Applegate Regional Sewer Pipeline Project
Environmental Information Document

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Executive Summary

Introduction

Applegate is a community in Placer County (County) located approximately 9 miles northeast of the city of Auburn along Interstate 80 (I-80) (Figure ES-1). The County provides public sewerage to the portion of Applegate that falls within the County Service Area.

The existing sewer collection system currently provides service to approximately 54 equivalent dwelling units (EDUs) (37 active and 17 inactive). The active EDUs consist of 23 single-family homes, and five commercial connections, including a church, a firehouse/civic center, offices, one motel, and the library.

Constructed in 1974, the Applegate Wastewater Treatment Plant (WWTP) consists of three evaporation and percolation ponds, each approximately 1 acre in size and about 6 feet deep (Figure ES-2), designed to operate in series. A chlorination system was later added to disinfect partially treated effluent flowing from Pond 2 to Pond 3 in anticipation of annual discharges from Pond 3 to Clipper Creek.

The pond treatment and disposal system design capacity is inadequate for the current hydraulic loading. To further compound the hydraulic capacity issue, there is groundwater inflow to Pond 3. As a result, sewage spills to surface water have violated the facility's waste discharge requirements (Order No. 73-10).

In November 2006, the County and the Central Valley Regional Water Quality Control Board (CVRWQCB) executed a Settlement Agreement regarding Administrative Civil Liability Complaint R5-2006-0510. The Settlement Agreement required the County to pay fines, divert wastewater from the treatment ponds during wet months to avoid future spills, and design and begin construction of a new pipeline to transfer wastewater from the Applegate WWTP to the Sewer Maintenance District No. 1 (SMD 1) collection system. The SMD 1 collection system conveys wastewater to the SMD 1 WWTP on Joeger Road in North Auburn.

To comply with the Settlement Agreement, the County is seeking funding from the U.S. Environmental Protection Agency (EPA) for the Applegate Regional Sewer Pipeline Project (Proposed Project). The Proposed Project would retire the treatment ponds at Applegate WWTP and install pump stations and a force main to convey Applegate's wastewater to the existing sewer collection system that flows to the SMD 1 WWTP. If determined necessary, a portion of the

existing SMD 1 collection system in the Winchester subdivision would also be upgraded (replaced with larger-diameter pipe) to accommodate the additional flows from Applegate. EPA funding is not being sought for potential upgrades to the existing collection system. The wastewater would be treated at the SMD 1 WWTP and discharged to Rock Creek.

Objectives/Purpose and Need

The intent of the Proposed Project is to meet the requirements of the Settlement Agreement reached by the County and the CVRWQCB in December 2006. Under the Proposed Project, the Applegate WWTP would be decommissioned and wastewater would be rerouted to the SMD 1 WWTP via the new pipeline. This would enable the County to meet the terms of the Settlement Agreement and would eliminate the need to temporarily store and haul wastewater (also a requirement of the Settlement Agreement until the new pipeline is operational).

Project Alternatives

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Under Alternative 1, a 10-inch force main pipeline would be constructed to connect the Applegate collection system to the SMD 1 collection system. The force main would have a maximum buildout capacity of 0.01 million gallons per day, which is sufficient to accommodate the Applegate system's existing connections (54 EDUs) plus approximately 438 additional EDUs.

The new pipeline would follow the alignment shown in Figure ES-3 extending for approximately 4 miles. The alignment would start in the vicinity of Merry Lane and continue south along Applegate Road in the public right-of-way. The alignment would travel near the shoulder on the west side of the southbound lane. Approximately 1.7 miles from the starting point (to the south of Fairidge Drive on Applegate Road) the proposed pipeline would pass under I-80 near Clipper Gap Road. After passing under I-80 the pipeline would then turn north on Placer Hills Road and would continue within the pavement on the west side of the southbound lane to Sugar Pine Road. The alignment would continue west along Sugar Pine Road within the pavement on the north side of the westbound lane to Winchester Club Drive and then to the connection point with the existing sewer (SMD 1 Connection in Figure ES-2). The proposed pipeline would connect to the Winchester Country Club Septic Tank Effluent Pumping (STEP) system at Winchester Club Drive west of Sugar Pine Road.

If determined necessary, up to approximately 7,750 feet of pipeline that is part of the existing SMD 1 collection system (Figure ES-3) in the Winchester subdivision would be upgraded; the upgrade would only include the pipeline

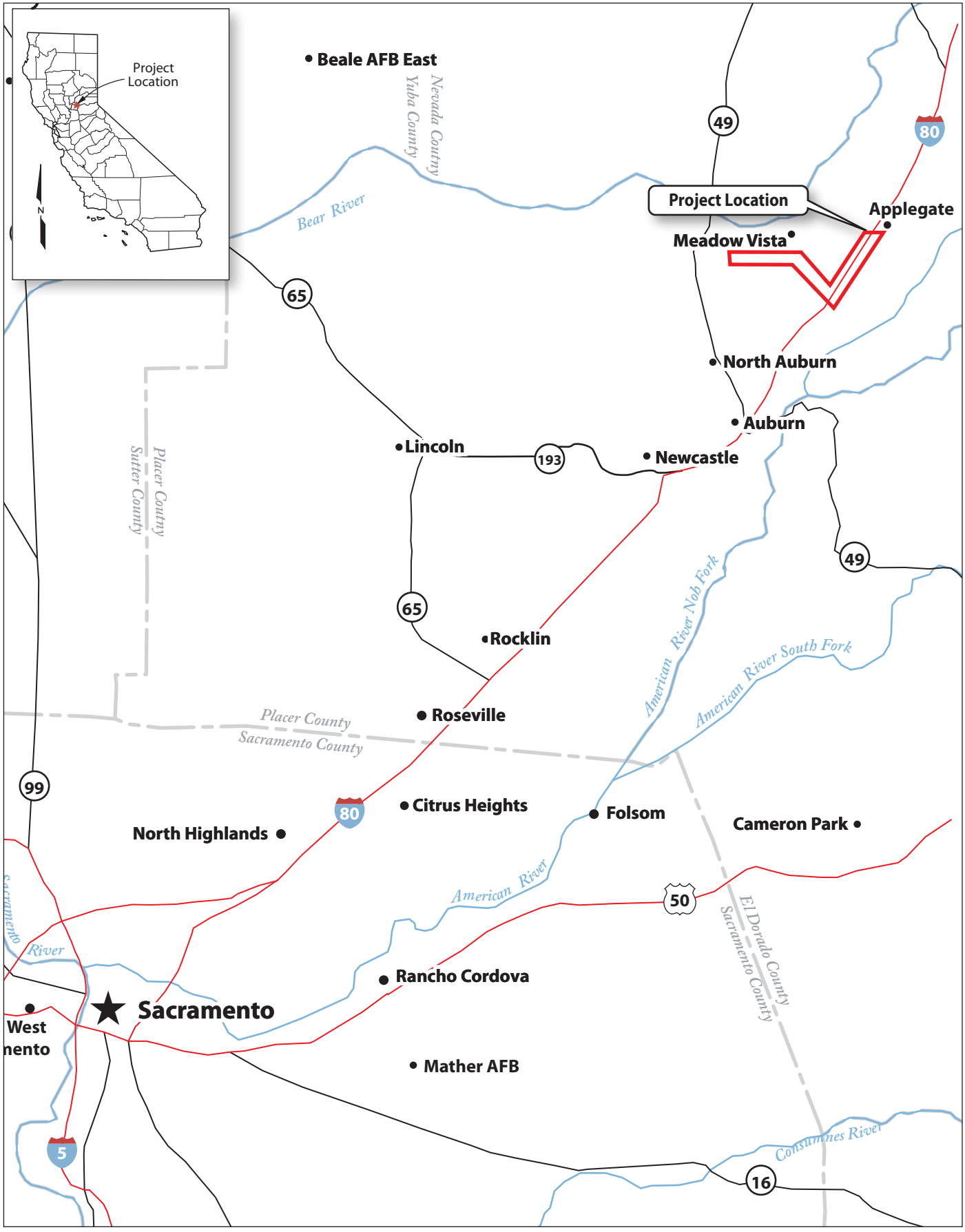

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Figure ES-1
Project Vicinity Map

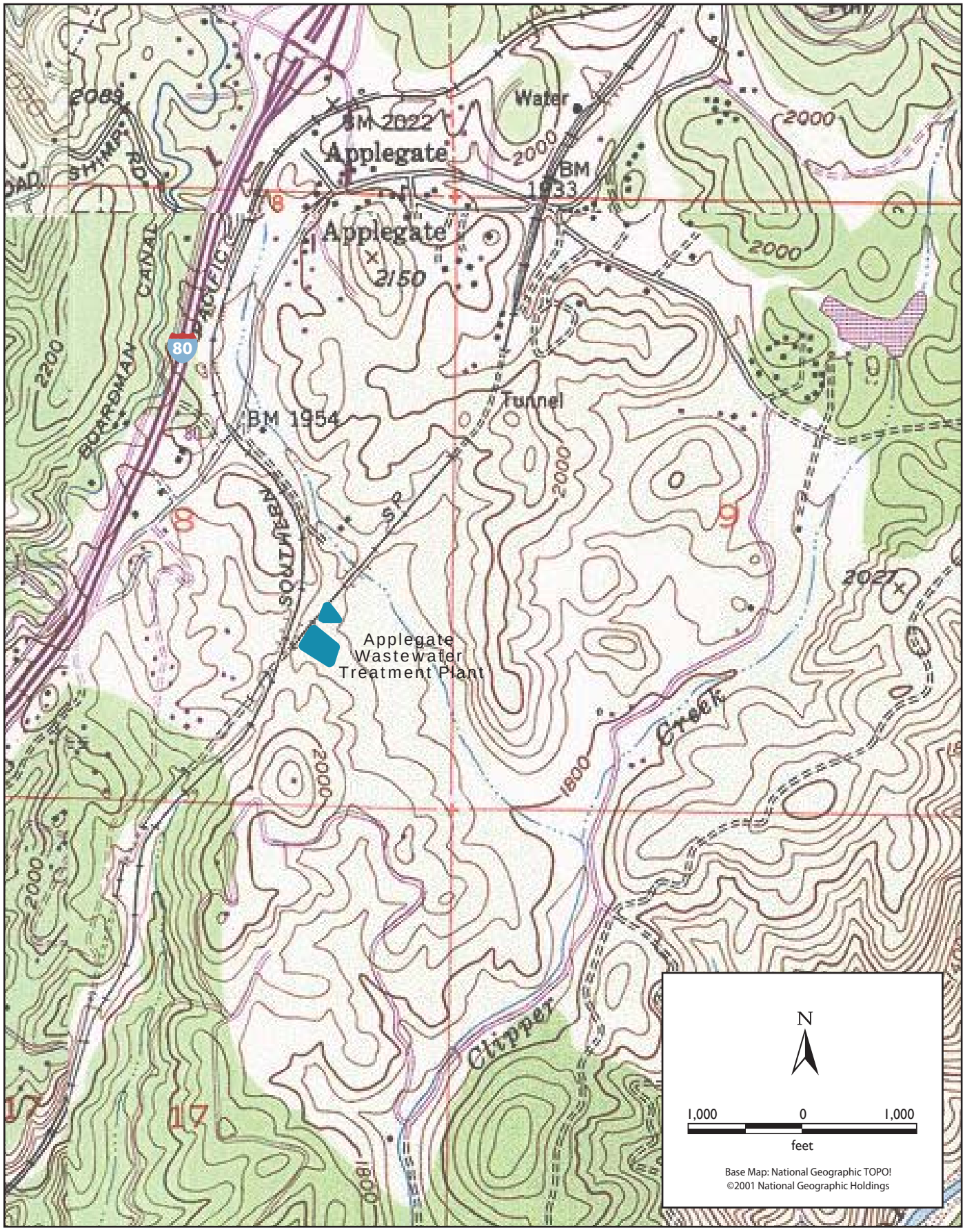

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Figure ES-2
Location of the Applegate Wastewater Treatment Plant

Alternative 1
Decommision Applegate WWTP and Construct Pipeline[1]

Potential Upgrade of the Existing Collection System

Pump Station

Existing Applegate Collection System

Existing SMD 1 Collection System

[1]*Alternative 2 would also include the construction of the proposed pipeline.*

0 1,000 2,000 4,000
Feet

N

Applegate Regional Pump Station

Existing Applegate WWTP

I-80 Pump Station

Meadow Vista

Christian Valley

Clipper Creek

Placer Hills Road

Applegate Road

Christian Valley Road

Lake Arthur Road

Dry Creek Road

Winchester Club Dr.

Lake Theodore

Lake Arthur

Halsey Forebay

Halsey Afterbay

Nielsburg (Site)

Hotaling (Site)

Honor Camp No.7 (Iron Mine)

Placer Hills Union Sch

Long Point

Hotchkiss Hill

Van Giesen Dam SPILLWAY 1600

Clipper Gap

Powerhouse

Siphon

Tunnel

Water Tank

Res

Cem

80

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Figure ES-3
Proposed Project

segments that need to be upgraded to provide additional capacity for the existing Applegate demand (54 EDUs); however, the new segments would also be sized to accommodate potential future flows (an additional 438 EDUs). Depending on the extent of the upgrade required, the upgrading would begin from the connection point to the SMD 1 collection system and continue along Winchester Club Drive up to approximately 150 feet from the intersection of Winchester Club Drive with Lodge View Drive. The existing collection system in Winchester was constructed in approximately 2000. As mentioned previously, these upgrades would not be funded by EPA.

As part of Alternative 1, up to two new wastewater pump stations with storage facilities would be constructed. The first pump station (Applegate Regional Pump Station) would be located at the beginning of the pipeline alignment north of the Union Pacific Railroad crossing near Merry Lane (APN 073-141-016). If determined necessary, a second pump station (I-80 Pump Station) would be located north of the I-80 crossing (Figure ES-3) (APN 077-120-053-000). These pump stations would pump wastewater from the existing Applegate collection system to the SMD 1 connection point. The existing Applegate collection system, including a pump station and gravity pipeline, would be left in place.

Once the new pump stations and conveyance pipeline become operational, the existing Applegate WWTP would be decommissioned. The existing evaporation and percolation ponds would be restored or abandoned. Restoration would include grading the site, restoring natural drainage, and returning the topography to natural conditions. Abandonment would include dredging and dewatering the ponds and could include some level of ongoing maintenance of the site. The chlorination facilities and temporary storage tanks would be removed.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Under Alternative 2, the same pipeline alignment as under Alternative 1, including the upgrades, would be constructed and the construction methods would be the same. Under this alternative the new pipeline would be smaller, sized only to accommodate the existing Applegate wastewater connections (54 EDUs). Similarly, the pipe replacement (which includes only those pipeline segments that need to be upsized to accommodate existing Applegate flows), would also only be sized to accommodate the existing connections (54 EDUs).

The pump station(s) would also be smaller in size and components, resulting in a smaller physical footprint. This alternative would not allow new connections beyond the 54 existing EDUs, due to the downstream limitations in the SMD 1 collection system and pump station(s).

The main differences between Alternative 1 and Alternative 2 are that in Alternative 2:

- the pipelines would be smaller, sized only to accommodate existing connections (54 EDUs); and
- the pump station(s) would have a smaller footprint, because they would be not be designed to be expandable to accommodate future flows (i.e., only one storage tank would be designed and constructed).

The Applegate WWTP decommissioning would be the same as described for Alternative 1.

Alternative 3 – No Project/No Action Alternative

Both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) require consideration of the no-project/no-action alternative, regardless of whether it meets the project objectives or purpose and need or whether it would substantially reduce or avoid one or more of the project's significant impacts. The no-project alternative discloses the impacts that might reasonably be expected to occur if the project were not approved and the site remained more or less in its current state, subject to foreseeable changes based on existing plans.

Under the Alternative 3, the No Project/No Action Alternative, the Applegate WWTP would not be decommissioned and the proposed pump stations and pipeline would not be constructed. However, treatment of wastewater using the evaporation and percolation ponds could not continue because of the risk of discharge of treated and disinfected effluent to the local watercourses. A discharge to surface water would violate the Cleanup and Abatement Order No. 5-01-708 issued by the CVRWQCB. So, under this option, the County would be forced to continue to collect all wastewater before it reaches the Applegate WWTP and convey it by tanker to an alternative treatment facility during wet weather. Fines and other enforcement actions would follow for failure to comply with the terms of the administrative civil liability settlement.

