeding season (August 16–January 31). If this is not possible, the following measure will be implemented:

If construction activities are anticipated to occur mainly during the nesting season for migratory birds and raptors (generally February through August), the County will retain a qualified biologist to conduct preconstruction surveys for nesting birds for all construction activities that occur within or near suitable breeding habitat. The surveys will be conducted no more than 30 days prior to the start of construction activities and will cover all affected areas, including construction areas and staging areas where ground disturbance or vegetation clearing is required. If no active nests are detected, no additional mitigation measures are required.

If surveys indicate that migratory bird or raptor nests occur in areas where construction activities will take place, a no-disturbance buffer will be established around the nest site to avoid disturbance or destruction of the nest site until after the breeding season or until a wildlife biologist determines that the young have fledged. Generally, the buffer zones are 50–100 feet for nesting passerine birds and 300 feet for nesting raptors other than Swainson's hawks. However, the extent of these buffers will be determined through coordination with CDFG and will depend on the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. These factors will be analyzed to make an appropriate decision on buffer distances. Active nests occurring in or near the study area will be monitored during construction by the onsite monitor. If the onsite monitor determines that birds on the nest are stressed (e.g., a bird constantly leaving an active nest or a bird not returning to the nest regularly to feed chicks), construction will be halted and the County/ DFG contacted to determine a further course of action.

Mitigation Measure BIO-8: Retain a Qualified Biologist to conduct, not more than 15 days prior to construction, a preconstruction survey for adult western pond turtle(s), hatchlings and eggs, focusing on perennial marsh habitat areas and uplands within 300 feet of such potential habitat. If adult pond turtles are located in the construction area, the biologist will consult with CDFG about relocating the turtle to a suitable aquatic site outside the construction area. If an active pond turtle nest containing either pond turtle hatchlings or eggs is found, a no-disturbance buffer of 300 feet around the nest site will be established until the hatchlings have moved to a nearby aquatic site or have been relocated.

Level of Significance after Mitigation: Less than Significant.

Impact BIO-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The 1991 EIR found one impact that has the potential to have an adverse effect on riparian habitat:

Impact BIO-2a: Bypassing and eliminating creek channel habitat for culvert extension and new culverts – The installation of crossings is expected to disturb creek channel habitat. The number of crossings will increase as compared to the 1991 project, but overall impacts to wetlands/waters of the U.S. will decrease. Mitigation measure BIO-9 listed below will be required to reduce this impact to a less than significant level.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure BIO-9: Implement wetland/waters of the U.S. mitigation as determined by Section 404 permit and agreed upon by the Corps (See BIO-11).

Level of Significance after Mitigation: Less than Significant.

Impact BIO-3: Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The 1991 EIR found three impacts that have the potential to have an adverse effect federally protected wetlands:

Impact BIO-3a: Possible construction-related impacts to both creeks if debris or soil are sidecast into the channel from adjacent areas – Analysis found in the 1991 EIR remains valid. The proposed project does have the potential for creek impacts from construction debris/soils. Therefore, mitigation measure BIO-10 will be required.

Impact BIO-3b: Elimination of wetlands including freshwater marsh habitat dominated by dense sedge (Ridge Design would eliminate 1.6 ac including 1.1 ac of freshwater marsh and 0.5 ac of habitat dominated by dense sedge) – The proposed project will now impact approximately 1.43 acres of wetlands. Therefore, the revised project avoids/minimizes impacts to wetlands and creek channels when compared to the 1991 project. In addition to design configurations that avoid or minimize wetland impacts, the current project now includes spanning the creeks, rather than installing culverts and other types of discharges of fill material. Mitigation measure BIO-11 will be required to reduce this impact to a less than significant level.

Impact BIO-3c: Loss of marsh habitat, thereby eliminating sources of water for wildlife - The proposed project avoids/minimizes impacts to wetlands and creek channels. In addition to design configurations that avoid or minimize wetland impacts, the current project now includes spanning the creeks, rather than installing culverts and other types of discharges of fill material. Mitigation measure BIO-11 will be required to reduce this impact to a less than significant level.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure BIO-10: Protect riparian habitat and associated wetlands from construction areas according to the standards established in California Fish and Game Code 1600 and Sections 402 and 404 of the Clean Water Act. Comply with wetland/waters of the U.S. mitigation required by Section 404 of the Clean Water Act and Section 1600 of California Fish and Game Code. At a minimum, this will include replacement or restoration of disturbed habitat sufficient to achieve no net loss of function. (see also Mitigation Measures HYD-1, HYD-6 and GEO-2).

BIO-11: The County shall require avoidance of wetlands to the extent practicable. Prior to any construction activities that could directly or indirectly impact jurisdictional wetlands within the project area, the contractor and/or County shall obtain a Section 404 permit from the Army Corps of Engineers (Corps), as needed, and mitigate for the effects at a minimum 1:1 ratio to ensure "no-net-loss" through either wetland creation and/or restoration as agreed upon with the Corps.

The County shall be provided with evidence of fulfillment of this measure, including but not limited to proof of purchase of credits in a mitigation bank, or with a Habitat Mitigation and Monitoring Plan for creation of wetlands coupled with proof that the mitigation site will be preserved in perpetuity.

Level of Significance after Mitigation: Less than Significant.

Impact BIO-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The proposed project will construct an Interchange at Silva Valley Parkway and U.S. 50. These roadways currently exist. Therefore, implementation of the proposed project is not expected to interfere with the movement of wildlife. This is considered a less than significant impact and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The 1991 EIR found four impacts that have the potential to conflict with local policies protecting biological resources:

Impact BIO-5a: Elimination of blue oaks (Ridge Design would eliminate 59 blue oaks [51 with dbh exceeding 12 inches and 8 with a dbh range of 6-12 inches].

Impact BIO-5b: Loss or displacement of wildlife species of the blue oak woodland.

Impact BIO-5c: Elimination of interior live oak trees and riparian shrubs.

Impact BIO-5d: Loss of interior live oak woodland habitat and subsequent elimination or displacement of wildlife species associated with this habitat.

The proposed project will eliminate approximately 12.34 acres of non-contiguous blue oak, interior live oak, and valley oak canopy with the project study area.

Riparian habitat, (referenced in a portion of BIO-5c above), including oaks and riparian shrubs located within identified riparian areas of the project, are subject to the implementation of Mitigation Measure BIO-10.

Oak Woodland impacts are currently covered through policies in the Oak Woodland Management Plan (OWMP) adopted by the Board of Supervisors on May 6, 2008 which sets forth the following protection measures relative to development:

> *Prior to disturbance of any oak woodlands, one or more of the following mitigation measures shall be completed: (i) preparation of a replacement planting plan by a qualified professional as defined in the OWMP which requires mitigating the first 10% of oak canopy removed at a 1:1 ratio and any additional canopy acreage to be removed at a 2:1 ratio. The Plan, if prepared, shall require maintaining plantings and replacing dead or diseased trees for not less than seven years to ensure "no net loss"; (ii) preserving "like kind" oak woodland habitat in perpetuity through acquisition of conservation easements or fee simple at the 1:1 and 2:1 ratio set forth in the OWMP; (iii) contributing funds to the Oak Woodlands Conservation Fund, consistent with the OWMP, for the purpose of purchasing oak woodlands conservation easements.*

Mitigation measure BIO-12 will be required to reduce impacts to oak woodland to a less than significant level.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure BIO-12: A certified arborist shall conduct an oak woodland canopy survey in accordance with requirements of the OWMP, which include: An Oak Woodland Canopy Report shall be prepared and submitted to the County for review and approval. The report shall contain survey methodology and results and the survey results will be used to quantify impacts and mitigation requirements (i.e., percentage of canopy that would be removed, retained, and replaced) prior to tree removal.

If possible, the retention standards stipulated in the OWMP (see Table 4.4-3) shall be adhered to. If retention requirements cannot be met, then mitigation for the total area of oak woodland canopy impacted shall occur in accordance with either Option A (On-Site Mitigation, Replanting and Replacement), Option B (Conservation Fund In-Lieu Fee), or a combination of these.

Level of Significance after Mitigation: Less than Significant.

Impact BIO-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The proposed project will construct a new Interchange at Silva Valley Parkway and U.S. 50. The project will not conflict with any local, regional, or state conservation plan. No mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

4.4 CULTURAL RESOURCES

4.4.1 Existing Setting

Background

The original EIR's Cultural Resources "Background" included a brief synopsis of the area's Native American ethnography, archaeology and history. Since the original EIR was certified, many more archaeological surveys and excavations, particularly at historic sites in the locality, have enhanced our general understanding of local history and prehistory. Of particular significance in understanding the local historical and prehistoric archaeology, are the works of Lindstrom for the Valley View Specific Plan (Lindstrom 1995, 1998a and 1998b), Windmiller and Osanna also for the Valley View Specific Plan (Windmiller and Osanna 1999) and Jones and Stokes Associates for Serrano El Dorado Hills (Jones and Stokes Associates 2000). These studies identified prehistoric and historic Native American village sites along Carson Creek, Screech Owl Creek and at other locations in the region surrounding the Silva Valley Parkway Interchange project area and improved our understanding of local Native American settlement over time.

With respect to historical archaeology, the scientific excavations by Jones and Stokes archaeologists at Gold Rush-era camps located on Serrano El Dorado Hills north of U.S. 50 revealed how miners camped under canvas shelters warmed by outdoor fireplaces (Jones and Stokes Associates 2000). The Jones and Stokes study also defined the Mormon Hill Historic District, which encompasses most of the Silva Valley Parkway Interchange project area. Similar camp sites were excavated in the Valley View Specific Plan area on the south side of U.S. 50 (Windmiller and Osanna 1999). This basically summarizes the most important changes in our understanding of local history and prehistory.

Description of Cultural Resources

The original EIR described 11 cultural resources: CA-ELD-558-H (Fitch House and Gardens Site); CA-ELD-600/H (a large, multi-component site extending for more than a mile along the Carson Creek drainage); CA-ELD-585/H (a complex of historic features including the historic Tong Cemetery, stamp mill location, cabin foundation and a bedrock mortar station among other lesser features); Isolated Feature-4 (small prospect pit and several historic artifacts); Isolated features-5 and -7 (remnants of dry laid rock fences); Isolated Feature-8 (small bedrock mortar cup on small boulder); Isolated Feature-9 (dry-laid rock fence line); Richmond-Hall Cemetery (no physical evidence of the site's precise location was verified for the original EIR); Mormon Tavern Monument (a commemorative monument built in 1960) and; Byram House (a remodeled house reputed to have been built in the 1850s).

Subsequent field surveys within the current project area have identified a total of one historic district and 41 sites, structures and features of sites including 10 of the cultural resources identified in the original EIR. The exception is Byram House, which is not included in the current project area. Further details of the following descriptions are found in Appendix C.

CA-ELD-558-H/P-9-646 (Fitch House Site). This 1920s site, consisting of a house and gardens represents the remnants of a residence either constructed or acquired by Albert Fitch, an avid gardener whose reported interest included planting a tree from every country in the world. Albert was the son of George Clinton Fitch who settled in the Clarksville vicinity in 1865. Albert continued the

family's ranching occupation. The house burned in the 1950s. Remnants of the site have deteriorated and sustained considerable vandalism since this site was described in the original EIR.

CA-ELD-600/H/P-9-017 (Large multi-component site). The original EIR described this site as extending for more than a mile along Carson Creek and including a vast complex of both historic and prehistoric features. Three of the site's Native American bedrock milling features were reported in the EIR as existing within the project area (Features 11, 12 and 13). All three bedrock milling features are located in Carson Creek. One of the three, Feature 12, cannot be re-located and may be buried by creek sediments. The remaining two features are isolated features with no associated cultural deposits. In the original EIR, the bedrock milling stations were described as having been documented on forms distributed by the Office of Historic Preservation and, therefore, any research potential these features may have had was exhausted. This conclusion remains unchanged.

In addition to the bedrock milling features of CA-ELD-600/H, the current project area includes two additional features of the site: Features 10 and 14, both remnants of rock fences. These are both minor archaeological resources. Their current condition is poor.

CA-ELD-585/H/P-9-673 (Multi-component site including Tong Cemetery). This site is a complex of historic features and a rock outcrop with several bedrock mortar holes. The site was described in the original EIR as including the historic Tong Cemetery, remnants of a dry-laid stone base for a stamp mill, several associated terraces, a road trace, rock bridge abutments, mine adit, cabin foundation, bedrock milling station, small reservoir with a circular rock wall and a ditch remnant. Subsequent to the EIR, the mine adit was apparently taken out by expansion of U.S. 50. Also subsequent to the EIR, another covered adit and associated tailings were discovered. Re-inspection of the site found the ditch remnant to be largely in-filled. The reservoir is a small circular depression where the ditch remnant ends. The three small grouped terraces are all a part of the spot where a small stamp mill was once located and the dry-laid rock for a cabin with a 10x12 foot floor plan lies next to a depression that may have been a privy. The road trace is not apparent. The bedrock milling station in the creek is no longer evident and may be obscured by debris. Of the remaining features, only the cabin site, stamp mill site and cemetery retain the ability to convey their potential historical importance.

Isolated Feature-4/P-9-013-H (Mine Prospect). The original EIR described this minor archaeological resource as a small glory hole and several historic artifacts. Current efforts to find this feature were unsuccessful. It may no longer exist.

Isolated Features -5 (P-9-014) and -7 (P-9-016)(Rock Fence Remnants). The site was described in the original EIR as including the historic Tong Cemetery, a small fenced cemetery on a knoll, remnants of a dry-laid stone base for a stamp mill, several associated terraces, a road trace, rock bridge abutments, mine adit, cabin foundation, bedrock milling station, small reservoir with a circular rock wall and a ditch remnant. Currently, the fence is in poor condition with only a few places where the dry-laid rock fence may be approximately four feet high. The fence has suffered from loss of rock, perhaps from vandalism. IF-7 was described in the original EIR as a low remnant. At present, the old fence line is represented only by an alignment of rocks no more than a single rock high and wide with scattered rocks in places along this roughly east-west former fence.

Isolated Feature-8/P-9-017 (Bedrock Mortar). The original EIR described this minor archaeological resource as a single shallow bedrock mortar cup on a small boulder located on a hilltop. Current

condition of the mortar appears the same as originally described. An inspection of the surrounding soil gives no evidence of any associated cultural deposit.

Isolated Feature-9/P-9-018 (Rock Fence Remnant). In the original EIR, this fence remnant was described as a dry-laid rock fence line measuring 0.3 meter in height and 80 meters long. The best current description of the old fence line is that of a wood post and barbed wire fence constructed on an alignment of rocks where the source for those rocks outcrops locally. The old north-south fence line has missing and broken posts, down wire here and there. Its overall current condition is poor.

Hall/Richmond Cemetery (Field no. SV-25). The original EIR described this site as a one-acre parcel that lies on the edge of what was the Richmond and later the Hall property and included gravesites ringed with rock. The description further disclosed that during the 1965 construction of additional highway lanes and Tong Road, the cemetery had brush piled and burned on it, and some of the construction equipment was parked on the cemetery. The EIR indicated there was no physical evidence of this pioneer cemetery and therefore, it was not recorded as an archaeological site. Subsequent field inspection identified scattered rock over an area approximately 100 feet on a side at the approximate location of the cemetery as extrapolated from historic maps and interviews. While the surface evidence is equivocal, it is apparent that the cemetery does exist. Research indicates that the cemetery includes at least five graves dating from the 1870s to 1930.

Mormon Tavern (CHL-6-99/CA-ELD-1266-H). The original EIR described the Mormon Tavern as constructed in 1849 by a Mormon named either Morgan or M.T. Altafer. In a recent draft Historic Resource Evaluation Report (HRER) for Caltrans, the Mormon Tavern site was described as including large, two story frame structure with a two-story veranda on the front, a large barn, sheds, two frame houses and a 1950s residence. All were demolished during the widening of U.S. 50 in the 1960s. Currently, the site consists of (seasonal) daffodils and surface scatter of historic artifacts at the hilltop edge of the highway cut. Farther away (north) from the highway cut on the same hill is a rock wall remnant, house depression, paved walkway, water reservoir and two depressions farther up the hill, which may represent the location of "The Nunnery," the site of a house once occupied by nuns and later occupied by the Joerger family. When The Nunnery burned, the Joergers moved into the Mormon Tavern.

The Mormon Tavern monument was constructed in 1960 and commemorates the Mormon Tavern site, although the monument is located some 217 feet from the former location of the tavern. Situated on the south side of U.S. 50, the monument faces the highway, although currently, there is no place to pull off the road and stop to read the historical information on the stone monument's brass plaque.

The following cultural resources are additional sites, structures, features of sites and a historic district identified in the current project area since the original EIR was written. The descriptions include the current condition of each.

Historic Archaeological Sites

Prospects (SV-7; SV-10). These minor historic archaeological resources are depressions interpreted as small mine prospects. SV-10 was identified earlier by LSA but not recorded and this particular isolate could not be located and was probably destroyed by subsequent earth-moving. Field number

SV-7 is an eroded pit approximately 15x20 feet and four feet deep with an iron wagon axle driven into the ground on one side of the pit. There are no other features associated with the pit.

Rock and/or Post and Wire Fences (P-9-069; P-9-861-H; P-9-1646; SV-11; SV-12; SV-13; SV-17). These minor historic resources are remnant fence lines in poor condition. All marked some of the borders of previous fields. The remnant fences of P-9-861-H and Field number SV-11 mark the former location of corrals or small enclosures.

Sacramento to Placerville Road Segment (P-9-809). The Primary Number "P-9-809" has been assigned by the North Central Information Center to more than one historic route between Sacramento and Placerville. This particular road segment evaluated here is an 800 foot long dirt road remnant and associated old fence line remnant that follows the road on its east side from the north side of Tong Road northeast to the west edge of a hill where the road and the fence line remnant turn east. A currently used, deeply rutted dirt road has caused considerable disturbance to the old route, which is currently in poor condition.

Silva Valley Road Segment (P-9-1141). This road segment north of U.S. 50 was recorded by Foothill Archaeological Services back in 1992 as a remnant of the old Coloma Road to Clarksville Road. Due to recent road construction and residential development, only a 400 foot long remnant survives. Condition of the surviving remnant is poor.

Road Segment (Field No. SV-1) and Road and Borrow Area (Field No. SV-5). These two road segments may be contemporary with one another. Based on the relative lack of erosion, both appear to have been made within the last 50 years by modern mechanized equipment. Field no. SV-1 lies in an open field. Its approximately 12-14 foot width suggests that it was made with a bulldozer or grader. The second road, which connects Tong Road with a borrow area next to Carson Creek begins at a gate in a fence built in the mid-1960s during highway construction. Neither road appears to be associated with any historic features in the area.

Road Segment (Field No. SV-2). This historic archaeological resource is an old road cut on the west-facing slope of Mormon Hill that roughly parallels the old Lincoln Highway and could be another feature of P-9-809. Piles of field stones are stacked on the road segment. The southern extension of the road to Clarksville no longer exists. Condition of the road segment is poor.

Mine Tailings (Field no. SV-3). This minor historic archaeological resource consists of rock tailings on the southeast side of Carson Creek. It is apparent that the rock tailings may have been disturbed by construction of a modern church next to the site. No evidence of a mine remains. Condition of the site is poor.

Site of First Tong Residence (Field no. SV-4). The reported site of the first Tong residence along Carson Creek was noted by LSA, but not formally recorded. Field inspection of the location failed to yield any physical evidence of the site. It is likely that construction of the adjacent modern church has either destroyed the site, or the site's true location is elsewhere as suggested most recently by the descendant of a local pioneer family.

Rock Piles (Field no. SV-6 and SV-14). These two rock piles share similarities. Both occur in open fields. Both consist of angular rock. However, SV-6 may have been the result of clearing an

agricultural field of rocks, while SV-14 was a small quarry where rock was broken from an outcrop and was apparently used to help construct a portion of a rock alignment along which a fence was built. The fence no longer remains. Both rock piles are considered minor historic archaeological features.

Road Segment (Field no. SV-8). This historic linear site is a segment of an old fence line and dirt road that may have been a part of the old Sacramento-Placerville Road (another segment of P-9-809). The condition of this segment is very poor–the road trace and fence line are hardly recognizable. It is apparent that construction of U.S. 50 destroyed the northern extent of the road. The southern portion of the short segment has been destroyed by more recent earth-moving. Current condition of the site is poor.

Road Segment (Field no. SV-9). This dirt road segment was identified by LSA but not recorded by LSA on the southeast corner of White Rock Road and Silva Valley Parkway. However, the old roadbed appears to have been destroyed by recent earth-moving.

Lincoln Highway Segments (P-9-809; CA-ELD-721-H; Field nos. SV-15, SV-27 and SV-28). Three segments of the old concrete Lincoln Highway are located within the Silva Valley Parkway Interchange project area. The northernmost segment lies on the north side of U.S. 50 (Field no. SV-15). This approximately 400 foot-long segment of concrete road is in poor condition. The concrete is heavily fractured and partially overgrown with grass, despite the fact that the road is still in use by local residents. The second segment of the old Lincoln Highway (Field no. SV-27) lies immediately adjacent to the south side of U.S. 50. Here, the Lincoln Highway has been paved over with asphalt and does not yield any surface evidence of the original road. The third segment (Field no. SV-28) begins at the intersection with Silva Valley Parkway and extends east to the 1918 bridge over Carson Creek. The first third of this road segment is partially paved over with asphalt. Originally, the road curved to the south just east of the current Silva Valley Parkway intersection. The curve outside the existing right of way has been demolished. The remaining two-thirds of the roadway east to the Carson Creek bridge (Caltrans Bridge no. 25C0112) are in fair condition.

Ditch segment (SV-21).This short ditch remnant is a narrow, largely filled-in feature. While it appears to be related to placer mining, no origin or destination could be defined for the ditch segment. Its condition is poor.

Placer Diggings (Field no. SV-22 and SV-23). These two minor historic archaeological resources consist of placer diggings along the west bank of Carson Creek both north and south of the old Lincoln Highway at Carson Creek bridge. The diggings south of the bridge to the first turn west of the creek are heavily eroded bank diggings and the hummocky east-facing hill slope overlooking the creek. These amorphous diggings may well date back to the gold rush. North of the bridge, there is one area of bank diggings closest to the south side of U.S. 50 that are equally eroded and may be contemporaneous with those south of the bridge. However between the northernmost eroded diggings and the bridge are a series of much less eroded diggings that may date to a much later period such as the 1890s-1900 or the 1930s. Disturbances include water erosion from Carson Creek and sheet erosion from seasonal precipitation.

Historic Structures and Objects

White Rock Road at Carson Creek (Bridge no. 25C0112). This concrete bridge was constructed in 1918 for the Lincoln Highway crossing of Carson Creek at Clarksville. The roadway across the bridge is 21 feet wide and 68 feet long. The bridge railings are three feet high. The massive concrete bridge abutments support both ends of the bridge, while two sets of arched concrete pillars support the bridge span. Condition of the bridge is good.

Joerger Cutoff at Bucket Ravine (Field no. SV-24). This historic "bridge" is a concrete box culvert with raised concrete sides in the form of molded panels. The bridge is approximately 145 feet wide with a 12 foot span. Construction date is unknown. Condition of the culvert is good.

Spring House and well (Field no. SV-19). This historic structure is a spring house consisting of a rectangular concrete reservoir enclosed by sheet metal siding and a gable roof clad in corrugated iron sheets. Isolated on a hill slope above a segment of the old Lincoln Highway, the spring house and accompanying capped well are not physically associated with any other sites or structures.

Historic District

Archaeologists recognize several different types of resources that can occur on a given property. The above descriptions include sites, structures and objects. Objects are generally small in scale and simply constructed, such as a monument. Structures are part of the built environment such as bridges or a covered concrete water reservoir. Sites are locations of prehistoric or historic human occupation or activity, a ruined building or structure, or a natural landmark with a strong association with significant historic or prehistoric events.

A district is a significant concentration of sites and/or objects (and also may include buildings and structures) that are related historically by function, theme, plan or physical development. From the archaeologist's perspective, a district is a grouping of archaeological sites related principally by their common components.

Mormon Hill Historic District (P-9-1670). This historic district was identified by Jones & Stokes Associates subsequent to the 1991 EIR. Jones & Stokes archaeologists described the Mormon Hill Historic District as "characterized by its 'gold country' setting and its development as a rural agricultural community following the Gold Rush era." Its period of significance dates from 1848 to 1900. Its key characteristics include economic dependence on the Sacramento to Placerville transportation corridor, the landmark inn, Mormon Tavern, the town of Clarksville, eight large ranch complexes, mining camps, transitional mining claims and homesteads, and remnants of the Eureka ditch (Jones & Stokes 2000:26).

The district encompasses all of the sites, features and structures identified within the current project area. However, the current condition of the district suffers from residential development that has encroached on the northern half of the district, as well as commercial development on the southwest side of the district. Road widening along Silva Valley Road and White Rock Road has also impacted the district to a certain extent.

4.4.2 Methodology

Research

The original EIR reported that records searches conducted by the North Central Information Center, California Historical Resources Information System showed that surveys conducted by Peak & Associates, Inc. included most of the study area (Peak & Associates, Inc. 1987a, 1987b).

An updated records search in 2003 showed that 25 different cultural resource studies had by that time been conducted within the same area. A second updated records search by the North Central Information Center in March, 2010 showed that four additional cultural resource studies had been conducted within the current study area since 2003 (Kaplain and Huster 2006, Blind 2009, Peak & Associates 2007, Siskin 2008). Including the 2010 survey by Ric Windmiller, Consulting Archaeologist, the entire current study area has been inspected (Windmiller 2010).

There were eleven cultural resources identified in the old EIR: CA-ELD-558-H (the Fitch home site); CA-ELD-600/H (bedrock milling features); CA-ELD-585/H (Tong cemetery and other unrelated features); five isolated features including rock fence remnants, mine prospect and bedrock milling feature; the Mormon Tavern Monument; Richmond-Hall cemetery and; Byram House. Of these resources, the old EIR concluded that the project alternatives as designed back then could impact the following cultural resources deemed significant under CEQA: The Tong Cemetery, stamp mill and cabin site components of CA-ELD-585/H; Richmond-Hall cemetery; Mormon Tavern Monument, a portion of CA-ELD-600/H and possible impacts to unknown sites.

In the current design and considering changes in the methods of determining significance of cultural resources and impacts under CEQA since the original EIR, the following significant or potentially significant cultural resources may be impacted: the historic Tong Cemetery, stamp mill and cabin site components of CA-ELD-585-H (change in method of determining significance and mitigation); Richmond-Hall Cemetery (change in method of determining significance and mitigation); a portion of CA-ELD-600-H (no change); the Mormon Tavern monument (no change) and a portion of the Mormon Hill Historic District P-9-1670 (identified after the original EIR was certified).

Field Surveys

In the original EIR, much of the Area of Potential Effect (also identified as “study area” or “project area” in the EIR) had been previously surveyed in 1986 by Peak and Associates. Additional field surveys of the highway right-of-way were conducted by Peak & Associates in 1988. The area was completely covered on-foot during the surveys. Sites located within the project area were documented on forms distributed by the State Office of Historic Preservation and filed with the North Central Information Center.

Subsequent surveys encompassing portions of the current project area that were conducted in 2010 have also documented archaeological sites and structures on forms distributed by the Office of Historic Preservation. Those forms have also been filed with the North Central Information Center. During the 2010 updated initial cultural resources study, LSA Associates, Inc. provided archaeologists who walked the current project area, revisited previously documented sites and noted the location of “new” sites. Ric Windmiller, Consulting Archaeologist revisited the previously identified sites, as well as the “new” sites identified by LSA and documented the current condition of

all resources on the forms in current use by cultural resource specialists. Windmiller also traversed the project area along broad transects to check the reliability of previous field surveys and walked the fringe areas of previous surveys to insure that the entire project area has been inspected for cultural resources (Windmiller 2010).

Archival Research

In the original EIR, archival research summarized the history of CA-ELD-558-H, the remnants of the Albert Fitch home and gardens, CA-ELD-585/H, the multi-component site including the Tong Cemetery, the Richmond/Hall Cemetery and Mormon Tavern. Although many studies have been completed in and around the Silva Valley Parkway Interchange project area since 1991, including documentation on the Mormon Hill Historic District, none have yielded physical evidence of an association between the four isolated bedrock milling features (P-9-017, CA-ELD-600/H, Features 11, 12 and 13) and known (previously recorded) Native American village or other sites of Native American significance.

An interview with a descendant of the Joerger family who lived at Mormon Tavern indicates that while evidence of the Mormon Tavern itself does not survive, the historic archaeological features remaining there represent the historic Joerger occupation of that location.

Studies on adjacent properties subsequent to the original EIR included other oral history, including but not limited to discussions of rock fences, their construction and functions. Such fences are associated historically to the fluorescence of sheep and cattle ranching, dating back to the 1870s and 1880s. Locally available rock provided the least expensive material for fencing, which was put up by the ranchers themselves especially in winter when the work load was relatively light.

Caltrans has evaluated the White Rock Road at Carson Creek Bridge (Bridge no. 25C0112) as not eligible for the National Register of Historic Places.

From a review of the literature, it is apparent that little significant new information relevant to historical resources located within the Silva Valley Parkway Interchange project area has surfaced since the original EIR was completed.