For these reasons, the No Project/No Action Alternative does not meet the project objectives or purpose and need. However, as required under both CEQA and NEPA, this alternative was carried forward for further analysis in this Environmental Information Document (EID).

Summary of Impacts

A summary of the environmental impacts associated with the project alternatives is presented in Table ES-1.

Table ES-1. Summary of Impacts and Mitigation Measures

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
AIR QUALITY							
AQ -1. Exceed PCAPCD Thresholds (construction)	LTS	LTS	NI		N/A	N/A	N/A
AQ -1. Exceed PCAPCD Thresholds (operation)	BE	BE	NI		N/A	N/A	N/A
AQ-2. Expose Asbestos during Construction	SIG	SIG	NI	AQ-1: Implement Asbestos Dust Mitigation during Construction Activities	LTS	LTS	N/A
AQ-3. Exceed Federal *de Minimis* Thresholds during Construction	LTS	LTS	NI		N/A	N/A	N/A
AQ -4. Elevate Health Risk by Exposing Nearby Sensitive Receptors to Diesel Particulate Matter during Construction	LTS	LTS	NI		N/A	N/A	N/A
AQ-5. Increase Greenhouse Gas Contaminant Emissions (construction)	SIG	SIG	NI	AQ-2: Implement Best Management Practices to Reduce Construction Tailpipe Emissions	LTS	LTS	N/A
AQ-5. Increase Greenhouse Gas Contaminant Emissions (operation)	BE	BE	NI		N/A	N/A	N/A

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
BIOLOGICAL RESOURCES							
BIO-1. Cause the Loss of Special-Status Plant Populations	SIG	SIG	NI	BIO-1: Survey for Special-Status Plant Species Prior to Construction	LTS	LTS	N/A
				BIO-2: Avoid or Minimize Impacts on Sensitive Biological Resources			
				BIO-3: Compensate for Direct Impacts on Special-Status Plants			
BIO-2. Cause the Loss or Disturbance of Wetlands and Other Waters of the United States	SIG	SIG	NI	BIO-4: Compensate for Loss or Disturbance of Wetlands and Other Waters	LTS	LTS	N/A
BIO-3. Cause the Loss or Disturbance of Riparian Vegetation	SIG	SIG	NI	BIO-5: Compensate for the Loss or Disturbance of Riparian Vegetation	LTS	LTS	N/A
BIO-4. Disturb or Remove Protected Trees	SIG	SIG	NI	BIO-6: Conduct a Tree Survey	LTS	LTS	N/A
				BIO-7: Compensate for the Loss of Protected Trees			
BIO-5. Affect the California Red-Legged Frog	SIG	SIG	NI	BIO-8: Conduct Mandatory Contractor Training for the Protection of the California Red-Legged Frog	LTS	LTS	N/A
				BIO-9: Avoid and Minimize Effects on California Red-Legged Frog during Construction			
				BIO-10: Restore Disturbed Areas to Pre-Project Conditions			
BIO-6. Affect the Foothill Yellow-Legged Frog	SIG	SIG	NI	BIO-11: Avoid and Minimize Construction-Related Impacts on Foothill Yellow-Legged Frog	LTS	LTS	N/A

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
BIO-7. Affect the Western Pond Turtle	SIG	SIG	NI	BIO-12: Avoid and Minimize Construction-Related Impacts on Western Pond Turtle.	LTS	LTS	N/A
BIO-8. Affect Nesting Migratory Birds	SIG	SIG	NI	BIO-13: Conduct Tree and Shrub Removal Activities during the Non-Breeding Season for Migratory Birds and Raptors, and Survey and Avoid Nesting Sites during Tree and Shrub Trimming BIO-14: Survey and Avoid Nesting Sites during Pipeline Construction BIO-15: Conduct Surveys for Nesting Birds and Raptors Prior to any Blasting	LTS	LTS	N/A
CULTURAL RESOURCES							
CR-1. Disturb Unknown Cultural Resources, Paleontological Resources, or Human Remains	SIG	SIG	NI	CR-1: Stop Work and Implement Appropriate Measures	LTS	LTS	N/A

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
HYDROLOGY AND WATER QUALITY							
WQ-1. Violate Water Quality Standards (construction)	LTS	LTS	NI	WQ-1: Ensure Adequacy of NPDES Permit Provisions for Dewatering and Implement Provisions	LTS	LTS	N/A
WQ-1. Violate Water Quality Standards (operation)	LTS	LTS	SIG		LTS	LTS	SU
WQ-2. Increase Erosion as a Result of Altering Drainage Patterns	LTS	LTS	NI		N/A	N/A	N/A
WQ-3. Exceed Stormwater Capacity	NI	NI	SIG		N/A	N/A	SU
WQ-4. Increase the Risk of Flooding Hazard	LTS	LTS	LTS		N/A	N/A	N/A
WQ-5: Increase the Risk of Mudflow	LTS	LTS	NI		N/A	N/A	N/A
LAND USE							
LU-1. Divide an Established Community	NI	NI	NI		N/A	N/A	N/A
LU-2. Conflict with an Applicable Land Use Plan, Policy, or Regulation	NI	NI	NI		N/A	N/A	N/A

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
NOISE AND VIBRATION							
NOI-1. Expose Noise-Sensitive Receptors to Construction Noise other than Blasting	SIG	SIG	NI	NOI-1: Employ Noise-Reducing Construction Practices to Comply with the Placer County Noise Ordinance NOI-2: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program NOI-3: Limit Truck Hauling Activities to Daytime Hours	LTS	LTS	N/A
NOI-2. Expose Noise Sensitive Receptors to Construction Vibration other than Blasting	LTS	LTS	NI		N/A	N/A	N/A
NOI-3. Expose Noise-Sensitive Receptors to Blasting Noise and Vibration	SIG	SIG	NI	NOI-2: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program	LTS	LTS	N/A
NOI-4. Expose Noise-Sensitive Receptors to Operational Noise	SIG	SIG	NI	NOI-4: Employ Noise-Reducing Design Measures at the New Pump Station Site	LTS	LTS	N/A
PUBLIC HEALTH AND SAFETY							
PH-1. Release Hazardous Materials (construction)	LTS	LTS	NI		N/A	N/A	N/A
PH-1. Release Hazardous Materials (operation)	LTS	LTS	LTS		N/A	N/A	N/A
PH-2. Increase the Risk of Wildland Fires (construction)	LTS	LTS	NI		N/A	N/A	N/A
PH-2. Increase the Risk of Wildland Fires (operation)	NI	NI	NI		N/A	N/A	N/A

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
TRANSPORTATION AND TRAFFIC							
TRF-1. Degrade Level of Service below Acceptable Thresholds (construction)	LTS	LTS	NI		N/A	N/A	N/A
TRF-1. Degrade Level of Service below Acceptable Thresholds (operation)	BE	BE	NI		N/A	N/A	N/A
TRF-2. Increase Traffic Hazards (construction)	LTS	LTS	NI		N/A	N/A	N/A
TRF-2. Increase Traffic Hazards (operation)	NI	NI	NI		N/A	N/A	N/A
TRF-3. Conflict with Emergency Access (construction)	LTS	LTS	NI		N/A	N/A	N/A
TRF-3. Conflict with Emergency Access (operation)	NI	NI	NI		N/A	N/A	N/A
TRF-4. Obstruct Train Service	NI	NI	NI		N/A	N/A	N/A
UTILITIES AND SERVICE SYSTEMS							
UTL-1. Exceed Wastewater Treatment Requirements	LTS	LTS	SIG		N/A	N/A	SU
UTL-2. Result in Construction of New or Expanded Facilities with Significant Environmental Impacts	SIG	SIG	NI	All measures listed above.	LTS	LTS	N/A
UTL-3. Exceed Wastewater Treatment Capacity	NI	NI	SIG		N/A	N/A	SU
UTL-4. Require New or Expanded Water Supply Entitlements	LTS	LTS	NI		N/A	N/A	N/A

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
GROWTH-INDUCING IMPACTS							
GI-1. Remove an Obstacle to Growth	NI	NI	NI		N/A	N/A	N/A
SOCIOECONOMICS							
SOC-1. Affect the Local Economy (construction)	BE	BE	NI		N/A	N/A	N/A
SOC-1. Affect the Local Economy (operation)	BE	BE	LTS		N/A	N/A	N/A
ENVIRONMENTAL JUSTICE							
EJ-1. Disproportionately Affect Environmental Justice Populations	LTS	LTS	LTS		N/A	N/A	N/A
CUMULATIVE IMPACTS							
CUME-1. Result in a Cumulatively Significant Increase in Wastewater Discharge	NI	NI	SIG		N/A	N/A	SU

Notes: N/A – not applicable

LTS – less than significant

NI – no impact

SIG – significant

SU – significant and unavoidable

BE – beneficial

Irreversible Commitment of Resources

In addition to the impacts discussed above, construction materials, including concrete, gravel, and other rock and earthen materials, would be irretrievably committed to the construction of the facilities proposed under Alternatives 1 and 2. Most of these materials would be imported to the site from nearby commercial sources, which have been subject to separate environmental review before they could extract and process such materials for construction use. Soil materials taken from nearby sites and used as fill would be irretrievably committed to construction. To the extent possible, on-site soils would be used, as needed.

With the exception of the small land areas that would be used for the pump station facilities, the remaining construction work would include demolition or abandonment of existing structures or underground construction. There would be no substantial commitment of land resources to an irreversible or irretrievable use.

Environmentally Superior Alternative

Under the State CEQA Guidelines, Section 15126.6, a Draft EIR must identify an "environmentally superior alternative." In the event that the environmentally superior alternative is the no-project alternative, a second environmentally superior alternative must be identified.

The preceding summary of impacts indicates that each of the alternatives, including Alternative 3 (No Project/No Action), has environmental advantages and disadvantages. Based on the analysis provided in this document, the County has determined that the environmentally superior alternative would be Alternative 2.

Although implementation of Alternative 2 would result in impacts associated with construction and operation as presented in this analysis and summarized above, all impacts would either be less than significant or reduced to less-than-significant levels through the incorporation of the recommended mitigation measures. All impacts associated with Alternative 1 would be the same as those under Alternative 2 with the exception that Alternative 1 would result in slightly greater impacts on wetlands because it would require a larger pump station. Alternative 1 is not the environmentally superior alternative for this reason.

Although Alternative 3, the No Project/No Action Alternative, would not result in any of the construction-related impacts, it is not deemed to be the environmentally superior alternative because of the potential for significant and unavoidable water quality impacts. Although the County would continue to haul wastewater away from the Applegate WWTP during the winter months, there is a potential that high flow events could result in pond overflow and runoff entering

area surface waters. Furthermore, this alternative would result in the potential for violation of the WWTP's Waste Discharge Requirements (WDRs) and could result in fines and enforcement actions for the County, representing increased costs that would be passed to service users.

Although it is not considered the environmentally superior alternative, the County has chosen to implement Alternative 1. This is because Alternative 1 would meet the objectives to comply with the terms of the Settlement Agreement. The increased wastewater treatment capacity that would be provided by allowing individuals to connect to the future pipeline would result in financial efficiencies associated with economies of scale, and would provide future benefits to the public and the County in terms of protecting water quality and providing economic wastewater treatment.

Table of Contents

APPENDICES

Tables

Page

Figures

Follows Page

Acronyms and Abbreviations

AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ADMP	Asbestos Dust Mitigation Plan
amsl	above mean sea level
BMP	best management practice
BP	Before Present
CAA	Clean Air Act
CAAQS	California ambient air quality standards
Cal-EPA	California Environmental Protection Agency
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO2 equivalent
Corps	U.S. Army Corps of Engineers
County	Placer County
CRHR	California Register of Historical Resources

CTR	California Toxics Rule
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
dB	Decibel
dBA	A-Weighted Decibel Level
dBC	C-Weighted Decibel Level
dbh	diameter at breast height
DOSH	California Division of Occupational Health and Safety
EC	Environmental Commitments
EDU	equivalent dwelling unit
EID	Environmental Information Document
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FR	Federal Register
GHG	greenhouse gas
gpd	gallons per day
GWP	global warming potential
HWCA	Hazardous Waste Control Act
Hz	hertz
I-80	Interstate 80
in/s	inches per second
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
kg	kilogram
lbs/MWh	pounds per megawatt hour
Leq	equivalent sound level
Lmax	maximum sound level
LOS	level of service
MBTA	Migratory Bird Treaty Act
mdf	maximum day flow
mgd	million gallons per day
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission

NEPA	National Environmental Policy Act
NO_2	nitrogen dioxide
NOD	Notice of Determination
NOP	Notice of Preparation
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTR	National Toxics Rule
OSHA	Occupational Safety and Health Administration
PCAPCD	Placer County Air Pollution Control District
PCT	Placer County Transit
PCWA	Placer County Water Agency
PG&E	Pacific Gas and Electricity
PM10	particulate matter smaller than 10 microns or less in diameter
PM2.5	particulate matter smaller than 2.5 microns or less in diameter
ppm	parts per million
ppv	peak particle velocity
PRC	Public Resources Code
Proposed Project	Applegate Treatment Plant Closure and Pipeline Project
psi	pounds per square inch
ROG	reactive organic gases
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SACOG	Sacramento Area Council of Governments
SEL	sound exposure level
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMD 1	Sewer Maintenance District No. 1
SO_2	sulfur dioxide
SPCC plan	spill prevention control and countermeasures plan
STEP	Septic Tank Effluent Pumping
SVAB	Sacramento Valley Air Basin
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
TCM	transportation control measure

TMDL	total maximum daily load
UPRR	Union Pacific Railroad
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WDR	Waste Discharge Requirement
WWTP	Wastewater Treatment Plant

Chapter 1
Introduction

1.1 Introduction

Applegate is a community in Placer County (County) located approximately 9 miles northeast of the City of Auburn along Interstate 80 (I-80) (Figure 1-1). The County provides public sewerage to a portion of Applegate. To comply with an enforcement order from the Central Valley Regional Water Quality Control Board (CVRWQCB), the County is proposing to move forward with the Applegate Regional Sewer Pipeline Project (Proposed Project) and seeking funding from the U.S. Environmental Protection Agency (EPA). The Proposed Project would comply with the terms of the enforcement order by constructing a pipeline to convey wastewater flows from Applegate to the County's Sewer Maintenance District No. 1 (SMD 1) service area, and by closing the existing Applegate Wastewater Treatment Plant (WWTP).

The proposed improvements would decommission the treatment ponds at the Applegate WWTP and install pump stations and a force main to convey Applegate's wastewater to the existing sewer conveyance system, which drains to the SMD 1 WWTP on Joeger Road in North Auburn. The wastewater would be treated at the SMD 1 WWTP and discharged to Rock Creek. Placer County is also considering an upgrade to a portion of the existing wastewater collection system to accommodate Applegate's existing flows; however, this portion of the project would not be funded by EPA. Although the potential impacts associated with the upgrade on the existing collection system are analyzed in this document for informational purposes, they are not technically a part of the federal action being formally evaluated pursuant to the National Environmental Policy Act (NEPA) by EPA.

1.2 Purpose of This Document

Prior to making funding decisions for the Proposed Project, EPA as the federal lead agency under NEPA, must consider the environmental impacts of its actions through preparation of a NEPA document (42 United States Code [USC] 4321–4347). The analysis of environmental impacts presented in this Environmental Information Document (EID) will be used by EPA to inform its decision. It

serves as an informational document in the decision-making process but does not recommend approval or denial of the Proposed Project. In addition, prior to approving the Proposed Project, Placer County must also evaluate its potential environmental impacts, as required by the California Environmental Quality Act (CEQA) (Title 14, California Administrative Code, Section 1400 et seq.). Therefore, this EID has been prepared to fulfill the requirements of both CEQA and NEPA. Placer County has published its Draft Environmental Impact Report separately and responded to public comments in a Final Environmental Impact Report (State Clearinghouse #2008082116).

This EID describes the Proposed Project, the existing environmental setting (before implementation of the Proposed Project), and the potential environmental impacts of the Proposed Project. In addition, any measures that would mitigate potentially significant impacts are also included in this EID and in the Mitigation Monitoring and Reporting Plan (Appendix A), which, pursuant to CEQA, will be implemented by Placer County.

1.3 Project Overview

1.3.1 Location of the Proposed Project

The project area is located approximately 8 miles northeast of Auburn (Figure 1-1). The project area includes the Applegate WWTP and the footprint of the proposed and alternative pipeline routes. The Applegate WWTP is located on a 6.8-acre parcel (Assessor's Parcel Number 073-120-013) immediately east of a Union Pacific Railroad (UPRR) right-of-way (Figure 1-2). The proposed and alternative pipeline alignments would be located to the west of the treatment ponds primarily within existing road rights-of-way. The alignment and alternatives to the Proposed Project are discussed in greater detail in Chapter 2, Project Alternatives.

1.3.2 Existing Wastewater Collection and Treatment Components

Wastewater Treatment and Disposal Operations

In 1974, failing private wastewater treatment facilities and available grant funding prompted the County to provide public sewerage to the Applegate community. A collection system of approximately 2 miles of pipeline and one pump station now connects 28 parcels in the Applegate area to a small WWTP on a 6.8-acre parcel immediately east of a UPRR right-of-way (Figure 1-2). Wastewater flows by gravity under the UPRR tracks to the Applegate WWTP.

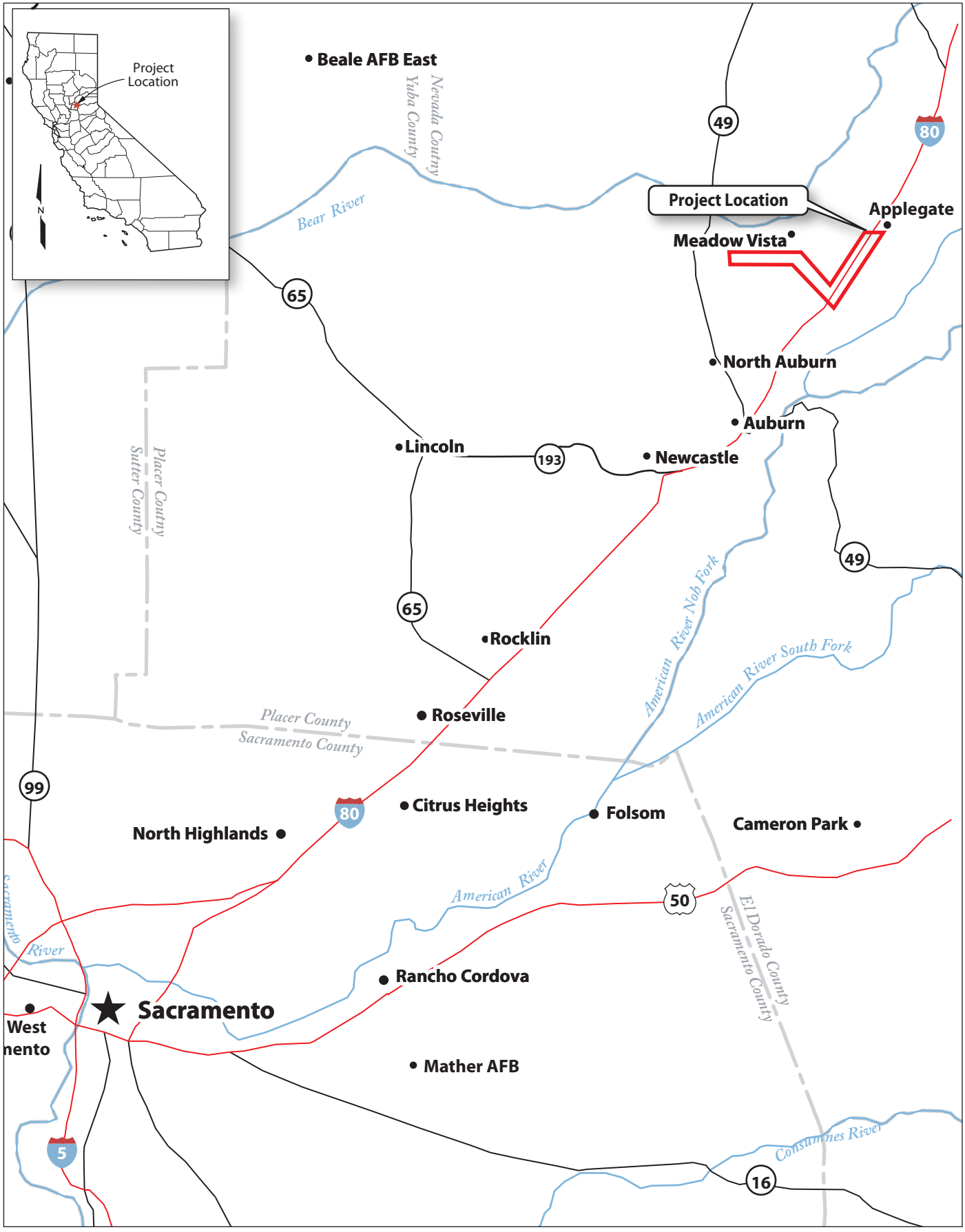

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Figure 1-1
Project Vicinity Map

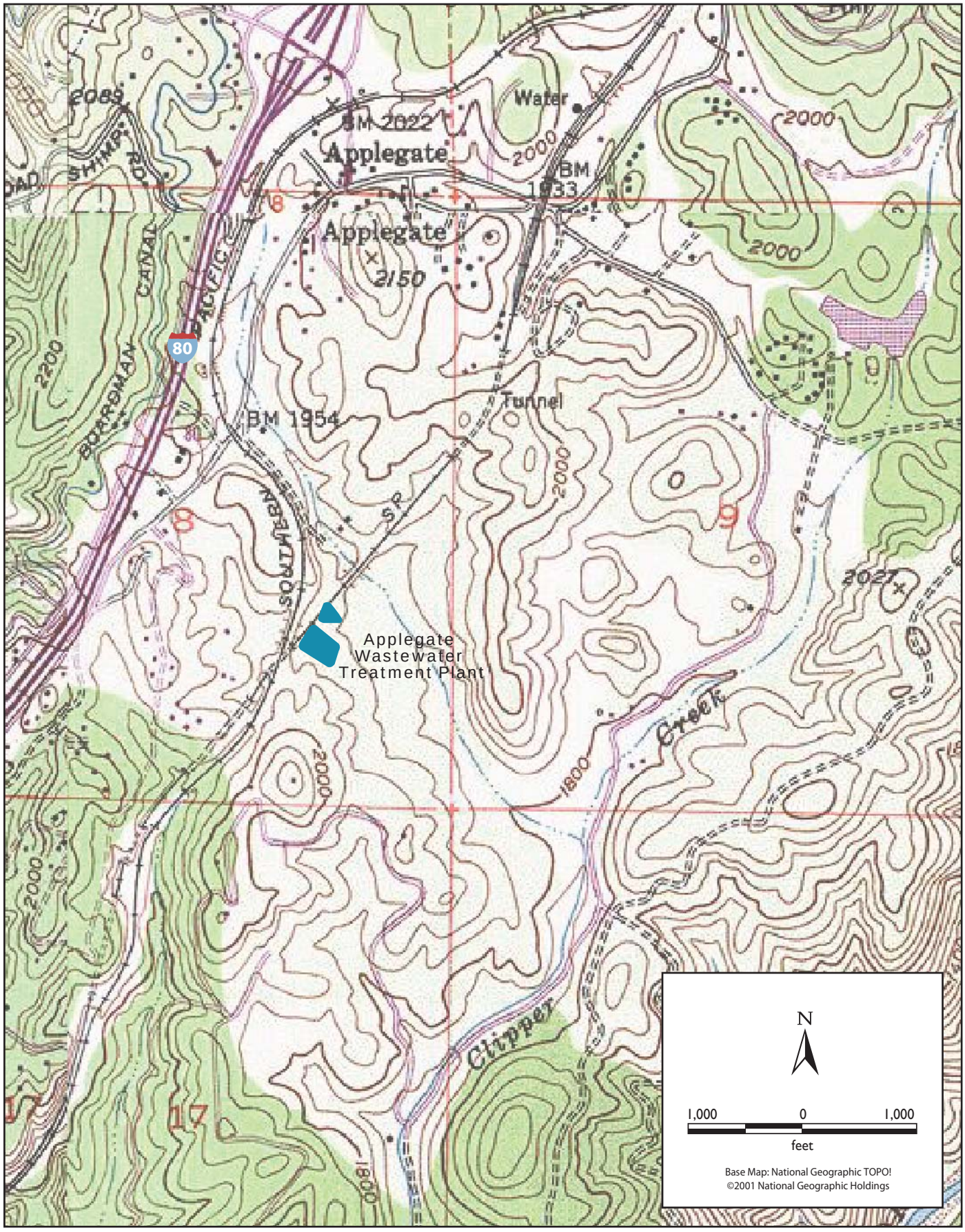

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Figure 1-2
Location of the Applegate Wastewater Treatment Plant

The Applegate WWTP consists of three evaporation and percolation ponds, each approximately 1 acre in size and about 6 feet deep (Figure 1-2). The ponds were designed to operate in series. A chlorination system was added to the Applegate WWTP to disinfect partially treated effluent flowing from Pond 2 to Pond 3 in anticipation of annual discharges from Pond 3 to Clipper Creek. These discharges, caused by a lack of wet weather capacity at the WWTP, violated the Applegate WWTP's Waste Discharge Requirements (WDR).

In view of continuing surface water discharges from the Applegate WWTP, the CVRWQCB issued a Cleanup and Abatement Order in May 2001. This order required the County to operate the Applegate WWTP in compliance with its WDR, provide greater disinfection of flows into Pond 3, and develop and implement short and long term improvements to prevent discharges.

In response to the Order, the County proposed construction of a community leach field and began to divert excess flows to temporary storage tanks for subsequent hauling to the SMD 1 WWTP. However, following further surface water discharges caused by heavy rainfall and sewage spills in 2005 and 2006, the CVRWQCB imposed an administrative civil liability on the County in June 2006 for noncompliance with the Cleanup and Abatement Order. Following negotiations, the administrative civil liability was resolved in December 2006 via a Settlement Agreement between the County and the CVRWQCB. Under the Settlement Agreement, and in addition to other requirements, the County is required to:

- design and construct a pipeline to convey wastewater from the Applegate WWTP to the SMD 1 WWTP; and
- collect and haul away all wastewater and demonstrate by October 15 of each year that wastewater from all sewer connections has been diverted from the Applegate WWTP to temporary storage tanks until the pipeline can be built. This is to ensure that any wastewater remaining in the ponds at the end of the summer season can percolate and evaporate away prior to the onset of winter rains, and that any winter season overflows from the ponds consist solely of infiltrated groundwater and rainfall.

Wastewater Flows

The Applegate wastewater conveyance and treatment systems were designed for a buildout population of 100, generating an average daily dry weather flow of 10,000 gallons per day (gpd). The collection system consists of approximately 8,000 linear feet of 6-inch-diameter sewer pipe and a wastewater pump station. The collection system currently provides service to approximately 54 equivalent dwelling units (EDUs) (37 active and 17 inactive). The active EDUs are comprised of 23 single-family homes and five commercial connections, including a church, a firehouse/civic center, offices, a motel, and a library.

The ponds were designed for a daily average flow of 10,000 gpd. Because of the inflow of rainwater during the wet season, the pond system's capacity is hydraulically inadequate for wastewater flows. The maximum day flow (mdf) in

2006 was approximately 1,000 gallons in excess of the design mdf. Pond 3 is also subject to seasonal groundwater inflow under artesian conditions. The groundwater inflow during the winter months is sufficient to fill and overtop Pond 3 even if no wastewater is discharged into it (Central Valley Regional Water Quality Board 2006).

1.4 Proposed Project Objectives and Purpose and Need

The intent of the Proposed Project is to meet the requirements of the Settlement Agreement described above. Under the Proposed Project, the Applegate WWTP would be decommissioned, and wastewater would be rerouted to the SMD 1 WWTP via the new pipeline, thereby enabling the County to meet the terms of the Settlement Agreement and eliminate the need to temporarily store and haul wastewater.

1.5 Organization of This Document

The content and format of this document are designed to meet the requirements of CEQA and NEPA. Where relevant, CEQA terminology is listed first, followed by NEPA terminology.

- Chapter 1, Introduction, identifies the purpose, scope, and terminology of the document and identifies public involvement procedures.
- Chapter 2, Project Alternatives, describes the objectives and characteristics of the Proposed Project, and identifies the required permits and approvals.
- Chapter 3, Environmental Setting, Environmental Consequences, and Proposed Mitigation, describes the environmental setting, an analysis of the impacts associated with the Proposed Project and its alternatives, and proposed mitigation measures for those impacts that have been determined to be significant.
- Chapter 4, Other Considerations, addresses the potential cumulative and growth inducing impacts of the Proposed Project and its alternatives and the potential socioeconomic effects and environmental justice considerations.
- Chapter 5, Distribution List, identifies all the agencies and organizations to which this EID will be circulated.
- Chapter 6, References, identifies all printed references and personal communications cited in this EID.
- Chapter 7, List of Preparers, identifies the individuals involved in preparing this EID and their areas of technical specialty.
- Appendix A, Final Mitigation Monitoring and Reporting Plan
- Appendix B, Air Quality Data
- Appendix C, Biological Resources
- Appendix D, Department of Parks and Recreation Forms

Chapter 2
Project Alternatives

2.1 Introduction

This chapter includes a detailed description of the project alternatives, which are analyzed in detail in this Environmental Information Document (EID). In addition, this chapter includes information about project construction, the construction schedule, the environmental commitments that would be implemented as part of the Proposed Project, and the required permits and approvals. Chapter 2 concludes with a discussion of the alternatives that were considered but eliminated from detailed analysis.

2.2 Project Alternatives

Placer County (County) has identified the project alternatives that would meet the project objectives and satisfy the purpose and need as described in Chapter 1, *Introduction*. These alternatives are described below along with the No Project/No Action Alternative. Alternatives that were previously considered but determined not to be feasible and, therefore, eliminated from evaluation are also discussed at the end of this chapter.

2.2.1 Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Under Alternative 1, the County would construct a new pipeline, potentially replace portions the existing pipeline, construct up to two new pump stations, and decommission the wastewater treatment ponds at the Applegate Wastewater Treatment Plant (WWTP). Although the new pipeline and replacement pipeline would be sized to accommodate the existing Applegate demand (54 equivalent dwelling units [EDUs]) as well as potential future flows (approximately 438 additional EDUs), the pipe replacement (upgrading to larger diameter pipe) would only include those segments that need to be upgraded to accommodate Applegate's existing 54 EDUs. In other words, to accommodate potential future flows, additional segments of the existing pipeline would also need to be upgraded.

Up to two new wastewater pump stations with storage facilities would be constructed. Only one storage tank and one septic tank effluent pumping (STEP) tank would be installed at the pump station(s); however, since the pump station(s) would be designed to provide space for three storage tanks and three STEP tanks, the pump station(s) could be easily expanded to accommodate potential future growth beyond the existing 54 EDUs, if required at a later date.

Alternative 1 would not allow new connections beyond the 54 existing EDUs, due to the downstream limitations in the SMD 1 collection system and pump station(s). However, the infrastructure constructed would be sized to accommodate future growth. As a result, this alternative would meet the project objectives while eliminating the need to replace infrastructure in the future and reducing associated future environmental impacts. The components of this alternative are discussed in more detail below.

Construct New Wastewater Conveyance Pipeline

Under Alternative 1, a new 10-inch-diameter force main pipeline would be constructed to connect the Applegate collection system to the SMD 1 collection system. The force main would have a maximum buildout capacity of 0.01 million gallons per day, which is enough capacity to accommodate the Applegate system's existing flows (54 EDUs) plus approximately 438 additional EDUs.

The new pipeline would follow the alignment shown in Figure 2-1, extending for approximately 4 miles. The alignment would start in the vicinity of Merry Lane and continue south along Applegate Road in the public right-of-way. The alignment would travel near the shoulder on the west side of the southbound lane. The major crossings along this segment include crossing under the Union Pacific Railroad overpass bridge, over the Boardman Canal (owned by the Placer County Water Agency [PCWA]), and over the existing 36-inch-diameter raw water culvert and 72-inch-diameter culvert owned by PCWA and the California Department of Transportation (Caltrans), respectively.

Approximately 1.7 miles from the starting point (to the south of Fairidge Drive on Applegate Road) the proposed pipeline would pass under Interstate 80 (I-80) near Clipper Gap Road. The crossing would be made using trenchless methods, which are described in greater detail in Section 2.3.2. The crossing would begin near the existing park-and-ride area and would end to the south of the intersection of Placer Hills and Lake Arthur roads.