4.4.3 Regulatory Setting

California Cultural Resources Law

California Register Criteria. A cultural resource is evaluated under four California Register criteria to determine its historical significance. A resource must be significant at the local, state, or national level in accordance with one or more of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in the state's past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

- Has yielded or may be likely to yield, important information regarding prehistoric or historical conditions.

In addition to meeting one or more of the criteria listed above, the California Register requires that a resource possess integrity: the ability to convey its significance. To retain integrity, the original location, design, setting, materials, workmanship, feeling, and association of the resource should be intact. Which of these factors are most important will depend on the criteria under which the resource is considered eligible for listing.

California Native American Graves Protection and Repatriation Act of 2001 (Cal NAGPRA). Cal NAGPRA applies to all state agencies and museums that receive state funding or have possession or control over collections of human remains or cultural items. The act applies to remains and items associated with California tribes, which may or may not be federally recognized. Existing collections must be inventoried, with the inventories supplied to the Repatriation Oversight Commission. New finds are subject to the same process.

California Public Resources Code, Section 5097. Section 5097 addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the Native American Heritage Commission to resolve disputes regarding the disposition of such remains. It has been incorporated into Section 15064.5(e) of the CEQA Guidelines. On federal lands, NAGPRA and 43 CFR 10 would apply.

4.4.4 Impacts and Mitigation Measures

Impact CULT-1: Would the project cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

The 1991 EIR found five impacts that have the potential to cause adverse changes to a historical resource:

Impact CULT-1a: Possible adverse impacts to unknown sites - Since the 1991 EIR, additional cultural resources have been identified within the Interchange Project area including the Mormon Hill Historic District. However, the impacts from building the Interchange and related improvements will not affect the significance or potential significance of the cultural resources present in the study area, including those resources in the Historic District. In 2010, a qualified archaeologist traversed the project area in broad transects to check the reliability of previous field surveys and walked the fringe areas of previous surveys to insure that the entire project area has been inspected for cultural resources. As a result, there are no reasonably foreseeable additional sites that would be discovered containing cultural resources in light of the due diligence performed. With mitigation measure CULT-1 in place, the impact to unexpected historical or cultural resources if encountered during project construction would be less than significant.

Impact CULT-1b: Disturbance to CA-ELD-558-H - Previous analysis remains valid. This impact is considered less than significant and no mitigation measures are required.

Impact CULT-1c: Disturbance to portions of CA-ELD-585-H including the adits, and possibly the stamp mill, Cabin and terraces, which lie near the edge of the proposed right-of-way – Mitigation identified in the 1991 EIR (Mitigation Measure CULT-2) remains applicable. Additional mitigation (CULT-3) listed below will also be required.

Impact CULT-1d: No adverse effects to the Byram House - Byram House was not identified in the present Interchange project area as a result of recent surveys. Therefore, this impact is no longer applicable. No mitigation is required.

Impact CULT-1e: Possible adverse effects on the State Historical Landmark monument designating the site of the Mormon Tavern - This impact was included in the 1991 EIR only with respect to the Undercrossing Design alternative. The current project proposes to construct the Ridge Design. If it is necessary to relocate the monument for the current design, additional mitigation (CULT-4) listed below will be required.

Impact CULT-1f: In addition to the impacts identified in the 1991 EIR, the updated Cultural Resource Study prepared for the proposed project found additional cultural resources in the area. These resources and potential impacts are identified in Table 5 below.

Table 5: Impact Analysis of Additional Cultural Resources

Site Number	Description	Significance	Impacts	Mitigation	LOS After Mitigation
Historic Archaeological Sites					
SV-7	Mine prospect	LTS	Potential grading at south end of feature	None	LTS
SV-10	Reported location of mine prospect	LTS	Destroyed by unrelated grading	None	LTS
SV-20 (P-9-069)	Fence remnants	LTS	None; open space	None	LTS
P-9-861-H	Corral enclosure remnants	LTS	Potential grading for north bound overcrossing approach	None	LTS
P9-1646	Fence remnant	LTS	Grading for Tong Road Relocation	None	LTS
SV-11	Corral enclosure remnants	LTS	Grading for White Rock Road Relocation	None	LTS
SV-12	Fence remnant	LTS	Potential grading for White Rock Road relocation	None	LTS
SV-13	Fence remnant	LTS	Grading for overcrossing ramp	None	LTS
SV-17	Fence remnant	LTS	Grading for Tong Road Relocation	None	LTS
P-9-809	Road segment	LTS	Grading for north bound connector to Silva Valley Parkway	None	LTS
P-9-1141	Road segment	LTS	Grading for north bound connector to Silva Valley Parkway	None	LTS
SV-1	Road segment	LTS	Grading for Tong Road Relocation	None	LTS
SV-5	Road and Borrow Area	LTS	Grading for westbound off ramp, westbound on ramp and Tong Road relocation	None	LTS
SV-2	Road segment	LTS	None; open space	None	LTS
SV-3	Mine tailings	LTS	Potential grading near Tong Road relocation	None	LTS
SV-4	Reported location of Tong house	LTS	Grading for westbound off Ramp	None	LTS
SV-6	Rock pile	LTS	Potential grading near east bound off ramp	None	LTS
SV-14	Rock pile	LTS	Potential grading near north bound connector to Silva Valley Parkway	None	LTS
SV-8	Road segment	LTS	Grading for east bound off Ramp	None	LTS
SV-9	Reported location of road segment	LTS	Grading for White Rock Road relocation	None	LTS

Site Number	Description	Significance	Impacts	Mitigation	LOS After Mitigation
SV-15	Road segment	LTS	Potential grading near Tong Road relocation	None	LTS
SV-27	Road segment	LTS	None; open space	None	LTS
SV-28	Road segment	LTS	Grading for White Rock Road relocation and overcrossing ramp	None	LTS
SV-21	Ditch segment	LTS	None; open space	None	LTS
SV-22	Placer diggings	LTS	Potential grading for White Rock Road relocation	None	LTS
SV-23	Placer diggings	LTS	Grading for east bound on Ramp	None	LTS
Historic Structures and Objects					
Bridge 25C0112	White Rock Road @ Carson Creek	LTS	None; open space	None	LTS
SV-24	Joerger Cutoff culvert @ Bucket Ravine	LTS	None; open space	None	LTS
SV-19	Spring house and well	LTS	Potential grading	None	LTS
Historic District					
P-9-1670	Mormon Hill Historic District	PS	Potential impacts from Excavation to contributing Resources: SV-25 (Richmond-Hall Cemetery; P-9-673 (Tong Cemetery, stamp mill feature and cabin and privy feature)	Mitigaion Measures CULT-5 & CULT-6	LTS

Level of Significance before Mitigation: Potentially Significant (Impact *CULT-1a, 1c, 1e, and 1f*), Less than Significant (Impact *CULT-1b and 1d*).

Mitigation Measure CULT-1: Before initiation of construction or ground-disturbing activities associated with the project, for all project phases, all construction personnel shall attend a training session so they are alerted to the possibility of buried cultural resources within the project site. The general contractor and its supervisory staff shall be responsible for monitoring the construction project for disturbance of cultural resources. Should any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains be encountered during any development activities, work shall be suspended and the County shall be notified immediately. The County shall retain a qualified archaeologist who shall conduct a field investigation of the specific site and recommend mitigation deemed necessary for the protection or recovery of any cultural resource concluded by the archaeologist to represent historical resources or unique archaeological resources. The County shall be responsible for approval of recommended mitigation if it is determined by the County to be feasible in light of approved land uses. Work shall

be suspended only in the immediate vicinity of the find and not across the entire project. Therefore, work may continue in other parts of the project area while evaluation and any mitigation are conducted at the location of the find.

In accordance with the California Health and Safety Code, if human remains are uncovered during construction at the project site, work within 50 feet of the remains shall be suspended immediately, and the County and the County Coroner shall be notified immediately. If the remains are determined by the County Coroner to be Native American, the NAHC shall be notified within 24 hours of that determination (Health and Safety Code Section 7050[c]), and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The NAHC will then assign a Most Likely Descendant (MLD) to serve as the main point of Native American contact and consultation. Following the coroner's findings, the MLD and the archaeologist shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The County shall be required to implement any feasible, timely-formulated mitigation deemed necessary for the protection of the burial remains. Construction work in the vicinity of the burials shall not resume until the mitigation is completed. This measure shall be included in all grading and improvement plans for all project phases.

Mitigation Measure CULT-2: Preserve CA-ELD-585-H or require additional work.

Mitigation Measure CULT-3: Prior to any ground disturbing activity within the vicinity of CA-ELD-585-H, place temporary construction fencing around the stamp mill/terrace and cabin features supervised by a qualified archaeologist.

Mitigation Measure CULT-4: If impacted by construction, relocate the State Historical Landmark Monument. Approval must be sought from the State Office of Historic Preservation and the monument moved prior to construction in the vicinity.

Level of Significance after Mitigation: Less than Significant.

Impact CULT-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

The 1991 EIR found one potential adverse impact to archaeological resources in the project area:

Impact CULT-2a: Disturbance to a portion of CA-ELD-600-H - Previous analysis remains valid. This impact is considered less than significant and no mitigation measures are required. No other impacts to archaeological resources are expected to occur.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: None required.

Level of Significance after Mitigation: Less than Significant

Impact CULT-3: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

El Dorado County's geology is predominantly igneous (volcanic) in nature and the type of sedimentary deposits where paleontological remains might be present are virtually nonexistent. Therefore, the project is not expected to destroy any unique paleontological resources or unique geologic features and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact CULT-4: Would the project disturb any human remains, including those interred outside of formal cemeteries?

The 1991 EIR found two impacts that would potentially disturb human remains:

Impact CULT-4a: No adverse effects to the Tong Cemetery portion of CA-ELD-585-H, because a retaining wall has been designed to protect this portion of the site - Mitigation measure CULT-5 will be required to more precisely define the cemetery's boundaries so that the construction of the retaining wall will not damage or destroy graves.

Impact CULT-4b: Possible disturbance to the Hall/Richmond Cemetery - Mitigation measure CULT-6 will be required to identify the precise location of the cemetery and/or graves before preservation by avoidance can be effective. Precise location of the cemetery and graves is also necessary if avoidance is not feasible and the graves must be relocated.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure CULT-5: Prior to any ground disturbance within the vicinity of the Tong cemetery, remote sensing such as ground-penetrating radar supervised by a qualified archaeologist shall be undertaken between the cemetery and the freeway. If graves are discovered during or subsequent to the remote sensing, and cannot be avoided by construction, then the archaeologist will coordinate with El Dorado County to disinter, remove, transport and re-inter the remains. In addition, temporary construction fencing shall be placed around the cemetery to protect it from accidental damage prior to construction of the retaining wall and/or utilities. Placement of the temporary fencing and construction of the retaining wall and any above-ground or below-ground utilities shall be monitored by a qualified archaeologist.

Mitigation Measure CULT-6: As previous efforts through archival research and surface examination to precisely locate the Hall/Richmond cemetery have failed, physical efforts such as remote sensing and/or mechanized test excavation shall be undertaken prior to any ground disturbing activity between the freeway and the existing Tong Road. A qualified archaeologist shall be consulted to locate the grid for remote sensing, such as ground penetrating radar. If mechanized test excavations

are undertaken, a qualified archaeologist shall supervise the excavations. If graves are discovered and cannot be avoided by construction, then the archaeologist will coordinate with El Dorado County to disinter, remove, transport and re-inter the remains. If graves can be avoided, but surface of cemetery must be graded or otherwise adversely affected, then cemetery and/or graves shall be marked to avoid future disturbance.

Level of Significance after Mitigation: Less than Significant.

4.5 GEOLOGY AND SOILS (AND HAZARDOUS WASTE)

4.5.1 Existing Setting

Geology & Soils
The previously prepared 1991 EIR described the geologic setting of the project area, including: regional geology and seismicity, project landforms, bedrock geology and structure, surficial geology, mineral resources, seismic hazards, and springs and seepage areas. These descriptions of project site geology are still accurate and do not require further description. Figure 5 illustrates soils present at the project site.

Hazardous Materials
Potential hazardous materials impacts were not discussed in the original 1991 EIR. Therefore, this issue area (setting, impacts, and mitigation measures) has been added to the Geology and Soils section of this SEIR.

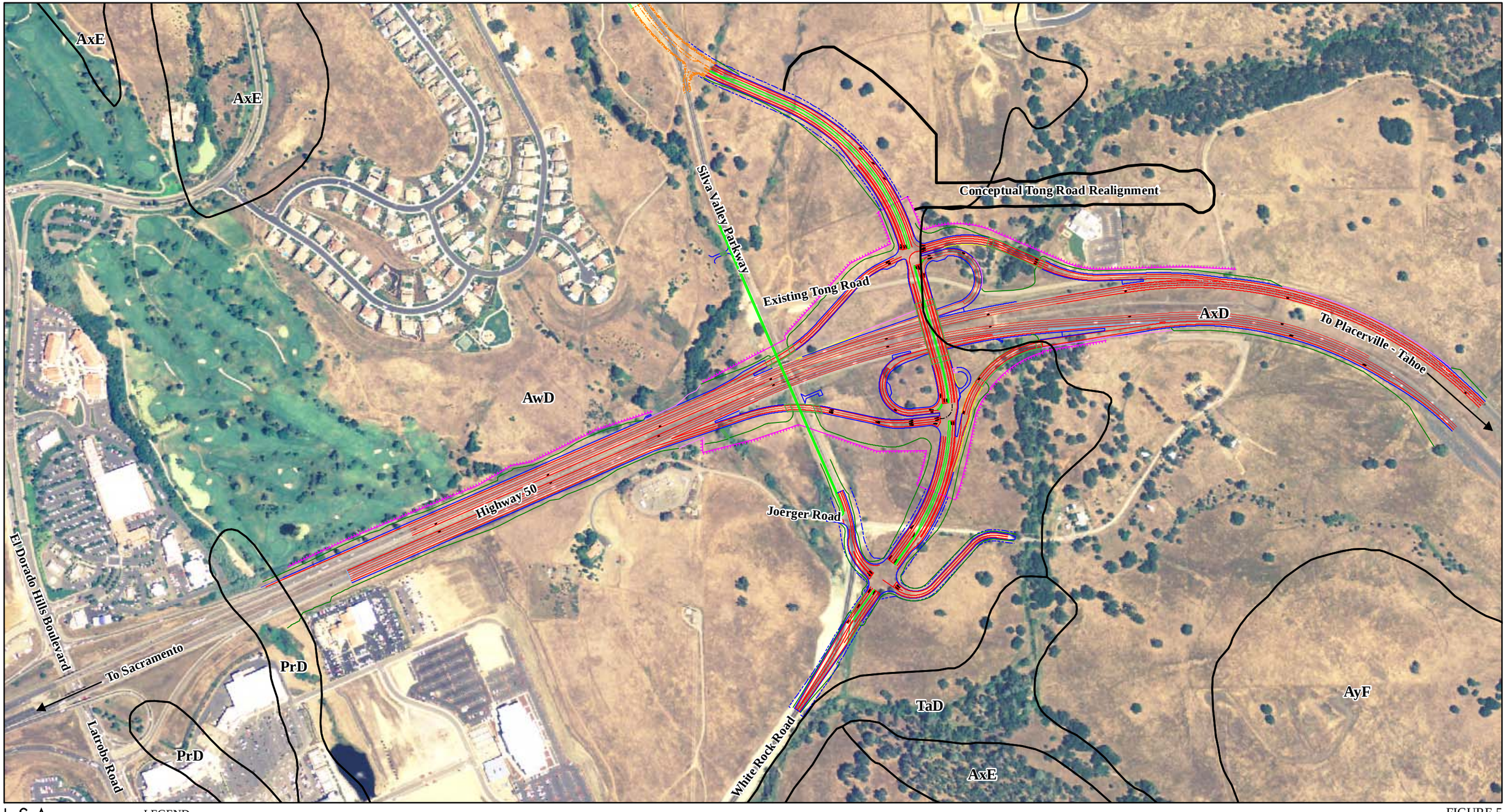
An Initial Site Assessment (ISA) was prepared by Blackburn for the proposed project (See Appendix D) in April of 2007. Additionally, a letter dated February 2010 was prepared by Blackburn stating that the 2007 ISA remains valid. Several parcels were identified in the ISA as having potential hazardous waste or materials contamination. The following summary describes potential hazards for each particular parcel:

PG&E Clarksville Electrical Substation (APN 107-130-06)
This parcel is subject to partial acquisition. No site specific hazardous material issues were identified. Based on use and age of the site, the substation is considered a potential risk for Polychlorinated biphenyl (PCB) contamination from older transformers and a risk for potential petroleum hydrocarbon contamination from leaking coolant oils and site maintenance activities.

Associated with the PG&E substation parcel by proximity, a former gas station/commercial structure along the old, two-lane U.S. 50 was identified. Although the structures were removed for the widening of U.S. 50, there is still potential for petroleum hydrocarbon impacts to the subsurface between the PG&E substation and U.S. 50.

LaFontsee Property (APN 108-070-0310)
This parcel is subject to partial acquisition. No specific hazardous material issues were identified. The site's previous residential structure and outlying storage structures are removed, but many discarded objects, domestic-appearing waste, and smaller wooden-framed dilapidated structures remain. Common issues associated with these land uses include: potential petroleum hydrocarbon spillage, leach fields and septic tanks, buried heating oil tanks, asbestos containing building materials, and lead-containing paint.

Shell (APN Unknown – Adjacent to APN 107-680-1910)
This is an active, petroleum fuel service station. No specific hazardous material issues were identified. However, a Phase II investigation was recently conducted at the site, as indicated by the presence of at least ten, 55-gallon drums, each marked as "hazardous waste." Current plans do not include acquisition of this site; however, groundwater and/or soil contamination of adjacent parcels is possible.



LSA

LEGEND

FIGURE 5

Soil Types

AwD - Auburn silt loam, 3 to 30 percent slopes

AxD - Auburn very rocky silt loam, 3 to 30 precent slopes

AxE - Auburn very rocky silt loam, 30 to 50 percent slopes

AyF - Auburn extremely rocky silt loam, 3 to 70 percent slopes

PrD - Placer diggings

TaD - Tailings

0 250 500
FEET

Silva Valley Parkway Interchange

Project Area Soils

SOURCE: Basemap - El Dorado County NIAP (5/2005); Mapping - NRGS Soil Survey El Dorado County

I:\MKT530\GIS\soils_map3.mxd (7/13/10)

Wilmington Trust/Tosco Trust – Union 76 (APN 107-120-0410)
This parcel is subject to partial acquisition. This is an active, petroleum fuel service station. No specific hazardous material issues were identified. However, hazardous waste issues are possible due to activities on the site.

Serrano Associates (APN 114-160-19)
This parcel is subject to partial acquisition. No specific hazardous material issues were identified. Remnant structures were observed adjacent to the north side of U.S. 50. A house structure, barns, warehouse, and associated improvements were observed. Common contamination issues associated with this land use are: ACM and LCP, unidentified septic tanks and leach fields, buried heating oil tanks, and ADL from the adjacent U.S. 50.

KFRD Investors Inc. & Tong Ranch LLC (APN 108-070-0510 & 108-070-0610)
These parcels are subject to partial or complete acquisition. No specific hazardous material issues were identified. 55-gallon drums, rusting machinery, trash and rubbish, and above ground storage tanks were identified on the properties. Potential issues include ACM and LCP, septic tanks, and buried heating oil tanks.

Syers Properties, LLC – Valero Service Station (APN 107-130-5010)
This parcel is not subject to acquisition. The parcel is known as the "Town Center" shopping area. There is an active petroleum fuel service station located within the shopping center. No record of suspected soil and/or groundwater contamination was found. However, hazardous waste issues are possible due to activities on the site.

EDH 52 (APN 108-030-1010)
This parcel is subject to acquisition. No specific hazardous material issues were identified at this site. The parcel consists of undeveloped grazing land that appears unused at the present time. Remnant concrete structures and associated debris were observed at this site, indicating a former ranch. Issues associated with a former farm residence include leach fields/septic tanks and buried heating oil tanks.

Naturally Occurring Asbestos
The project site is located in a geologic region identified as having at or near surface naturally occurring asbestos (NOA) bearing rocks and soils.

General Contamination/Hazardous Materials Issues
The location of the project site and land uses in the project area is often associated with the following potential hazardous materials:

- Pesticides
- Aerially Deposited Lead
- Transformers
- Yellow Traffic Stripes
- Underground Product Distribution Lines

4.5.2 Regulatory Setting

The following goals and policies from the 2004 El Dorado County General Plan pertain to Geology, Soils, and Hazardous Materials:

Goal 6.3: Seismic and Geologic Hazards: Minimize the threat to life and property from seismic and geologic hazards.

Objective 6.3.1: Building and Site Standards: Adopt and enforce development regulations, including building and site standards, to protect against seismic and geologic hazards.

Policy 6.3.1.1: The County shall require that all discretionary projects and all projects requiring a grading permit, or a building permit that would result in earth disturbance, that are located in areas likely to contain naturally occurring asbestos (based on mapping developed by the California Department of Conservation [DOC]) have a California registered geologist knowledgeable about asbestos-containing formations inspect the project area for the presence of asbestos using appropriate test methods. The County shall amend the Erosion and Sediment Control Ordinance to include a section that addresses the reduction of thresholds to an appropriate level for grading permits in areas likely to contain naturally occurring asbestos (based on mapping developed by the DOC). The Department of Transportation and the County Air Quality Management District shall consider the requirement of posting a warning sign at the work site in areas likely to contain naturally occurring asbestos based on the mapping developed by the DOC.

Policy 6.3.1.2: The County shall establish a mandatory disclosure program, where potential buyers and sellers of real property in all areas likely to contain naturally occurring asbestos (based on mapping developed by the California Department of Conservation [DOC]) are provided information regarding the potential presence of asbestos subject to sale. Information shall include potential for exposure from access roads and from disturbance activities (e.g., landscaping).

Policy 6.3.1.3: The County Environmental Management Department shall report annually to the Board of Supervisors regarding new information on asbestos and design an information outreach program.

Objective 6.3.2: County-Wide Seismic Hazards: Continue to evaluate seismic related hazards such as liquefaction, landslides, and avalanche, particularly in the Tahoe Basin.

Policy 6.3.2.1: The County shall maintain updated geologic, seismic and avalanche hazard maps, and other hazard inventory information in cooperation with the State Office of Emergency Services, California Department of Conservation--Division of Mines and Geology, U.S. Forest Service, Caltrans, Tahoe Regional Planning Agency, and other agencies as this information is made

available. This information shall be incorporated into the El Dorado County Operational Area Multi-Hazard Functional Emergency Operations Plans.

Policy 6.3.2.5: Applications for development of habitable structures shall be reviewed for potential hazards associated with steep or unstable slopes, areas susceptible to high erosion, and avalanche risk. Geotechnical studies shall be required when development may be subject to geological hazards. If hazards are identified, applicants shall be required to mitigate or avoid identified hazards as a condition of approval. If no mitigation is feasible, the project will not be approved.

4.5.3 Impacts and Mitigation Measures

Impact GEO-1: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault?

No active faults have been identified in El Dorado County. One fault, part of the Rescue Lineament–Bear Mountains fault zone, is classified as a potentially active fault in the county. All other faults located in El Dorado County are classified as inactive. Therefore, the proposed project is not likely to expose people or structures to loss or injury due to known earthquake faults and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact GEO-2: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Based on historical seismic activity and fault and seismic hazards mapping, El Dorado County is considered to have relatively low potential for seismic activity. However, mitigation measure GEO-1 is required to ensure seismic related safety.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure GEO-1: A project specific geotechnical report shall be prepared. All recommendations included in the geotechnical report shall be implemented, including recommended materials specifications.

Level of Significance after Mitigation: Less than Significant.

Impact GEO-3: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

No portion of El Dorado County is located in a Seismic Hazard Zone (i.e., regulatory zones that encompass areas prone to liquefaction and earthquake-induced landslides) based on the Seismic Hazards Mapping Program. Therefore, El Dorado County and the proposed project area are not considered to be at risk from liquefaction hazards and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact GEO-4: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

See impact GEO-3.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact GEO-5: Would the project result in substantial soil erosion or the loss of topsoil?

The 1991 EIR found four impacts that have the potential to result in substantial soil erosion or loss of topsoil:

Impact GEO-5a: Modification of natural runoff patterns - Hydrological impacts are discussed in Section 4.8.

Impact GEO-5b: Temporary increased erosion - Hydrological impacts are discussed in Section 4.8

Impact GEO-5c: Temporary degradation of streams - Analysis in the 1991 EIR remains valid. This is a potentially significant impact and mitigation measure GEO-2 listed below will be required.

Impact GEO-5d: Temporary degradation of springs/seepage areas - Degradation of project site springs and seepage areas due to construction is a potentially significant impact. Mitigation measure GEO-3 listed below will be required and will reduce this impact to a less than significant level.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure GEO-2: Develop and implement a project-wide erosion control program.

Mitigation Measure GEO-3: Conditions listed within the 404 permit shall be applied to springs and seepage areas.

Level of Significance after Mitigation: Less than Significant.

Impact GEO-6: Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

The 1991 EIR found five impacts that have the potential to result in soil instability:

Impact GEO-6a: Substantial alteration of the natural landscape - Although the 1991 EIR found this impact to be significant and unavoidable, this impact is now considered less than significant. The proposed project will alter the natural landscape of the project area. However, the project area is zoned for further development, and is not known for geologic issues such as landslides, earthquakes, or seiches. Preparation of a project site geotechnical report (Mitigation Measure GEO-1) will insure that this impact remains less than significant.

Impact GEO-6b: Natural slope instability - Analysis in the 1991 EIR remains valid. This is a less than significant impact and no mitigation is required.

Impact GEO-6c: Man-caused slope instability - Analysis in the 1991 EIR remains valid. This impact is considered potentially significant. Mitigation measure GEO-1 listed below will be required to reduce the impact to less than significant levels.

Impact GEO-6d: Blasting effects for construction - Analysis in the 1991 EIR remains valid. This impact is considered potentially significant. Mitigation measure GEO-4 listed below will be required to reduce the impact to less than significant levels.

Impact GEO-6e: Prevention of mineral resource extraction - Analysis in the 1991 EIR remains valid. This impact is considered less than significant and no mitigation measures are required.

Level of Significance before Mitigation: Potentially Significant (Impact *GEO-6c and 6d*), Less than Significant (Impact *GEO-6a, 6b, and 6e*).

Mitigation Measure GEO-1.

Mitigation Measure GEO-4: The proposed project shall comply with all applicable local, state, and federal safety regulations regarding blasting activities.

Level of Significance after Mitigation: Less than Significant.

Impact GEO-7: Would the project be located on expansive soil, creating substantial risks to life or property?

The 1991 EIR found one impact that could potentially result in risks to life or property due to expansive soils:

Impact GEO-7a: Construction on expansive soils: Analysis in the 1991 EIR remains valid. This is a less than significant impact and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact GEO-8: Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The proposed project does not include the use of septic tanks or alternative waste water disposal systems. Therefore, this impact is considered less than significant and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

An Initial Site Assessment was completed for the project. Several parcels in the project area were identified as being potentially hazardous. In addition, the project site is located in a geologic region identified as having at or near surface naturally occurring asbestos (NOA) bearing rocks and soils. To reduce the risk of hazardous materials and NOA, mitigation measures HAZ-1, HAZ-2, and HAZ-3 will be required.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure HAZ-1: All recommended measures listed in the 2007 Initial Site Assessment shall be implemented.

Mitigation Measure HAZ-2: A NOA monitoring plan will be required prior to grading. This plan shall include:

- A geologist trained in the recognition of NOA should be intermittently present during grading operations.
- The geologist shall observe site conditions and implement special grading conditions when NOA is present.
- BMPs for fugitive dust control shall be practiced during all grading operations consistent with El Dorado County AQMD regulations.

Mitigation Measure HAZ-3: If NOA is present at the project site, the El Dorado Air Quality Management District NOA regulations for Road Construction and Maintenance shall be followed.

Level of Significance after Mitigation: Less than Significant.

Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Hazardous materials may be used by construction equipment and for project improvements during construction. These materials would be used in accordance with all applicable laws and regulations and, if used properly, would not pose a hazard to people, animals, or plants. All refueling and maintenance of construction vehicles and equipment would occur within the designated staging area for the project. The use of hazardous materials for construction equipment would be temporary and the proposed project would not include a permanent use or source of hazardous materials. Mitigation measures HAZ-4 and HAZ-5 will reduce potential impacts to a less than significant level.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure HAZ-4: A Spill Prevention and Containment Plan (SPCP) shall be prepared prior to the commencement of any construction and grading activities. The SPCP shall identify any and all hazardous materials that will be used or stored on site, and will also identify any hazardous wastes that might be generated by the proposed project. The SPCP shall detail proper measures to handle and/or transport hazardous materials. The plan shall also present procedures to contain or initiate cleanup of any spills. The phone number of the appropriate government agency shall be contained on the plan in the event of any release of hazardous substances.

Mitigation Measure HAZ-5: For any previously unknown hazardous waste/material encountered during construction, Caltrans Construction Hazardous Waste Contingency Plan shall be followed (Appendix E).

Level of Significance after Mitigation: Less than Significant.