From this intersection, the pipeline would then turn north on Placer Hills Road and would continue within the pavement on the west side of the southbound lane to Sugar Pine Road. The major crossings along this segment include two concrete canals owned by PCWA. A minimum of 5 feet of clearance would be maintained between the proposed pipeline and the existing canals. The alignment would avoid the existing fiber optic cable and overhead electrical lines located near the shoulder area on the east side of the northbound lane.

Alternative 1
Decommision Applegate WWTP and Construct Pipeline[1]

Potential Upgrade of the Existing Collection System

Pump Station

Existing Applegate Collection System

Existing SMD 1 Collection System

[1]*Alternative 2 would also include the construction of the proposed pipeline.*

0 1,000 2,000 4,000
Feet

N

Applegate Regional Pump Station

Existing Applegate WWTP

I-80 Pump Station

Meadow Vista

Placer Hills Union Sch

Applegate

Hotaling (Site)

Honor Camp No.7 (Iron Mine)

Pine Mountain

Christian Valley

Christian Valley Road

Winchester Club Dr.

Placer Hills Road

Applegate Road

Lake Arthur Road

Dry Creek Road

Nielsburg (Site)

Halsey Forebay

Halsey Afterbay

Powerhouse

Clipper Gap

Lake Theodore

Lake Arthur

Clipper Creek

Long Point

LAKE

80

K:\PROJECTS_1\PCDFS\00201_08\MAPDOC\2011\EIR\FIG_2_1_PROPOSEDPROJECT_SAME_AS_ES_3_20110504.MXD SS (05-04-11)

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Figure 2-1
Proposed Project

The alignment would continue west within the pavement on the north side of the westbound lane to Winchester Club Drive and then to the connection point with the existing sewer (SMD 1 Connection in Figure 2-1). The proposed pipeline would connect to the SMD 1 STEP system at Winchester Club Drive west of Sugar Pine Road.

Upgrade Existing Collection System

If determined necessary, up to approximately 7,750 feet of pipeline that is part of the existing SMD 1 collection system in the Winchester subdivision would be upgraded (Figure 2-1). The pipe replacement would only include those pipeline segments that need to be upsized to accommodate existing Applegate demand (54 EDUs); however the new segments would be sized to accommodate potential future flows (54 existing plus an additional 438 EDUs).

Depending on the extent of the upgrade required, the upgrading would begin from the connection point to the SMD 1 collection system and continue along Winchester Club Drive up to approximately 150 feet from the intersection of Winchester Club Drive with Lodge View Drive. The existing collection system in Winchester was constructed in approximately 2000.

Although the particular segments of pipeline installed would have capacity for future connections, the overall collection system has limitations that would prohibit future connections. In other words, after the Proposed Project is constructed, up to approximately 26,000 feet of additional pipe upgrading may be required from the Winchester system to the SMD 1 system, before the collection system could accommodate all of the future 438 EDUs.

Construct New Pump Stations and Community Septic Tanks

As part of Alternative 1, up to two new wastewater pump stations with storage facilities would be constructed. The first pump station (Applegate Regional Pump Station) would be located at the beginning of the pipeline alignment north of the Union Pacific Railroad crossing near Merry Lane. If determined necessary, a second pump station (I-80 Pump Station) would be located north of the I-80 crossing (Figure 2-1). These pump stations would pump wastewater from the existing collection system to the SMD 1 connection point. The existing collection system, including a pump station and gravity pipeline (Figure 2-1), would be left in place.

The Applegate Regional Pump Station would have two pumps (one duty and one standby). Four pumps would be necessary at the I-80 Pump Station. Under Alternative 1, the pumps would be sized to handle only existing flows (54 EDUs); however since the wet wells would be sized to accommodate additional future connections, only the pumps would need to be replaced to accommodate potential future flows. Wells would also be constructed at the pump stations to provide water for use in the case of emergencies for eye wash and safety showers.

Septic tanks would be employed at both pump station locations for the collection of settleable solids. Removal of solids would be necessary, because the proposed pipeline would connect to the Winchester collection system, which is designed to convey only liquids. Emergency storage facilities constructed at the new pump stations would mitigate the risk of a sanitary sewer overflow during larger storm events or during a potential system failure. The emergency storage tanks would provide 8 hours of average daily flow storage. The depths of the pump stations would be determined by pump operating requirements, depth of the incoming sewers and force mains, and emergency storage requirements. Above ground there would be electrical panel(s) housing power supply, control, and telemetry facilities. The pump station would also house a standby generator.

Under this alternative, only one storage tank and one STEP tank would be installed at the pump station(s); however, since the pump station(s) would be designed for and provide space for three storage tanks and three STEP tanks, the pump station(s) could be easily expanded to accommodate potential future growth.

The pump station would include a small building. A fence would be constructed around the building. Power may be brought to the facility by overhead or buried cable and all signals would be sent to a remote control terminal. Odor control equipment would be installed at each pump station as necessary.

Decommission Existing Applegate WWTP

Once the new pump stations and conveyance pipeline become operational, the existing Applegate WWTP would be decommissioned. The existing evaporation and percolation ponds would be restored or abandoned and the chlorination facilities and temporary storage tanks would be removed. Restoration would include grading the site, restoring natural drainage, and returning the topography to natural conditions. Abandonment would include dredging and dewatering the ponds and likely include some level of ongoing maintenance of the site.

2.2.2 Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Similar to Alternative 1, under Alternative 2, the County would construct a new pipeline to connect to the existing collection system, potentially replace portions of the existing collection system, construct up to two new pump stations, and decommission the wastewater treatment ponds at the Applegate WWTP. However, under Alternative 2, the new pipeline (which would include upsizing only those segments needed to accommodate existing Applegate flows) would be smaller, sized only to accommodate the existing Applegate wastewater demand (54 EDUs). Similarly, the pipe replacement would also only be sized to accommodate those existing demand. In addition, the pump station(s) would be smaller in size and components, resulting in a smaller physical footprint.

Alternative 2 would only construct what is currently required to divert existing Applegate flows and remain within the downstream limitations of the SMD 1 collection system and pump station(s). This alternative would not accommodate future growth by allowing new connections beyond the 54 existing EDUs; pipelines and pump stations would need to be replaced to accommodate future growth in the area.

The components of this alternative are discussed in more detail below.

Construct Wastewater Conveyance Pipeline

Under Alternative 2, the pipeline alignment would be the same as under Alternative 1, but the diameter of the new and replacement pipe would be smaller, designed only to accommodate the existing Applegate connections (54 EDUs).

Upgrade Existing Collection System

Similar to Alternative 1, it could be necessary to upgrade up to approximately 7,750 feet of pipeline in the Winchester subdivision, which is part of the existing SMD 1 collection system (Figure 2-1). As under Alternative 1, pipe replacement under Alternative 2 would only include those segments necessary to accommodate existing Applegate connections (54 EDUs). Unlike Alternative 1, the new segments would only be upgraded to the diameter necessary to accommodate existing Applegate demand (54 EDUs).

Construct New Pump Stations and Community Septic Tanks

Under Alternative 2, the pump station(s) would be designed to handle only existing Applegate flows. For example, the amount of storage capacity, STEP tank capacity, pump capacity, and wet well size needed would be less than under Alternative 1; therefore, the pump station(s) would have a smaller footprint than those constructed under Alternative 1.

Because of the pump station limitations, Alternative 2 would not allow new connections to the collection system other than those already connected to the existing Applegate system.

Decommission Existing Applegate WWTP

The Applegate WWTP decommissioning would be the same as described for Alternative 1.

2.2.3 Alternative 3 – No Project/No Action Alternative

Both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) require consideration of the no-project/no-action alternative regardless of whether it meets the project objectives or purpose and need, or whether it would substantially reduce or avoid one or more of the project's significant impacts. The no-project alternative discloses the impacts that might reasonably be expected to occur if the project were not approved and the site remained more or less in its current state, subject to foreseeable changes based on existing plans.

Under the Alternative 3, the No Project/No Action Alternative, the Applegate WWTP would not be decommissioned and the proposed pump stations and pipeline would not be constructed. However, treatment of wastewater using the evaporation and percolation ponds could not continue because of the risk of discharge of treated and disinfected effluent to the local watercourses. A discharge to surface waters would violate the Cleanup and Abatement Order No. 5-01-708 issued by the CVRWQCB. So, under this option, the County would be forced to continue to collect all wastewater before it reaches the Applegate WWTP and convey it by tanker to an alternative treatment facility during wet weather. Fines and other enforcement actions would follow for failure to comply with the terms of the Settlement Agreement.

For these reasons, the No Project/No Action Alternative does not meet the project objectives or purpose and need. However, as required under both CEQA and NEPA, this alternative was carried forward for further analysis in this EID.

2.3 Project Construction

2.3.1 Construction Schedule

Construction activities associated with either Alternative 1 or Alternative 2 would be expected to occur beginning in the spring of 2012 with completion at the end of that year. Construction would normally occur between 6:00 a.m. and 8:00 p.m., Monday through Friday. Construction might also occur on Saturdays between 8:00 a.m. and 8:00 p.m. Some nighttime construction might also be required.

2.3.2 Construction Equipment and Activities

Construct New Wastewater Conveyance Pipeline

General Construction Conditions

In most areas, the proposed pipeline for either Alternative 1 or Alternative 2 would be installed using open-cut trenching. In areas where open-cut trenching is not possible because of a restricted construction area, geotechnical conditions, road crossings, or sensitive areas, alternative construction techniques such as trenchless tunneling (e.g., horizontal directional drilling or microtunneling) would be employed. Along some portions of the pipeline alignment, several areas of hard bedrock or large boulders may require blasting or the use of a large hoe-ram to complete the excavation.

Most of the proposed pipeline would be installed within existing roadways or on road shoulders. Construction activities may require temporary construction easement acquisition in some areas. However, no additional right-of-way would be required along existing roadways.

Pipeline installation could occur at a rate of up to 300 feet per day where the alignment is in low-use sections of roadways. In busier roadway areas, the installation rate would be expected to average approximately 100 feet per day. Pipeline construction rates also depend on the number of separate crews working on the pipeline. At this time, it is anticipated that at least two crews would be working on the pipeline, with a third crew responsible for the trenchless tunneling activities.

Open Trench Installation

Approximately four to six workers would install the pipeline. The primary pieces of construction equipment would include backhoes, compactors, repaving equipment, front-end loaders, tracked excavator, ten-wheel dump trucks, water trucks, forklifts, flat-bed delivery trucks, compressors and jack hammers, and concrete trucks. In most areas, the pipeline would be installed in open trenches at the edge of a lane, wherever practicable using conventional cut-and-cover construction techniques. Construction would be confined within a 20-foot-wide temporary construction zone from either side of the centerline of the roadway. It is anticipated that excavation would be standard backhoe trench construction with depths of 5 to 10 feet for the majority of the alignment. However, to minimize impacts on sensitive biological resources along the pipeline corridor, the construction zone would be narrowed along any affected sections of the pipeline alignment.

The key steps in this construction process would include utility relocation, surface clearing, trench excavation, shoring, dewatering (if required), pipe installation, trench backfilling, miscellaneous valve and access way installation, pipeline testing, and surface restoration.

A backhoe or excavator would be used to excavate the trenches for pipeline placement. Shoring would be installed in trenches as required to protect workers from trench wall failure and cave-ins. If shallow groundwater was encountered during construction activities, dewatering activities would be required. If this groundwater could not be contained on site or pumped into tank trucks and transported to a disposal facility, the groundwater would be discharged to a surface water body if a General Order for Dewatering and Other Low Threat Discharges to Surface Water Permit (National Pollutant Discharge Elimination System [NPDES] # CA0083356) was obtained from the Central Valley Regional Water Quality Control Board [CVRWQCB]).

For purposes of the impact analysis in this EID, it is assumed that all excavated soil would be hauled off site and would be replaced by imported fill. In reality, native backfill would be used to the extent feasible and would likely constitute up to 50% or more of the fill material on site. Under the worst case assumption, all soil removed from trenches would be loaded directly into dump trucks and hauled away for disposal per applicable requirements. Imported backfill would be delivered to stockpiles near the open trench.

During construction, vertical wall trenches would be temporarily closed at the end of each work day, either by covering with steel trench plates and backfill material, or by installing barricades to restrict access, depending on the conditions of the encroachment permit from the County. A temporary patch would be used until final repaving of the affected area occurs, about 2 to 6 months after pipeline installation was complete within a given road segment.

The final phase of pipeline construction would be surface restoration. In areas where pipe is installed along roadways, repaving would be the final step. Where temporary patching was done, permanent repaving would occur. Final repaving would be done at one time, after the entire pipe installation was completed or after pipe installation was completed for a particular reach of pipeline. Grasses, shrubs, and trees would be replanted to restore unpaved surfaces. Trees would not be planted directly over the pipeline in order to prevent root damage to the pipe.

Trenchless Installation

The specific type of trenchless technology to be used would depend on what is deemed most appropriate by the design engineer and could likely include horizontal directional drilling or microtunneling techniques. Depending on the method used, trenchless installation may involve the use of machines or augers to drill the hole and either a hydraulic jack to push through a casing and carrier pipeline or other machinery to pull the pipeline through.

Horizontal directional drilling involves the use of a directional drill bit to bore a pilot hole. Once the pilot hole is advanced, several reaming passes will follow. Next a casing pipe and likely the carrier pipe would be pulled through simultaneously. The microtunneling method may involve the use of a horizontal bore machines or augers to drill a hole, and a hydraulic jack to push a casing

through the hole under the crossing. As the bore proceeds, a steel casing pipe is typically jacked into the hole in a pit located at one end and the pipeline is then installed in the casing. Shoring that is appropriate to the pit depth is used to secure the walls. An additional area is needed around the pit for temporary storage of the pipe sections and for loading material removed from the bore. The receiving pit at the other end of the bore is smaller. Backhoes and dump trucks are used to haul away excavated materials to disposal sites. A typical crew size is 8 to 10 people, including haul truck drivers.

Construct New Pump Stations and Community Septic Tanks

Construction of the pump stations and septic tank systems would likely require the use of cranes, backhoes, compaction equipment, and dump trucks.

Decommission Existing Applegate WWTP

The existing evaporation and percolation ponds would be decommissioned. It is anticipated that the ponds would be filled with onsite material unless determined to be inappropriate. The ponds would be graded to ensure that any artesian groundwater flows do not compromise the integrity of the restored facilities. Decommissioning would likely include the use of cranes, backhoes, compaction equipment, and dump trucks. Construction and demolition materials would be hauled to appropriate disposal sites as determined by demolition contractors.

2.4 Environmental Commitments

2.4.1 Blasting

Environmental Commitment EC-1. Prepare and Implement a Blasting Plan

Blasting activities may be required for the Proposed Project along some portions of the pipeline alignment. As part of the project plans and specifications, the County will require the contractor to retain a qualified blasting specialist to develop a site-specific blasting program report to assess, control, and monitor airblast and ground vibration from blasting. The report will be reviewed and approved by the County prior to issuance of a blasting permit. The report will include, at minimum, the following measures:

- The contractor will use current state-of-the-art technology to keep blast-related vibration at offsite residential, other occupied structures and well sites as low as possible, consistent with blasting safety. In no instance will blast vibration, measured on the ground adjacent to a residential, other occupied

structure, or well site be allowed to exceed the frequency-dependent limits specified in the Alternative Blasting Level Criteria contained in the U.S. Bureau of Mines Report of Investigations 8507. Blast vibration levels at structures determined by the County to be extremely susceptible to vibration damage will be limited to 0.12 inch per second (in/sec).

- The project contractor will use current state-of-the-art technology to keep airblast at offsite residential and other occupied structures as low as possible. In no instance will airblast, measured at a residence or other occupied structure, be allowed to exceed the 0.013-pounds-per-square inch (133-decibeal) limit recommended in U.S. Bureau of Mines Report of Investigations 8485.
- The project contractor will monitor and record airblast and vibration for blasts within 1,000 feet of residences and other occupied structures to verify that measured levels are within the recommended limits at those locations. The contractor will use blasting seismographs containing three channels that record in three mutually perpendicular axes and which have a fourth channel for recording airblast. The frequency response of the instrumentation shall be from 2 to 250 Hertz, with a minimum sampling rate of 1,000 samples per second per channel. The recorded data must be such that the frequency of the vibrations can be determined readily. If blasting is found to exceed specified levels, blasting will cease, and alternative blasting or excavation methods shall be employed that result in the specified levels not being exceeded.

Airblast and vibration monitoring shall take place at the nearest offsite residential or other occupied structure. If vibration levels are expected to be lower than those required to trigger the seismograph at that location, or if permission cannot be obtained to record at that location, recording will be accomplished at some closer site in line with the structure. Specific locations and distances where airblast and vibration are measured will be documented in detail along with measured airblast and vibration amplitudes.

2.4.2 Traffic Control

Environmental Commitment EC-2. Prepare and Implement Traffic Management Plan

The contractor will prepare, submit, and implement a traffic management plan. The plan will include the necessary items and requirements to reduce, to the maximum extent feasible, traffic congestion during construction. The County will coordinate with the Placer County Road Department and the Placer County Sheriff's Office, and will meet their standard traffic control performance criteria.

For any construction activity requiring the complete closure of a roadway, the project construction contractor will incorporate a road closure plan, to the satisfaction of the Placer County Department of Public Works and Placer County Office of Emergency Services. The contractor will consult with these two departments in preparation of the road closure plan. The plan must outline

measures for alerting potentially affected residences, businesses, and institutions; identify alternate routes during road closure; and outline procedures for safely reopening the road in the event of an emergency.

2.4.3 Utilities

Environmental Commitment EC-3. Stabilize Existing Utilities and Prevent Interruption of Utilities Service

Critical existing utilities along the alignment may not be disrupted during construction activities. Existing utilities, such as power poles, sewer and water facilities, natural gas facilities, and others will be stabilized during construction in order to avoid undue service interruption.

Underground utility lines in the project area potentially include gas pipelines and fiber-optic cables. To prevent interruption of these and other below-ground services, detailed surveying and potholing (i.e., drilling to verify the location of utilities) will be performed and subsequent planning to traverse above and/or below existing lines will occur. Relocation of some utilities may be required.

2.4.4 Staging Areas

Environmental Commitment EC-4. Ensure Staging Area Will Not Affect Environmental Resources

At this stage of the project planning and preliminary design process, additional construction staging areas may be considered. Typically, the County would identify these areas as part of the design contract. To avoid significant environmental damage and the need for additional CEQA compliance work, the County would require that all staging areas be identified and cleared as acceptable. If additional staging areas are needed, they will be located as close to construction corridors and sites as possible to minimize construction-related traffic disruption. These areas will be used to store pipe, construction equipment, construction employee vehicles, and other construction materials such as gravel, asphalt, backfill material, and excavated soil. The staging areas are expected to be approximately 1 acre in size and will be established in areas that are open and easily accessed by vehicles. Previously disturbed areas with little or no native vegetation will receive priority. Any additional staging areas will be sited to avoid environmental impacts. In the event that additional environmental impacts are identified, the County will complete the appropriate environmental review process.

2.4.5 Solid Waste Disposal

Environmental Commitment EC-5. Comply with Solid Waste Disposal Regulations

All construction-related solid waste will be disposed of in compliance with the applicable Department of Resources Recycling and Recovery (CalRecycle) and local regulations and at the Recology Auburn Placer Transfer Station in Auburn, California or the Western Placer Waste Management Authority Materials Recovery Facility in Lincoln, California.

2.4.6 Geotechnical Analysis

Environmental Commitment EC-6. Implement Geotechnical Interpretive Report Recommendations

As part of their general plan, the County requires the preparation of a soils engineering and geologic-seismic analysis prior to permitting development in areas prone to geological or seismic hazards (i.e., ground shaking, landslides, liquefaction, critically expansive soils, avalanches, and so on). Additionally, Article 15.48 of Chapter 15 of the Placer County Code states that a soil or geologic investigation report should be performed in areas of known or suspected geological hazards, including landslide hazards and hazards of ground failure stemming from seismically induced ground shaking (Ord. 5407-B § 13, 2006: Ord. 5056-B [part], 2000).

The pump station, storage facilities, and pipeline will be constructed in accordance with recommendations set forth in the Geotechnical Interpretive Report (Kleinfelder 2010).[1] The recommendations associated with this report are presented in Section 3 of that report.

2.4.7 Seismic Standards

Environmental Commitment EC-7. Implement Seismic Standards into Design

The project applicant will be required to implement California Building Code Seismic Zone 4, California Building Standards Commission, and Placer County general plan standards into the project design for applicable features to minimize hazards associated with potential fault rupture, ground-shaking, and liquefaction.

[1] This report may be obtained by request from the Placer County Planning Department or by visiting the Placer County website.

2.4.8 Other Disturbance Requirements

Environmental Commitment EC-8. Prepare and Implement a Stormwater Pollution Prevention Plan

Under the NPDES Phase II Rule, construction activity disturbing 1 acre or more must obtain coverage under the State's General Construction Permit. General Construction Permit applicants are required to prepare a Notice of Intent and a Stormwater Pollution Prevention Plan (SWPPP), and implement and maintain best management practices (BMPs) to avoid adverse impacts on receiving water quality as a result of construction activities, including earthwork.

The SWPPP will include a spill prevention and control plan. The County or its contractors will develop and implement a spill prevention and control program to minimize the potential for, and effects of, spills of hazardous, toxic, or petroleum substances during construction activities. The program will be completed before any construction activities begin. Implementation of this measure will comply with state and federal water quality regulations.

The federal reportable spill quantity for petroleum products, as defined in 40 Code of Federal Regulations [CFR] 110 is any oil spill that 1) violates applicable water quality standards, 2) causes a film or a sheen upon or discoloration of the water surface, or 3) causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines. If a spill is reportable, the contractor will notify the Placer County Environmental Health Services Department, which has spill response and cleanup ordinances to govern emergency spill response. A written description of reportable releases must be submitted to CVRWQCB. This submittal must include a description of the release, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future releases. The releases will be documented on a spill report form.

If an appreciable spill has occurred and results determine that project activities have adversely affected surface or groundwater quality, the County will be responsible for ensuring that a registered environmental assessor will perform a detailed analysis to identify the likely cause of contamination. This analysis will conform to American Society for Testing and Materials standards and will include recommendations for reducing or eliminating the source or mechanisms of contamination. Based on this analysis, the County or its contractors will select and implement measures to control contamination, with a performance standard that groundwater quality must be returned to baseline conditions.

Environmental Commitment EC-9. Prepare and Implement a Grading and Erosion Control Plan

The County's grading and erosion control ordinance is intended to control erosion and sedimentation caused by construction activities. A grading permit is typically required for construction-related projects. As part of the permit, the

project applicant usually must submit a grading and erosion control plan, vicinity and site maps, and other supplemental information. Standard conditions in the grading permit include a description of BMPs similar to those contained in a SWPPP. Article 15.48 of Chapter 15 of the Placer County Code describes permitting and issues related to grading, erosion, and sediment control. It also describes special restrictions and exemptions.

Environmental Commitment EC-10. Incorporate Placer County General Construction Specifications into Design

Placer County General Construction Specifications contain information on grading, sub-bases and bases, surfaces and pavements, structures, drainage facilities, right-of-way and traffic control facilities, and materials. These specifications along with those from the County's Land Development Manual and applicable land use ordinances will be incorporated into the project design, where appropriate.

2.5 Permits and Approvals

The following other local, state, and federal agencies may be responsible for issuing permits and approvals that may be needed to proceed with the Proposed Project in addition to the decisions before the U.S. EPA and Placer County. These include but are not limited to the following:

- CVRWQCB
  - NPDES permit
  - The U.S. Environmental Protection Agency (EPA) has delegated responsibility for issuance of Clean Water Act (CWA) NPDES permits to the Regional Water Quality Control Boards (RWQCBs) within California. These permits are required to ensure protection of surface waters from construction and other land-disturbing activity.
- CWA Section 401 water quality certification
  - Section 401 requires that the discharge of dredged or fill material into waters of the United States, including wetlands, does not violate state water quality standards. If a CWA Section 404 permit is necessary for the Proposed Project for any impacts on jurisdictional waters, a Section 401 water quality certification also would be necessary to comply with Section 404 permit conditions.
- Placer County Air Pollution Control District
  - Authority to Construct

- Placer County Improvement Plan Approval
  - Placer County will be responsible for the review and approval of improvement plans consistent with the requirements of the Placer County Land Development Manual.
- Placer County Encroachment Permit
  - An encroachment permit is required to provide access to work within Placer County's right-of-way from Placer County Public Works.
- California Department of Transportation (CalTrans) Permit
  - Work within state right-of-way associated with I-80 will require a permit from CalTrans to ensure that no impacts on traffic or safety occur.
- U.S. Fish and Wildlife Service and the California Department of Fish and Game
  - Consultation is required with these agencies if a project has the potential to take or otherwise harm federally or state-protected wildlife and plant species.
- U.S. Army Corps of Engineers
  - The U.S. Army Corps of Engineers (Corps) regulates the discharge of dredged or fill material into waters of the United States, including wetlands, under CWA Section 404.
- California Office of Historic Preservation
  - The State Historic Preservation Officer (SHPO) is required to ensure that the Proposed Project complies with the National Historic Preservation Act and other regulations pertinent to the protection of cultural resources.

2.6 Alternatives Considered but Eliminated

2.6.1 Alternative Pipeline Alignments

Additional pipeline alignments were considered for further analysis in this EID. However, the other alternatives were either economically less attractive or included multiple pump stations, technical and operational challenges associated with pumping low flows through high pumping heads, significant elevation changes, and/or extensive modification of a STEP system pressurized force main in the Winchester subdivision. Within each chosen alternative, optional routes were also considered for different crossings at I-80. The alignments and the options were analyzed in greater detail by Hatch Mott MacDonald in the Pipeline Routing Study (Hatch Mott MacDonald 2007[2]). Those that were considered but dismissed from further analysis in this EID are discussed below and shown in Figure 2-2.

[2] This report may be obtained by request from the Placer County Planning Department or by visiting the Placer County website.

Pipeline Alignment A

Pipeline Alignment A (referred to as Alignment 1B in the Pipeline Routing Study) would begin in the vicinity of Bon Vue Drive and continue south along Applegate Road in the public right-of-way. Approximately 1.7 miles from the starting point (to the south of Fairidge Drive on Applegate Road) the pipeline would pass under I-80 near Clipper Gap Road and continue northwest to the intersection of Placer Hills Road and Lake Arthur Road. The proposed pipeline would continue approximately 1.6 miles southwest on Lake Arthur Road to its intersection with Dry Creek Road. From the intersection of Lake Arthur Road/Dry Creek Road with Christian Valley Road/Bowman Road, the proposed pipeline would continue to travel west along Dry Creek Road in the public right-of-way. Approximately 2.9 miles from the intersection, the pipeline would connect to the existing SMD 1 sewer network at the intersection of Dry Creek Road and Blue Grass Drive, west of Windsong Place.

Pipeline Alignment A was initially considered in the NOP/IS issued by the County. It was originally preferred because of its potential to provide service to more users, resulting in additional revenue to fund the project. However, it has not been chosen for further consideration, because it has higher construction costs and construction-related impacts. The higher costs/impacts would result from it being approximately 2 miles longer than the alignment proposed under Alternatives 1 and 2. Additionally, it has since been determined that future demand would be insufficient along this alignment to justify the costs/impacts.

Pipeline Alignment B

Pipeline Alignment B (referred to as Alignment 5D in the Pipeline Routing Study) would connect to the existing SMD 1 sewer on Christian Valley Road at Williams Drive/Williams Court. This pipeline would run from the new Applegate Regional Pump Station in the vicinity of Applegate Road and Bon Vue Drive south along Applegate Road, crossing I-80 near Clipper Gap toward Lake Arthur Road. From this point, the proposed pipeline would run northwest on Placer Hills Road to its intersection with Pinewood Way. The proposed pipeline would then run north on Pinewood Way to Bancroft Road where it would turn west to Christian Valley Road and continue to the connection point with the existing sewer. This routing is within the public right-of-way.

Pipeline Alignment B was not chosen for further consideration because it would be relatively long (6 miles) compared to Alternative 1 or Alternative 2, and it would not offer any reduction in construction costs or associated construction-related impacts compared to those alternatives. In addition, Pipeline Alignment B would follow Christian Valley Road, which exhibits relatively higher volumes of traffic compared to most of the other routes, and could result in greater traffic disruption during construction.

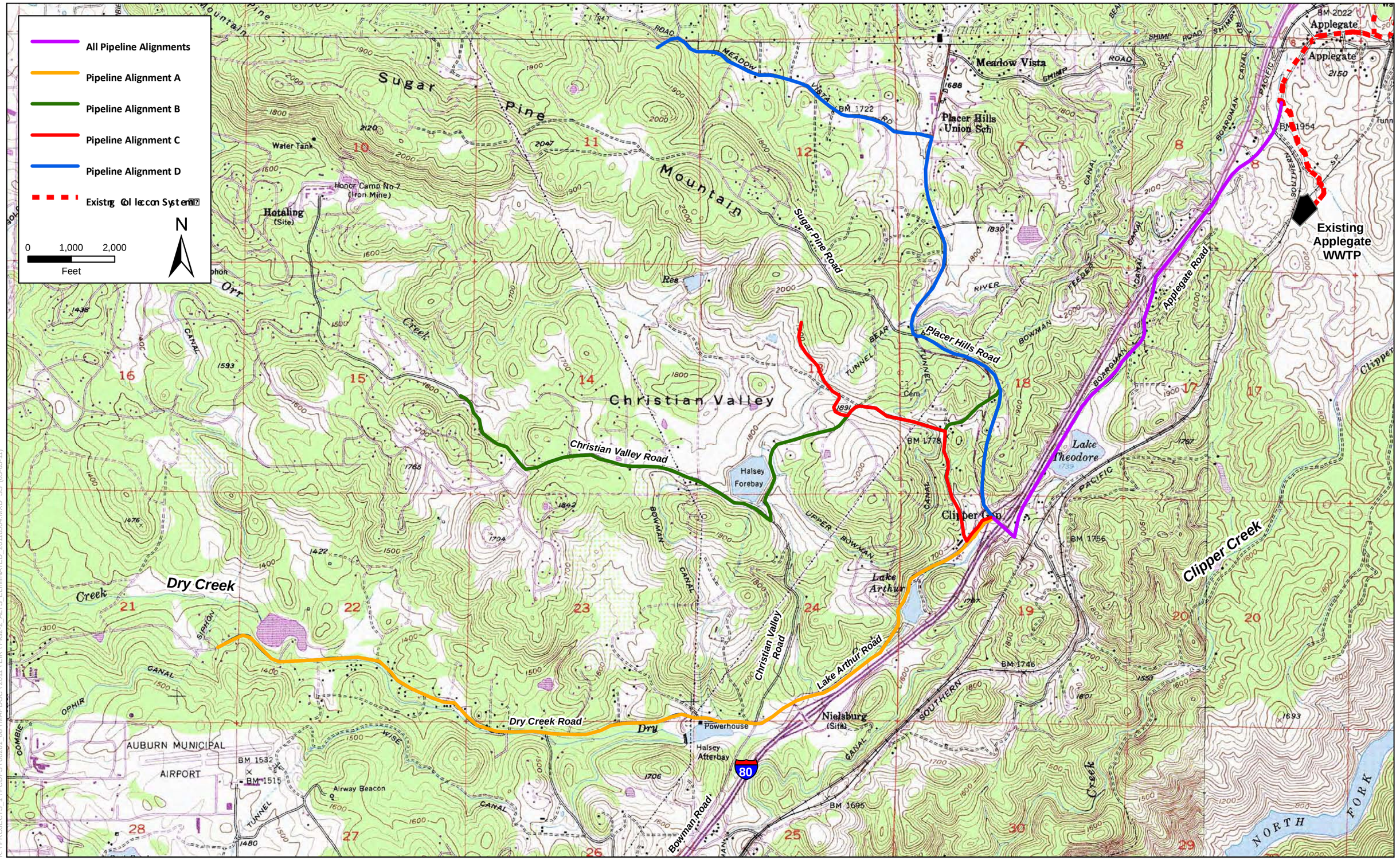

Figure 2-2
Alternative Pipeline Alignments Eliminated from Further Discussion

Pipeline Alignment C

Pipeline Alignment C (referred to as Alignment 2B in the Pipeline Routing Study) would run from the new Applegate Regional Pump Station in the vicinity of Applegate Road and Bon Vue Drive south along Applegate Road, crossing I-80 near Clipper Gap Road to Lake Arthur Road. From Lake Arthur Road the proposed pipeline would run west to turn north on Pinewood Way to Bancroft Road, where it would turn west to Conifer Lane. At Conifer Lane the pipeline would leave the public right-of-way and cross to Granite Park Lane in a new easement across private land. From Granite Park Lane, the pipeline would run north along Pinnacle View Drive to the connection point with the existing sewer. The pipeline would connect with the Winchester STEP system at the intersection of Pinnacle View Drive West and Winchester Club Drive.