Impact HAZ-3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Oak Meadow Elementary School is located approximately 0.5 miles from the project site. Further, the proposed project does not include the handling of hazardous materials or substances. Therefore, this impact is considered less than significant and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact HAZ-4: Would the project be located on a site which is included on a list of hazardous materials sites and, as a result, create a significant hazard to the public or the environment?

According to the Initial Site Assessment prepared for the proposed project, no listed hazardous materials sites are located on or adjacent to the project site. Several sites, however, regularly handle or have the potential for hazardous materials on site. Therefore, implementation of mitigation measure HAZ-1 will be required to ensure public and environmental safety.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure HAZ-1.

Level of Significance after Mitigation: Less than Significant.

Impact HAZ-5: Would the project be located within an airport land use plan or in the vicinity of a private airstrip?

The Cameron Airpark located in Cameron Park is the nearest airport or airstrip in the project area, and is situated approximately 4 miles to the east of the project site. Therefore, no impacts to an airport land use plan or private airstrip will occur.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact HAZ-6: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The proposed project will construct a new Interchange at Silva Valley Parkway and U.S. 50. The project will improve circulation in the project area and is not expected to interfere with any adopted emergency plans. This is a less than significant impact and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact HAZ-7: Would the project 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?

The proposed project area is not within a region identified by the California Department of Forestry to be prone to wildland fire. This impact is less than significant and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

4.6 HYDROLOGY AND WATER QUALITY

4.6.1 Existing Setting

A Technical Hydrologic Memorandum (Appendix F) was prepared for the proposed project by Watermark Engineering, Inc. in April 2001. In addition, and update of the 1991 Carson Creek Regional Drainage Study was prepared by Cooper Thorne and Associates in 2005, which provides updated watershed and rainfall data for the project. This study and the Technical Memorandum were used in the preparation of the following section.

The previously prepared 1991 EIR described the hydrologic setting of the project area, including climate and groundwater hydrology. These descriptions of the project site are still accurate and do not require further description.

In the area of surface hydrology the project setting has changed to some extent since the 1991 EIR. The 1991 EIR stated that three intermittent streams flow through the project area and drain the site and upstream watersheds. However, the project site now has only two intermittent streams, Carson Creek and an unnamed stream. Flows for Carson Creek and the smaller unnamed stream were only estimated in the 1991 EIR. Hydrologic modeling of the watershed now shows that flows at Carson Creek are approximately 1,000 to 2,000 cubic feet per second (cfs), and flows in the unnamed stream are approximately 700 to 800 cfs. Finally, the 1991 EIR describes historic storm events occasionally causing Carson Creek to overflow its banks and flood Latrobe Road. Recent roadway and channel improvements in and around Latrobe Road have eliminated flooding issues in that area. New urban development has also increased runoff from paved surfaces in the project area.

In the area of Water Quality, the 1991 EIR stated that water quality in the project area water bodies is estimated to have fairly high quality water, although no data to support this was presented. Project area streams are located very high in the watershed of the Cosumnes River. The federal Clean Water Act requires states to adopt water quality standards for each of the possible designated uses that they assign to their waters. Should evidence suggest or document that a water body has failed to meet the water quality criteria for one or more of its designated uses; it is placed on the 303(d) list of impaired waters. Once a state has placed a water body on the 303(d) list, it must develop a management plan establishing Total Maximum Daily Loads (TMDL) for the pollutant(s) impairing the use of the water. The entire Cosumnes River watershed is currently designated on the 303(d) list for exotic species. The estimated date of completed for TMDLs is 2019.

4.6.2 Regulatory Setting

The State Regional Water Quality Control Board has developed and issued a statewide National Pollutant Discharge Elimination System (NPDES) permit to regulate storm water discharges from all construction activities on its highways and facilities. These projects are regulated under the Statewide permit and are regulated by the Regional Water Quality Control Board's Statewide General Construction Permit. All construction projects over one acre require a Storm Water Pollution Prevention Plan (SWPPP) to be prepared and implemented during construction. The SWPPP should contain a site map which shows the construction site perimeter, existing and proposed roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally,

the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

The following policies from the El Dorado County General Plan relate to water quality:

Objective 7.1.2: Erosion/Sedimentation: Minimize soil erosion and sedimentation.

Policy 7.1.2.1: Development or disturbance shall be prohibited on slopes exceeding 30 percent unless necessary for access. The County may consider and allow development or disturbance on slopes 30 percent and greater [under certain conditions].

Policy 7.1.2.2: Discretionary and ministerial projects that require earthwork and grading, including cut and fill for roads, shall be required to minimize erosion and sedimentation, conform to natural contours, maintain natural drainage patterns, minimize impervious surfaces, and maximize the retention of natural vegetation. Specific standards for minimizing erosion and sedimentation shall be incorporated into the Zoning Ordinance.

Policy 7.1.2.3: Enforce Grading Ordinance provisions for erosion control on all development projects and adopt provisions for ongoing, applicant-funded monitoring of project grading.

Policy 7.1.2.5: The Department of Transportation, in conjunction with the Resource Conservation Districts and Soil Conservation District, shall develop a road-side maintenance program to manage roads in a manner that maintains drainage and protects surface waters while reducing road-side weed problems.

Objective 7.3.1: Water Resource Protection: Preserve and protect the supply and quality of the County's water resources including the protection of critical watersheds, riparian zones, and aquifers.

Policy 7.3.1.1: Encourage the use of Best Management Practices, as identified by the Soil Conservation Service, in watershed lands as a means to prevent erosion, siltation, and flooding.

Objective 7.3.2: Water Quality: Maintenance of and, where possible, improvement of the quality of underground and surface water.

Policy 7.3.2.1: Stream and lake embankments shall be protected from erosion, and streams and lakes shall be protected from excessive turbidity.

Policy 7.3.2.2: Projects requiring a grading permit shall have an erosion control program approved, where necessary.

Policy 7.3.2.3: Where practical and when warranted by the size of the project, parking lot storm drainage shall include facilities to separate oils and salts from storm water in accordance with the recommendations of the Storm Water Quality Task Force's California Storm Water Best Management Practices Handbooks (1993).

Objective 7.3.4: Drainage: Protection and utilization of natural drainage patterns.

Policy 7.3.4.1: Natural watercourses shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site without disturbance.

Policy 7.3.4.2: Modification of natural stream beds and flow shall be regulated to ensure that adequate mitigation measures are utilized.

4.6.3 Impacts and Mitigation Measures

Impact HYD-1: Would the project violate any water quality standards or waste discharge requirements?

The 1991 EIR found three impacts that have the potential to violate water quality standards in the project area:

Impact HYD-1a: Increased turbidity and sediment loading from construction and grading activities – This impact is still considered to be potentially significant. Updated mitigation measures to minimize water quality degradation are required (HYD-1).

Impact HYD-1b: Increased runoff containing sediment, oil, grease, and other pollutants from paved areas - New mitigation measures (HYD-1) are now available to decrease pollutant containing runoff, and will now be required. With mitigation, the project is not expected to violate any water quality standards or waste discharge requirements.

Impact HYD-1c: No change to subsurface water quality because surface water would infiltrate the soil and be cleansed prior to possible use – Previous analysis remains valid. This impact is less than significant and no mitigation measures are required.

Level of Significance before Mitigation: Potentially Significant (Impact *HYD-1a and 1b*), Less than Significant (Impact *HYD-1c*).

Mitigation Measure HYD-1: Prior to the approval of grading permits and improvement plans a SWPPP must be prepared consistent with the existing statewide NPDES storm water permit for general construction activity. The appropriate NOIs shall also be prepared and submitted and any other necessary engineering plans and specifications for pollution prevention and control to the RWQCB. The SWPPP and other appropriate plans shall identify and specify:

- The use of erosion and sediment-control BMPs, including construction techniques, that shall reduce the potential for runoff as well as other measures to be implemented during construction;
- The implementation of approved local plans, nonstormwater-management controls, permanent post construction BMPs, and inspection and maintenance responsibilities;
- The pollutants that are likely to be used during construction that could be present in stormwater drainage and nonstormwater discharges, including fuels, lubricants, and other types of materials used for equipment operation;
- Spill prevention and contingency measures, including measures to prevent or clean up spills of hazardous waste and of hazardous materials used for equipment operation, and emergency procedures for responding to spills;
- Personnel training requirements and procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP; and
- The appropriate personnel responsible for supervisory duties related to implementation of the SWPPP.

BMPs identified in the SWPPP shall be in place throughout all site work and construction/demolition activities and shall be used in all subsequent site development activities. BMPs may include but not be limited to the following:

- Implementing temporary erosion-control measures in disturbed areas to minimize discharge of sediment into nearby drainage conveyances. These measures may include silt fences, staked straw bales or wattles, sediment/silt basins and traps, geofabric, sandbag dikes, and temporary vegetation.
- Establishing permanent vegetative cover to reduce erosion in areas disturbed by construction by slowing runoff velocities, trapping sediment, and enhancing filtration and transpiration.
- Using drainage swales, ditches, and earth dikes to control erosion and runoff by conveying surface runoff down sloping land, intercepting and diverting runoff to a watercourse or channel, preventing sheet flow over sloped surfaces, preventing runoff accumulation at the base of a grade, and avoiding flood damage along roadways and facility infrastructure.

All construction contractors shall retain a copy of the approved SWPPP on the construction site.

Level of Significance after Mitigation: Less than Significant.

Impact HYD-2: Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level?

The proposed project does not include the use of groundwater supplies and would not interfere with groundwater recharge in the project area. Therefore, this impact is considered less than significant and no mitigation measures are required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact HYD-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-or off-site?

The 1991 EIR found one impact that has the potential to alter existing drainage patterns and result in erosion:

Impact HYD-3a: A minor increase in impervious surfaces with minor changes in peak flow characteristics and runoff volumes – Analysis in the 1991 EIR remains valid. This impact is considered less than significant and not mitigation measures are required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact HYD-4: Would the project substantially alter the existing drainage pattern of the site or area, including though the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

The 1991 EIR found five impacts that could potentially alter existing drainage patterns and result in flooding on or off-site:

Impact HYD-4a: Alteration of topographic features and roadways, thereby altering runoff drainage paths – Analysis in the 1991 EIR remains valid. This impact is considered less than significant and no mitigation measures are required.

Impact HYD-4b: Installation of numerous culverts to convey onsite drainage and streamflows over the site and ease possible flooding problems - Acquisition of ponding easements from owners of affected properties is no longer required. The project will be designed to avoid ponding. Review and

approval of design drawings will still be required to ensure that runoff does not result in local flooding or ponding. Implementation of mitigation measure HYD-2 listed below will reduce this impact to less than significant.

Impact HYD-4c: Increased flow velocities as water travels through the culverts – Analysis and mitigation from the 1991 EIR remains valid. Implementation of HYD-3 will reduce this impact to a less than significant level.

Impact HYD-4d: Possible alteration or covering of naturally occurring seeps - Analysis and mitigation from the 1991 EIR remains valid. Implementation of HYD-4 will reduce this impact to a less than significant level.

Impact HYD-4e: Possible alteration of the flow of water from Carson Creek spring (Ridge Design has higher possibility because of greater activity in the spring area) - Previous analysis remains valid. Additional mitigation measures have been included to further reduce this impact (HYD-5 and HYD-6).

Level of Significance before Mitigation: Potentially Significant (Impact *HYD-4b through HYD-4e*), Less than Significant (Impact *HYD-4a*).

Mitigation Measure HYD-2: Size culverts in accordance with El Dorado County and Caltrans requirements.

Mitigation Measure HYD-3: Install erosion control measures at outlets and implement El Dorado County Resource Conservation District (RCD) requirements.

Mitigation Measure HYD-4: Provide adequate subgrade drains as determined necessary by a geotechnical engineer.

Mitigation Measure HYD-5: Require review of the design plans by a geotechnical engineer. Minimize activity in the spring area. Implement a water quality monitoring program.

Mitigation Measure HYD-6: Before commencement of construction activities, a detailed hydrology plan shall be prepared by a qualified engineer. This plan shall finalize the water quality improvements and further detail the structural and nonstructural BMPs proposed for the project. The plans shall include the following:

- A quantitative analysis of proposed conditions incorporating the proposed drainage design features;
- Pre-development and post-development calculations demonstrating that the proposed water quality BMPs meet or exceed requirements established by the RWQCB.

Level of Significance after Mitigation: Less than Significant.

Impact HYD-5: Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The proposed project will increase impervious surface areas in the project area, and therefore increase stormwater runoff. Implementation of mitigation measure HYD-6 will ensure that project drainage design will be required. Therefore, with these actions, the proposed project is not expected to exceed the capacity of existing or planned stormwater drainage systems.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure HYD-6.

Level of Significance after Mitigation: Less than Significant.

Impact HYD-6: Would the project otherwise substantially degrade water quality?

The 1991 EIR found one impact that would potentially degrade water quality:

Impact HYD-6a: Possible alteration of the livestock value of the spring if construction activities degrade the water quality – The project area no longer serves as grazing land for livestock. Therefore, this impact is no long applicable to the proposed project. No mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact HYD-7: Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The proposed project does not include housing. Further, the project area is not in a 100-year flood hazard area. The Federal Emergency Management Agency (FEMA) designates the project area as Zone X, which is the area determined to be outside the 500-year flood zone. This is a less than significant impact and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact HYD-8: Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Please see discussion for Impact HYD-7.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact HYD-9: Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

The proposed project will construct a new Interchange along Silva Valley Parkway and U.S. 50. The project will not involve a levee or dam, nor will the project involve risk of flooding. FEMA designates the project area as Zone X, which is the area determined to be outside the 500-year flood zone. This is a less than significant impact and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact HYD-10: Would the project cause inundation by seiche, tsunami, or mudflow?

As there are no relevant water features in the project area, the project site is not known to experience seiche or tsunami. Mudflows or landslides have occurred in El Dorado County. Preparation of a project-specific geotechnical report (Mitigation measure GEO-1) will ensure that the proposed project will not cause inundation by mudflow or be impacted by landslide activity.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure GEO-1.

Level of Significance after Mitigation: Less than Significant.

4.7 LAND USE AND PLANNING

4.7.1 Existing Setting

General Plan. The project site is currently within the jurisdiction of El Dorado County. The existing County General Plan designations for lands surrounding the project site include Commercial, Medium and Low Density Residential, and Industrial uses. General Plan land uses anticipate construction of an Interchange at this location, and, therefore, the proposed Interchange project is compatible with these land use designations. Figure 6 illustrates project area General Plan designations. It should be noted that lands to the north, south, and east of the project are also designated as part of the El Dorado Hills Specific Plan.

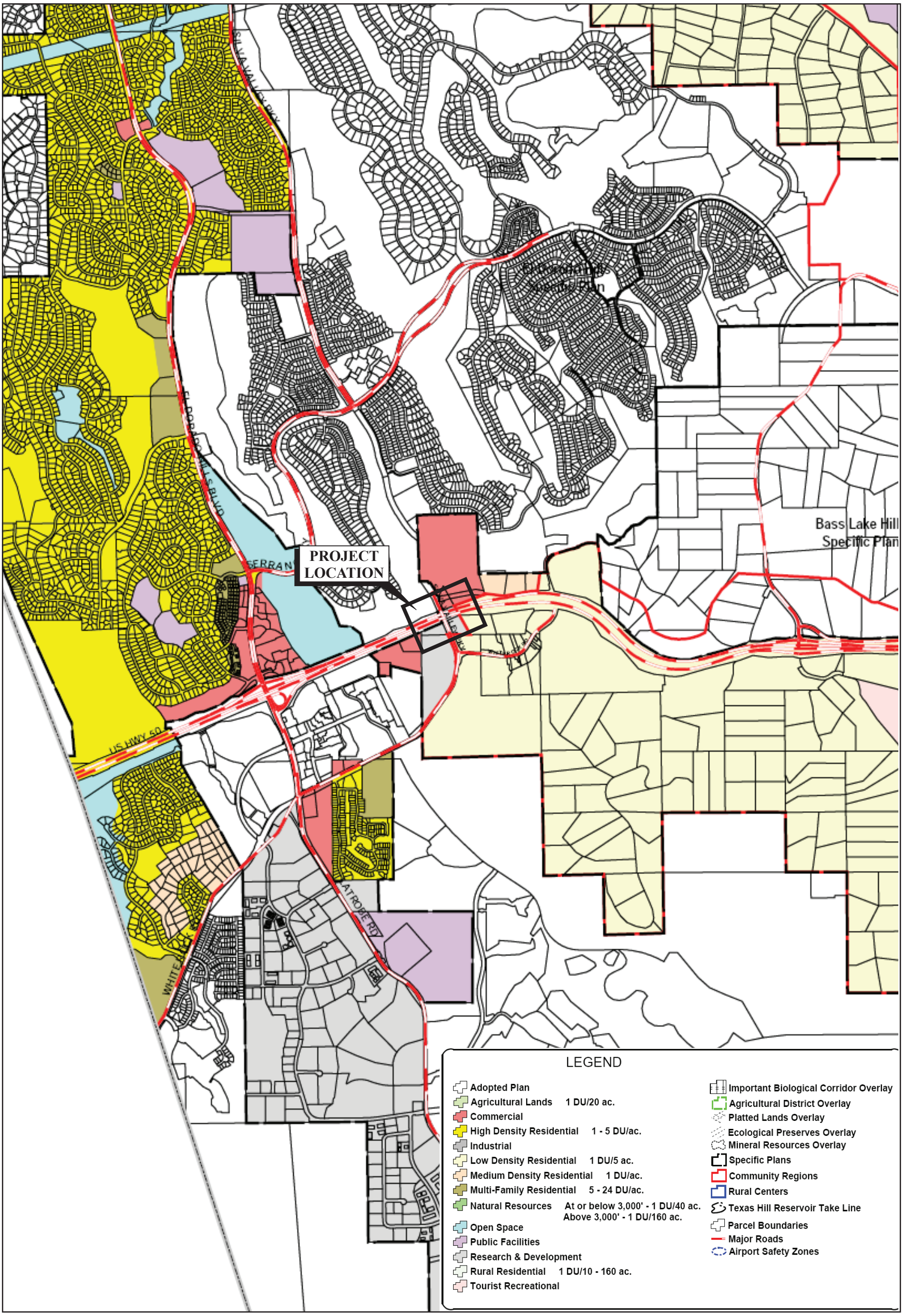
Project area land use designations in the 1991 EIR included Commercial (D), Multifamily Residential (E), High Density Residential (F), and Low-Density Residential (H).

Zoning. The existing zoning designations adjacent to the project site include one-family residential, Open Space, Agricultural, Commercial, General Commercial, and Recreational. The proposed project site primarily includes roadways, and is compatible with adjacent land uses. Figure 7 illustrates project area zoning designations.

The 1991 EIR stated that lands in the vicinity of the project were zoned Exclusive Agriculture (AE), and were located northeast of the project area and south of the highway.

Existing Land Uses. The project site lies along U.S. 50, which runs from I-80 in West Sacramento to the Nevada state line in South Lake Tahoe, and a two lane roadway that passes under U.S. 50. This roadway is called Silva Valley Parkway north of U.S. 50 and White Rock Road south of U.S. 50. Existing improved land uses surrounding the project site include a PG&E substation south of U.S. 50, about 500 feet west of White Rock Road, the Tong Ranch which lies south of U.S. 50 and west of the project site, and the Capital Korean Presbyterian Church which lies north of U.S. 50 and west of the project site. The majority of the project area is currently made up of unimproved lands covered with low grasses and trees, and two creeks (riparian corridors).

The 1991 EIR stated that existing land uses in the project area were typical of the region, with low density development and agricultural land use, but confirmed that the region was being rapidly urbanized owing to the growth pressure from nearby large metropolitan centers.



LSA

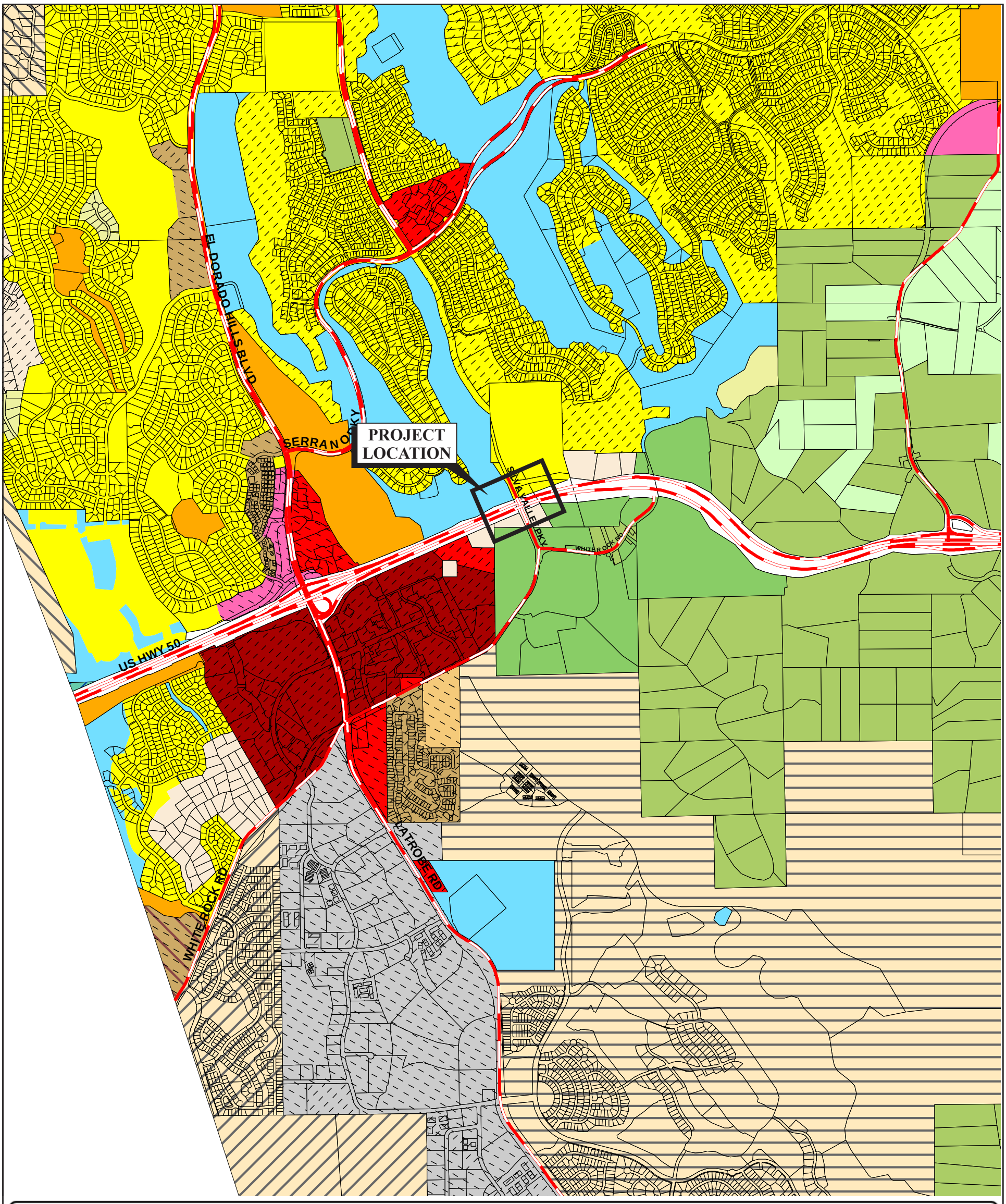
FIGURE 6

Silva Valley Parkway Interchange

General Plan Designations

SOURCE: El Dorado County Zoning Map

P:\MKT530\Graphics\Figure 6.pdf (07/20/10)



LSA

N

FIGURE 7

Silva Valley Parkway Interchange

Zoning Designations

SOURCE: El Dorado County Zoning Map

P:\MKT530\Graphics\Figure 7.pdf (07/20/10)

4.7.2 Impacts and Mitigation Measures

Impact LU-1: Would the project physically divide an established community?

The 1991 EIR found one impact that could potentially divide an established community:

Impact LU-1a: Closure of Tong Road, which is the local access road to reach the private properties north of U.S. 50 - The proposed project will cause Tong Road to be realigned. The alignment and design will be located similar to the 1991 project, but may be placed further south and along the property boundary (see Figure 2). This realignment will include grading, utilities, drainage, and paving. Realignment and implementation of the mitigation measure listed below (LU-1) will ensure that the proposed project will not physically divide an established community.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure LU-1: Construct the alternative access road, provide driveways to the residential structures, and ensure that continuous access is provided during construction.

Level of Significance after Mitigation: Less than Significant.

Impact LU-2: Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect?

The 1991 EIR found five impacts that could potentially conflict with land use plans:

Impact LU-2a: Loss of grazing land – The proposed project will be constructed in the same footprint as the 1991 project. The loss of this land will be comparable. It should be noted than lands adjacent to the proposed Interchange are no longer used for grazing and no mitigation is required.

Impact LU-2b: Acquisition of private property – Acquisition of right-of-way will be required under the proposed project. With implementation of mitigation described below (LU-2), this will be a less than significant impact.

Impact LU-2c: Land use conflicts between the Interchange and existing low-density residential development – Analysis in the 1991 EIR remains valid. The project area is still in an area that is largely non-urban. Land use conflicts between the Interchange and existing low-density residential development would remain less than significant and no mitigation is required. See discussion under LU-2d.

Impact LU-2d: Possible land use conflicts with future planned land uses, although the timing of the Interchange construction is estimated to be approx. 10 years from now, when the approved El Dorado Hills Specific Plan area would be at least partially developed. – Land use conflicts with future planned land uses will no longer be a significant impact under the revised design. The County General Plan anticipates construction of an Interchange at the project's proposed location. Existing General Plan land use designations of Commercial, Medium and Low Density Residential, and

Industrial uses are compatible with the new Interchange project. The proposed project will not conflict with any applicable habitat conservation plan or natural community conservation plan. Landscaping of the project site (mitigation measure VIS-1) will still be required to beautify the Interchange and prevent soil erosion.

Impact LU-2e: Removal of agricultural lands currently in Williamson Act contracts - During preparation of the 1991 EIR, lands within the project area were under Williamson Act contract. However, since that time, these contracts have expired. Therefore, no impact will occur under the revised design. No mitigation is required.

Level of Significance before Mitigation: Potentially Significant (Impact *LU-2b and 2d*), Less than Significant (Impact *LU-2a, 2c and 2e*).

Mitigation Measure LU-2: Provide "just compensation" to the property owners.

In addition, mitigation measure VIS-1 is also required.

Level of Significance after Mitigation: Less than Significant.

Impact LU-3: Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

The proposed project will not conflict with any applicable habitat conservation plan or natural community conservation plan. No mitigation measures are required. This impact is considered less than significant.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: Not mitigation required.

Level of Significance after Mitigation: Less than Significant.

4.8 TRAFFIC AND TRANSPORTATION

This chapter presents the existing conditions, regulatory setting, and impact analysis for the revised proposed Silva Valley Interchange Project (the Project) related to transportation. The purpose of the transportation impact analysis is to identify the impacts of implementing the updated proposed interchange Project design on the surrounding transportation system and to recommend measures to mitigate significant adverse impacts, as necessary. The following sections present an overview of existing transportation conditions in the study area; a description of the agencies with jurisdiction over transportation in the study area, including relevant General Plan goals and policies; and a description of the impacts of the revised proposed project on the transportation network, including the methodologies used, thresholds of significance, impact identification, and mitigation measures.

This section presents the results of an analysis by the traffic engineering firm, Dowling Associates, for the County of El Dorado. The following studies and memos were prepared by Dowling Associates and used in preparation of the section below and can be found in Appendix G:

- Final Traffic Operations Study for: U.S. 50 Silva Valley Interchange, July 2010
- U.S. 50/Silva Valley Pkwy Interchange Alternative Phasing Analysis Memo, January 2010
- U.S. 50 EB Weaving Analysis between El Dorado Hills and Silva Valley Ramp Metering Analysis for U.S. 50 EB On-Ramp Memo, February 2009
- Environmental Mitigation and Ramp Metered Merge Analysis Memo, September 2010
- 2030 No Build Intersection and Ramp Analysis, December 7, 2010

4.8.1 Existing Setting

The proposed project is located along U.S. Highway 50 between El Dorado Hills Boulevard and Bass Lake Road interchanges near El Dorado Hills. Figure 8 illustrates the project area roadway network. Existing land uses surrounding the project site include a PG&E substation, the Tong Ranch, and the Capital Korean Presbyterian Church. The majority of the project area is currently made up of unimproved lands covered with low grasses and trees. The 2004 El Dorado County General Plan designates parcels adjacent to the proposed Interchange for residential, commercial, and recreational uses.

Existing Roadways
U.S. 50 is an east-west freeway facility serving El Dorado County. East of the El Dorado Hills Blvd/Latrobe Road interchange the freeway is four lanes wide (although is currently being widened to six lanes with an east bound truck climbing lane) and west of the interchange it is six lanes with four mixed flow and two high occupancy vehicle (HOV) lanes.

El Dorado Hills Blvd/Latrobe Road is a 4- to 6-lane north-south arterial facility serving El Dorado Hills Community. North of U.S. 50, it is named as El Dorado Hills Blvd while south of U.S. 50, the roadway is named as Latrobe Road.

LSA

FIGURE 8

N

0 500 1000
FEET

SOURCE: Microsoft Virtual Earth Aerial Imagery (4/2007)

I:\MKT530\GIS\roadway_labels2.mxd (1/18/11)

Silva Valley Parkway Interchange
Project Area Roadway Network

Recent improvements to the El Dorado Hills interchange include The HOV Phase I which added a 3rd and 4th southbound (SB) thru lane, a 2nd SB left, and a 3rd northbound (NB) through lane. The future El Dorado Hills Interchange project will reconfigure the westbound (WB) on ramp and off ramp from a Type L-1 to L-8, due to the proximity of the eastbound (EB) and WB ramps, this reconfiguration at the WB ramp will improve traffic circulation at the EB ramp.

Empire Ranch Road is a north-south arterial serving the City of Folsom. It is a six-lane facility between Iron Point Road and Broadstone Parkway and a four-lane facility north of Broadstone Parkway. Plans are to extend Empire Ranch Road south to a new interchange with U.S. 50 freeway and ultimately extend Empire Ranch Road south of U.S. 50 to a possible connection with White Rock Road.

Silva Valley Parkway is a north-south arterial serving the El Dorado Hills Community. It is a 4- lane facility south of Harvard Way and a 2-lane facility south of Entrada Way.

Saratoga Way is a two-lane east-west collector serving El Dorado Hills Community. Saratoga Way will be extended to the west to link Empire Ranch Road with El Dorado Hill Blvd north of U.S. 50 to provide secondary access to U.S. 50 from Empire Ranch and El Dorado Hills.

Country Club Drive is planned as a two-lane east-west collector serving El Dorado Hills Community. Country Club Drive will be extended to link Silva Valley Parkway with Bass Lake Road and is located north of U.S. 50 to provide secondary access to U.S. 50 from Bass Lake Road to Silva Valley Parkway.

Serrano Parkway is a two-lane east-west collector. Serrano Parkway extends from El Dorado Hills Blvd to Bass Lake Road north of U.S. 50 to provide secondary access to U.S. 50 from Silva Valley, El Dorado Hills Blvd. and Bass Lake Road.

White Rock is a 2-lane facility that will ultimately be widened to 4-lanes from the proposed Silva Valley Parkway Interchange to Latrobe Road as identified in the El Dorado County Capital Improvement Program (CIP) and the El Dorado County Regional Transportation Plan 2010-2030 (RTP). Although not included in the CIP or RTP, White Rock Road will also be widened to 4-lanes from Manchester Drive to the Sacramento County line.

Critical Roadways and Intersections

The transportation and circulation impact analysis focuses on the traffic operations of three primary components and is consistent with the 1991 EIR prepared and certified for the project:

- Intersections and Ramp Intersections - which includes 11 existing and future intersections including the points at which the ramps enter or exit from U.S. 50 for all ramps intersections. Figure 1b of the traffic study identifies all of the intersections that were examined. Given that arterial operations are primarily influenced at intersections, intersections LOS results on local roadway segments provide a better indication of arterial peak hour operational performance.
- Freeway Merger/Diverge- merge and diverge for 13 existing and future freeway ramps were evaluated.

- U.S 50 mainline - which includes the mainline U.S. 50 operations west and east of the proposed Silva Valley Interchange for approximately 2.3 miles. More specifically in both the EB and WB direction west of the El Dorado Hills/Latrobe Road interchange, El Dorado Hills/Latrobe Road Interchange to Bass Lake Road Interchange and east of Bass Lake Road Interchange.

Operational Analysis

Intersection LOS Methodology

Given that arterial operational performance is primarily influenced by intersections, intersection LOS results on County roadways is considered a better indication of arterial peak hour operational performance. Intersection analyses results were used to determine arterial performance in both the 1991 EIR and in this supplemental SEIR.

In the 1991 EIR traffic analysis, the County, LOS at signalized study area intersections were determined using the Circular 212 "Critical Movement Analysis" planning methodology. Non signalized intersections were analyzed using the 1985 Highway Capacity Manual methodology. The performance of local County roadways was determined based on intersection performance.

For this Supplemental EIR, operations at non-signalized and signalized intersections was determined based on the industry standard Highway Capacity Manual (HCM) 2000 method special report No. 209, Transportation Research Board.

Level of service (LOS) is a term that describes the operating performance of the roadway system. LOS is a qualitative indication and is designated by a scale of A to F, with A representing the best performance and F the worst. Table 6 of presents the average delay criteria used to determine LOS for signalized intersections.

Table 6: Los Criteria for Signalized Intersections

Level of Service (LOS)	Average Delay (seconds/vehicle)	Descriptions
A	≤ 10	Very Low Delay: This level of service occurs when progression is extremely favorable and most vehicles arrive during a green phase. Most vehicles do not stop at all.
B	> 10 and ≤ 20	Minimal Delays: This level of service generally occurs with good progression, short cycle lengths, or both. More vehicles s top than at LOS A, causing higher levels of average delay.
C	> 20 and ≤ 35	Acceptable Delay: Delay increases due to only fair progression, longer cycle lengths, or both. Individual cycle failures (to service all waiting vehicles) may begin to appear at this level of service. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	> 35 and ≤ 55	Approaching Unstable Operation/Significant Delays: The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume / capacity ratios. Many vehicles stop, and the proportion of vehicles not s topping declines. Individual cycle failures are noticeable.
E	> 55 and ≤ 80	Unstable Operation/Substantial Delays: These high delay values generally indicate poor progression, long cycle lengths, and high volume / capacity ratios. Individual cycle failures are frequent occurrences.
F	> 80	Excessive Delays: This level, considered unacceptable to most drivers, often occurs with oversaturation (that is, when arrival traffic volumes exceed the capacity of the intersection). It m ay also occur at nearly saturated conditions with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

HCM 2000 criteria for computing an average LOS for non-signalized intersections does not exist. Hence, the intersection capacity utilization (ICU) as computed by the SYNCHRO-7 software was used to compute an overall LOS. Table 7 presents the non-signalized LOS.

Table 7: Synchro-7 ICU to LOS Correspondence

Intersection Capacity Utilization	Level of Service Grade
< 55%	A
55 to < 64%	B
64 to < 73%	C
73 to < 82%	D
82 to < 91%	E
<= 91%	F

Freeway LOS Methodology

The HC/HCS analysis method was used to evaluate U.S. 50 mainline and ramp operations (basic, weave, and merge-diverge). Freeway and ramp merge-diverge LOS criteria are based upon vehicle density expressed in passenger cars per mile per lane (pc/mi/ln) per hour. LOS criterion for freeways and ramps are shown in table 8 of the traffic study.

Table 8: LOS Criteria for Freeway Segments and Ramp Merge/Diverge

Level of Service	Density (pc/mi/ln) for Basic Freeway Segments	Density (pc/mi/ln) Ramp Merge/Diverge
A	≤ 11	≤ 10
B	> 11 and ≤ 18	> 10 and ≤ 20
C	> 18 and ≤ 26	> 20 and ≤ 28
D	> 26 and ≤ 35	> 28 and ≤ 35
E	>35 and ≤ 45	>35 and ≤ 45
F	> 45	Demand exceeds capacity
pc/mi/ln = passenger cars per mile per lane		

Study Area

The traffic study area spans U.S. 50 mainline and ramp operations for approximately 2.3 miles between the Bass Lake Road Interchange (PM 3.149) and the El Dorado Hills Interchange (PM 0.86).

Study Conditions

The traffic study includes various study conditions and for the purposes of the discussion in this document the following conditions are present:

- Existing Conditions,
- Interim (2020) conditions with the No Project Alternative,
- Interim (2020) conditions with the Proposed Project Alternative,
- Cumulative (2030) conditions with the No Project Alternative, and
- Cumulative (2030) conditions with the Proposed Project Alternative.

Baseline

2007 Traffic Volumes

The traffic study included within this SEIR was initiated in 2007 and thereby includes 2007 baseline traffic volumes within the study area collected at that time. Figure 9 presents the 2007 daily traffic volumes within the study area. Figure 9 also presents the AM/PM peak hour U.S. 50 freeway mainline and ramp volumes used as inputs to the freeway operations analysis.

Under CEQA, the baseline physical conditions for assessing environmental impacts is "normally" the existing environmental setting at the time the NOP is published. (CEQA Guidelines 15125, subd. (a); *Fat v. County of Sacramento* (2002) 97 Cal.App.4th 1270, 1277-1278.) CEQA allows lead agencies to use their discretion, however, to determine and use a different baseline from the time of the NOP. (See *Cherry Valley Pass Acres and Neighbors v. City of Beaumont* (2010) ____Cal.App.4th _____[upholding reliance on water supply entitlement as baseline despite much lower actual water use several years later]; see also *Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 120-121 [when the determination of baseline conditions requires choosing between different methodologies, it is the function of the lead agency to make those choices].) The date for establishing the baseline is not a rigid one and the lead agency may exercise its discretion to depart from the date of the release of the NOP if the type of project warrants it. (*Save Our Peninsula Comm.*, *supra,* 87 Cal.App.4th at p. 125; *Fairview Neighbors v. County of Ventura* (1999) 70 Cal. App.4th 238, 242-243 [project warranted lead agency's use of the maximum estimated traffic as the appropriate baseline].)

In 2007, EDCDOT initiated a traffic study using the 2007 traffic volumes within the study area to evaluate the then proposed modifications to the Ridge Design based on Caltrans' design requirements. Those requirements had changed since the project was first approved in 1991. During preparation of the traffic study, the County engaged in protracted discussions with Caltrans to ensure consistency with Caltrans design and other criteria. Coordination and review of the traffic study by Caltrans and the County took several years to complete for the final design study. Based on these reasons, EDCDOT appropriately used its discretion in this SEIR to review the revised proposed project using a baseline of 2007, when coordination with Caltrans and the analysis of the modifications to the Ridge Design alternative originally began for purposes of this SEIR. (See *Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors*, *supra,* 87 Cal.App.4th at pp. 120-121.) Because the existing land uses within the project area have not substantively changed since 2007, in part, due to the 2008 downturn in the economy, it is reasonable for the SEIR to continue with the 2007 baseline data as opposed to starting the process anew. With the loss of over 83,000 jobs in the region since 2007 and a flat annual projection for job growth until at least 2013, the use of 2007 baseline data and the growth projections in the 2004 General Plan represent a conservative approach for this SEIR as such assumptions, given the downturn in the economy, likely overestimate the amount of traffic in existing and near term future scenarios.

The nature of the revised proposed project design, as a modification to the previously approved roadway/interchange project, is not one that will generate additional new traffic trips, and is unlike a retail, residential or commercial development in that respect. In fact, the project will accommodate existing trips that occur and will continue to occur with eventual long term growth in the region. As

such, the County's reliance on the 2007 baseline is reasonable despite issuance of the NOP for the revised refined design on May 1, 2010.

State Highway Segment Volumes

Daily traffic volumes for the U.S. 50 freeway mainline and ramps, weekday AM and PM peak hour factors and directional split factors based on published Caltrans data for 2007.

Caltrans also publishes truck traffic volumes based on a sample of continuous weigh-in-motion traffic count locations that are adjusted for consistency. For each route segment, AADT by axle group (2-axle to 5+ axle trucks) is reported. Percentage of truck traffic relative to daily traffic volumes for U.S. 50 were based on the published truck volume report (2007) by Caltrans.

AM/PM peak hour U.S. 50 mainline volumes were balanced to ramp volumes within the study area. After balancing checks, mainline/ramp volumes were input into the Highway Capacity Software (HCS) operational analysis software to estimate peak hour ramp (merge-diverge) and mainline LOS.

County Roadway Segment Volumes

For local county roadways, the most recent (2007) traffic counts from the El Dorado County DOT traffic data base were obtained. Three additional data sources were also examined and are available for review at the El Dorado County Department of Transportation: The U.S. 50 Strategic Corridor Operations Study (Dowling Associates, March 2006), the Saratoga Way Extension traffic analysis (Dowling Associates) and the El Dorado Hills Traffic Volume Development Final Report (Wilbur Smith Associates, August 2006). More recent traffic counts were used in lieu of these counts when available. Local County roadway segment (mainline and ramp) counts were adjusted based on historical annual average growth rates to reflect 2007 conditions.

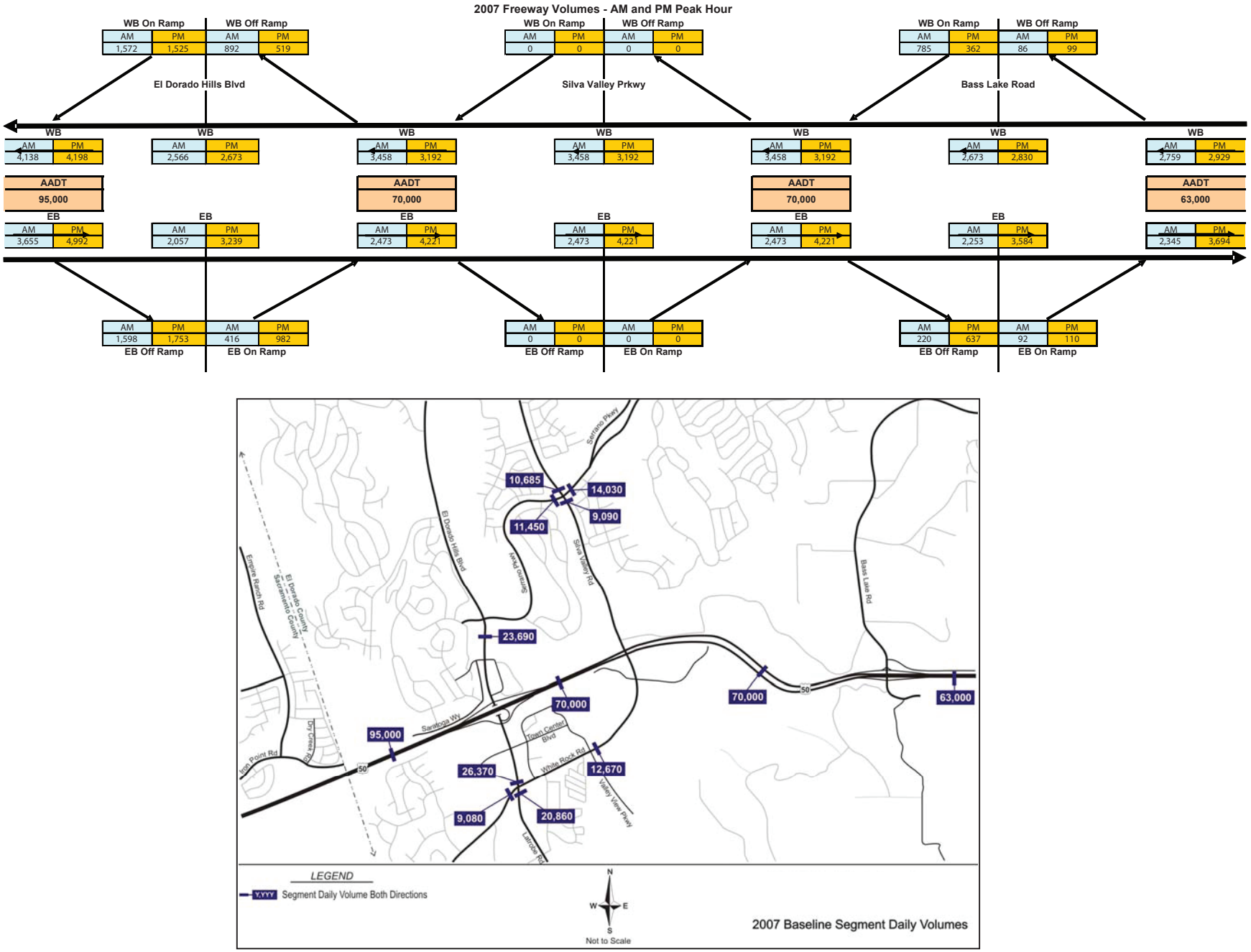
Intersection Turning Movements

Figure 10 provides the 2007 baseline intersection geometry and intersection AM and PM peak hour intersection turning movement volumes.

All turning movement counts were adjusted based on historical (or modeled if historical data was not available) annual average growth rates to reflect 2007 conditions. All turning movement volumes were refined and quality controlled to ensure that they balanced between count locations. Between ramp intersections with no intermediate access, perfect balance was maintained. At arterial intersections characterized by limited intermediate access, less than 15 percent imbalance was considered acceptable. After balancing checks, all turning movements were input into the intersection operational analysis software SYNCHRO-7 to estimate peak hour intersection LOS.

2007 Traffic Signal Warrants Analysis

At each non-signalized intersection, the potential need for a traffic signal was evaluated. Traffic signal warrants are a series of standards that provide guidelines for determining if a traffic signal is appropriate. If one or more signal warrants are met, signalization of the intersection may be appropriate.



LSA

FIGURE 9

Silva Valley Parkway Interchange

Baseline AM/PM Peak Hour Freeway and Ramp Volumes and Baseline Segment Daily Volumes

SOURCE Dowling Associates

P:\MKT530\Graphics\Figure 9 (7-21-10)

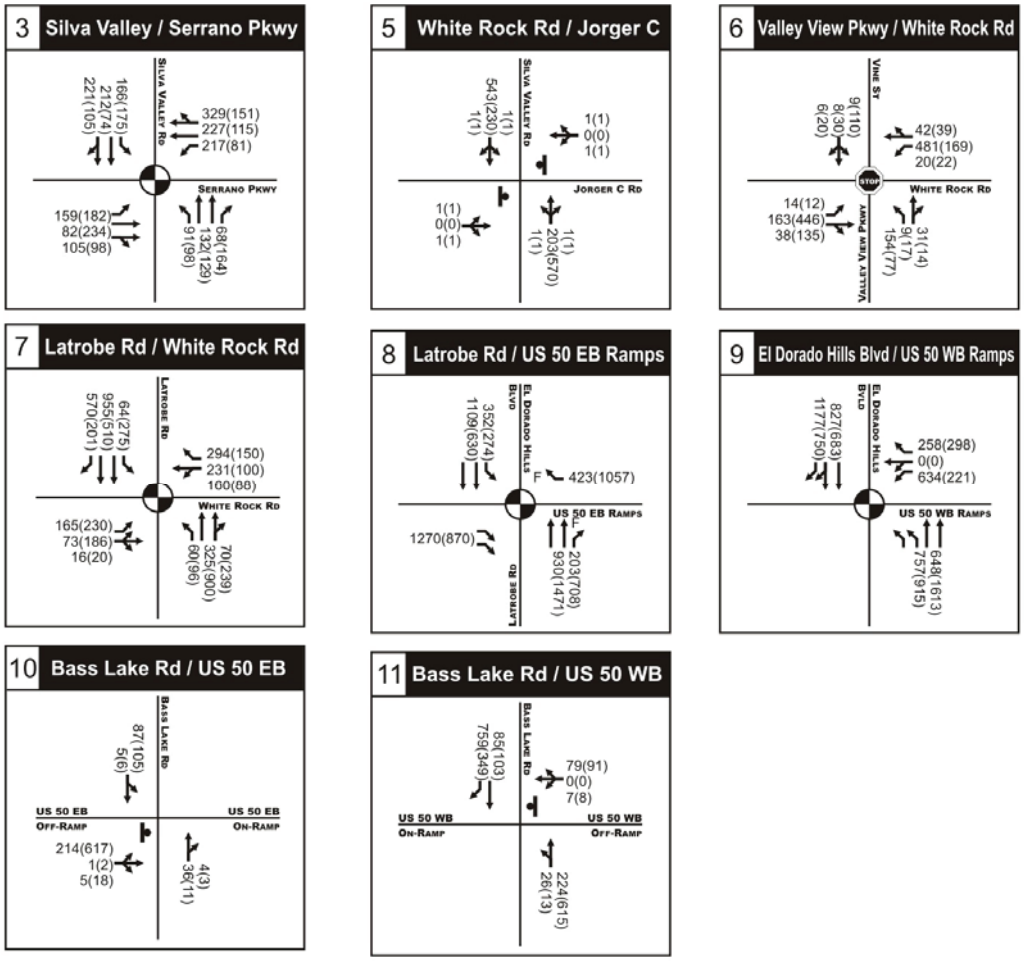


FIGURE 10

LSA

Silva Valley Parkway Interchange

Baseline 2007 AM/PM Peak Hour Intersection Turning Movements

SOURCE Dowling Associates

P:\MKT530\Graphics\Figure 10 (6/17/10)

As stated in the 2003 edition of the Manual on Uniform Traffic Control Devices (MUTCD), "An engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location. The investigation of the need for a traffic control signal shall include an analysis of the applicable factors contained in the following traffic signal warrants and other factors related to existing operation and safety at the study location:"

- Warrant 1, Eight-Hour Vehicular Volume;
- Warrant 2, Four-Hour Vehicular Volume;
- Warrant 3, Peak Hour;
- Warrant 4, Pedestrian Volume;
- Warrant 5, School Crossing;
- Warrant 6, Coordinated Signal System;
- Warrant 7, Crash Experience; and,
- Warrant 8, Roadway Network.

"The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal." This study evaluated only three of the eight warrants (those that were applicable), the 8-hour (Warrant #1), 4-hour (Warrant #2), and peak 1-hour (Warrant #3) traffic signal warrants. The results are shown in Table 9.

- The two intersections of Bass Lake Road with U.S. 50 ramps both meet one or more of the volume warrants under existing conditions.

Given available data is limited to peak hour volumes, the 4-hour and 8-hour volumes required for Warrants #1 and #2 were estimated by factoring the forecasted peak one hour volumes. A factor of 3 was applied to the peak hour volumes to obtain an estimate of the 4-hour volume. An expansion factor of 5 was applied to obtain an estimate of the 8-hour volume.

Note that the MUTCD states that, "The [peak hour] signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time." Consequently, the peak hour signal warrant is triggered as an indicator in this analysis due to the high-occupancy vehicle/large vehicle attraction criteria.

When unable to be project specific, this traffic analysis is a "planning level" analysis of a selected subset of warrants using estimated data. This is because many of the intersections evaluated do not yet exist. Consequently, many of the Caltrans warrants could not be computed, since they require historical information or field inspection. Therefore, this planning level analysis of signal warrants should not be considered to take the place of a full engineering signal warrant analysis that may be required for these intersection locations.

Table 9: Baseline Signal Warrant Analysis 2007

Intersection	Major Street (Both Approaches)			Minor Street (Single Approach)			Warrant 1	Warrant 2	Warrant 3
	Pk Hr vph	4-hr vph	8-hr vph	Pk Hr vph	4-hr vph	8-hr vph	Met?	Met?	Met?
White Rock & Joerger	804	603	503	2	2	1	NO	NO	NO
Bass Lake & U.S. 50 EB	125	94	78	637	478	398	NO	YES	YES
Bass Lake & U.S. 50 WB	1094	821	684	99	74	62	YES	YES	YES

Entries are traffic volumes.
Rural (70%) volume warrants used since speed limits are greater than 40 mph.

2007 Existing Conditions Intersection LOS Analysis

Table 10 shows the AM and PM peak hour intersection LOS results. The results indicate that during AM and PM peak hour conditions, all intersections currently operate at LOS D or better.

Table 10: 2007 Existing Conditions - Intersection Level of Service Summary

#	Node	Intersection	Control	AM Peak Hour			PM Peak Hour		
				volume/ capacity	Delay (sec)	LOS	volume/ capacity	Delay (sec)	LOS
3	113	Silva Valley Pkwy/Serrano Pkwy	Signal	0.55	25	C	0.54	20	B
5	115	Silva Valley Pkwy/Joerger Cutoff	2-way stop	0.39	-0	A	0.41	-0	A
6	116	Valley View/White Rock Road	Signal	0.55	26	C	0.58	25	C
7	117	Latrobe Road/White Rock Road	Signal	0.78	30	C	0.89	47	D
8	118	El Dorado Hills-Latrobe/U.S. 50 EB	Signal	0.87	19	B	0.72	15	B
9	119	El Dorado Hills/U.S. 50 WB	Signal	0.83	23	C	0.90	29	C
10	120	Bass Lake Road/U.S. 50 EB	2-way stop	0.31	10	A	0.55	57	A
11	121	Bass Lake Road/U.S. 50 WB	2-way stop	0.76	1	D	0.71	2	C

Average delay for 2-way stops is average of delay for major (unstopped) and minor (stopped) movements.
V/C ratio for 2-way stops is Synchro ICU ratio. All other v/c ratios computed per HCM.
LOS for 2-way stops is based in ICU ratio (per Synchro method). All other LOS results are per HCM

2007 Existing Conditions Freeway LOS Analysis

The results of the freeway analysis under 2007 existing conditions are summarized in Table 11 below. The primary measure of effectiveness for estimating basic freeway segment LOS is vehicle density. Density, expressed in passenger cars per mile per lane, is also provided.

Table 11: 2007 Existing Conditions – Freeway LOS Summary

U.S. 50	AM Peak		PM Peak	
	Density[1] pc/mi/ln	LOS[2]	Density[1] pc/mi/ln	LOS[2]
Eastbound				
West of El Dorado Hills[3]	19.31	C	63.12	F
El Dorado Hills to Bass Lake	15.34	B	26.68	D
East of Bass Lake	18.58	C	30.92	D
Westbound				
East of Bass Lake	21.88	C	23.28	C
Bass Lake to El Dorado Hills	21.47	C	17.52	B
West of El Dorado Hills	21.88	C	22.20	C

[1] Density expressed in pc/mi/ln, passenger cars per mile per lane
[2] Level of service is based on density as described in Basic Freeway Segment, Chapter 23, HCM 2000
[3] Planned future improvements will mitigate to LOS to D or better.

Results indicate that the U.S. 50 freeway mainline west of El Dorado Hills interchange currently experiences unstable flow conditions (LOS F) in the eastbound direction during the PM peak hour. All other freeway mainline sections operate at LOS D or better.

Transit System

El Dorado County's public transit system consists of fixed-route bus service, dial-a-ride bust service, and commuter bus service provided by the El Dorado County Transit Authority (EDCTA). Only the Downtown Sacramento Commuter Route currently operates in the vicinity of the proposed project interchange. It includes stops at locations on El Dorado Hills Blvd. north of Serrano Parkway and a stop at the multi-modal station located in the northeast quadrant of the Latrobe Road/White Rock Road intersection. This location also serves as a park-and-ride lot.

El Dorado County Bicycle Transportation Plan

The El Dorado County Bicycle Transportation Plan provides a blueprint for the development of a bicycle transportation system on the western slope of El Dorado County. The plan is in compliance with the Caltrans Streets and Highways Code (sections 890-894.2), enabling the county to be eligible for State Bicycle Transportation Account (BTA) funds. The Bicycle Transportation Plan addresses bicycle transportation issues and goals within the County including those related to bicycle commuting, safety and education, implementation and maintenance of bicycle facilities, the integration of bicycle and pedestrian facilities in the land use development, integration of bicycle facilities with multi-modal transportation connections, funding and bicycle facilities connectivity. The Bicycle Transportation Plan also identifies existing and proposed/planned future bicycle facilities

within the County. Improvements to White Rock Road included construction of a Class II bike lane on both sides of the road under U.S. 50 and along the overcrossing, but not pedestrian access. Bicyclists are able to ride uninterrupted from the Serrano community to Latrobe Road.

Interim 2020 Conditions Analysis

Impacts of the proposed project were assessed using the methods listed in the previous sections. The following summarizes the traffic forecasts and the assumptions regarding the planned revised project improvements.

Traffic operations were evaluated for the revised project interchange design alternatives under an interim 2020 condition under a No Project and With Project analysis.

The 2020 interim conditions roadway network was assumed to be the same as the existing conditions, with the following improvements

- U.S. 50 between the future Empire Ranch Interchange and the El Dorado Hills interchange would include four westbound lanes (HOV, 2 mixed, auxiliary lane) five eastbound lanes (HOV, 2 mixed, truck lane, auxiliary).
- U.S. 50 between the El Dorado Hills Interchange and east of the future Silva Valley Parkway Interchange would include five lanes in each direction (HOV, 2 mixed, truck lane, auxiliary lane), including four lanes in each direction across the El Dorado Hills/Latrobe Road under crossing.
- U.S. 50 between the east of the future Silva Valley Parkway interchange and east of the Bass Lake interchange would include four lanes in each direction (HOV, 2 mixed, and EB truck lane and a WB auxiliary lane).
- Construction of Empire Ranch Road interchange would be completed.
- Empire Ranch Road will be extended form the US 50/Empire Ranch Road Interchange to White Rock Road.
- The U.S. 50 El Dorado Hills Blvd/Latrobe Road over-crossing expanded from a 6 to 10 lane cross section with free right-turn movements at the ramp intersections, and ramp metering on the on-ramps.
- Reconfigure US 50 westbound on/off ramp at El Dorado Hills Boulevard from Type L-1 to Type L-8. Additionally, Type L-8's west leg would be aligned with Saratoga Way and add ramp metering.
- The El Dorado Hills Blvd and U.S. 50 eastbound ramps intersections would have one additional through-lane for the northbound movement.
- El Dorado Hills Boulevard will consist of three through lanes in each direction, dual left turn lanes at each ramp intersection.
- Country Club Drive will extend to connect to Cameron Park at Bass Lake Road with Silva Valley Parkway.
- Serrano Parkway will extend from Silva Valley Parkway and to connect to Bass Lake Road.