Pipeline Alignment C was not chosen because there would be the need for private party right-of-way acquisition and potential increases in construction costs associated with the alignment following narrow winding streets.

Pipeline Alignment D

Pipeline Alignment D (referred to as Alignment 4B in the Pipeline Routing Study) would connect to the existing SMD 1 sewer at Ridgemore Drive near Meadow Vista. The proposed pipeline would run from the new Applegate Regional Pump Station in the vicinity of Applegate Road and Bon Vue Drive south along Applegate Road, crossing I-80 near Clipper Gap Road along Placer Hills Road toward Lake Arthur Road. From this point, the proposed pipeline would run north on Placer Hills Road to Meadow Vista Road, then west along Meadow Vista Road to the connection point with the existing sewer at Ridgemore Drive.

Pipeline Alignment D was not chosen for further consideration because it would be relatively long (5 miles) compared to Proposed Project. In addition, the high static lift to higher elevations would require additional pump stations(s) with associated higher capital and operation and maintenance costs. There would also be a potential for traffic disruption in Meadow Vista and along Placer Hills and Meadow Vista Roads.

2.6.2 Alternatives for Wastewater Treatment

The County also investigated several wastewater treatment alternatives and presented them to CVRWQCB in reports titled Applegate Wastewater Treatment System Sewage Disposal Options (Placer County 1998) and Applegate Wastewater Treatment System Feasibility Analysis of Sewage Disposal Options (Placer County 2001). The alternatives and their features are organized by discharge type and summarized below.

Land Disposal

Percolation and Evaporation Ponds with Irrigation

The County investigated the feasibility of increasing the volume of the percolation and evaporation ponds and adding an irrigation system as a method to meet the discharge requirements. Wet weather wastewater flows, combined with rain falling directly into the ponds and slow percolation and evaporation, exceed the capacity of the existing WWTPs to store and dispose of wastewater. This alternative would deepen the existing ponds, construct one additional pond, and add an irrigation spray field. Because of shallow groundwater or rocky, difficult to remove soil beneath the existing ponds, it was assumed that the ponds could only be deepened through augmentation of the levees. Pond surface area would decrease to allow taller, sloped levees. A previous feasibility study estimated that 5 feet of height would need to be added to the existing pond levees in conjunction with the addition of a 2.3-acre pond to provide the necessary storage. The new pond would need to have a total depth of 8 feet to allow a usable depth of 6 feet. The County would also have to construct a 2-acre irrigation spray field to dispose of treated wastewater. The study concluded that seasonal operation from May 15 to October 15 would be sufficient to dispose of the surplus treated wastewater via spray irrigation.

This alternative would require the lease or purchase of additional land. The surrounding land use is primarily large 2- to 7-acre residential/agriculture lots. Property identified in the original 1998 study as the probable WWTP expansion site has since been developed. Clipper Creek bisects a secondary property leaving it with insufficient irrigation area. Expansion of the Applegate WWTP in the direction of existing homes or development may be against the desire of the community served.

Construction difficulties would also likely hinder the project completion. It may be difficult or infeasible to excavate to the specified new pond depth. Augmentation of the existing pond levees would require importation of fill material. Truck transport of fill material to the existing WWTP site is difficult because of the steeply graded gravel road that parallels active railroad tracks. The railroad owner has limited large truck access in the past.

The existing WWTP is both adjacent to Clipper Creek and situated in a high groundwater level area. While Clipper Creek has not inundated the pond area, groundwater has inundated the lowest pond. The 1998 study documented Pond 3 as typically containing 2 feet of standing groundwater at the end of a dry season. The County has installed three monitoring wells on site to monitor groundwater quality.

Subsurface Disposal

The County investigated two other alternatives that would involve the infiltration of treated wastewater into the soil. Poorly draining soils and smaller lot sizes prohibit 23 of the 26 Applegate County Service Area landowners from using this method of wastewater treatment and disposal individually on their lots. The County investigated options to dispose of treated wastewater as a community, including the following alternatives.

Community Septic Tank and Leach Field

This alternative would abandon the existing ponds and construct a community septic tank and subsurface disposal system on a new parcel of land. It would require the construction of a new force main and lift station or gravity system to connect the existing collection system to a new community septic tank. The design of the large septic tank would accommodate peak wet weather flow of 20,000 gallons per day, with 2.5 days of storage. Such a tank would be approximately 40 square feet with a 5-foot depth. The County would be required to construct a recirculating sand filter or packed-bed filter system and a subsurface disposal area.

The existing Applegate WWTP site cannot be used as a leach field because of the underlying bedrock and because the Applegate WWTP has to remain in use until a new subsurface disposal area is constructed. The County considered four other properties as candidates for the new facilities. The chosen property would need a sufficient buffer from neighboring homes, private domestic wells, and other sensitive receptors, and be capable of infiltrating wastewater at the design flow rate.

As stated above, some areas of the Applegate WWTP have high groundwater levels. The County would need to select a property with lower groundwater levels. Groundwater monitoring wells would likely need to be installed onsite. Placer County discontinued investigation of this alternative because of the anticipated difficulty in acquiring a suitable parcel for construction of the leach field.

Individual Septic Tank and Leach Fields

This alternative would construct individual septic tanks and leach fields for each individually served parcel. Because only 3 of the 28 parcels in the County Service Area have adequate area for on-site disposal, this alternative was not pursued further.

Surface Water Discharge

The following alternatives would include the treatment of wastewater and subsequent discharge to Clipper Creek. Alternatives for surface water discharge share some potential challenges, including securing and meeting the requirements of a surface water discharge permit. Because the discharge combines with the surface water and flows downstream, the permit administrator considers it available for public recreation and drinking water uses. Constituents such as metals, pesticides, pharmaceuticals, and disinfection byproducts in the treated wastewater become a concern and are now regulated by the National Toxics Rule (NTR) and California Toxics Rule (CTR). Disinfecting effluent with ultraviolet light instead of chlorine averts the creation of disinfection byproducts but carries a substantially higher cost. The wastewater treatment process is not designed to substantially remove or disable the other NTR or CTR constituents. It should be noted that this is also true for all municipal wastewater treatment alternatives. Nevertheless, surface water discharges are often required to limit and reduce the discharge of such constituents. With a small service population, the unit cost of wastewater treatment can become too expensive. The County seeks a project that will meet the discharge requirements while reducing the per capita operating costs. As such, the following alternatives for surface water discharge were investigated, but not selected as feasible alternative.

Percolation and Evaporation Ponds

This alternative would make improvements to the existing pond treatment system to enable discharging treated, disinfected effluent only when the receiving water is able to dilute the discharge by at least a 20:1 ratio. A higher capacity electrical service would be required for greater control of disinfection, dechlorination, and discharge quantities. Improvements to the existing Applegate WWTP site would include constructing a weir in Clipper Creek, installing a small effluent pump station, providing new chlorination controls and a dechlorination tank, and providing an outlet structure for Pond 2.

This alternative is based on the assumption that the County could obtain a permit to discharge to Clipper Creek with a flow-dependent effluent limitation. Some other small WWTPs in the area have effluent limitations that allow higher turbidity, total coliform and/or total dissolved solids discharge concentrations during periods where the receiving water is able to dilute the discharge by at least a 20:1 ratio. The County investigated the feasibility of meeting such discharge limitations in December 2000 and concluded that, with chlorination system improvements, discharges from the Applegate WWTP would not adversely affect downstream beneficial uses of the receiving waters. Another key conclusion was that the effluent is not expected to cause toxicity to aquatic life in the receiving water, based on the April 2001 three-species chronic bioassay results (Placer County 2001).

Feasibility of this alternative is contingent on other discharge and construction limitations. The applicable effluent coliform bacteria limitations would need to remain at a limit of 23 most probable number daily maximum per 100 milliliters. The County did not pursue this alternative further because of the unlikelihood that the contingent limitations would be satisfied.

Packaged Equipment with Ponds

This alternative would purchase and install a packaged treatment system capable of meeting surface water discharge requirements. More stringent discharge regulations, increased construction costs, and escalating land prices have made packaged wastewater treatment systems more competitive with conventional, concrete structured mechanical treatment systems. Because this option has only recently become feasible, it has not been fully investigated.

A membrane bioreactor packaged treatment system is capable of completely bypassing the existing wastewater treatment ponds with the addition of a sludge storage tank. It includes screening, a membrane bioreactor, and disinfection. To lower capital costs, the County could attenuate wastewater inflow in one of the existing ponds, and store sludge in another existing pond. A community in Yuba County with a service population of approximately double that of Applegate is currently replacing their WWTP with a membrane bioreactor

Potential challenges to this alternative include securing and meeting the requirements of a surface water discharge permit as discussed generally above. While it is likely that the surface water discharge permit would be obtained relatively easily because of the high-quality effluent, the membrane bioreactor process carries the same treatment limitations mentioned above for NTR or CTR constituents. The County has not investigated this alternative further because of its high unit wastewater treatment cost.

Chapter 3

Environmental Setting, Environmental Consequences, and Proposed Mitigation

3.0 Introduction

Chapter 3 presents a discussion of the environmental setting and the environmental consequences of implementing the alternatives considered for the Applegate Regional Sewer Pipeline Project (Proposed Project). The environmental analysis includes consideration of cumulative and growth-inducing impacts and other topics presented in satisfaction of the National Environmental Policy Act (NEPA). These additional analyses include potential socioeconomic effects and environmental justice issues. Chapter 3 also includes a description of mitigation measures recommended to address the environmental impacts that have been determined to be significant.

The introductory section to this chapter includes a description of the scope of this Environmental Information Document (EID) analysis; a description of the project area; a summary of the project alternatives; a discussion of other required elements, including areas of potential controversy, irreversible/irretrievable commitment of resources, short-term uses and long-term productivity; a summary of the environmental impacts of the project alternatives; and identification and discussion of the environmentally superior alternative.

3.0.1 Scope of Analysis

As discussed in the Initial Study–Notice of Preparation (IS-NOP) for the Proposed Project (ICF Jones & Stokes 2008a) or determined through the analysis presented in this EID, the following resources have the potential to be significantly affected by the project alternatives:

- Air Quality
- Biological Resources
- Cultural Resources
- Hydrology and Water Quality
- Land Use

- Noise and Vibration
- Public Health and Safety
- Transportation and Traffic
- Utilities and Service Systems

Based on the analysis presented in the IS-NOP, the remaining environmental resources were determined not to have the potential to be significantly affected by the project alternatives either because the impacts were minor or because implementation of the environmental commitments described in Chapter 2, Project Alternatives, would reduce any potential impacts to less than significant. Therefore, the scope of this EID includes the analysis of the environmental resources described above.

3.0.2 Project Alternatives

Project Area

The project area is located approximately 8 miles northeast of Auburn, on the south side of Interstate 80 (I-80) and includes the site of the Applegate Wastewater Treatment Plant (WWTP) and the proposed pipeline alignments (Figure 1-1).

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pumps Station(s)

Alternative 1 involves constructing a new pipeline, potentially replacing portions of the existing collection system, constructing up to two new pump station facilities, and decommissioning the Applegate WWTP. The proposed new pipeline alignment and potential pipeline replacement is shown in Figure 2-1.

Although the proposed pipeline, pipeline replacement, and pump station(s) would be sized to accommodate additional flows (438 equivalent dwelling units [EDUs]) in addition to Applegate's existing demand (54 EDUs), Alternative 1 would not provide for future growth in the area. This is because the pipeline replacement would only include those segments that need to be replaced to accommodate the existing 54 EDUs; additional pipe replacement would be required to accommodate any additional flows. In addition, although the pump station(s) would be sized to house additional storage and septic tank effluent pumping (STEP) tanks, only one storage and one STEP tank would be constructed to accommodate Applegate's existing demand; the pump stations would need to be expanded to accommodate flows beyond existing demand (54 EDUs).

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Similar to Alternative 1, under Alternative 2, the County would also construct a new pipeline to connect to the existing collection system, potentially replace portions of the existing collection system, construct up to two new lift stations, and decommission the Applegate WWTP. However, under Alternative 2, the new pipeline would be smaller, sized only to accommodate the existing Applegate wastewater demand (54 EDUs). Similarly, the pipe replacement (which includes only those pipeline segments that need to be upsized to accommodate existing Applegate flows), would also only be sized to accommodate those existing demand (54 EDUs). In addition, the pump station(s) would be smaller in size and components, resulting in a smaller physical footprint.

Alternative 3 – No Project/No Action Alternative

Under Alternative 3, the Applegate WWTP would not be decommissioned and the proposed pump stations and pipeline would not be constructed. However, treatment of wastewater using the evaporation and percolation ponds could not continue due to the risk of discharge of treated and disinfected effluent to the local watercourses. Under this option, Placer County (County) would be forced to continue to collect all wastewater before it reaches the Applegate WWTP and convey it by tanker to an alternative treatment facility during wet weather. Fines and other enforcement actions would follow for failure to comply with the terms of the administrative civil liability settlement.

3.0.3 Irreversible/Irretrievable Commitment of Resources

Construction materials, including concrete, gravel, and other rock and earthen materials, would be irretrievably committed toward the construction of the facilities needed for implementation of Alternatives 1 and 2. Most of these materials would be imported to the site from nearby commercial sources, which have been subject to separate environmental review before they could extract and process such materials for construction use. Soil materials taken from nearby sites and used as fill would be irretrievably committed to construction. To the extent possible, soils from on-site would be used as needed.

With the exception of the small land areas that would be used for the pump station facilities, the remaining construction work would include demolition or abandonment of existing structures or underground construction. There would be no substantial commitment of land resources to an irreversible or irretrievable use.

3.0.4 Relationship Between Short-Term Uses and Long-Term Productivity of the Environment

Pursuant to the NEPA regulations (40 Code of Federal Regulations [CFR] 1502.16), environmental analysis must consider the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. Because this document will be considered by the U.S. Environmental Protection Agency (EPA) pursuant to completion of NEPA, a discussion of the relationship between short-term uses and long-term productivity is presented below.

Alternatives 1 and 2 represent a long-term solution to address current wastewater treatment problems in the Applegate area and to satisfy the requirements of the Settlement Agreement with the Central Valley Regional Water Quality Control Board (CVRWQCB). The long-term modifications associated with decommissioning the WWTP and constructing the pump stations and pipeline would result in beneficial impacts for water quality, public health and safety, and socioeconomics. Water quality and public health benefits are related to removing the potential for wastewater to overflow the treatment ponds during high flow events. Socioeconomic benefits would occur as a result of providing opportunities to take advantage of economies of scale as wastewater is conveyed to a larger, more efficient WWTP.

These beneficial outcomes would require short-term uses of the environment, including some increased construction traffic and short-term increases in noise and air quality impacts associated with construction. There would also be some short-term impacts associated with the disturbance of wildlife habitat as a result of constructing the pipeline and pump station facilities and restoring contours at the treatment ponds under all the action alternatives. However, potentially significant short-term impacts would be reduced to less-than-significant levels through the incorporation of mitigation and would be more than offset by the long-term benefits described above. In addition, these short-term uses would not occur at the expense of long-term productivity of the environment.

Implementation of Alternative 3 would not result in any of the short-term impacts on the environment associated with construction. However, none of the long-term benefits would be realized and the improvements in the long-term productivity of the wastewater treatment system would not occur.

3.0.5 Summary of Impacts

A summary of the environmental impacts associated with the project alternatives is presented in Table 3-1.