- El Dorado Hills Blvd. will consist of three through lanes in each direction, dual left turn lanes at each ramp intersection.
- Construction of Empire Ranch Road interchange would be completed.
- Empire Ranch Road will be extended from the U.S. 50/Empire Ranch Road Interchange down to White Rock Road.
- Reconfigure U.S. 50 westbound on/off ramp at El Dorado Hills Blvd. from a Type L-1 to Type L-8. Additionally, Type L-8's west leg would be aligned with Saratoga Way.
- Saratoga Way will be extended to connect to Empire Ranch Road with El Dorado Hills Blvd. Saratoga Way will be 2-lane roadway
- White Rock Road will be widened from 2 to 4 lanes between the Silva Valley Parkway interchange and Latrobe Road.
- Silva Valley will be widened from 2 to 4 lanes north of U.S. 50/Silva Valley Parkway interchange.
- U.S. 50/Bass Lake Interchange- westbound and eastbound ramp intersections will be signalized and modified for left turn storage and ramp metering. Improvement is identified as a 10-year long term El Dorado County CIP project.

Cumulative 2030 Conditions Analysis

Impacts of the proposed project were assessed using the methods listed in the previous sections. The following summarizes the traffic forecasts and the assumptions regarding the planned proposed project improvements.

Traffic operations were evaluated for the revised project interchange alternatives under a cumulative 2030 condition under a No Project and With Project analysis.

The 2030 cumulative conditions roadway network was assumed to be the same as the existing and 2020 interim conditions with the following improvements:

- El Dorado Hills Blvd. will consist of three through lanes in each direction, dual left turn lanes at each ramp intersection.
- Saratoga Way will be extended to connect to Empire Ranch Road with El Dorado Hills Blvd. Saratoga Way will be assumed to be widened from two to four lanes.
- White Rock Road will be widened from two to six lanes between the Silva Valley Parkway interchange and Latrobe Road.
- U.S. 50/Bass Lake Interchange- westbound and eastbound ramp intersections will be signalized and modified for left turn storage and ramp metering. Improvement is identified as a 10-year long term El Dorado County CIP project.

The proposed project will consist of the phase I improvements shown in Figure 1 of the January 10, 2010 "Alternative Analysis" (Appendix G). As shown in the figure, the project will include the WB loop on-ramp, EB diagonal on-ramp, EB and WB diagonal off-ramps, and the overcrossing.

4.8.2 Regulatory Setting

This section discusses relevant regulatory and policy requirements pertaining to transportation and circulation associated with supplemental environmental review of the proposed project.

State

State Route 50 Transportation Concept Report

Caltrans has completed transportation or route concept reports for a number of state highways in the County, including U.S. 50. The *State Route 50 Transportation Concept Report* (Caltrans, 1998) identifies a 20-year concept (through 2018) for the U.S. 50 corridor as a six-lane freeway with two general-purpose lanes and one HOV lane in each direction from the county line to the future Silva Valley Parkway Interchange. In the concept report, Caltrans established a concept LOS of E from the county line to Ice House Road and LOS F east of Ice House Road. (Caltrans, 1998.)

Local

2004 El Dorado County General Plan

The 2004 El Dorado County General Plan Circulation Map (General Plan, Figure TC-1) depicts the proposed circulation system to support existing, approved, and planned development in unincorporated El Dorado County through 2025. This circulation system is shown on the General Plan Circulation Map using a set of roadway width classifications, developed to guide the County's long-range transportation planning and programming. The Silva Valley Parkway Interchange is identified on the Circulation Map as a proposed new U.S. 50 interchange location. Silva Valley Parkway is identified as a future four-lane divided road. The Transportation and Circulation Element also recognizes and includes the Silva Valley Parkway Interchange as a future project. (General Plan, p. 56.)

The 2004 El Dorado County General Plan (last amended in January 2009) contains the following policies relating to transportation and traffic:

Goal TC-1: To plan for and provide a unified, coordinated, and cost-efficient countywide road and highway system that ensures the safe, orderly, and efficient movement of people and goods.

Policy TC-1a: The County shall plan and construct County-maintained roads as set forth in Table TC-1 of the El Dorado County General Plan. Road design standards for County-maintained roads shall be based on the American Association of State Highway and Transportation Officials (AASHTO) standards, and supplemented by California

Department of Transportation (Caltrans) design standards and by County Department of Transportation standards. County standards include typical cross sections by road classification, consistent with right-of-way widths summarized in Table TC-1.

Policy TC-1b: In order to provide safe, efficient roads, all roads should incorporate the cross sectional road features set forth in Table TC-1 of the El Dorado County General Plan.

Policy TC-1q: The County shall utilize road construction methods that seek to reduce air, water, and noise pollution associated with road and highway development.

Policy TC-1r: The County shall accept classified roads, as defined on Figure TC-1, into the County-maintained road system when constructed to County standards.

Goal TC-3: To reduce travel demand on the County's road system and maximize the operating efficiency of transportation facilities, thereby reducing the quantity of motor vehicle emissions and the amount of investment required in new or expanded facilities.

Policy TC-3a: The County shall support all standards and regulations adopted by the El Dorado County Air Quality Management District governing transportation control measures and applicable state and federal standards.

Policy TC-3b: The County shall consider Transportation Systems Management measures to increase the capacity of the existing road network prior to constructing new traffic lanes. Such measures may include traffic signal synchronization and additional turning lanes.

Policy TC-3d: Signalized intersections shall be synchronized where possible as a means to reduce congestion, conserve energy, and improve air quality.

Goal TC-4: To provide a safe, continuous, and easily accessible non-motorized transportation system that facilitates the use of the viable alternative transportation modes.

Policy TC-4a: The County shall implement a system of recreational, commuter, and inter-community bicycle routes in accordance with the County's Bikeway Master Plan. The Plan should designate bikeways connecting residential areas to retail, entertainment, and employment centers and near major traffic generators such as recreational areas, parks of regional significance, schools, and other major public facilities, and along recreational routes.

Policy TC-4b: The County shall construct and maintain bikeways in a manner that minimizes conflicts between bicyclists and motorists.

Policy TC-4c: The County shall give priority to bikeways that will serve population centers and destinations of greatest demand and to bikeways that close gaps in the existing bikeway system.

Policy TC-Xd: Level of Service (LOS) for County-maintained roads and state highways within the unincorporated areas of the county shall not be worse than LOS E in the

Community Regions or LOS D in the Rural Centers and Rural Regions except as specified in Table TC-2. The volume to capacity ratio of the roadway segments listed in Tables TC-2 shall not exceed the ratio specified in that table. Level of Service will be as defined in the latest edition of the Highway Capacity Manual (Transportation Research Board, National Research Council) and calculated using the methodologies contained in that manual. Analysis periods shall be based on the professional judgment of the Department of Transportation which shall consider periods including, but not limited to, Weekday Average Daily Traffic (ADT), AM Peak Hour, and PM Peak hour traffic volumes.

Policy TC-Xg: Each development project shall dedicate right-of-way and construct or fund improvements necessary to mitigate the effects of traffic from the project. The County shall require an analysis of impacts of traffic from the development project, including impacts from truck traffic, and require dedication of needed right-of-way and construction of road facilities as a condition of the development. For road improvements that provide significant benefit to other development, the County may allow a project to fund its fair share of improvement costs through traffic impact fees or receive reimbursement from impact fees for construction of improvements beyond the project's fair share. The amount and timing of reimbursements shall be determined by the County.

Policy TC-Xi: The planning for the widening of U.S. Highway 50, consistent with the policies of this General Plan, shall be a priority of the County. The County shall coordinate with other affected agencies, such as the City of Folsom, the County of Sacramento, and Sacramento Area Council of Governments (SACOG) to ensure that U.S. Highway 50 capacity enhancing projects are coordinated with these agencies with the goal of delivering these projects on a schedule to meet the requirements of the policies of this General Plan.

General Plan Policies not directly applicable to the revised proposed project design - Background

In addition to the policies stated above, the following General Plan policies are not directly applicable to the proposed project given that the proposed project is not considered a development project requiring a use and occupancy permit. These policies are included in the SEIR, as background information to illustrate how the County generally defines when a project "worsens" traffic and levels of service. These standards, however, do not apply to the revised proposed project.

Policy TC-Xf: Prior to occupancy for development that worsens (defined as a project that triggers Policy Xe [A] or [B] or [C]) traffic on the County road system, the developer shall do one of the following: (1) construct all road improvements necessary to regional and local roads needed to maintain or attain Level of Service standards detailed in the Transportation and Circulation Element; or (2) ensure adequate funding is identified and available for the necessary road improvements and those projects are programmed. The determination of compliance with this requirement shall be based on existing traffic plus traffic generated form the project and from other reasonably foreseeable projects.

Policy TC-Xe: For the purposes of this Transportation and Circulation Element, "worsen" is defined as any of the following number of project trips using a road facility at the time of issuance of a use and occupancy permit for the development project:

A. A 2 percent increase in traffic during the a.m. peak hour, p.m. peak hour, or daily, or

B. The addition of 100 or more daily trips, or

C. The addition of 10 or more trips during the a.m. peak hour or the p.m. peak hour.

Measure Y

Although not applicable to the revised proposed project, in November 2008, El Dorado County voters adopted a measure known as Measure Y, the "Control Traffic Congestion Initiative." The measure amended the policies included in the 2004 General Plan as a result of the 1998 voter adopted initiative known as Measure Y. The 2008 initiative amended Policy TC-Xa of the General Plan to remain in effect for ten years (until December 31, 2018). The 2008 amendments to the Measure Y policies clarified, in part, that the prohibition against residential projects of five or more units causing or worsening LOS F applies only to single-family subdivisions.

The policies in this section reflect the voters' intent in adopting Measure Y:

Goal TC-X: To coordinate planning and implementation of roadway improvements with new development to maintain adequate levels of service on County roads.

Policy TC-Xa: The following policies shall remain in effect until December 31, 2018:

1. Traffic from single family residential subdivision development projects of five or more parcels of land shall not result in, or worsen, Level of Service F (gridlock, stop-and-go) traffic congestion during weekday, peak-hour periods on any highway, road, interchange or intersection in the unincorporated areas of the county.
2. The County shall not add any additional segments of U.S. Highway 50, or any other roads, to the County's list of roads that are allowed to operate at Level of Service F without first getting the voters' approval or by a 4/5ths vote of the Board of Supervisors.
3. Developer-paid traffic impact fees combined with any other available funds shall fully pay for building all necessary road capacity improvements to fully offset and mitigate all direct and cumulative traffic impacts from new development upon any highways, arterial roads and their intersections during weekday, peak-hour periods in unincorporated areas of the county.

Thresholds of Significance

An impact is considered significant for any intersection, roadway segment, or freeway mainline segment where traffic generated by the project causes the intersection, roadway segment, or freeway

mainline segment to deteriorate from satisfactory to unsatisfactory operations. Satisfactory operations for intersections and roadway segments within the County of El Dorado are considered to be:

- LOS E for County-maintained roads and state highways within the unincorporated areas of the County in the Community Regions, except as specified in Table TC-2 of the General Plan; and
- LOS D for County-maintained roads and state highways in the Rural Centers and Rural Regions, except as specified in Table TC-2 of the General Plan.
- LOS E or better is considered to be satisfactory operations by Caltrans for all its freeway mainline facilities. An LOS standard of LOS D is nevertheless assumed in this SEIR for all state facilities (freeway mainline, merge-diverge ramp influence areas and ramp intersections). As demonstrated in the General Plan, Caltrans has also established a concept LOS of E for the portion of U.S. 50 from the county line to Ice House Road and LOS F east of Ice House Road. (See 2004 General Plan Pages 56-57; see also General Plan policy TC-Xd.)

Both the County and Caltrans lack any adopted criterion that defines a significant impact for a non-residential project at an existing deficient intersection, roadway segment or freeway mainline segment that is affected by project traffic; therefore, criteria specific to this project was developed by the County to address this potential condition. These significance criteria are discussed below.

- For deficient intersections: a change in measure of effectiveness (delay) or peak hour volume by 10%.
- For deficient freeway: a change in measure of effectiveness (density) or peak hour volume by 10%.
- For deficient ramps: a change in measure of effectiveness (density) or peak hour volume by 10%.

Based on the preceding discussion and Appendix G of the CEQA Guidelines, the County has determined that a project would also result in a significant effect on the environment if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths and mass transit;
- Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Consistent with the General Plan, this SEIR also considers whether implementation of the revised proposed project would disrupt existing or planned:

Transit

- Transit operations and facilities of the El Dorado County Transit Authority.

Rail Transportation

- Rail operations and facilities of the Sacramento-Placerville Transportation Corridor (SPTC)

Bicycle/Pedestrian

- Bicycle or pedestrian facilities contained in the El Dorado County Bicycle Transportation Plan. A copy of this document is available for review online at www.edctc.org/bikeped_ec_plan.htm.

Traffic Study Results

Tables 13 through 23 summarize intersection, freeway merge/diverge, and freeway mainline levels of service in the years 2020 and 2030. Both the "No Project" and "With Project" conditions are presented for comparison purposes. This information was used to determine potential project impacts in the Impacts and Mitigation Measures section.

It should be noted that the U.S. 50 mainline freeway is being widened to seven lanes (four lanes in east bound direction and three lanes in the westbound direction) in the project vicinity to accommodate existing and forecast traffic. High occupancy vehicle lanes will be provided on the inside in each direction and a truck climbing lane in the eastbound direction. Despite these widening improvements, the traffic study determined that the U.S. 50 mainline and on- and off-ramps at interchanges in the project area would experience a level of service F for Year 2030 conditions, with the proposed project in place. These 2030 level of service F conditions are associated with regional population expectations, including the significant growth planned in El Dorado County (per General Plan projections), and the ensuing forecast traffic volumes using the mainline. As the proposed interchange is intended to accommodate the growth forecasts, the project will not contribute to or affect the regional growth, nor generate additional traffic destined for mainline use. Consequently, the proposed interchange does not contribute towards the 2030 level of service F conditions calculated for mainline and ramp conditions.

As shown in table 14, 2030 LOS F will be at the following locations under No-Project and With Project scenarios at the WB on-ramp of the Silva Valley Interchange in the AM Peak hour, the EB on-ramp of the Bass Lake Interchange in the PM Peak hour, the EB off-ramp of the Bass Lake Interchange in the PM Peak hour, and EB U.S. 50 Mainline east of the Bass Lake Interchange in the PM Peak Hour.

Mitigation to reduce these regional-oriented level of service F impacts would include converting the HOV lane to a mixed flow lane, or by adding a mixed-flow lane consistent with the County's General Plan EIR page 5.4-35 and 5.4-36. Therefore, no mitigation is required to improve level of service for the mainline or ramps where regional congestion is responsible for an unacceptable level of service.

Intersections:

Table 12: Intersection Levels of Service Interim (2020) No Project Conditions, (AM Peak Hour and PM Peak Hour)

#	Syn	Intersection	Control	Interim No Project AM Peak Hour Conditions			Interim No Project PM Peak Hour Conditions		
				volume/ capacity	Delay (sec)	LOS	volume/ capacity	Delay (sec)	LOS
1	111	Silva Valley Pkwy/U.S. 50 EB (Phase 1)	Future	N/A	N/A	N/A	N/A	N/A	N/A
2	112	Silva Valley Pkwy/U.S. 50 WB (Phase 1)	Future	N/A	N/A	N/A	N/A	N/A	N/A
3	113	Silva Valley Pkwy/Serrano Pkwy	Traffic Signals	**1.14**	**86**	**F**	0.78	38	D
4	114	Silva Valley Pkwy/Country Club Rd	Future	N/A	N/A	N/A	N/A	N/A	N/A
5	115	White Rock Rd/Joerger Cutoff Rd	2-Way Stop	0.47	~0	A	0.55	~0	A
6	116	Valley View Pkwy/White Rock Rd	Traffic Signals	0.71	26	C	0.90	53	D
7	117	Latrobe Rd/White Rock Rd	Traffic Signals	1.14	70	E	1.03	60	E
8	118	El Dorado Hills-Latrobe/U.S.-50 EB	Traffic Signals	1.02	26	C	1.14	26	C
9	119	El Dorado Hills Blvd/U.S.-50 WB	Traffic Signals	**1.36**	**112**	**F**	**1.55**	**230**	**F**
10	120	Bass Lake Rd/U.S.-50 EB	Traffic Signals	0.73	15	B	0.98	47	D
11	121	Bass Lake Rd/U.S.-50 WB	Traffic Signals	0.87	31	C	0.77	17	B

Table 13: Intersection Levels of Service Interim (2020) With Project Conditions (AM Peak Hour and PM Peak Hour)

#	Syn	Intersection	Control	Interim With Project AM Peak Hour Conditions			Interim With Project PM Peak Hour Conditions		
				volume/ capacity	Delay (sec)	LOS	volume/ capacity	Delay (sec)	LOS
1	111	Silva Valley Pkwy/U.S. 50 EB (Phase 1)	Traffic Signals	0.92	22.9	C	1.06	48.7	D
2	112	Silva Valley Pkwy/U.S. 50 WB (Phase 1)	Traffic Signals	0.97	34.9	C	1.01	43.6	D
3	113	Silva Valley Pkwy/Serrano Pkwy	Traffic Signals	0.76	36	D	0.84	39	D
4	114	Silva Valley Pkwy/Country Club Rd	2-Way Stop	0.62	8.8	C	0.72	9	A
5	115	White Rock Rd/Joerger Cutoff Rd	Traffic Signals	0.50	0.2	A	0.58	0.1	A
6	116	Valley View Pkwy/White Rock Rd	Traffic Signals	0.76	30	C	**1.12**	**89**	**F**
7	117	Latrobe Rd/White Rock Rd	Traffic Signals	1.02	49	D	0.93	54	D
8	118	El Dorado Hills-Latrobe/U.S.-50 EB	Traffic Signals	0.95	21	C	0.81	12	B
9	119	El Dorado Hills Blvd/U.S.-50 WB	Traffic Signals	1.03	40	D	0.87	32	C
10	120	Bass Lake Rd/U.S.-50 EB	Traffic Signals	0.34	16	B	0.64	18	B
11	121	Bass Lake Rd/U.S.-50 WB	Traffic Signals	0.45	8	A	0.63	9	A

Table 14: Intersection Levels of Service Cumulative (2030) No Project Conditions (AM Peak Hour and PM Peak Hour)

#	Syn	Intersection	Control	Cumulative No Project AM Peak Hour Conditions			Cumulative No Project PM Peak Hour Conditions		
				volume/ capacity	Delay (sec)	LOS	volume/ capacity	Delay (sec)	LOS
1	111	Silva Valley Pkwy/U.S. 50 EB (Phase 2)	Future	N/A	N/A	N/A	N/A	N/A	N/A
2	112	Silva Valley Pkwy/U.S. 50 WB (Phase 2)	Future	N/A	N/A	N/A	N/A	N/A	N/A
3	113	Silva Valley Pkwy/Serrano Pkwy	Traffic Signals	1.13	88.4	F	0.89	50.7	D
4	114	Silva Valley Pkwy/Country Club Rd	Future	N/A	N/A	N/A	N/A	N/A	N/A
5	115	White Rock Rd/Joerger Cutoff Rd	2-Way Stop	0.53	0.1	A	0.76	0.2	D
6	116	Valley View Pkwy/White Rock Rd	Traffic Signals	1.04	73.7	E	**1.43**	**189**	**F**
7	117	Latrobe Rd/White Rock Rd	Traffic Signals	**1.35**	**127.1**	**F**	**1.47**	**156.7**	**F**
8	118	El Dorado Hills-Latrobe/U.S.-50 EB	Traffic Signals	1.17	68.1	E	**1.68**	**124.8**	**F**
9	119	El Dorado Hills Blvd/U.S.-50 WB	Traffic Signals	**1.3**	**130.2**	**F**	**1.52**	**191.4**	**F**
10	120	Bass Lake Rd/U.S.-50 EB	Traffic Signals	**1.24**	**103.9**	**F**	**1.3**	**151.8**	**F**
11	121	Bass Lake Rd/U.S.-50 WB	Traffic Signals	**1.33**	**93.9**	**F**	**1.4**	**136.6**	**F**

Table 15: Intersection Levels of Service Cumulative (2030) With Project Conditions (AM Peak Hour and PM Peak Hour)

#	Syn	Intersection	Control	Cumulative With Project AM Peak Hour Conditions			Cumulative With Project PM Peak Hour Conditions		
				volume/ capacity	Delay (sec)	LOS	volume/ capacity	Delay (sec)	LOS
1	111	Silva Valley Pkwy/U.S. 50 EB (Phase 2)	Traffic Signals	0.83	12	B	0.99	24	C
2	112	Silva Valley Pkwy/U.S. 50 WB (Phase 2)	Traffic Signals	0.87	15	B	0.96	27	C
3	113	Silva Valley Pkwy/Serrano Pkwy	Traffic Signals	0.91	61	E	0.98	66	E
4	114	Silva Valley Pkwy/Country Club Rd	Traffic Signals	0.87	17	B	1.02	24	C
5	115	White Rock Rd/Joerger Cutoff Rd	Traffic Signals	-	2.6	A	-	8.4	A
6	116	Valley View Pkwy/White Rock Rd	Traffic Signals	1.02	64	E	**1.50**	**197**	**F**
7	117	Latrobe Rd/White Rock Rd	Traffic Signals	**1.18**	**90**	**F**	**1.26**	**114**	**F**
8	118	El Dorado Hills-Latrobe/U.S.-50 EB	Traffic Signals	0.78	11	B	0.80	7	A
9	119	El Dorado Hills Blvd/U.S.-50 WB	Traffic Signals	1.06	51	D	1.00	40	D
10	120	Bass Lake Rd/U.S.-50 EB	Traffic Signals	0.44	18	B	0.72	19	B
11	121	Bass Lake Rd/U.S.-50 WB	Traffic Signals	0.72	14	B	0.89	22	C

Freeway Merge/Diverge:

Table 16: Freeway Merge/Diverge Levels of Service Interim (2020) No Project Conditions (AM Peak Hour and PM Peak Hour)

#	Direction	Location	Interim No Project AM Peak Hour Conditions		Interim No Project PM Peak Hour Conditions	
			Density	LOS	Density	LOS
		On Ramps				
1	EB	Latrobe to U.S. EB On	16.8	B	30.6	D
2	WB	EDH to U.S. 50 WB On	34.9	D	32.1	D
3	EB	SVP to U.S. 50 EB On	N/A	N/A	N/A	N/A
4	WB	SVP to U.S. 50 WB On	N/A	N/A	N/A	N/A
5	EB	Bass Lake to U.S. 50 EB On	20.7	C	29.6	D
6	WB	Bass Lake to U.S. 50 WB On	31.5	D	28.6	D
		Off Ramps				
7	EB	U.S. 50 EB Off to Latrobe/EDH	-0.9	A	9.1	A
8	WB	U.S. 50 WB OFF to EDH/Latrobe	20.3	C	17.4	B
9	EB	U.S. 50 EB Off to SVP	N/A	N/A	N/A	N/A
10	WB	U.S. 50 WB Off to SVP	N/A	N/A	N/A	N/A
11	EB	U.S. 50 EB Off to Bass Lake	20.2	C	31.7	D
12	WB	U.S. 50 WB Off to Bass Lake	17.6	B	15.8	B

Table 17: Freeway Merge/Diverge Levels of Service Interim (2020) With Project Conditions (AM Peak Hour and PM Peak Hour)

#	Direction	Location	Interim With Project AM Peak Hour Conditions		Interim With Project PM Peak Hour Conditions	
			Density	LOS	Density	LOS
		On Ramps				
1	EB	Latrobe to U.S. EB On	15.5	B	27.0	C
2	WB	EDH to U.S. 50 WB On	34.2	D	31.8	D
3	EB	SVP to U.S. 50 EB On	23.8	C	32.4	D
4	WB	SVP to U.S. 50 WB On	20.8	C	17.2	B
5	EB	Bass Lake to U.S. 50 EB On	20.5	C	30.7	D
6	WB	Bass Lake to U.S. 50 WB On	24.3	C	25.1	C
		Off Ramps				
7	EB	U.S. 50 EB Off to Latrobe/EDH	0.2	A	9.7	A
8	WB	U.S. 50 WB OFF to EDH/Latrobe	13.7	B	10.1	B
9	EB	U.S. 50 EB Off to SVP	15.5	B	27.0	C
10	WB	U.S. 50 WB Off to SVP	18	B	19.4	B
11	EB	U.S. 50 EB Off to Bass Lake	22.9	C	34.5	D
12	WB	U.S. 50 WB Off to Bass Lake	15.9	B	18.8	B

Table 18: Freeway Merge/Diverge Levels of Service Cumulative (2030) No Project Conditions (AM Peak Hour and PM Peak Hour)

#	Direction	Location	Cumulative No Project AM Peak Hour Conditions		Cumulative No Project PM Peak Hour Conditions	
			Density	LOS	Density	LOS
		On Ramps				
1	EB	Latrobe to U.S. EB On	26.7	C	**43.7**	**F**
2	WB	EDH to U.S. 50 WB On	**43.9**	**F**	**41.8**	**F**
3	EB	SVP NB to U.S. 50 EB On	N/A	N/A	N/A	N/A
4	EB	SVP SB to U.S. 50 EB On	N/A	N/A	N/A	N/A
5	WB	SVP NB to U.S. 50 WB On	N/A	N/A	N/A	N/A
6	WB	SVP SB to U.S. 50 WB On	N/A	N/A	N/A	N/A
7	EB	Bass Lake to U.S. 50 EB On	27.5	C	**40.9**	**F**
8	WB	Bass Lake to U.S. 50 WB On	**39.9**	**F**	**39.6**	**F**
		Off Ramps				
9	EB	U.S. 50 EB Off to Latrobe/EDH	5.9	A	22.4	C
10	WB	U.S. 50 WB OFF to EDH/Latrobe	24	C	22.4	C
11	EB	U.S. 50 EB Off to SVP	N/A	N/A	N/A	N/A
12	WB	U.S. 50 WB Off to SVP	N/A	N/A	N/A	N/A
13	EB	U.S. 50 EB Off to Bass Lake	28.1	D	**39.2**	**F**
14	WB	U.S. 50 WB Off to Bass Lake	20.4	C	23	C

Table 19: Freeway Merge/Diverge Levels of Service Cumulative (2030) With Project Conditions (AM Peak Hour and PM Peak Hour)

#	Direction	Location	Cumulative With Project AM Peak Hour Conditions		Cumulative With Project PM Peak Hour Conditions	
			Density	LOS	Density	LOS
		On Ramps				
1	EB	Latrobe to U.S. EB On	20.1	C	34.7	D
2	WB	EDH to U.S. 50 WB On	**37.8**	**F**	**36.5**	**E**
3	EB	SVP NB to U.S. 50 EB On	28	D	**41.4**	**F**
4	EB	SVP SB to U.S. 50 EB On	22.5	C	34.5	D
5	WB	SVP NB to U.S. 50 WB On	34.3	**F**	**33.2**	**F**
6	WB	SVP SB to U.S. 50 WB On	26.9	C	22.8	C
7	EB	Bass Lake to U.S. 50 EB On	25.6	C	**38.8**	**F**
8	WB	Bass Lake to U.S. 50 WB On	**33.9**	**F**	**34.8**	**F**
		Off Ramps				
9	EB	U.S. 50 EB Off to Latrobe/EDH	3.3	A	17.3	B
10	WB	U.S. 50 WB OFF to EDH/Latrobe	19	B	14.4	B
11	EB	U.S. 50 EB Off to SVP	20.1	C	34.7	D
12	WB	U.S. 50 WB Off to SVP	23.7	C	24.5	C
13	EB	U.S. 50 EB Off to Bass Lake	28.2	D	**40.3**	**F**
14	WB	U.S. 50 WB Off to Bass Lake	19.8	B	22.5	C

Mainline:

Table 20: Freeway Mainline Levels of Service Interim (2020) No Project Conditions (AM Peak Hour and PM Peak Hour)

#	Direction	Location	Interim No Project AM Peak Hour Conditions		Interim No Project PM Peak Hour Conditions	
			Density	LOS	Density	LOS
		U.S. Highway 50 Mainline				
1	EB	West of El Dorado Hills	14.78	B	23.92	C
2	WB		24.76	C	22.89	C
3	EB	El Dorado Hills to Silva Valley	19.42	C	36.98	E
4	WB		27.51	D	25.14	C
5	EB	Silva Valley To Bass Lake	19.42	C	36.98	E
6	WB		27.51	D	25.14	C
7	EB	East of Bass Lake	17.31	B	27.09	D
8	WB		23.56	C	22.20	C

Table 21: Freeway Mainline Levels of Service Interim (2020) With Project Conditions (AM Peak Hour and PM Peak Hour)

#	Direction	Location	Interim With Project AM Peak Hour Conditions		Interim With Project PM Peak Hour Conditions	
			Density	LOS	Density	LOS
		U.S. Highway 50 Mainline				
1	EB	West of El Dorado Hills	15.98	B	25.48	C
2	WB		26.69	D	25.65	C
3	EB	El Dorado Hills to Silva Valley	15.50	B	26.97	C
4	WB		17.86	B	16.49	B
5	EB	Silva Valley To Bass Lake	20.45	C	38.53	E
6	WB		24.86	C	26.13	D
7	EB	East of Bass Lake	18.49	C	30.23	D
8	WB		21.43	C	24.61	C

Table 22: Freeway Mainline Levels of Service Cumulative (2030) No Project Conditions (AM Peak Hour and PM Peak Hour)

#	Direction	Location	Cumulative No Project AM Peak Hour Conditions		Cumulative No Project PM Peak Hour Conditions	
			Density	LOS	Density	LOS
		U.S. Highway 50 Mainline				
1	EB	West of El Dorado Hills	19.75	C	36.17	E
2	WB		35.77	E	34.66	D
3	EB	El Dorado Hills to Silva Valley	28.81	D	**164.49**	**F**
4	WB		37.86	E	37.75	E
5	EB	Silva Valley To Bass Lake	28.81	D	**164.49**	**F**
6	WB		37.86	E	37.75	E
7	EB	East of Bass Lake	23.77	C	**50.50**	**F**
8	WB		27.18	D	31.59	D

Table 23: Freeway Mainline Levels of Service Cumulative (2030) With Project Conditions (AM Peak Hour and PM Peak Hour)

#	Direction	Location	Cumulative With Project AM Peak Hour Conditions		Cumulative With Project PM Peak Hour Conditions	
			Density	LOS	Density	LOS
		U.S. Highway 50 Mainline				
1	EB	West of El Dorado Hills	19.75	C	36.17	E
2	WB		35.77	E	34.56	D
3	EB	El Dorado Hills to Silva Valley	20.11	C	34.67	D
4	WB		23.22	C	21.42	C
5	EB	Silva Valley To Bass Lake	26.48	D	**97.72**	**F**
6	WB		33.67	D	34.22	D
7	EB	East of Bass Lake	23.77	C	**50.50**	**F**
8	WB		27.18	D	31.59	D

4.8.3 Impacts and Mitigation Measures[1]

Impact TRAF-1: Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

The revised proposed project is included in the El Dorado County General Plan and is consistent with both the Circulation Element and the Regional Transportation Plan, including the most recently adopted 2010-2030 RTP. The interchange was approved in 1991 by the El Dorado County Board of Supervisors and has retained this status since that time.