Table 3-1. Summary of Impacts and Mitigation Measures

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
AIR QUALITY							
AQ -1. Exceed PCAPCD Thresholds (construction)	LTS	LTS	NI		N/A	N/A	N/A
AQ -1. Exceed PCAPCD Thresholds (operation)	BE	BE	NI		N/A	N/A	N/A
AQ-2. Expose Asbestos during Construction	SIG	SIG	NI	AQ-1: Implement Asbestos Dust Mitigation during Construction Activities	LTS	LTS	N/A
AQ-3. Exceed Federal *de Minimis* Thresholds during Construction	LTS	LTS	NI		N/A	N/A	N/A
AQ -4. Elevate Health Risk by Exposing Nearby Sensitive Receptors to Diesel Particulate Matter during Construction	LTS	LTS	NI		N/A	N/A	N/A
AQ-5. Increase Greenhouse Gas Contaminant Emissions (construction)	SIG	SIG	NI	AQ-2: Implement Best Management Practices to Reduce Construction Tailpipe Emissions	LTS	LTS	N/A
AQ-5. Increase Greenhouse Gas Contaminant Emissions (operation)	BE	BE	NI		N/A	N/A	N/A

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
BIOLOGICAL RESOURCES							
BIO-1. Cause the Loss of Special-Status Plant Populations	SIG	SIG	NI	BIO-1: Survey for Special-Status Plant Species Prior to Construction	LTS	LTS	N/A
				BIO-2: Avoid or Minimize Impacts on Sensitive Biological Resources			
				BIO-3: Compensate for Direct Impacts on Special-Status Plants			
BIO-2. Cause the Loss or Disturbance of Wetlands and Other Waters of the United States	SIG	SIG	NI	BIO-4: Compensate for Loss or Disturbance of Wetlands and Other Waters	LTS	LTS	N/A
BIO-3. Cause the Loss or Disturbance of Riparian Vegetation	SIG	SIG	NI	BIO-5: Compensate for the Loss or Disturbance of Riparian Vegetation	LTS	LTS	N/A
BIO-4. Disturb or Remove Protected Trees	SIG	SIG	NI	BIO-6: Conduct a Tree Survey	LTS	LTS	N/A
				BIO-7: Compensate for the Loss of Protected Trees			
BIO-5. Affect the California Red-Legged Frog	SIG	SIG	NI	BIO-8: Conduct Mandatory Contractor Training for the Protection of the California Red-Legged Frog	LTS	LTS	N/A
				BIO-9: Avoid and Minimize Effects on California Red-Legged Frog during Construction			
				BIO-10: Restore Disturbed Areas to Pre-Project Conditions			
BIO-6. Affect the Foothill Yellow-Legged Frog	SIG	SIG	NI	BIO-11: Avoid and Minimize Construction-Related Impacts on Foothill Yellow-Legged Frog	LTS	LTS	N/A

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
BIO-7. Affect the Western Pond Turtle	SIG	SIG	NI	BIO-12: Avoid and Minimize Construction-Related Impacts on Western Pond Turtle.	LTS	LTS	N/A
BIO-8. Affect Nesting Migratory Birds	SIG	SIG	NI	BIO-13: Conduct Tree and Shrub Removal Activities during the Non-Breeding Season for Migratory Birds and Raptors, and Survey and Avoid Nesting Sites during Tree and Shrub Trimming BIO-14: Survey and Avoid Nesting Sites during Pipeline Construction BIO-15: Conduct Surveys for Nesting Birds and Raptors Prior to any Blasting	LTS	LTS	N/A
CULTURAL RESOURCES							
CR-1. Disturb Unknown Cultural Resources, Paleontological Resources, or Human Remains	SIG	SIG	NI	CR-1: Stop Work and Implement Appropriate Measures	LTS	LTS	N/A

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
HYDROLOGY AND WATER QUALITY							
WQ-1. Violate Water Quality Standards (construction)	LTS	LTS	NI	WQ-1: Ensure Adequacy of NPDES Permit Provisions for Dewatering and Implement Provisions	LTS	LTS	N/A
WQ-1. Violate Water Quality Standards (operation)	LTS	LTS	SIG		LTS	LTS	SU
WQ-2. Increase Erosion as a Result of Altering Drainage Patterns	LTS	LTS	NI		N/A	N/A	N/A
WQ-3. Exceed Stormwater Capacity	NI	NI	SIG		N/A	N/A	SU
WQ-4. Increase the Risk of Flooding Hazard	LTS	LTS	LTS		N/A	N/A	N/A
WQ-5: Increase the Risk of Mudflow	LTS	LTS	NI		N/A	N/A	N/A
LAND USE							
LU-1. Divide an Established Community	NI	NI	NI		N/A	N/A	N/A
LU-2. Conflict with an Applicable Land Use Plan, Policy, or Regulation	NI	NI	NI		N/A	N/A	N/A

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
NOISE AND VIBRATION							
NOI-1. Expose Noise-Sensitive Receptors to Construction Noise other than Blasting	SIG	SIG	NI	NOI-1: Employ Noise-Reducing Construction Practices to Comply with the Placer County Noise Ordinance NOI-2: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program NOI-3: Limit Truck Hauling Activities to Daytime Hours	LTS	LTS	N/A
NOI-2. Expose Noise Sensitive Receptors to Construction Vibration other than Blasting	LTS	LTS	NI		N/A	N/A	N/A
NOI-3. Expose Noise-Sensitive Receptors to Blasting Noise and Vibration	SIG	SIG	NI	NOI-2: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program	LTS	LTS	N/A
NOI-4. Expose Noise-Sensitive Receptors to Operational Noise	SIG	SIG	NI	NOI-4: Employ Noise-Reducing Design Measures at the New Pump Station Site	LTS	LTS	N/A
PUBLIC HEALTH AND SAFETY							
PH-1. Release Hazardous Materials (construction)	LTS	LTS	NI		N/A	N/A	N/A
PH-1. Release Hazardous Materials (operation)	LTS	LTS	LTS		N/A	N/A	N/A
PH-2. Increase the Risk of Wildland Fires (construction)	LTS	LTS	NI		N/A	N/A	N/A
PH-2. Increase the Risk of Wildland Fires (operation)	NI	NI	NI		N/A	N/A	N/A

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
TRANSPORTATION AND TRAFFIC							
TRF-1. Degrade Level of Service below Acceptable Thresholds (construction)	LTS	LTS	NI		N/A	N/A	N/A
TRF-1. Degrade Level of Service below Acceptable Thresholds (operation)	BE	BE	NI		N/A	N/A	N/A
TRF-2. Increase Traffic Hazards (construction)	LTS	LTS	NI		N/A	N/A	N/A
TRF-2. Increase Traffic Hazards (operation)	NI	NI	NI		N/A	N/A	N/A
TRF-3. Conflict with Emergency Access (construction)	LTS	LTS	NI		N/A	N/A	N/A
TRF-3. Conflict with Emergency Access (operation)	NI	NI	NI		N/A	N/A	N/A
TRF-4. Obstruct Train Service	NI	NI	NI		N/A	N/A	N/A
UTILITIES AND SERVICE SYSTEMS							
UTL-1. Exceed Wastewater Treatment Requirements	LTS	LTS	SIG		N/A	N/A	SU
UTL-2. Result in Construction of New or Expanded Facilities with Significant Environmental Impacts	SIG	SIG	NI	All measures listed above.	LTS	LTS	N/A
UTL-3. Exceed Wastewater Treatment Capacity	NI	NI	SIG		N/A	N/A	SU
UTL-4. Require New or Expanded Water Supply Entitlements	LTS	LTS	NI		N/A	N/A	N/A

Impact	Finding			Mitigation Measure	Finding with Mitigation Considered		
	Alt 1	Alt 2	Alt 3		Alt 1	Alt 2	Alt 3
GROWTH-INDUCING IMPACTS							
GI-1. Remove an Obstacle to Growth	NI	NI	NI		N/A	N/A	N/A
SOCIOECONOMICS							
SOC-1. Affect the Local Economy (construction)	BE	BE	NI		N/A	N/A	N/A
SOC-1. Affect the Local Economy (operation)	BE	BE	LTS		N/A	N/A	N/A
ENVIRONMENTAL JUSTICE							
EJ-1. Disproportionately Affect Environmental Justice Populations	LTS	LTS	LTS		N/A	N/A	N/A
CUMULATIVE IMPACTS							
CUME-1. Result in a Cumulatively Significant Increase in Wastewater Discharge	NI	NI	SIG		N/A	N/A	SU

Notes: N/A – not applicable

LTS – less than significant

NI – no impact

SIG – significant

SU – significant and unavoidable

BE – beneficial

Significant and Unavoidable Impacts

As discussed in greater detail in individual resource sections of Chapter 3, Alternative 3 would result in some significant and unavoidable impacts. These are summarized below.

- Hydrology and Water Quality WQ-1. Violate Water Quality Standards
- Hydrology and Water Quality WQ-3. Exceed Stormwater Capacity
- Utilities and Service Systems UTL-1. Exceed Wastewater Treatment Requirements
- Utilities and Service Systems UTL-3. Exceed Wastewater Treatment Capacity
- Cumulative CUME-1: Result in a Cumulatively Significant Increase in Wastewater Discharge

3.0.6 Environmentally Superior Alternative

Under the State CEQA Guidelines, Section 15126.6, a Draft EIR must identify an "environmentally superior alternative." In the event that the environmentally superior alternative is the no-project alternative, a second environmentally superior alternative must be identified.

The preceding summary of impacts indicates that each of the alternatives, including Alternative 3 (No Project/No Action), has environmental advantages and disadvantages. Based on the analysis provided in this document, the County has determined that the environmentally superior alternative would be Alternative 2.

Although implementation of Alternative 2 would result in impacts associated with construction and operation as presented in this analysis and summarized above, all impacts would either be less than significant or reduced to less-than-significant levels through the incorporation of the recommended mitigation measures. All impacts associated with Alternative 1 would be the same as those under Alternative 2 with the exception that Alternative 1 would result in slightly greater impacts on wetlands. Alternative 1 is not the environmentally superior alternative for this reason.

Although Alternative 3, the No Project/No Action Alternative, would not result in any of the construction-related impacts, it is not deemed to be the environmentally superior alternative because of the potential for significant and unavoidable water quality impacts. Although the County would continue to haul wastewater away from the Applegate WWTP during the winter months, there is a potential that high flow events could result in pond overflow and runoff entering

area surface waters. Furthermore, this alternative would result in the potential for violation of the WWTP's Waste Discharge Requirements (WDRs) and could result in fines and enforcement actions for the County, representing increased costs that would be passed to service users.

Although it is not considered the environmentally superior alternative, the County has chosen to implement Alternative 1. This is because Alternative 1 would meet the objective to comply with the terms of the Settlement Agreement. The increased wastewater treatment capacity that would be provided by allowing individuals to connect to the future pipeline would result in financial efficiencies associated with economies of scale, and would provide future benefits to the public and the County in terms of protecting water quality and providing economic wastewater treatment.

3.1 Air Quality

3.1.1 Introduction

This section describes the existing environmental and regulatory setting for air quality, the impacts on air quality that would result from the Proposed Project, and the mitigation measures that would reduce these impacts.

3.1.2 Affected Environment

The project area is located in the portion of Placer County that lies within the Sacramento Valley Air Basin (SVAB). The Placer County Air Pollution Control District (PCAPCD) manages air quality within this portion of the County. PCAPCD has jurisdiction over air quality issues within the County and administers air quality regulations developed at the federal, state, and local levels.

Regional Climate and Meteorology

The SVAB consists of Placer County and ten other counties – Shasta, Tehama, Colusa, Yolo, East Solano, Butte, Yuba, Sutter, Glenn, and Sacramento.

The primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted from those sources. Meteorological and topographical conditions are also important factors. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants.

The SVAB is ringed by tall mountains: Coast Range to the west, Cascade Range to the north, and Sierra Nevada to the east. Winters are wet and cool, while summers are hot and dry.

Pollutant transport into the basin is important, but on smoggy summer days, air pollution emissions from within the basin are dominant. Only the south border area receives air pollution inflow, transported from the San Francisco Bay Area or San Joaquin Valley air basins. On many summer days a delta breeze blows in from the ocean through the Carquinez Strait, toward Sacramento. These winds can transport air pollution from the Bay Area to the Sacramento air basin.

The delta breeze turns northward and moves Sacramento's air pollution up toward the north end of the Sacramento Valley and to the east into the Sierra Nevada foothills.

Criteria Pollutants

The federal and state governments have established ambient air quality standards for the following six criteria pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (particulate matter smaller than 10 microns or less in diameter [PM10] and particulate matter smaller than 2.5 microns or less in diameter [PM2.5]), and lead. Ozone, NO_2, and particulate matter are generally considered to be regional pollutants, as these pollutants or their precursors affect air quality on a regional scale. Pollutants such as CO, SO_2, lead, and particulate matter are considered to be local pollutants that tend to accumulate in the air locally. Particulate matter is considered to be a localized pollutant as well as a regional pollutant. Within the project area, ozone, PM10, and PM2.5 are considered pollutants of concern. Toxic air contaminants (TACs) are also discussed below, although no state or federal ambient air quality standards exist for these pollutants. Brief descriptions of these pollutants are provided below, while a complete summary of California ambient air quality standards (CAAQS) and national ambient air quality standards (NAAQS) is provided in Table 3.1-1.

Ozone

Ozone is a respiratory irritant that increases susceptibility to respiratory infections. It is also an oxidant that can cause substantial damage to vegetation and other materials. Ozone is a severe eye, nose, and throat irritant. Ozone also attacks synthetic rubber, textiles, plants, and other materials. Ozone cause causes extensive damage to plants by leaf discoloration and cell damage.

Ozone is not emitted directly into the air, but is formed by a photochemical reaction in the atmosphere. Ozone precursors—reactive organic gases (ROG) and oxides of nitrogen (NO_X)—react in the atmosphere in the presence of sunlight to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. The ozone precursors, ROG and NO_X, are mainly emitted by mobile sources and by stationary combustion equipment.

Carbon Monoxide

CO is essentially inert to plants and materials but can have significant effects on human health. CO is a public health concern because it combines readily with hemoglobin and reduces the amount of oxygen transported in the bloodstream. CO can cause health problems such as fatigue, headache, confusion, dizziness, and even death.

Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

Table 3.1-1. Ambient Air Quality Standards Applicable in California

			Standard (parts per million)		Standard (micrograms per cubic meter)		Violation Criteria	
Pollutant	**Symbol**	**Average Time**	**California**	**National**	**California**	**National**	**California**	**National**
Ozone	O_3	1 hour	0.09	N/A	180	N/A	If exceeded	N/A
		8 hours	0.070	0.075	137	147	If exceeded	If fourth highest 8-hour concentration in a year, averaged over 3 years, is exceeded at each monitor within an area
Carbon monoxide (Lake Tahoe only)	CO	8 hours	9.0	9	10,000	10,000	If exceeded	If exceeded on more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded on more than 1 day per year
		8 hours	6	N/A	7,000	N/A	If equaled or exceeded	N/A
Nitrogen dioxide	NO_2	Annual arithmetic mean	0.030	0.053	57	100	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.18	0.100	339	N/A	If exceeded	N/A
Sulfur dioxide	SO_2	Annual arithmetic mean	NA	0.030	NA	80	NA	If exceeded
		24 hours	0.04	75	105	196	If exceeded	If exceeded on more than 1 day per year
		3 hours	N/A	0.5	N/A	1300	If exceeded	
		1 hour	0.25	N/A	655	N/A	If exceeded	N/A
Hydrogen sulfide	H_2S	1 hour	0.03	N/A	42	N/A	If equaled or exceeded	N/A
Vinyl chloride	C_2H_3Cl	24 hours	0.01	N/A	26	N/A	If equaled or exceeded	N/A

Pollutant	Symbol	Average Time	Standard (parts per million)		Standard (micrograms per cubic meter)		Violation Criteria	
			California	National	California	National	California	National
Inhalable particulate matter	PM10	Annual arithmetic mean	N/A	N/A	20	N/A	If exceeded	If exceeded at each monitor within area
		24 hours	N/A	N/A	50	150	If exceeded	If exceeded on more than 1 day per year
	PM2.5	Annual arithmetic mean	N/A	N/A	12	15	If exceeded	If 3-year average from single or multiple community-oriented monitors is exceeded
		24 hours	N/A	N/A	N/A	35	NA	If 3-year average of 98th percentile at each population-oriented monitor within an area is exceeded
Sulfate particles	SO_4	24 hours	N/A	N/A	25	N/A	If equaled or exceeded	NA
Lead particles	Pb	Calendar quarter	N/A	N/A	N/A	1.5	NA	If exceeded no more than 1 day per year
		30-day average	N/A	N/A	1.5	N/A	If equaled or exceeded	N/A
		Rolling 3-month average	N/A	N/A	N/A	0.15	If equaled or exceeded	Averaged over a rolling 3-month period

Source: California Air Resources Board 2010.