The 1991 EIR found one impact that could potentially conflict applicable circulation plans:

Impact TRAF-1a: No substantial construction impact – Vehicles, pedestrians, and bicyclists may experience delays or be required to utilize detours during project construction. In addition, construction activities may increase conflicts between vehicles, pedestrians, and bicyclists. Although these impacts will be temporary in nature, implementation of Mitigation Measure TRAF-1 will be required to reduce this impact to a less than significant level.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure TRAF-1: A traffic control and safety plan shall be prepared before construction begins, and shall comply with all County and Caltrans standards.

Level of Significance after Mitigation: Less than Significant.

Impact TRAF-2: Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

The revised proposed project design would not create additional new trips as explained above and therefore would not conflict with the applicable County General Plan, Circulation Element or other applicable plan (e.g., the RTP). The 1991 EIR, however, found fifteen potential impacts that could conflict with applicable level of service standards from the original adoption of the project:

Impact TRAF-2a: Improvement from LOS E (No-Project Alternative) to LOS D during the p.m. peak hour at the Latrobe Road/U.S. 50 EB Ramps intersection –Based on the recent traffic analysis conducted by Dowling and Associates, the 1991 EIR determination remains valid, this is considered a

[1] Consistent with the 1991 EIR, a significance level of "beneficial" is used in this section. A beneficial level of significance is defined as an impact that increases the LOS by one letter, or a 10% decrease in volume (in vehicles per hour), vehicle delay (at intersections) or density (at off/on ramps and mainline) with the Proposed Project when compared to No Project conditions.

less than significant and beneficial impact. No mitigation is required. The recent traffic analysis shows the 2020 PM peak hour improves from LOS (no project) C to LOS B (with project), and the 2030 PM peak hour improves from LOS F (no project) to LOS A (with project).

Impact TRAF-2b: Improvement from LOS D (No-Project Alternative) to LOS C during the a.m. peak hour at the El Dorado Hills Blvd/U.S. 50 WB Ramps intersection – Based on the recent traffic analysis conducted by Dowling and Associates, the 1991 EIR determination remains valid, this is considered a less than significant and beneficial impact. No mitigation required. The recent traffic analysis shows the 2020 AM peak hour improves from LOS F (no-project) to LOS D (with-project); and the 2030 AM peak hour improves from LOS F (no-project) to LOS D (with-project). The Latrobe Road/U.S. 50 interchange improvements are included in the County CIP.

Impact TRAF-2c: No change from LOS D (No-Project Alternative) to LOS D during the p.m. peak hour at the Bass Lake Road/U.S. 50 EB Ramps intersection - Based on the recent traffic analysis conducted by Dowling and Associate, the Silva Valley Interchange improves LOS at the Bass Lake Road Interchange, this is considered a less than significant and beneficial impact. No mitigation required. The 2020 PM peak hour improves from LOS D (no-project) to LOS B (with-project); and the 2030 PM peak hour improves from LOS F (no-project) to LOS B (with-project). The Bass Lake Road Interchange improvements are included in the County CIP.

Impact TRAF-2d: Improvement from LOS F (No-Project Alternative) to LOS C during the p.m. peak hour at the White Rock Road/Latrobe Road intersection - Based on the recent traffic analysis conducted by Dowling and Associates, the 1991 EIR determination remains valid, this is considered a less than significant and beneficial impact. No mitigation required. The 2020 p.m. peak hour improves from LOS E (no-project) to LOS D (with- project). The 2030 p.m. peak hour LOS is F in both the No-Project and With Project scenarios. However, the delay decreases from 156.7 seconds (no-project) to 114 seconds (with-project), a reduction in delay of 27% is considered beneficial. Furthermore, a second northbound left, second northbound right, and dedicated eastbound right will mitigate this intersection to LOS E. These improvements are identified in future CIP Projects, as funded by the RIF. As stated previous, LOS E is an acceptable LOS per County General Plan Policy.

Impact TRAF-2e: Improvement from LOS F (No Project Alternative) to LOS C during the am peak hour at the EB on-ramp of the El Dorado Hills Boulevard/U.S. 50 interchange – Based on the recent traffic analysis conducted by Dowling and Associates, the 1991 EIR determination remains valid, this is considered a less than significant and beneficial impact. No mitigation required. The recent traffic analysis shows the 2020 PM peak hour LOS is B in both the No-Project and With-Project. The 2030 PM peak hour LOS is C in both the No-Project and With-Project. However, the 2030 p.m. peak hour density decreases from 26.7 pc/mi/hr (no-project) to 20.1 pc/mi/hr (with-project), a reduction in density of 24% is considered beneficial. The 2030 PM peak hour volume decreases from 2619 vph (No-Project) to 1297 vph (With-Project), a 50% reduction that is considered beneficial.

Impact TRAF-2f: No change from LOS F (No-Project Alternative) to LOS F during the p.m. peak hour at the EB on-ramp of the El Dorado Hills Blvd/U.S. 50 interchange but a substantial reduction in the V/C ratio from 2.35 to 1.06 – Based on the recent traffic analysis conducted by Dowling and Associates, the Silva Valley Interchange improves LOS at the El Dorado Hills Blvd/U.S. 50 EB on-ramp, this is considered a less than significant and beneficial impact. No mitigation required. The

2020 PM peak hour improves from LOS D (no-project) to LOS C (with-project); and the 2030 PM peak hour improves from LOS F (no-project) to LOS D (with-project).

Impact TRAF-2g: No change from LOS F (No-Project Alternative) to LOS F during the a.m. peak hour at the WB on-ramp of the El Dorado Hills Blvd/U.S. 50 interchange but a reduction in the V/C ratio from 1.44 to 1.24 - Based on the recent traffic analysis conducted by Dowling and Associate, the 1991 EIR determination remains valid, this is considered a less than significant and beneficial impact. No mitigation is recommended.

The recent traffic analysis shows the 2020 a.m. peak hour LOS is D in both the No-Project and With-Project. The 2030 a.m. peak hour LOS is F in both the No-Project and With-Project. However, the 2030 a.m. peak hour density decreases from 43.9 pc/mi/hr (No-Project) to 37.8 pc/mi/hr (With-Project), a reduction in density of 14% is considered beneficial. The 2030 a.m. peak hour volume decreases from 2979 vph (No-Project) to 1767 vph (With-Project), a 40% reduction that is considered beneficial.

As is shown in Table 22 and 23, mainline WB U.S. 50 west of El Dorado Hills has an a.m. peak hour LOS E. The failure of the El Dorado Hills Blvd/U.S. 50 WB is a result of the mainline failure. To improve the El Dorado Hills Blvd/U.S. 50 WB onramp to a LOS D would require widening the associated WB U.S. 50 mainline or restripe the HOV lane to a mixed use lane.

Impact TRAF-2h: No change from LOS F (No-Project Alternative) to LOS F during the p.m. peak hour at the WB on-ramp of the El Dorado Hills Blvd/U.S. 50 interchange - Based on the recent traffic analysis conducted by Dowling and Associates, the Silva Valley Interchange improves LOS at the El Dorado Hills Blvd./US 50 Interchange WB on-ramp, this is considered a less than significant and beneficial impact. No mitigation is recommended.

The recent traffic analysis shows the 2020 p.m. peak hour LOS is D in both the No-Project and With-Project. The 2030 p.m. peak hour improves from LOS F (No Project) to LOS E (With Project).

Impact TRAF-2i: Improvement from LOS F and E (No-Project Alternative) to LOS B during the a.m. and p.m. peak hour, respectively, at the WB slip off-ramp of the El Dorado Hills Blvd/U.S. 50 interchange – The slip off-ramp anticipated in the 1991 EIR will be replaced with a loop off-ramp with the reconstruction of the El Dorado Hills Interchange as a separate project. Therefore, this impact is no longer applicable. Refer to Impact TRAF-2j

Impact TRAF-2j: Improvement from LOS F (No-Project Alternative) to LOS B during the a.m. and p.m. peak hour at the WB loop off-ramp of the El Dorado Hills Blvd/U.S. 50 interchange – Based on the recent traffic analysis conducted by Dowling and Associate, the 1991 EIR determination remains valid, this is considered a less than significant and beneficial impact. No mitigation required. The recent traffic analysis shows the 2020 a.m. peak hour improves from LOS (No-Project) C to LOS B (With-Project); and the 2030 a.m. peak hour improves from LOS F (No-Project) to LOS A (With-Project). The traffic analysis also shows the 2020 p.m. peak hour improves from LOS (No-Project) C to LOS B (With-Project); and the 2030 p.m. peak hour improves from LOS F (No-Project) to LOS A (With-Project).

Impact TRAF-2k: No change from LOS F (No-Project Alternative) to LOS F during the a.m. and p.m. peak hours, respectively, at the WB on-ramp of the Bass Lake Road/U.S. 50 interchange - Based on

the recent traffic analysis conducted by Dowling and Associate, the Silva Valley Interchange improves LOS at the Bass Lake Road Interchange, this is considered a less than significant and beneficial impact. No mitigation required. The recent traffic analysis shows the 2020 a.m. peak hour improves from LOS D (No-Project) to LOS C (With-Project); and the 2030 a.m. peak hour is LOS F in both the No Project and With Project scenarios. However, the density during the 2030 a.m. peak-hour decreases from 39.9 pc/mi/hr (No Project) to 33.9 pc/mi/hr (With Project), a 15% reduction. The traffic analysis also shows the 2020 p.m. peak hour improves from LOS D (No-Project) to LOS C (With-Project); and the 2030 p.m. peak hour LOS is F in both the No Project and With Project scenarios. However, the density during the 2030 p.m. peak-hour decreases from 39.6 pc/mi/hr to 34.8 pc/mi/hr, a 12% reduction.

Impact TRAF-2l: No change from LOS F (No-Project Alternative) to LOS F on the U.S. 50 mainline in the project vicinity - Based on the recent traffic analysis conducted by Dowling and Associate, the Silva Valley Interchange improves LOS on the U.S. 50 mainline in the project vicinity, this is considered a less than significant and beneficial impact. No mitigation required. The recent traffic analysis shows the WB U.S. 50 2030 a.m. peak hour between Bass Lake Rd and Silva Valley Pkwy improves from LOS (No-Project) E to LOS D (With-Project); and the 2030 p.m. peak hour improves from LOS E (No-Project) to LOS D (With-Project). The traffic analysis also shows the WB U.S. 50 2030 a.m. peak hour between Silva Valley Pkwy and El Dorado Hills Blvd improves from LOS E (No-Project) to LOS C (With-Project); and the 2030 p.m. peak hour improves from LOS E (No-Project) to LOS C (With-Project). The traffic analysis shows the EB U.S. 50 2030 a.m. peak hour between El Dorado Hills Blvd and Silva Valley Pkwy improves from LOS (No-Project) D to LOS C (With-Project); and the 2030 p.m. peak hour improves from LOS F (No-Project) to LOS D (With-Project). The traffic analysis also shows the EB U.S. 50 2030 a.m. peak hour between Silva Valley Pkwy and Bass Lake Rd LOS is D in both the No-Project and With-Project; and the 2030 p.m. peak hour LOS is F in both the No-Project and With-Project. However, the density in the p.m. peak hour decreases from 164.49 pc/mi/hr (No-Project) to 97.72 pc/mi/hr (With-Project), a 40% reduction that is considered beneficial

Impact TRAF-2m: LOS F during the p.m. peak hour at the EB slip on-ramp of the Silva Valley Parkway/U.S. 50 interchange – Based on the recent traffic analysis conducted by Dowling and Associate, the 1991 EIR determination remains valid, this is considered a significant and unavoidable impact. No mitigation required. The analysis assumes that in 2020 the initial phase of the interchange would be built. This included an EB loop on-ramp in lieu of the EB diagonal on ramp. The 2020 p.m. peak EB loop on-ramp LOS is D.

The analysis assumes that in 2030 the ultimate interchange will be constructed which adds the EB slip on-ramp. The 2030 p.m. peak EB loop on-ramp LOS is D, and the EB slip on-ramp LOS is F. However, the Silva Valley Interchange improves the LOS for U.S. EB 50 as is identified in Impact 2l.

Impact TRAF-2n: LOS F during the p.m. peak hour at the WB off-ramp of the Silva Valley Parkway/U.S. 50 interchange – Based on the recent traffic analysis conducted by Dowling and Associate, the 1991 EIR determination remains valid, this is considered a less then significant impact. No mitigation required. For 2020 with project the LOS is B and for 2030 with project the LOS is C.
Impact TRAF-2o: LOS E and F during the a.m. and p.m. peak hours, respectively, on the eastbound mainline of U.S. 50 between the Silva Valley Parkway and El Dorado Hills Boulevard interchanges

due to weaving - This impact is no longer significant and unavoidable and is now less than significant for both the 2020 and 2030 with project. No mitigation is recommended.

The 1991 analysis identified this as a significant and unavoidable impact because the mitigation (adding an additional through-lane to U.S. 50 and shifting the Silva Valley Parkway interchange 700 feet eastward) is impossible. However, the geometry of the El Dorado Hills and Silva Valley Interchanges were modified to increase the merge/diverge distance and an auxiliary lane was added to alleviate what had been an issue in the 1991 design. The EB mainline of U.S. 50 between these two interchanges for the 2020 a.m. peak LOS is B and the 2020 p.m. peak LOS is C. The EB mainline of U.S. 50 between these two interchanges for the 2030 a.m. peak LOS is C and the 2030 p.m. peak LOS is D.

In addition to the impacts identified in the 1991 EIR, the following new potential impacts have been identified:

Interim 2020 with project (Phase 1):

Impact TRAF-2p: Under 2020 with project conditions, LOS F during the p.m. peak hour at the Valley View Parkway/White Rock Road intersection – Implementation of Mitigation Measure TRAF-2 will reduce this impact to a less than significant level.

Cumulative 2030 with project (ultimate):

Impact TRAF-2q: Under 2030 with project conditions, LOS F during the p.m. peak hour at the Valley View Parkway/White Rock Road intersection - Implementation of Mitigation Measure TRAF-3 will reduce this impact to a less than significant level.

Impact TRAF-2r: Under 2030 with project conditions, LOS F at both the a.m. and p.m. peak hours at the Latrobe Road/White Rock Road intersection - Implementation of Mitigation Measure TRAF-4 will reduce this impact to a less than significant level.

Impact TRAF-2s: Under 2030 with project conditions, LOS F to during the a.m. and p.m. peak hour at the WB on-ramp of the El Dorado Hills/U.S. 50 interchange - A 2030 AM diversion analysis for the westbound on-ramp has a "No-Project" of 2979 vehicles per hour (vph), and "With Project" 1767 vph. Therefore the project diverts 1212 vehicles from the El Dorado Hills Interchange in the AM Peak hour. A 2030 PM diversion analysis for the WB on-ramp has a "No-Project" of 2541 vph, and "With Project" 1575 vph. Therefore, the project diverts 966 vehicles from the El Dorado Hills Interchange in the PM Peak hour. Mitigation to reduce this impact could include converting the HOV lane to a mixed flow lane or by adding a new mixed-flow lane to the mainline. However, Caltrans generally considers this type of conversion infeasible where mainline capacity is not adequate. Therefore, such a conversion of HOV lanes has been determined infeasible and no mitigation is required for the revised proposed project design.

Level of Significance before Mitigation: Significant and Unavoidable (Impact *TRAF-2m),* Significant (Impact *TRAF-2d),* Potentially Significant (Impacts *TRAF-2p* through *TRAF-2r),* and Less than Significant (Impacts *TRAF-2a* through *TRAF-2c, TRAF-2e* through *TRAF-2h, TRAF-2j* through *TRAF-2l, TRAF-2n, TRAF-2o,* and *TRAF-2s*).

Mitigation Measure TRAF-2: In 2020 for the Valley View Parkway/White Rock Road intersection: provide dual left turn lanes on the westbound approach. These improvements are identified in the County CIP.

Mitigation Measure TRAF-3: In 2030 for the Valley View Parkway/White Rock Road intersection: widen the northbound approach to provide a left turn, a shared left-through, and a dedicated right turn lane as well as provide dual left turn lanes on the westbound approach and a dedicated right turn on the eastbound approach. These improvements are identified in the County CIP.

Mitigation Measure TRAF-4: In 2030, for the Latrobe Road/White Rock Road intersection: provide a northbound right and left-turn lane, a third eastbound through late, and a dedicated eastbound right-turn lane. These improvements are identified in the County CIP and 2010-2030 RTP.

Level of Significance after Mitigation: Significant and Unavoidable (Impacts *TRAF-2m*) Less than Significant (*TRAF-2a* through *TRAF-2h, TRAF-2j* through *TRAF-2l,* and *TRAF-2n* through *TRAF-2s*), and Beneficial (*TRAF-2a* through *TRAF-2h,* and *TRAF-2j* through *TRAF-2m and TRAF-2s*).

Impact TRAF-3: Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The Cameron Airpark located in Cameron Park is the nearest airport or airstrip in the project area, and is situated approximately 4 miles to the east of the project site. Therefore, no impacts to air traffic patterns will occur.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact TRAF-4: Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The proposed project has been designed to comply with current Caltrans and El Dorado County Department of Transportation design standards. The proposed project will not include design features that are considered hazardous. As the interchange will be constructed on existing roadways and in a relatively undeveloped area, incompatible uses are not expected to occur.

Level of Significance before Mitigation: Less than Significant.
Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact TRAF-5: Would the project result in inadequate emergency access?

Construction related impacts to the project area may include lane narrowing and slowed traffic flow. However, these impacts are anticipated to be minor and temporary in nature. Over the long term, implementation of the proposed project will not result in inadequate or compromised emergency access. No mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact TRAF-6: Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The proposed project includes Class II bicycle facilities that will be provided as both part of the new interchange, and as part of the existing undercrossing. Therefore the proposed project will not conflict with adopted policies regarding bicycle or pedestrian facilities. No mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

4.9 PUBLIC SERVICES (and ENERGY)

4.9.1 Existing Setting

Public Services
The previously prepared 1991 EIR described the public services and facilities of the project area, including Pacific Gas & Electric (PG&E) substation and associated facilities and El Dorado Irrigation District (EID) water and sewer lines. These descriptions are still accurate.

In addition to the previous description, since 1991 EID has constructed recycled water lines and facilities, as well as a water line and booster station on the north side of Highway 50 along State right of way. These facilities are within an EID easement. EID has also installed facilities in the existing White Rock Road/Silva Valley Parkway under the highway.

Energy
Potential energy impacts were not specifically discussed in the original 1991 EIR. Therefore, this issue area (setting, impacts, and mitigation measures) has been added to the Public Services section of this SEIR.

Energy resources are currently used to maintain the existing roadway and provide the power requirements for motor vehicles using the roadway. Power demand for these energy consuming activities is provided from petroleum products and fossil fuels.

4.9.2 Regulatory Setting

In the year 2005, transportation activity accounted for 28 percent of the total energy consumed in the U.S. Transportation accounts for 87 percent of the increase in petroleum consumption, dominated by growth in fuel use for light-duty vehicles. In California, roughly half of the energy Californians consume is for transportation. To meet this demand, the state relies almost exclusively on petroleum. The California Energy Commission has recommended measures to improve fuel economy standards and diversify California's fuel supply to include ethanol, bio-diesel, electricity, natural gas, liquefied petroleum gas, and hydrogen. Additional statewide measure to increase vehicle efficiency include policies to increase public and private use of hybrid-electric vehicles, light duty diesels, low-rolling resistance tires and truck anti-idling regulations.

The Federal Energy Policy and Conservation Act of 1992 established fuel economy standards for on-road vehicles in the United States. This law places responsibility to the National Highway Traffic and Safety Administration (a part of the U.S. Department of Transportation) for establishing vehicle standards and for revising existing standards. The U.S. Environmental Protection Agency (U.S. EPA) administers the Corporate Average Fuel Economy (CAFE) program, which determines vehicle manufactures' compliance with existing fuel economy standards. The "California Greenhouse Bill" (AB 1493 Chapter 200, Statutes 2002) signed into law in July 2002 is intended to reduce production of "greenhouse gases," and its implementation may also result in use of more fuel-efficient vehicles.

The following policies from the El Dorado County General Plan relate to Public Services and Energy Conservation:

Policy 5.6.1.1: Promote and coordinate efforts with utilities for the undergrounding of existing and new utility distribution lines in accordance with current rules and regulations of the California Public Utility Commission and existing overhead power lines within scenic areas and existing Community Regions and Rural Centers.

Policy 5.6.2.1: Require energy conserving landscaping plans for all projects requiring design review or other discretionary approval.

The Following Policies Relate To Public Services And Facilities:

State of California Department of Transportation Longitudinal Utility Policy
With the exception of special cases permitted under strictly controlled conditions, new utilities will not be permitted to be installed longitudinally within the access control lines of any freeway or expressway. Exceptions can be made at locations where circumstances make it impossible or unreasonably costly to locate utilities outside of the access controlled right of way. Requests for utility encroachments or utility access within freeway or expressway right of way are considered an exception to policy and are to be submitted to the Division Chief of the Division of Design (DOD) for approval.

California Public Utilities Commission General Orders
The California Public Utilities Commission (CPUC) is a commission created by Section 1 of Article XII of the California Constitution. The CPUC has broad authority over intrastate telecommunications services, the operations and prices of privately owned electric service and gas companies, and the operations and services of private water companies. It is chartered to regulate and enforce California Law, specifically the Public Utilities Code. The CPUC supervises and regulates every public utility in the State and does so by issuing Rules of Practice and Procedures and General Orders that provide specific regulation on various utility design matters. Specifically, General Order 131-D requires that construction of power line facilities meet the need for public notice and the opportunity for affected parties to be heard by the Commission and the obligations of the utilities to serve their customers in a timely and efficient manner.

State of California Health and Safety Code relating to Drinking Water and Recycled Water
The use of all water for distribution is declared to be a public use, and subject to the regulation and control of the State, in the manner to be prescribed by law. California Law consists of 29 codes, covering various subject areas, the State Constitution, and Statutes. The California Health and Safety Code has enacted numerous regulations specifically relating to the distribution of drinking water and recycled water. These regulations must be met with full compliance when designing water distribution systems.

El Dorado County Design and Construction Standards
El Dorado County maintains design manuals and improvement standards that provide updated design criteria, policies and procedures for use as a guide for engineers to exercise sound judgment in the design of streets and highways in El Dorado County. This publication is intended to provide guidance in the design of new and major reconstruction projects. In cases where strict adherence to the standards of design would be impractical or unreasonable, deviations may be approved providing they

are in accordance with good engineering practice and the public health and safety, and conform to a plan that will, under the circumstances, be practical and reasonable.

El Dorado Irrigation District, Pacific Gas & Electric Co, AT&T Design and Construction Standards
New improvements or facilities constructed on behalf of other owners, agencies or private entities will be taken over by those other owners upon completion. For this reason, the design of those facilities must comply with the improvement standards of that owner. Each owner maintains design manuals and improvement standards that provide updated design criteria, policies and procedures for use as a guide for engineers to exercise sound judgment in the design of its facilities (Figure 11).

4.9.3 Impacts and Mitigation Measures

Impact PS-1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any public services, including: fire protection, police protection, schools, parks, or other public facilities?

The 1991 EIR found three impacts with the potential to affect public services:

Impact PS-1a: Relocation of two 115-kV lines, one 60-kV transmission line, and two distribution lines (underbuilt on the 60-kV transmission line) - The 115 kV transmission lines could potentially stay in place and may not require relocation. The 60 kV lines are proposed to be relocated. All public utility facilities impacted by the proposed project may be relocated and/or accommodated. If the facilities are relocated, they will be done so in accordance with State law and regulations and the State's policies concerning utility encroachments within State highway rights of way. Exceptions to the State's policy may still be granted, pending required approvals by State officials.

Major electric facilities involving substations and/or power lines operating in excess of 50kV may require special permits and additional review per California Public Utilities Commission (CPUC) General Order 131-D. Potential relocations of this type require early coordination with the CPUC to determine General Order applicability. Potential relocation corridors for dry utilities, power lines, and other facilities are illustrated in Figure 11. Mitigation Measure PS-1 will be required to reduce this impact to a less than significant level.

Impact PS-1b: Conflict with the planned expansion of PG&E electric and gas facilities – Analysis in the 1991 EIR remains valid. Implementation of Mitigation Measure PS-2 will reduce this impact to a less than significant level.

POWER LINES, DRY UTILITIES AND OTHER FACILITIES CORRIDOR ALIGNMENTS

U.S. 50 / SILVA VALLEY PARKWAY INTERCHANGE

October, 2010

Alt 1: North

Alt 2: South

Alt 3: Remain In Place

0 150 300 500

GRAPHIC SCALE

DRAFT

Silva Valley Pkwy

ELEMENTARY SCHOOL

CHURCH

Bucks Ravine Creek

Carson Creek

CEMETERY

PG&E SUBSTATION

PONY EXPRESS HISTORIC SITE

El Dorado Hills Blvd

HIGHWAY 50

Latrobe Rd

White Rock Rd

LSA

FIGURE 11

Silva Valley Parkway Interchange

Potential Utility Relocation Corridors

SOURCE: Mark Thomas and Company (2010)

P:\MKT530\Graphics\Figure11.pdf (12-2-10)

Impact PS-1c: No interference with the access road or encroachment on the PG&E substation property – Previous analysis remains valid. This is a less than significant impact and no mitigation is required.

In addition to the impacts listed above, the following new impact has been identified:

Impact PS-1d: Relocation of EID Water and Sewer Lines - It may be necessary to relocate EID water, recycled water, and sewer lines in conflict with the proposed project during construction. These conflicts exist along the north side of U.S. 50, and in the existing Silva Valley Parkway and existing White Rock Road. These relocations could be located within the utility relocation corridors illustrated in Figure 11 and along the north side of U.S. 50. It is possible that during relocation of water facilities, water service to the Capital Korean Presbyterian Church could be impacted. Mitigation Measures PS-1 and PS-3 will ensure that no significant environmental impacts will occur as a result of the water and sewer relocations.

Level of Significance before Mitigation: Potentially Significant (Impact *PS-1a, 1b, and 1d*), Less than Significant (Impact *PS-1c*).

Mitigation Measure PS-1: Relocation of public utilities will be performed in accordance with State law and regulations and the State's policies concerning utility encroachments.

Mitigation Measure PS-2: Provide for electrical and gas line conduits in the Interchange design.

Mitigation Measure PS-3: Relocate EID Water and Sewer Lines in conflict with proposed Interchange during construction.

Level of Significance after Mitigation: Less than Significant.

Impact EN-1: Would the project consume excessive amounts of energy?

While energy would be consumed in constructing the Interchange (including transportation of materials and equipment, energy consumed in the manufacturing of parts, equipment, and other aspects that support construction activities, and energy consumed by maintenance operations), this would be a temporary use of energy. In addition, compliance with General Plan energy conservation policies including energy conserving landscaping would reduce wasteful energy practices. It is expected that the Interchange, once completed, would reduce vehicular fuel consumption when compared to vehicular fuel consumption if the improvements were not constructed.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

4.10 NOISE

Noise monitoring and modeling was performed for the proposed project by LSA Associates in 2010. Modeling data, detailed analysis of noise sources and noise abatement options, and mitigation measures are presented in Appendix H.

4.10.1 Existing Setting

A field investigation was conducted to identify land uses that could be subject to traffic and construction noise impacts from the proposed project. Caltrans outlines their requirements for noise impact analysis transportation projects in the *Traffic Noise Analysis Protocol* (Protocol). As stated in the Protocol, noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Although all developed land uses are evaluated in this analysis, the focus is on locations of frequent human use that would benefit from a lowered noise level. Accordingly, this impact analysis focuses on locations with defined outdoor activity areas, such as residential backyards and exterior common use areas of church and day care land uses in the project vicinity. Subsequent to the approval of the 1991 EIR, new noise sensitive land uses (receptors) now exist on properties adjacent to the project alignment including the Capital Korean Presbyterian Church on Tong Road and the Kindercare day care facility on Park Drive. The updated noise analysis considers the noise effects of the proposed project (including re-alignment of Tong Road) on these uses (receptors).

Short-term noise measurement locations were selected to represent the primary noise sensitive land uses within the project area. The noise monitoring physical locations and the primary noise sources at each site are described in Table 24. Table 25 shows the meteorological conditions at the monitoring locations during the short-term noise monitoring. Table 26 contains the results of these measurements. The noise monitoring locations are shown in Figure 12. The sound level measurement documentation sheets, traffic counts, and documented meteorological data are provided in Appendix H.

Table 24: Physical Locations of Noise Level Measurements

Monitor No.	Corresponding Modeled Receptor No.	Location	Noise Sources
M-1	R4, R5, R6	3959 Park Drive – next to Kindercare day-care center	Traffic on U.S. 50
M-2	R-2, R3	1250 Joerger Cutoff Road – in front of house used as law office, near adjacent cemetery property	Traffic on U.S. 50
M-3	R1	1441 Tong Road – by play area next to Capital Korean Presbyterian Church	Traffic on U.S. 50

Source: LSA Associates, Inc., 2010.
Note: Refer to Figure 12 for noise measurement locations.

LSA

FIGURE 12

N

0 375 750

FEET

! NOISE MONITORING LOCATIONS

MODELED RECEPTOR LOCATIONS

S MODELED SOUND WALL LOCATIONS

Silva Valley Parkway Interchange

Noise Monitoring, Modeled Receptors, and Modeled Sound Barrier Locations Map

SOURCE: USGS 7.5' QUAD-CLARKSVILLE

I:\MKT530 silva valley-SR50/figures/Fig_12.ai (6/22/10)

Table 25: Meteorological Conditions During Noise Monitoring

Date	Maximum Wind Speed (mph)	Average Wind Speed (mph)	Temperature (F)	Relative Humidity (%)
4/13/2010	3.2	2.2	59.4	55
4/13/2010	5.4	2.7	61.8	47
4/13/2010	4.5	24	63.1	51

Source: LSA Associates, Inc., 2010.
mph = miles per hour F = degrees Fahrenheit

Table 26: Short-Term Ambient Noise Monitoring Results

Monitor No.	Date	Start Time	Duration	dBA L_{eq}
M-1	4/13/2010	12:05	15 minutes	73.3
M-2	4/13/2010	12:45	15 minutes	63.8
M-3	4/13/2010	1:20	15 minutes	62.5

Source: LSA Associates, Inc., 2010.
dBA = A-weighted decibel L_{eq} = Equivalent Sound Level

Existing Traffic Noise Model Results

Traffic noise levels were predicted using the FHWA Traffic Noise Model Version 2.5 (TNM 2.5). TNM 2.5 is a computer model based on two FHWA reports: FHWA-PD-96-009 and FHWA-PD-96-010 (FHWA 1998a, 1998b). Key inputs to the traffic noise model were the locations of roadways, shielding features (e.g., topography and intervening structures), existing noise barriers, ground type, and receivers. Three-dimensional representations of these inputs were developed using computer-aided design (CAD) drawings, aerials, and topographic contours provided by Mark Thomas & Company, Inc.

TNM 2.5 is sensitive to the volume of trucks on the roadway because trucks contribute disproportionally to the traffic noise. Truck percentages on U.S. 50 were obtained from the most recent available data on Caltrans website, the 2008 Annual Average Daily Truck Traffic on the California State Highway System.[1] Based on this report, the annual average daily traffic on this segment of U.S. 50 includes 93.6 percent automobiles, 2.7 percent medium trucks (two-axle with six wheels but not including dually pick-up trucks), and 3.7 percent heavy trucks (three- or more axle vehicles).

Because the constrained PM peak-hour traffic volumes for existing conditions were used in modeling the existing traffic noise levels, the modeled existing traffic noise levels were not adjusted for peak-hour noise levels using the long-term monitoring results, otherwise existing traffic noise levels would be overestimated. The vehicle percentage calculations for the existing conditions are provided in Appendix H.

[1] Caltrans, 2009. *2008 Annual Average Daily Truck Traffic on the California State Highway System.* September. http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/

The generalized land use data and location of particular sensitive receptors were the basis for the selection of the noise monitoring and analysis sites. A total of eleven (11) receptor locations were modeled, representing one church, one day care, and multiple commercial land uses in the project vicinity.

Short-term noise monitoring was conducted at three locations on Tuesday, April 13, 2010 between 11:00 a.m. and 2:00 p.m. when traffic was free flowing. All measurements were made using a Larson Davis Model 720 Type 2 sound level meter (Serial No. 0519). Measurements were taken over a 15-minute period at each site.

Traffic on U.S. 50 and roadways adjacent to each monitoring location was classified and counted during each short-term (15-minute) noise measurement. Vehicles were classified as automobiles, medium-duty trucks, or heavy-duty trucks. An automobile was defined as a vehicle with two axles and four tires that are designed primarily to carry passengers. Small vans and light trucks were included in this category. Medium-duty trucks included all cargo vehicles with two axles and six tires. Heavy-duty trucks included all vehicles with three or more axles. The posted speeds on U.S. 50 and adjacent roadways, as well as the observed average travel speeds during each short-term noise measurement, were documented.

A total of three separate calibration model runs were performed using the traffic numbers collected during the short-term noise monitoring. The results of these model runs were compared to the measured ambient noise levels to ensure the accuracy of the TNM 2.5 model outputs. Correction factors, known as K-factors, are calculated as measured sound levels minus the modeled sound levels. Table 27 shows the measured ambient noise level, the modeled existing noise levels using the concurrent traffic counts taken during the noise monitoring, and the resulting K-factor at each of the three monitoring locations. Based on the TeNS, K-factors within 2 dBA are considered to be in reasonable agreement with the measured sound levels and no calibration of the model is required. Therefore, only the K-factor for monitor location M3 was applied to the predicted traffic noise model results.

Table 27: Comparison of Measured to Predicted Sound Levels in the TNM Model

Monitor No.	Corresponding Modeled Receptor No.	Measured Sound Level L_{eq} (dBA)	Predicted Sound Level $L_{eq}(h)$ (dBA)	K-Factor (Measured minus Predicted) (dBA)
M1	**R4, R5, R6**	73.3	73.2	0.1
M2	**R2, R3**	63.8	63.3	0.5
M3	**R1**	62.5	65.6	-3.1

Source: LSA Associates, Inc. 2010.
dBA = A-weighted decibel L_{eq} = Equivalent Sound Level $L_{eq}(h)$ = Equivalent Sound Level per Hour

The existing traffic noise levels at all 11 modeled receptor locations are shown in Table 28. Of the 11 modeled receptor locations, none currently "approach or exceed" the NAC (see Table 29 for NAC

criteria). As shown in Table 28, sensitive land uses (including church and day care properties) with outdoor active use areas were evaluated against the Activity Category B at 67 dBA L_{eq} NAC for exterior noise levels (see Table 29 for breakdown of categories/criteria). The modeling input and output data for the existing conditions is provided in Appendix H.

Table 28: Existing Traffic Noise Levels

Rec I.D.	Location	Type of Land Use	No. of Units Repre-sented [1]	Noise Abatement Category	Existing Noise Level, dBA L_{eq}(h)
R1	Tong Road	Church	4	B(67)	65
R2	Joerger Cutoff Road	Commercial	1	C(72)	64
R3	Joerger Cutoff Road	Cemetery	2	B(67)	61
R4	Saratoga Way	Day Care	1	B(67)	61
R5	Saratoga Way	Day Care	1	B(67)	62
R6	Saratoga Way	Commercial	1	C(72)	62
R7	Mercedes Lane	Commercial	2	C(72)	63
R8	Mercedes Lane	Commercial	2	C(72)	53
R9	Mercedes Lane	Commercial	2	C(72)	49
R10	Mercedes Lane	Commercial	2	C(72)	51
R11	Mercedes Lane	Commercial	4	C(72)	65

Source: LSA Associates, Inc. 2010.
[1] Based on the number of 100-foot frontage units, as defined in the TeNS, since all receptors represent non-residential land uses.
dBA = A-weighted decibel L_{eq}(h) = Hourly Equivalent Sound Level NAC = Noise Abatement Criteria

4.10.2 Regulatory Setting

A project would have a significant noise effect if it would substantially increase the ambient noise levels in the vicinity, exceed noise abatement criteria, or conflict with adopted plans and goals of the community in which it is located. The applicable noise standards governing the project site are the State's noise criteria (as outlined in the *Traffic Noise Analysis Protocol*), El Dorado County's Noise Element of the General Plan,[1] and applicable sections of the El Dorado County Code.[2]

Caltrans Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects

Caltrans outlines their requirements for noise impact analysis transportation projects in the *Traffic Noise Analysis Protocol* (Protocol).[3] The Protocol specifies the policies, procedures, and practices to be used by agencies that sponsor new construction or reconstruction of State or federal-aid highway projects. Traffic noise impacts result from one or more of the following occurrences: (1) an increase

[1] El Dorado County. 2004. *El Dorado County General Plan, Public Health, Safety, and Noise Element*. July 19.
[2] El Dorado County, 2009. *El Dorado, California, County Code*. December 10.
[3] Caltrans, 2006. *Traffic Noise Analysis Protocol*, August.

of 12 A-weighted decibels (dBA) or more over existing noise levels, or (2) predicted noise levels approach or exceed the Noise Abatement Criteria (NAC). A sound level is considered to approach an NAC level when the sound level is within 1 dB of the NAC (e.g., 66 dBA is considered to approach the NAC of 67 dBA, but 65 dBA is not). Table 29 summarizes the State's adopted Noise Abatement Criteria (NAC) corresponding to various land use activity categories.

Table 29: Activity Categories and Noise Abatement Criteria

Activity Category	Noise Abatement Criteria, A-weighted Noise Level, Average Decibels Over One Hour	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 Exterior	Developed lands, properties, or activities not included in Categories A or B above
D	--	Undeveloped lands
E	52 Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

Source: Caltrans, 2006. *Traffic Noise Analysis Protocol.*

The Caltrans' Technical Noise Supplement (TeNS) and the Protocol provides detailed technical guidance for the evaluation of highway traffic noise. This includes field measurement methods, noise modeling methods, and report preparation guidance.

In identifying noise impacts, primary consideration is given to exterior areas of frequent human use. In situations where there are no exterior activities, or where the exterior activities are far from the roadway or physically shielded in a manner that prevents an impact on exterior activities, the interior criterion is used as the basis for consideration of noise abatement.

Section 216 of the California Street and Highways Code

Section 216 of the California Streets and Highways Code relates to the noise effects of a proposed freeway project on public and private elementary and secondary schools. Under this code, a noise impact occurs if, as a result of a proposed freeway project, noise levels exceed 52 dBA-L_{eq}(h) in the interior of public or private elementary or secondary classrooms, libraries, multipurpose rooms, or spaces. This requirement does not replace the "approach or exceed" NAC criterion for FHWA Activity Category E for classroom interiors, but it is a requirement that must be addressed in addition to the requirements of 23 CFR 772.

If a project results in a noise impact under this code, noise abatement must be provided to reduce classroom noise to a level that is at or below 52 dBA-L_{eq}(h). If the noise levels generated from freeway and nonfreeway sources exceed 52 dBA-L_{eq}(h) prior to the construction of the proposed freeway project, then noise abatement must be provided to reduce the noise to the level that existed prior to construction of the project.

The County of El Dorado Noise Standards

The County of El Dorado addresses noise in the Noise Element of the General Plan and the County's Ordinances. The Noise Element includes maximum allowable noise exposure standards for new transportation noise sources. These standards are shown in Table 30. According to the Noise Element, noise created by new transportation noise sources shall be mitigated so as not to exceed the levels specified in Table 30 at existing noise-sensitive land uses.

Table 30: Maximum Allowable Noise Exposure for Transportation Noise Sources

Land Use	Outdoor Activity Areas [1] L_{dn}/CNEL, dB	Interior Spaces	
		L_{dn}/CNEL, dB	L_{eq}, dB [2]
Residential	60 [3]	45	--
Transient Lodging	60 [3]	45	--
Hospitals, Nursing Homes	60 [3]	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls, Schools	60 [3]	--	40
Office Buildings	--	--	45
Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	--	--

[1] In Communities and Rural Centers, where the location of outdoor activity areas is not clearly defined, the exterior noise level standard shall be applied to the property line of the receiving land use. For residential uses with front yards facing the identified noise source, an exterior noise level criterion of 65 dB Ldn shall be applied at the building facade, in addition to a 60 dB Ldn criterion at the outdoor activity area. In Rural Regions, an exterior noise level criterion of 60 dB Ldn shall be applied at a 100 foot radius from the residence unless it is within Platted Lands where the underlying land use designation is consistent with Community Region densities in which case the 65 dB Ldn may apply. The 100-foot radius applies to properties which are five acres and larger; the balance will fall under the property line requirement.

[2] As determined for a typical worst-case hour during periods of use.

[3] Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

Source: El Dorado County. 2004. *El Dorado County General Plan, Public Health, Safety, and Noise Element*. July 19.

The County further establishes significance criteria for noise impacts as being an increase of more than 5 dBA L_{dn} caused by new transportation noise sources where existing or project noise levels are less than 60 dBA L_{dn}; or an increase of more than 3 dBA L_{dn} where existing or project noise levels range between 60 dBA and 65 dBA L_{dn}; or an increase of more than 1.5 dBA L_{dn} caused by new

transportation noise sources where existing or project noise levels are greater than 65 dBA L_{dn} at the outdoor activity areas of residential uses.

The County has also established noise standards for activities associated with actual construction of a project and restricts major noise producing activities to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and to the hours of 8:00 a.m. to 5:00 p.m. on weekends and federal holidays. In community regions and adopted plan areas, maximum noise levels from construction activities during these hours shall not exceed 75 dBA L_{max} at residential land uses, and shall not exceed 90 dBA L_{max} at commercial, public facility, or industrial land uses.

The County Ordinance establishes that it is unlawful for any person to willfully make, emit, or transmit or cause to be made, emitted, or transmitted any loud and raucous noise upon or from any public highway or public thoroughfare, or from any public or private property to such an extent that it unreasonably interferes with the peace and quiet of another's private property.

Future Traffic Noise Environment and Impacts

Table 31 summarizes the traffic noise modeling results for existing and design-year conditions with and without the project. Predicted design-year traffic noise levels with the project are compared to existing conditions and to design-year no-project conditions. The comparison to existing conditions is included in the analysis to determine whether a substantial noise increase would occur. The modeled future noise levels for each of the project build alternatives were also compared to the NAC to determine whether a traffic noise impact would occur. The comparison to no-build conditions indicates the direct effect of the project.

As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made. In some cases, this can result in relative changes that may not appear intuitive. An example would be a comparison between sound levels of 64.4 and 64.5 dBA. The difference between these two values is 0.1 dB. However, after rounding, the difference is reported as 1 dB.

The predicted year 2030 traffic sound levels at the representative sensitive receptor locations along the project corridor were determined with existing terrain and barrier features modeled (including existing buildings, solid fences and walls) and using the future (2030) predicted peak-hour traffic volumes. The model input and output data for the predicted future (2030) no-project conditions (assuming existing roadway conditions but with year 2030 traffic volumes) are included in Appendix H. The model input and output data for the predicted future (2030) roadway conditions with the project are included in Appendix H.

If the predicted traffic noise level is 12 dBA or more higher than the corresponding existing modeled noise level at the sensitive receptor location analyzed, or if the peak-hour traffic noise level at a sensitive receptor location is predicted to “approach or exceed” the NAC, then noise abatement measures must be considered. As shown in Table 31, none of the modeled receptor locations would experience a substantial noise increase of 12 dBA or more. However, modeling results do indicate that of the 11 modeled receptor locations, predicted traffic noise levels for the future year 2030 with-project conditions would “approach or exceed” the NAC under the Activity Category B (67) for only one (1) of the modeled receptor locations, the church land use represented by modeled receptor

location number **R1**. Therefore, traffic noise impacts are predicted to occur at Activity Category B land uses within the project area, and noise abatement must be considered.

Table 31: Predicted Traffic Noise Levels (dBA $L_{eq(h)}$)

Rec I.D.	Location	Type of Land Use	NAC	Existing Noise Level	Future (2030) No Build Noise Levels	Future Plus Build (2030) Noise Levels	Change from Existing Level	Change from No Build Level	Approach or Exceed NAC? Yes/No
R1	Joerger Cutoff Road	Church	B(67)	65	68	67	2	-1	YES
R2	Saratoga Way	Commercial	C(72)	64	67	67	3	0	No
R3	Joerger Cutoff Road	Cemetery	B(67)	61	63	64	3	1	No
R4	Saratoga Way	Day Care	B(67)	61	64	64	3	0	No
R5	Saratoga Way	Day Care	B(67)	62	65	65	3	0	No
R6	Mercedes Lane	Commercial	C(72)	62	66	66	4	0	No
R7	Mercedes Lane	Commercial	C(72)	63	66	66	3	0	No
R8	Mercedes Lane	Commercial	C(72)	53	57	57	4	0	No
R9	Mercedes Lane	Commercial	C(72)	49	52	52	3	0	No
R10	Mercedes Lane	Commercial	C(72)	51	53	53	2	0	No
R11	Mercedes Lane	Commercial	C(72)	65	69	70	5	1	No

Source: LSA Associates, Inc. 2010.
dBA = A-weighted decibel $L_{eq(h)}$ = Hourly Equivalent Sound Level NAC = Noise Abatement Criteria

Traffic Noise Impact Abatement Analysis

The outdoor active use area of the church land use, represented by modeled receptor location number R1, was the only modeled receptor location that would experience traffic noise levels that approach or exceed the NAC for Activity Category B. A single sound barrier, identified as **SB1**, was analyzed to protect this modeled impacted sensitive receptor location that would be exposed to traffic noise levels approaching or exceeding 67 dBA L_{eq}. The sound barrier was analyzed at the following heights: 6, 8, 10, 12 ft. This modeled sound barrier, as shown in Figure 12, would be located on the edge of the west-bound shoulder of U.S. 50 from approximately station marker 119+75 of the westbound off-ramp to station marker 108+25 of the westbound off-ramp. As portions of the sound barrier located along the proposed edge of shoulder would be located less than 13 feet of the edge of the travel lane, sound barrier heights greater than 12 feet were not considered feasible. The results of the traffic noise modeling with insertion of a sound barrier are shown in Table 32.

Table 32: Sound Barrier Modeling Results

Sound Barrier I.D.	Rec I.D.	Existing $L_{eq}(h)$	Future (2030) No Build Alternative $L_{eq}(h)$	Future (2030) Plus Build Alternative $L_{eq}(h)$	With 6 ft Barrier		With 8 ft Barrier		With 10 ft Barrier		With 12 ft Barrier	
					$L_{eq(h)}$	I. L.	$L_{eq(h)}$	I. L.	$L_{eq(h)}$	I. L.	$L_{eq(h)}$	I. L.
SB1	**R1**	65	68 [1]	67	67	0	67	0	65	2	64	3

Source: LSA Associates Inc., 2010.
I. L. = Insertion Loss, the decibel reduction with insertion of the modeled sound barrier
ft = feet $L_{eq(h)}$ = Equivalent Sound Level per Hour NAC = Noise Abatement Criteria

This noise barrier was then evaluated for feasibility based on achievable noise reduction. Section 3 of the Protocol states a minimum noise reduction of 5 dBA must be achieved at the impacted receivers for the proposed noise abatement measure to be considered feasible. The feasibility criterion is not necessarily a noise abatement design goal. Greater noise reductions are encouraged if they can be reasonably achieved. Elements that may restrict feasibility include topography; access requirements for driveways, ramps, etc.; location of local streets in relation to the proposed project; other noise sources in the area; and safety considerations.

As shown in Table 26, none of the modeled sound barriers would result in at least a minimum reduction of 5 dBA at the impacted receptor location. The greatest insertion loss achieved by the modeled sound barrier was only 3 dBA. Therefore, none of the modeled sound barriers are considered feasible according to the State's noise impact analysis criteria as outlined in the TeNS and Protocol.

For purposes of the CEQA analysis required for this project, a comparison must also be made between the predicted traffic noise levels with the project and the future traffic noise levels that would be experienced without the project. As shown in Table 25, predicted traffic noise levels with the proposed project would actually be 1 dBA lower at the impacted sensitive receptor location represented by modeled receptor number R1, than would be experienced under the future (2030) conditions without the project (No Build). This is due to the fact that the proposed alignment of the off-ramp and the new overcrossing actually provides shielding from some of the mainline traffic noise. Therefore, predicted traffic noise levels with the project would result in a less-than-significant impact on noise sensitive land uses in the project vicinity compared to the predicted traffic noise levels that would be experienced without the project.

According to the County's Noise Element, noise created by new transportation noise sources shall be mitigated so as not to exceed the levels specified in Table 30 at existing noise-sensitive land uses. The County further establishes significance criteria for noise impacts as being an increase of more than 3 dBA L_{dn} where existing or project noise levels range between 60 dBA and 65 dBA L_{dn}; or an increase of more than 1.5 dBA L_{dn} caused by new transportation noise sources where existing or project noise levels are greater than 65 dBA L_{dn} at the outdoor activity areas of residential uses. The closest residential land uses are located over 700 feet from the closest portion of the proposed project alignment. Although the County's project level impact criteria are stated in terms of the weighted 24-hour day-night average levels (L_{dn}) (and not in terms of the modeled peak hour traffic noise levels ($L_{eq}(h)$) shown in Tables 28, 31, and 32), in suburban/rural areas, such as the project area, where nighttime noise levels drop significantly compared to daytime noise levels, the 24-hour weighted average L_{dn} is typically equivalent to or lower than the peak hour traffic noise levels. Assuming a

conservative estimate that the L_{dn} would be equivalent to the $L_{eq}(h)$, the project traffic noise levels would drop to well below 50 dBA L_{dn} at the nearest residential land uses due to the distance from the freeway.

The County's Noise Element also states that, for church land uses, where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn} or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn} may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table (Table 30). Future traffic noise levels without the project are predicted to range up to 68 dBA $L_{eq}(h)$ at the church property on Tong Road. However, as shown in the preceding abatement analysis, implementation of noise abatement in the form of a noise barrier would not be feasible. In addition, project related traffic noise levels would not contribute to the increase in future traffic noise levels at the modeled receptor location R1 representing the outdoor active use area of the church on Tong Road, but rather result in a 1 dBA decrease compared to traffic noise levels without the project (No Build Alternative). Therefore, project-related traffic noise levels would result in a less-than-significant impact on surrounding noise sensitive land uses based on the County's noise standards.

Construction Noise and Vibration Impacts

The closest sensitive receptor locations, which include the church land use on Tong Road and the day care use on Park Drive, are located approximately 160 feet from proposed project construction areas. The site preparation phase, which includes grading and paving, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three or four minutes at lower power settings. During this phase of construction, these receptor locations may be subject to short-term noise reaching 81 dBA L_{max} generated by construction activities along the project alignment. To reduce construction noise impacts to a less-than-significant level, the project sponsor shall ensure the contractor complies with the County's hours of construction as well as the other best practices measures for reducing construction noise impacts.

Construction activities associated with implementation of the proposed project, including potential rock blasting activities, could temporarily expose persons in the vicinity of the project site to perceptible ground borne vibration or ground borne noise levels. The closest noise sensitive land uses to potential rock blasting areas is the church land use on Tong Road located approximately 600 feet from potential rock blasting areas. At this distance, groundborne vibration and noise would be barely perceptible. In addition, implementation of Mitigation Measure N-NOI-1 would further reduce any potential impacts from construction-related groundborne vibration or noise to less-than-significant levels.

4.10.3 Impacts and Mitigation Measures

Impact NOI-1: Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The 1991 EIR found one impact with the potential to expose people to noise levels in excess of County noise ordinance:

Impact NOI-1a: Peak hour L_{eq} noise levels in excess of 60 dBA within approximately 300 feet of the centerline of Silva Valley Parkway - Project-related traffic noise levels would exceed the NAC of 67 dBA Leq(h) at the outdoor active use area of the noise sensitive land use located on Tong Road (i.e. the church property represented by modeled receptor number R1). A sound barrier for this receptor (see Figure 12) was analyzed. However, no abatement was determined to be feasible. In addition, due to the proposed project off-ramp alignment, the future (2030) plus project traffic noise levels would actually be lower than predicted future (2030) traffic noise levels that would be experienced at that receptor location without the project (i.e., No Project alternative). Therefore, project related traffic noise levels would be considered less-than-significant and no mitigation is required.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact NOI-2: Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

The 1991 EIR found one potential impact that could expose people to excessive groundborne vibration:

Impact NOI-2a: Possible vibration-induced annoyance to residents or vibration-induced damage to structures on adjacent properties - The change involves construction of new uses subsequent to approval of the 1991 EIR. The closest noise sensitive land uses to potential rock blasting areas is the church land use on Tong Road located approximately 600 feet from potential rock blasting areas. No vibration impacts at adjacent structures anticipated due to distance attenuation. Implementation of the mitigation measure listed below (NOI-1) will reduce this impact to a less than significant level.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure NOI-1: To reduce construction noise impacts to a less-than-significant level, the project sponsor shall ensure the contractor complies with the County's hours of construction, as outlined below, as well as the other following measures:

- Noise producing construction activities shall be limited to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday, and between 8:00 a.m. and 5:00 p.m. on weekends and federal

holidays. In addition, in community regions and adopted plan areas, maximum noise levels from construction activities during these hours shall not exceed 90 dBA Lmax at commercial, public facility, or industrial land uses.

- The project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards;
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site; and
- The construction contractor shall locate equipment staging in areas that will create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

Level of Significance after Mitigation: Less than Significant.

Impact NOI-3: Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Please see discussion for Impact NOI-1.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact NOI-4: Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above or groundborne noise levels?

The 1991 EIR found one impact that could potentially result in temporary increases in groundborne noise levels:

Impact NOI-4a: Temporary construction-related noise in proximity to existing residential land uses north and south of the project site – This impact has changed with the proposed project. The change involves construction of new land uses (Korean Church and a daycare facility) subsequent to the approval of the 1991 EIR. The updated noise analysis considers the noise effects of the proposed project (including re-alignment of Tong Road) on this use (receptor). Implementation of Mitigation Measures NOI-1 will be required to mitigate for construction noise.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measure: NOI-1.

Level of Significance after Mitigation: Less than Significant.

Impact NOI-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The Cameron Airpark located in Cameron Park is the nearest airport or airstrip in the project area, and is situated approximately 4 miles to the east of the project site. Therefore, no noise impacts associated with an airport will occur.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

Impact NOI-6: For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

See discussion for Impact NOI-5.

Level of Significance before Mitigation: Less than Significant.

Mitigation Measure: No mitigation required.

Level of Significance after Mitigation: Less than Significant.

CHAPTER 5.0 GROWTH

5.1 INTRODUCTION

Section 15126 of the California Environmental Quality Act (CEQA) Guidelines requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the EIR must also identify the following: (1) significant environmental effects of the proposed project, (2) significant environmental effects that cannot be avoided if the proposed project is implemented, (3) significant irreversible environmental changes that would result from implementation of the proposed project, and (4) growth-inducing impacts of the proposed project. It should be noted that although growth inducement itself is not considered an environmental effect, it could potentially lead to foreseeable physical environmental effects, which are discussed under Growth Inducing Impacts below.

5.1.1 Significant Environmental Effects

Chapter 4 of this EIR, Environmental Analysis, provides a comprehensive identification of the revised proposed project design's environmental effects, including the level of significance both before and after mitigation. The specific environmental effects of constructing the project, along with the cumulative effects of buildout of the project, are identified.

5.1.2 Significant And Unavoidable Impacts

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. The environmental effects of the proposed project on various aspects of the environment are discussed in detail in Chapter 4 of this SEIR. As discussed in the technical sections of this Draft SEIR, the revised proposed project design would not result in any new project-specific effects that could not be reduced to a less-than-significant level. The proposed project would also not contribute to cumulative effects beyond those disclosed in El Dorado County's 2004 General Plan EIR.

5.1.3 Significant Irreversible Environmental Effects

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by the proposed project. Section 15126.2(c) states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which 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.

Generally, a project would result in significant irreversible environmental changes if:

- the primary and secondary impacts would generally commit future generations to similar uses;
- the project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project;
- the project would involve a large commitment of nonrenewable resources; or
- the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Development of the revised interchange project design would result in the continued commitment of the project site to transportation uses, thereby precluding any other uses on the project site for the lifespan of the project. Restoration of the site to a less developed condition would not be feasible, or practical, given the degree of disturbance, the necessity of maintaining transportation uses in the area, and the level of capital investment.

The CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by an accident associated with the project. The project would not result in the use, transport, storage, or disposal of hazardous wastes, as described in the SEIR; thus, there is no likelihood of accidents that could result in irreversible environmental damage. The most notable significant irreversible impacts are increased generation of pollutants and the short-term commitment of non-renewable and/or slowly renewable natural and energy resources, such as fossil fuels during construction activities. These unavoidable consequences of transportation related infrastructure improvements are described in the appropriate sections in the 1991 EIR and this SEIR.

Resources that would be permanently and continually consumed once the project is completed include electricity (for street lighting), natural gas, and fossil fuels (from vehicles traveling along the highway and using the interchange, although not caused by the project). The amount and rate of consumption of these resources would not result in the unnecessary, inefficient, or wasteful use of resources. With respect to operational activities, compliance with all applicable engineering and construction related codes, as well as mitigation measures, planning policies contained in the County's General Plan, and standard conservation features, would ensure that natural resources are conserved to the maximum extent possible. Nonetheless, construction activities and project operation would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and/or gasoline/diesel for automobiles and construction equipment.

5.1.4 Growth Inducing Impacts

As required by Section 15126.2(d) of the CEQA Guidelines, an EIR must discuss ways in which a proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Also, the EIR must discuss the characteristics of the project that could encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. Growth can be induced in a number of ways, such as through the elimination of obstacles to growth, through the stimulation of

economic activity within the region, or through the establishment of policies or other precedents that directly or indirectly encourage additional growth. Although growth inducement itself is not considered an environmental effect, it could potentially lead to adverse environmental effects.

In general, a project may foster spatial, economic, or population growth in a geographic area if the project removes an impediment to growth (e.g., the establishment of an essential public service, the provision of new access to an area, or a change in zoning or general plan amendment approval); or economic expansion or growth occurs in an area in response to the project (e.g., changes in revenue base, employment expansion, etc). These circumstances are further described below:

- **Elimination of Obstacles to Growth**: This refers to the extent to which a proposed project removes infrastructure limitations or provides infrastructure capacity, or removes regulatory constraints that could result in growth unforeseen at the time of project approval.
- **Economic Effects**: This refers to the extent to which a proposed project could cause increased activity in the local or regional economy. Economic effects can include effects such as the "multiplier effect." A "multiplier" is an economic term used to describe inter-relationships among various sectors of the economy. The multiplier effect provides a quantitative description of the direct employment effect of a project, as well as indirect and induced employment growth. The multiplier effect acknowledges that the on-site employment and population growth of a project is not the complete picture of growth caused by the project.

5.1.5 Elimination Of Obstacles To Growth

Growth in an area may result from the removal of physical impediments or restrictions to growth, as well as the removal of planning impediments resulting from land use plans and policies. In this context, physical growth impediments may include nonexistent or inadequate access to an area or the lack of essential public services (e.g., water service), while planning impediments may include restrictive zoning and/or general plan designations.

The project would be developed in an area that contains established land uses and supporting infrastructure (roads, water distribution, wastewater and drainage collection, and energy distribution). The County's recently adopted General Plan includes development of the interchange project at this location which could intensify the uses relative to that which currently exist. The existing infrastructure capacity for other services (e.g., water, gas) could be an obstacle to further growth. Construction of the revised proposed project would tie into existing infrastructure, and would not require substantial modification and/or replacement of existing infrastructure, or relocate as necessary, in the project vicinity that would provide additional capacity to increase growth beyond that anticipated.

No new public services would be constructed other than those required to serve the project interchange (e.g., lighting). As such, the development of the project would not require other services that would support any additional development in the area.

5.1.6 Economic Effects

Only a small amount of employment would be generated by construction of the project. Thus, the actual environmental implications of this temporary increase in job growth are too speculative to predict or evaluate, since they can be spread throughout the El Dorado and Sacramento metropolitan region and beyond.

5.1.7 Impacts Of Induced Growth

The 2004 El Dorado County General Plan and related EIR is a plan for future growth and the potential impacts due to this growth. The Silva Valley Interchange is identified in the General Plan Circulation Element. Additionally, the Land Use Element designates adjacent properties as Commercial, Medium and Low Density Residential and Industrial, even though much of the adjacent property is currently rural in nature. As such, the CEQA review conducted by the County for the 2004General Plan included consideration of these potential future uses and the general environmental impacts that could occur as a result of such development. Development of these adjacent areas would also be subject to project-specific CEQA review by the County to identify specific environmental effects.

While the new Interchange would not provide access to lands previously inaccessible; it would make project area lands more easily accessible. Further, while current conditions do not preclude development from occurring, it is reasonable to conclude that increased circulation in the area would foster further development on adjacent properties, most of which are currently rural in nature. In addition, increased access can cause an increase in land values, thereby creating economic pressures to develop.

Development on parcels in the project area may result in adverse environmental effects associated with short-term construction activities (e.g. air pollutant emissions, grading, vegetation removal, habitat disturbance, and noise), and long-term land use activities (e.g., aesthetics, air pollutant emissions, habitat loss, noise, traffic, increased stormwater, and increased demand on public services and utilities). Development of these parcels would be subject to approval by El Dorado County and considered under applicable CEQA regulations, thereby identifying any potential project-specific environmental impacts.

CHAPTER 6.0 CUMULATIVE IMPACTS

This Draft Supplemental Environmental Impact Report (SEIR) provides an analysis of the overall cumulative impacts of the proposed project taken together with other past, present, and probable future projects producing related impacts, as required under Section 15130 of the CEQA Guidelines. The goal of such an exercise is twofold: first, to determine whether the overall long-term impacts of all such projects would be cumulatively significant; and second, to determine whether the proposed project itself would cause a "cumulatively considerable" (and thus significant) incremental contribution to any such cumulatively significant impacts. (See CEQA Guidelines Sections 15130(a)–(b), 15355(b), 15064(h), and 15065(c), and *Communities for a Better Environment v. California Resources Agency* [2002] 103 Cal. App. 4th 98, 120.) In other words, the required analysis intends first to create a broad context in which to assess the project's incremental contribution to anticipated cumulative impacts, viewed on a geographic scale well beyond the project site itself, and then to determine whether the project's incremental contribution to any significant cumulative impacts from all projects is itself significant (i.e., "cumulatively considerable").

Cumulative impacts are defined in CEQA Guidelines Section 15355 as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." A cumulative impact occurs from "the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (CEQA Guidelines § 15355(b).).

Consistent with CEQA Guidelines Section 15130, the discussion of cumulative impacts in this Draft SEIR focuses on significant and potentially significant cumulative impacts. Section 15130(b) of the CEQA Guidelines, in part, provides the following:

> 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 the 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 project is considered to have a significant cumulative effect if:

- The cumulative effects of development without the project are not significant and the project's additional impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or
- The cumulative effects of development without the project are already significant and the project contributes measurably to the effect.

The term "measurably" is subject to interpretation. The standards used herein to determine measurability are that the impact must be noticeable to a reasonable person or must exceed an established threshold of significance.

Methodology: In the evaluation of cumulative impacts, CEQA requires that the discussion be guided by the standards of practicality and reasonableness, and that the discussion focus on those cumulative impacts to which other projects contribute. In general, cumulative impacts are analyzed in one of two ways. 1. "List Approach: Analysis refers to an identified "list" of other past, present, and reasonably foreseeable future projects, and 2. "Approved Plan" Approach. Analysis refers to projects for growth contained in an adopted general plan or related planning document.

Cumulative impacts for the 1991 Silva Valley Interchange EIR were originally derived from the El Dorado Hills Specific Plan EIR (Jones & Stokes Associates, Inc. 1988). This Draft Silva Valley Supplemental EIR is a supplement to the 1991 EIR which was a supplement document to the 1988 El Dorado Hills Specific Plan EIR. For certain resource areas, this SEIR also relies on the analysis and projections for growth contained, for example, in the 2004 El Dorado County General Plan and the recently adopted 2010-2030 Regional Transportation Plan. Therefore, this SEIR relies on the "approved plan" approach to address certain environmental issue areas for cumulative impacts. Those issue areas include traffic, noise and air quality impacts. Each of these environmental issue areas rely on regional traffic modeling which forecast traffic volumes that are based on future land use projections. With this approach, land use projections are used to generate traffic volumes which are extracted from regional traffic zones. Traffic is then distributed and assigned to the regional circulation network which is ultimately used to size transportation facilities, and calculate levels of service. This approach considers the land use and traffic forecasts from a wide geographic region, and by reference, also addresses cumulative impacts. Both noise and air quality estimates utilize the traffic data to assess impacts. Since the traffic impacts are cumulative, noise and air quality impacts are also cumulative.

This SEIR also relies on the "list" approach to address cumulative impacts for those areas not covered by the "approved plan" approach. Four projects are "listed" within the project area for their potential to combine with the proposed project to create cumulative impacts. These projects include: 1) *U.S. Highway 50 High Occupancy Vehicle Lanes Project, El Dorado Hills Boulevard to South Shingle Road/Ponderosa Road*, 2) *U.S. Highway 50/El Dorado Hills Boulevard-Latrobe Road Interchange Project*, 3) *Empire Ranch Road/U.S. Highway 50 Interchange Project*, and 4) *U.S .Highway 50/El Dorado Hills Boulevard Interchange/Pedestrian Overcrossing Project*. The following describes the "listed" projects and summarizes the cumulative impacts associated with their implementation.

1) U.S. Highway 50 High Occupancy Vehicle Lanes Project, El Dorado Hills Boulevard to South Shingle Road/Ponderosa Road Project - Initial Study/Environmental Assessment

An IS/EA document was prepared in December 2001 for this project that evaluated the effects from adding two high-occupancy vehicle (HOV) lanes (one eastbound and one westbound) in the median of existing U.S. Highway 50 in western El Dorado County from El Dorado Hills Boulevard undercrossing to South Shingle Road/Ponderosa Road Overcrossing. The project would continue from the HOV lanes that were constructed in 2002 west of the project area. The project would also include bridge modifications (Latrobe Road/El Dorado Hills Boulevard Undercrossing and Clarkesville/Silva Valley Parkway Undercrossing and others), lighting improvements (El Dorado

Hills Boulevard Interchange and others), new overlay, and CHP enforcement areas. As noted in the Initial Study/Mitigated Negative Declaration/Environmental Assessment, these improvements will have no effects on farmland, geology and soils, air quality, floodplain, the community, or public services and utilities. The project is not inconsistent with any adopted community plans. With mitigation, the improvements will not result in impacts to visual quality, biological resources (including wetlands), water quality, noise, or cultural resources.

2) U.S. Highway 50/El Dorado Hills Boulevard-Latrobe Road Interchange Project, Environmental Impact Report/Environmental Assessment

In May 2000, the Final EIR/EA was certified by El Dorado County. This project involved the reconstruction of the El Dorado Hills Boulevard-Latrobe Road interchange on U.S. Highway 50; improving the vertical and horizontal alignment of the interchange on- and off-ramps, providing additional lanes to accommodate exclusive turn lanes at various intersections; providing dual left-turn lanes at the eastbound and westbound on-ramp intersections; replacing the U.S. Highway 50 bride undercrossing structures and re-aligning Saratoga Way to intersect with Park Drive. The project included reconstructing the westbound ramps with an L-8 interchange configuration, and an S-curve configuration for the relocated Saratoga Way. The environmental document acknowledged the need for subsequent phased improvements on nearby roadways affecting the El Dorado Hills Boulevard-Latrobe Road interchange. These improvements are identified in the 2004 El Dorado County General Plan and include:

- Connection of White Rock Road to Silva Valley Parkway as a two-lane road (now complete);
- Widening White Rock Road to four lanes from Latrobe Road to Silva Valley Parkway and possible construction of an initial phase of the Silva Valley Parkway/U.S. Highway 50 interchange; and
- Construction of a high-occupancy vehicle lane on U.S. Highway 50 in the eastbound and westbound directions from Sunrise Boulevard to El Dorado Hills Boulevard (this project has been completed).

The EIR/EA found this project would not have a significant effect under CEQA for population and housing; risk of upset; energy; public services and utilities; and recreation. Significant impacts from implementing this project can be reduced to less-than-significant with mitigation measures for exposure of residents to noise from project construction (including blasting); exposure of residents to traffic noise; changes to views for adjacent residents; consistency with adopted plans and policies related to visual resources; degradation of water quality; loss of perennial drainages and wildlife habitat; and potential damage to unknown cultural resources. None of the project impacts were considered as significant and unavoidable under CEQA. Sound barriers were proposed to mitigate traffic related noise effects for residents located in the northwest quadrant of the interchange.

3) Empire Ranch Road/U.S. Highway 50 Interchange Project EIR/Environmental Assessment

The City of Folsom, El Dorado County and Caltrans are proposing to construct the new interchange project. The project is located on U.S. Highway 50 between the East Bidwell Street interchange to the west and the El Dorado Hills Boulevard interchange to the east.

The project includes two elements which may be constructed in one or more phases:

- Element One: Construct a new interchange on Route 50 at Empire Ranch Road, connecting with Empire Ranch Road to the north. Local roadway connections to the south of U.S. Highway 50 were not included in the project (Empire Ranch Road does not extend south of U.S. Highway 50).
- Element Two: Construct eastbound and westbound auxiliary lanes on Route 50 between Empire Ranch Road and El Dorado Hills Boulevard, and construct a westbound auxiliary lane on Route 50 between Empire Ranch Road and East Bidwell/Scott Road.

Based on the EIR/EA completed for this project, with mitigation, the project would result in less than significant impacts to biological resources, water quality, and cultural resources.

The EIR/EA found that one impact (Transportation and Traffic) was significant and adverse subsequent to implementing the interchange. Traffic conditions will operate at unacceptable levels of service along U.S. Highway 50 and at local roadway facilities. Mitigation does not exist that would offset these impacts or reduce them to a less than adverse level.

Cumulative project-related impacts are expected for Transportation and Traffic. These are described as follows:

- Construction of the Empire Ranch Road Interchange project would result in a change in traffic patterns by diverting ramp volumes from both the East Bidwell Street interchange (25 percent) and the El Dorado Hills Boulevard/Latrobe Road interchange (2 percent) to the Empire Ranch Road interchange in 2006. In total, traffic is forecast to increase at all three interchanges by approximately 10 percent in 2006 and approximately 12 percent in the Design Year.
- Construction of the Empire Ranch Road Interchange project would result in increased traffic on Route 50 and continued unacceptable conditions on Route 50 in the peak directions in Construction Year and Design Year conditions; however, an improvement over the No Build condition would occur since there would be a more balanced distribution of trips across three interchanges versus two interchanges under the No Build conditions.
- Construction of the Empire Ranch Road Interchange project would result in unacceptable traffic operations at the Route 50 westbound ramps at Empire Ranch Road during a.m. peak hour (Build Year Alternative) and during the a.m. peak hour and the p.m. peak hour (Design Year Alternative) because of mainline capacity limits.

The EIR/EA concluded that the air quality, noise, biological resources, geology, cultural resources, hazards and hazardous materials, hydrology and water quality, and land use will not have cumulative impacts associated with Empire Ranch Road Interchange project.

4) U.S. Highway 50/El Dorado Hills Boulevard Interchange/Pedestrian Overcrossing Project Mitigated Negative Declaration/Categorical Exclusion

El Dorado County proposes to construct shared use path improvements for pedestrians and bicycles along the east side of El Dorado Hills Boulevard/Latrobe Road from the Saratoga/Park Drive intersection (north of U.S. 50) to the Town Center intersection (south of U.S. 50). Proposed improvements would include widening the existing walkway to provide a total width of ten feet, placing a barrier between the path and the roadway, constructing elevated approaches with retaining structures to the proposed pedestrian/bicycle overcrossing, and constructing a pedestrian/bicycle overcrossing at the El Dorado Hills Boulevard/Latrobe Road interchange on U.S. 50.

The MND concluded that the Pedestrian Overcrossing project will have a less than significant impact, with mitigation in place, for biological resources, cultural resources (human remains/historic) and paleontological resources.

The MND also concluded that the project will not have a significant cumulative impact for aesthetics, agricultural resources, air quality, biological resources, cultural resources, geophysical conditions, hazards and hazardous materials, surface or groundwater, land use, mineral resources, noise, population and housing, public services, transportation/traffic, and utilities/service systems. The Pedestrian Overcrossing project will have a beneficial cumulative effect on recreational resources.

Cumulative Impact Assessment for Silva Valley Parkway Interchange

Impacts to project-specific resources have been discussed throughout the Environmental Analysis Chapter. The purpose of this chapter is to present information on the various potential cumulative environmental impacts in Aesthetics, Air Quality, Global Climate Change, Biological Resources, Cultural Resources, Geology and Soils, Hazardous Waste, Hydrology and Water Quality, Land Use, Planning, Transportation and Traffic, Public Service, Energy and Noise.

6.1 DISCUSSION OF CUMULATIVE IMPACTS BY TOPIC AREA

Aesthetics

As discussed in the Aesthetics Section, the proposed project would not result in any significant unmitigable aesthetics impacts. Mitigation measures for landscaping of the proposed project are required.

For cumulative impacts, the aesthetics analysis utilizes the “list” approach. Lighting in the project area is restricted to existing commercial and residential uses adjacent to the roadway. No street lighting currently exists in the project area. There are no scenic vistas or substantial scenic resources located in the immediate vicinity of the site. This segment of U.S. 50 is not a designated scenic highway. Therefore, the proposed project’s contributions to cumulative aesthetic impacts are considered less than significant. Due to the removed geographic location of other related projects described above, and the absence of any other projects that would cause lighting or aesthetic impacts in the immediate vicinity, the potential for the proposed project to result in any cumulative impact to aesthetics, including light and glare, is less than significant.

Air Quality (and Global Climate Change)

For cumulative impacts, the air quality/global climate change analysis utilizes the "approved plan" approach. Since the project does not generate new traffic, the proposed project would not generate new operational traffic emissions and would therefore have a less than significant cumulative impact. The proposed project would also result in potentially significant impacts to climate change that would be reduced to less than significant after mitigation. Each is discussed below in relation to cumulative impacts and the other related projects described above.

Air Quality Impacts

The proposed project will not have any long-term air quality impacts. The project is intended to improve air quality within the region through reduced vehicle miles travelled reduction in vehicle idle times and improved traffic flow within the region. The U.S. Highway 50/El Dorado Hills Boulevard Interchange project will have a less than significant impact on air quality with mitigation. It should be noted that the air quality analysis utilizes cumulative/regional traffic data in assessing air quality impacts. Therefore, the findings for air quality are presented in a cumulative format. Air quality impacts were determined less than significant with project implementation. As a result, the project will also not have any cumulative impacts to long-term air quality.

Green House Gas Emissions

The proposed project would result in short-term Green House Gas (GHG) emissions that may contribute to global climate change. During the construction phase of the project, the project will contribute to the generation of GHG emissions. Mitigation measures will reduce the project's GHG contribution for construction emissions to less than significant. The proposed project will not result in a net increase in GHG emissions from project operations. Therefore, the proposed project's contribution to cumulative GHG impacts would be less than significant.

Biological Resources

For cumulative impacts, the biological resources analysis utilizes the "list" approach. The proposed project would have potentially significant impacts to biological resources on nesting migratory birds and raptors, burrowing owls, California red-legged frog, valley elderberry longhorn beetle and western pond turtle. Mitigation is proposed that would reduce potential impacts on special-status species to less than significant levels. Other projects as described above occurring in the county may result in impacts to special-status species as well. These projects would be required to mitigate for impacts to biological resources in accordance with state, federal and local regulations. The U.S. Highway 50 HOV Lane project, the U.S. Highway 50/El Dorado Hills Boulevard Interchange project and the U.S. Highway 50/El Dorado Hills Boulevard Interchange Pedestrian Overcrossing project will have a less than significant biological impact with mitigation in place. Therefore, the proposed project would not have cumulative impacts to biological resources.

Cultural Resources

For cumulative impacts, the cultural resources analysis utilizes the "list" approach. The proposed project would result in potentially significant impacts to previously identified cultural resources including historical and archeological resources that would be reduced to less than significant after mitigation.

Field surveys within the current project area have identified a total of one historic district and 41 sites, structures and features of sites including ten of the cultural resources identified in the 1991 EIR.

Other related projects as described above occurring in the county may result in impacts to cultural resources as well. These projects would be required to mitigate for impacts to cultural resources in accordance with state, federal and local regulations. The U.S. Highway 50/Empire Ranch Road Interchange project, the U.S. Highway 50 HOV Lane project, U.S. Highway 50/El Dorado Hills Boulevard Interchange Pedestrian Overcrossing project, and the U.S. Highway 50/El Dorado Hills Boulevard Interchange project will have a less than significant cultural resources impact with mitigation in place.

With identified mitigation measures in place, the impact to known and unexpected historical or cultural resources would be less than significant for the proposed project. Likewise, the proposed project would have a less than significant cumulative impact to cultural resources.

Geology and Soils (and Hazardous Waste)

Geology and Soils
For cumulative impacts, the geology and soils analysis utilizes the "list" approach. Other related projects as described above occurring in the county may result in impacts to geology and soils as well. These projects would be required to mitigate for impacts to geology and soils in accordance with state, federal and local regulations. None of the projects "listed" above result in cumulative geology and soils impacts. The proposed project will not have potentially significant impact to geology and soils. Mitigation includes an erosion control program and a project specific geotechnical report which will reduce the impact to less than significant. The project will not result in cumulative impacts to geology and soils.

Hazardous Waste
For cumulative impacts, the hazardous waste analysis utilizes the "list" approach. Other related projects as described above occurring in the county may result in impacts to hazardous wastes as well. These projects would be required to mitigate for impacts to hazardous wastes in accordance with state, federal and local regulations. None of the projects "listed" above result in cumulative hazardous waste impacts. The proposed project would have potentially significant impacts to hazardous waste. Hazardous materials may be used by construction equipment and for project improvements during construction. Mitigation would be used in accordance with all applicable laws and regulations and, if used properly, would not pose a hazard to people, animals, or plants. The use of hazardous materials for construction equipment would be temporary and the proposed project would not include a permanent use or source of hazardous materials. The project site is located in a geologic region identified as having at or near surface naturally occurring asbestos bearing rocks and soils. The project effects are specific to individual projects and do not combine to create cumulative impacts. Mitigation measures will reduce impacts on hazardous waste to less than significant levels. The project will not contribute to cumulative impacts on hazardous waste.

Hydrology and Water Quality

The proposed project would result in potentially significant impacts to hydrology and water quality that would be reduced to less than significant levels after mitigation.

For cumulative impacts, the hydrology and water quality analysis utilizes the "list" approach. Other related projects as described above occurring in the county may result in impacts to hydrology and water quality as well. These projects would be required to mitigate for impacts to hydrology and water quality in accordance with state, federal and local regulations. The U.S. Highway 50 HOV Lane project, the U.S. Highway 50/El Dorado Hills Boulevard Interchange project and the U.S. Highway 50/Empire Ranch Road Interchange project will have less than significant impacts on hydrology and water quality with mitigation in place. The project could potentially alter existing drainage patterns, increase impervious surface areas in the project area, and therefore increase stormwater runoff. Mitigation measures such as Storm Water Pollution Prevention Plan with use of Best Management Practices will reduce the potentially significant impacts to less than significant levels. Therefore, the project would not contribute cumulatively to hydrologic or water quality impacts in the county.

Land Use and Planning

The project site is currently within the jurisdiction of El Dorado County. The existing County General Plan designations for lands surrounding the project site include Commercial, Medium and Low Density Residential, and Industrial uses. The General Plan depicts construction of an Interchange at this location, and, therefore, the proposed Interchange project is compatible with the surrounding land use designations.

For cumulative impacts, the land use analysis utilizes the "list" approach. None of the projects "listed" above result in cumulative land use impacts. The proposed project would result in potentially significant impacts to land use and planning that would be reduced to less than significant after mitigation. Mitigation measures will provide "just compensation" to property owners and ensure continuous access is provided to occupied properties during the construction phase. Accordingly, it is determined that the proposed project would not have cumulative impacts to land use and planning.

Transportation and Traffic

For cumulative impacts, the transportation and traffic analysis utilizes the "approved plan" approach. Traffic analyses were conducted for the proposed project for 2007 current conditions, 2020 conditions (Phase 1/proposed project), and 2030 ultimate conditions (full interchange design). These analyses utilize traffic models that generate traffic from land use designations (current and forecast) for various zones within a large study area that distributes and assigns traffic onto the regional transportation network. By the nature of the analyses, traffic data is presented in a cumulative format, collecting the regional traffic data for use in assessing roadway capacity and levels of service. By inserting the proposed project improvements into the traffic modeling assumptions, the results illustrate cumulative findings for the three timeline scenarios. Therefore, the results found for traffic conditions at the project level are also the results expressed for the cumulative impacts. While the level of service for various roadway segments and intersections remain unacceptable, with project implementation, the levels of service will be equal to or better than the No Build condition. In summary, the project will either have a beneficial effect on the transportation network, or no effect on the transportation

network (e.g., unacceptable levels of service on the mainline are expected as a result of regional traffic forecasts, and are not related to the proposed interchange project).

Public Service (and Energy)

Public Service
A Pacific Gas & Electric (PG&E) substation and associated facilities are present in the project area. The El Dorado Irrigation District (EID) owns and operates water and sewer lines throughout the project vicinity. EID has also constructed recycled water lines and facilities, as well as a water line and booster station on the north side of Highway 50 along State right of way. These facilities are within an EID easement. EID has also installed underground facilities in the existing White Rock Road/Silva Valley Parkway.

For cumulative impacts, the public services analysis utilizes the "list" approach. Other related projects as described above occurring in the county may result in impacts to public services as well. These projects would be required to mitigate for impacts to public services in accordance with state, federal and local regulations. None of the projects "listed" above result in cumulative public service impacts. The proposed project would result in potentially significant impacts to public services (relocations of public utilities); impacts would be reduced to less than significant after mitigation.

Energy
For cumulative impacts, the energy analysis utilizes the "list" approach. Other related projects as described above occurring in the county may result in impacts to energy as well. These projects would be required to mitigate for impacts to energy in accordance with state, federal and local regulations. None of the projects "listed" above result in cumulative energy impacts. For energy, the proposed project will have less than significant cumulative impact. While energy would be consumed in constructing the Interchange this would be temporary, reflective of a short-term use of energy resources.

Noise
For cumulative impacts, the noise analysis utilizes the "approved plan" approach. The proposed project has potentially significant impacts in relation to noise sensitive land uses and construction related noise. Sound levels for the noise sensitive land uses are expected to be in excess of 60 dBA, but noise abatement was determined to be infeasible. Future (2030 plus project) traffic noise levels would actually be lower than predicted future (2030 no project) traffic noise levels. It should be noted that the noise analysis utilizes cumulative/regional traffic data in assessing noise impacts. Therefore, the findings for noise are presented in a cumulative format. Noise impacts were determined less than significant with project implementation.

CHAPTER 7.0 REFERENCES

2004 El Dorado County General Plan.

Blackburn Consulting. Initial Site Assessment for the Silva Valley Pkwy/SR-50 Interchange. April 2007.

Blackburn Consulting. Memorandum updating the 2007 ISA. February 2010.

California Department of Forestry. Website: www.frap.cdf.ca.gov.

California Energy Commission, 2005. 2005 Integrated Energy Policy Report.

California Department of Transportation website: http://www.dot.ca.gov. 2010.

Dowling Associates, Inc. Final Traffic Operations Study for: U.S. 50 Silva Valley Interchange. June 2009.

Dowling Associates, Inc. Memorandum: U.S. 50/Silva Valley Pkwy. Interchange Alternative Phasing Analysis. January 2010.

Dowling Associates, Inc. Memorandum: Silva Valley I/C Traffic Operations Supplemental Analysis & Errata. May 2010.

El Dorado County website: http://www.co.el-dorado.ca.us. 2010.

Foothill Associates. Updated Biological Resources Assessment. July 2010.

Foothill Associates. Focused Special-Status Species Memorandum. July 2010.

Jones & Stokes Associates, Inc. Draft Environmental Impact Report for Silva Valley Parkway Interchange. SCH No. 88050215. June 1989.

U.S. Department of Energy, 2006. Monthly Energy Review, February 2006.

U.S. Department of Energy, 2006. Annual Energy Outlook 2006.

Windmiller, Ric. Silva Valley Parkway Interchange Updated Cultural Resources Initial Study. May 2010.

Watermark Engineering, Inc. Technical Hydrologic Memorandum No. 3. April 2001.

CHAPTER 8.0 REPORT PREPARERS

LSA Associates, Inc.

Bill Mayer, Principal

Kelly Jackson, Senior Environmental Planner

Justin Howland, Assistant Environmental Planner

Amberly Morgan, Assistant Environmental Planner

Ali Summers, Biologist

Amy Fischer, Air Quality/Climate Change Specialist

Phil Ault, Noise/Air Specialist

Mike Trueblood, Graphics

Stephanie Powers, Word Processing

Sherry Wintsch, Production

Dowling Associates, Inc.

Jim Damkowitch

Abhi Parikh

Foothill Associates

Eric Christensen

Ken Whitney

Consulting Archeologist

Ric Windmiller

Mark Thomas & Company, Inc.

Derek Minemma

Rob Himes

Domenichelli & Associates

Joe Domenichelli