Notes: N/A = not applicable.

All standards are based on measurements at 25ºC and 1 atmosphere pressure; national standards shown are the primary (health effects) standards

Data also indicate that CO concentrations do not approach the state standards; however, CO concentrations in the vicinity of congested intersections and freeways would be expected to be higher than those recorded at the monitoring station. CO concentrations are expected to continue to decline in the SVAB because of existing controls and programs and the continued retirement of older, more polluting vehicles.

Inhalable Particulates

Inhalable particulates can damage human health and retard plant growth. Health concerns associated with suspended particulate matter focus on those particles small enough to reach the lungs when inhaled. Particulates also reduce visibility and corrode materials. Particulate emissions are generated by a wide variety of sources, including agricultural activities, industrial emissions, dust suspended by vehicle traffic and construction equipment, and secondary aerosols formed by reactions in the atmosphere.

Toxic Air Contaminants

TACs are pollutants that may be expected to result in an increase in mortality or serious illness or which may pose a present or potential hazard to human health. Health effects include cancer, birth defects, neurological damage, damage to the body's natural defense system, and diseases which lead to death. Although ambient air quality standards exist for criteria pollutants, no standards exist for TACs.

Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, the California Air Resources Board (CARB) has consistently found that there are no levels or thresholds below which exposure is risk-free. Individual TACs vary greatly in the risk they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health risks, a similar factor called a hazard index is used to evaluate risk. In the early 1980s, CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. The TAC of most concern with regards to the Proposed Project is diesel exhaust particulate matter, which was identified by CARB as a TAC in October 2000.

Asbestos

Asbestos is of special concern in Placer County because it occurs naturally in surface deposits of several types of ultramafic rocks (rocks that contain high concentrations of magnesium, iron and a very small amount of silica). Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading and excavating activities, and surface mining.

Greenhouse Gases, Climate Change and Global Warming

Global climate change is a problem caused by combined worldwide greenhouse gas (GHG) emissions, and mitigating global climate change will require worldwide solutions. Combined gases in Earth's atmosphere, called atmospheric GHGs, play a critical role in Earth's radiation budget by trapping infrared radiation emitted from Earth's surface, which could have otherwise escaped into space. This phenomenon, known as the greenhouse effect, keeps Earth's atmosphere near the surface warmer than it would be otherwise and allows for successful habitation by humans and other forms of life. Increases in these gases lead to more absorption of radiation and further warm the lower atmosphere, thereby increasing evaporation rates and temperatures near the surface. Emissions of the GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and to contribute to what is termed global warming, a trend of unnatural warming of natural Earth's climate.

Naturally occurring GHGs include water vapor, carbon dioxide (CO_2), methane, nitrous oxide (N_2O), ozone, and certain fluorocarbons. Certain human activities, however, add to the levels of most of these naturally occurring gases. CO_2 is released to the atmosphere when solid waste, fossil fuels (oil, natural gas, and coal), and wood and wood products are burned. N_2O is emitted during agricultural and industrial activities, as well as during combustion of solid waste and fossil fuels. CO_2 and N_2O are the two GHGs released in the greatest quantities from mobile sources burning gasoline and diesel fuel. Because of the relatively long life of primary GHGs in the atmosphere, which results in the accumulation over time and well-mixing of these gases in the atmosphere, their impact on the atmosphere is mostly independent of the point of emission.

Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors) and TACs, which are pollutants of regional and local concern. Worldwide, California is the 12th to 16th largest emitter of CO_2 (California Energy Commission 2006), and is responsible for approximately 2% of the world's CO_2 emissions (California Energy Commission 2006).

The Intergovernmental Panel on Climate Change (IPCC) has been established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socio-economic information relevant to the understanding of climate change, its potential impacts, and options

for adaptation and mitigation. IPCC predicts substantial increases in temperatures globally of between 1.1 to 6.4° Celsius (depending on scenario) (Intergovernmental Panel on Climate Change 2007). This may affect the natural environment in California in the following ways, among others:

- rising sea levels along the California coastline, particularly in San Francisco and the San Joaquin Delta due to ocean expansion;
- extreme heat conditions, such as heat waves and very high temperatures, which could last longer and become more frequent;
- an increase in heat-related human deaths, infection diseases, and a higher risk of respiratory problems caused by deteriorating air quality;
- reduced snow pack and stream flow in the Sierra Nevada, affecting winter recreation and water supplies;
- potential increase in the severity of winter storms, affecting peak stream flows and flooding;
- changes in growing season conditions that could affect California agriculture, causing variations in crop quality and yield; and/or
- changes in distribution of plant and wildlife species due to changes in temperature, competition from colonizing species, changes in hydrologic cycles, changes in sea levels, and other climate-related effects.

These changes in California's climate and ecosystems are occurring at a time when California's population is expected to increase from 34 million to 59 million by the year 2040 (California Energy Commission 2005). As such, the number of people potentially affected by climate change, as well as the amount of anthropogenic GHG emissions expected under a "business as usual" scenario, is expected to increase. Similar changes as those noted above for California would also occur in other parts of the world, with regional variations in resources affected and vulnerability to adverse effects.

GHG emissions in California are attributable to human activities associated with industry and manufacturing, utilities, transportation, residential, and agricultural sectors (California Energy Commission 2010) as well as natural processes. Transportation is responsible for36.5% of the state's GHG emissions, followed by electricity generation (24.4%), the industrial sector (19.4%), agriculture (28.1%), residential and commercial fuel (14.3%), and other sources (10.8%) (California Energy Commission 2010). Emissions of CO_2 and N_2O are byproducts of fossil fuel combustion, among other sources. Methane, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills, among other sources. Sinks of CO_2 include uptake by vegetation and dissolution into the ocean.

PCAPCD has not yet established significance thresholds or guidance for evaluating impacts associated with greenhouse gas emissions and their contribution to climate change. In place of this, emissions were compared with completed GHG emissions inventories to provide context for estimated emission levels.

Attainment Status

EPA has classified Placer County as a serious nonattainment area for the 8-hour ozone standard. For the CO standard, EPA has classified the County as a moderate (≤ 12.7 parts per million [ppm]) maintenance area. EPA has classified the County as an unclassified/attainment area for the PM10 and PM2.5 standards.

CARB has classified Placer County as a nonattainment area for the 1-hour ozone standard. For the CO standard, CARB has classified the County as an attainment area. CARB has classified the County as a nonattainment area for the PM10 standard and unclassified for the PM2.5 standard.

Placer County attainment status for federal and state ambient air quality standards are presented in Table 3.1-2.

Table 3.1-2. 2006 Placer County Attainment Status for State and Federal Standards

Pollutant	State Status	Federal Status
8-hour ozone	Nonattainment for the western portion of Placer County	Serious nonattainment for the western portion of Placer County
PM10	Nonattainment	Attainment/unclassified
PM2.5	Unclassified	Nonattainment
CO	Unclassified/attainment	Moderate/maintenance

Sources: U.S. Environmental Protection Agency 2009, California Air Resources Board 2009.

Monitoring Data

The existing air quality conditions in the project area can be characterized by monitoring data collected in the region. Ozone, CO, PM10, and PM2.5 concentrations are measured at local monitoring stations. These are the pollutants of greatest concentration within the PCAPCD and are the pollutants of most concern from the Proposed Project. The closest monitoring station that measures all these pollutants is located in Roseville on North Sunrise Boulevard. Additional monitoring is performed at the Auburn Dewitt-C station. Air quality monitoring data for the last three years are presented in Table 3.1-3.

Table 3.1-3 indicates that ozone concentrations periodically exceeded state standards for 1-hour ozone, and national standards for 8-hour ozone. PM10 and PM2.5 occasionally exceeded state standards during this period.

Table 3.1-3. Ambient Air Quality Monitoring Data (2007–2009) Measured at the Auburn Dewitt-C Avenue and Roseville North Sunrise Monitoring Stations

Pollutant Standards	2007	2008	2009
Ozone (Auburn Dewitt-C Avenue)			
Maximum 1-hour concentration (ppm)	0.097	0.124	0.108
Maximum 8-hour concentration (ppm)	0.081	0.112	0.090
Number of days standard exceeded[a]			
NAAQS 1-hour (>0.12 ppm)	0	0	0
CAAQS 1-hour (>0.09 ppm)	1	14	5
NAAQS 8-hour (>0.08 ppm)	9	21	14
Carbon Monoxide (CO) (No monitoring in Placer County)			
Maximum 8-hour concentration (ppm)	–	–	–
Number of days standard exceeded[a]			
NAAQS 8-hour (≥9.0 ppm)	0	0	0
CAAQS 8-hour (≥9.0 ppm)	0	0	0
Particulate Matter (PM10)b (Roseville/N Sunrise)			
National[c] maximum 24-hour concentration (μg/m^3)	43.0	74.2	33.5
National[c] second-highest 24-hour concentration (μg/m^3)	35.7	40.8	29.9
State[d] maximum 24-hour concentration (μg/m^3)	45.0	73.9	33.6
State[d] second-highest 24-hour concentration (μg/m^3)	38.0	41.8	30.6
National annual average concentration (μg/m^3)	17.0	22.4	–
State annual average concentration (μg/m^3)[e]	17.7	22.7	17.9
Number of days standard exceeded[a]			
NAAQS 24-hour (>150 μg/m^3)[f]	0	0	0
CAAQS 24-hour (>50 μg/m^3)[f]	0	1	0
Particulate Matter (PM2.5) (Roseville/N Sunrise)			
National[c] maximum 24-hour concentration (μg/m^3)	30.0	60.0	22.6
National[c] second-highest 24-hour concentration (μg/m^3)	27.0	26.6	21.3
State[d] maximum 24-hour concentration (μg/m^3)	48.7	149.7	38.5
State[d] second-highest 24-hour concentration (μg/m^3)	45.7	131.9	29.7
National annual average concentration (μg/m^3)	8.3	10.0	8.5
State annual average concentration (μg/m^3)[e]	12.2	13.8	10.8
Number of days standard exceeded[a]			
NAAQS 24-hour (>65 μg/m^3)	0	6.5	0

Sources: California Air Resources Board 2009, U.S. Environmental Protection Agency 2009.

Notes: CAAQS =California ambient air quality standards, NAAQS = national ambient air quality standards, – = insufficient data to determine the value.

[a] An exceedance is not necessarily a violation.

[b] Measurements usually are collected every 6 days.

[c] National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.

[d] State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, State statistics are based on California approved samplers.

[e] State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

[f] Mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored.

Sensitive Land Uses

Sensitive land uses are defined as locations where people reside or where the presence of pollutant emissions could adversely affect the use of the land. Typical sensitive receptors include residents, school children, hospital patients, and the elderly.

The project vicinity is generally rural, with scattered residences located throughout the project area. The nearest residences are along Placer Hills Road. In addition, Foothill Christian Fellowship is located approximately 0.4 mile from the proposed alignment, at 1100 Sugar Pine Road.

3.1.3 Regulatory Setting

Air quality in the project vicinity is regulated by several jurisdictions including EPA, CARB, and PCAPCD. These entities, described below, develop rules, regulations, and policies to attain the goals or directives imposed upon them through legislation.

Federal

The Clean Air Act (CAA), enacted in 1963 and amended several times thereafter (including the 1990 amendments), establishes the framework for modern air pollution control. The CAA directs EPA to establish ambient air standards for six pollutants: CO, SO_2, NO_2, particulate matter, ozone, and lead. The standards are divided into primary and secondary standards. Primary standards are designed to protect human health, including the health of sensitive populations such as asthmatics, children, and the elderly, within an adequate margin of safety. Secondary standards are designed to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

The primary legislation that governs federal air quality regulations is the CAA Amendments of 1990. The CAA Amendments delegate primary responsibility for clean air to EPA. EPA develops rules and regulations to preserve and improve air quality, as well as delegating specific responsibilities to state and local agencies.

Federal Conformity Requirements

The CAA Amendments of 1990 require that all federally funded projects come from a plan or program that conforms to the appropriate state implementation plan (SIP). Federal actions are subject to either the transportation conformity rule (40 CFR 51[T]), which applies to federal highway or transit projects, or the general conformity rule. Because the Proposed Project is not a federal highway or transit project, it is subject to the general conformity rule.

The purpose of the general conformity rule is to ensure that federal projects conform to applicable SIPs so that they do not interfere with strategies employed to attain the NAAQS. The rule applies to federal projects in areas designated as nonattainment areas for any of the six criteria pollutants and some areas designated as maintenance areas. The rule applies to all federal projects except:

- programs specifically included in a transportation plan or program that is found to conform under the federal transportation conformity rule,
- projects with associated emissions below specified de minimis threshold levels, and
- certain other projects that are exempt or presumed to conform.

The federal *de minimis* levels for each affected pollutant for which the region is classified as a maintenance or nonattainment area for the national standards are indicated in Tables 3.1-4 and 3.1-5. If a proposed project's total direct and indirect emissions for any pollutant for which the region is classified as a maintenance or nonattainment area for the NAAQS are above the applicable *de minimis* levels, a general conformity determination must be performed to demonstrate that emissions for each affected pollutant would conform to the applicable SIP. Emissions of one ozone precursor pollutant may be offset by the reduction of emissions of another precursor pollutant.

If a proposed project's emissions are below the applicable *de minimis* levels, the requirements for general conformity do not apply because the project is assumed to conform to the applicable SIP for each affected pollutant. As a result, no further analysis or determination would be required.

As described above, the *de minimis* thresholds applicable to the Proposed Project are 50 tons per year for ROG and NO_X, 100 tons per year for PM2.5 and SO_2, and 100 tons per year for CO.

State

Responsibility for achieving California's air quality standards is placed on CARB and local air districts, and is to be achieved through district-level air quality management plans that will be incorporated into the SIP. CARB has traditionally established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving SIPs.

Responsibilities of air districts include overseeing stationary source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents required by the California Environmental Quality Act (CEQA).

Table 3.1-4. Federal *de Minimis* Threshold Levels for Criteria Pollutants in Nonattainment Areas

Pollutant	Emission Rate (Tons per Year)
Ozone (ROG/VOC or NO_X)	
Serious nonattainment areas	50
Severe nonattainment areas	25
Extreme nonattainment areas	10
Other ozone nonattainment areas outside an ozone transport region[a]	100
Other ozone nonattainment areas inside an ozone transport region[a]	
ROG/VOC	50
NO_X	100
CO: All nonattainment areas	100
SO_2 or NO_2: All nonattainment areas	100
PM10	
Moderate nonattainment areas	100
Serious nonattainment areas	70
PM2.5	100
SO_2	100
NO_X (unless determined not to be a significant precursor)	100
ROG/VOC or ammonia (if determined to be significant precursors)	100
Pb: All nonattainment areas	25

Source: 40 CFR 51.853.

Note: *de minimis* threshold levels for conformity applicability analysis.

Underlined text indicates pollutants for which the region is in non-attainment, and a conformity determination must be made.

[a.] Ozone Transport Region is comprised of the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, the Consolidated Metropolitan Statistical Area that includes the District of Columbia and northern Virginia (Section 184 of the Clean Air Act).

Table 3.1-5. Federal *de Minimis* Threshold Levels for Criteria Pollutants in Maintenance Areas

Pollutant	Emission Rate (Tons per Year)
Ozone (NO_X, SO_2 or NO_2)	
All maintenance areas	100
Ozone (ROG/VOC)	
Maintenance areas inside an ozone transport region[a]	50
Maintenance areas outside an ozone transport region[a]	100
CO: All maintenance areas	100
PM10: All maintenance areas	100
PM2.5	
Direct emissions	100
SO_2	100
NO_X (unless determined not to be a significant precursor)	100
ROG/VOC or ammonia (if determined to be significant precursors)	100
Pb: All maintenance areas	25

Source: 40 CFR 51.853.

Note: *de minimis* threshold levels for conformity applicability analysis.
Underlined text indicates pollutants for which the region is in maintenance, and a conformity determination must be made.

a. Ozone Transport Region is comprised of the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, the Consolidated Metropolitan Statistical Area that includes the District of Columbia and northern Virginia (Section 184 of the Clean Air Act).

The California Clean Air Act (CCAA) of 1988 substantially added to the authority and responsibilities of air districts. The CCAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures (TCMs). The CCAA focuses on attainment of the state ambient air quality standards, which, for certain pollutants and averaging periods are more stringent than the comparable federal standards.

The CCAA requires designation of attainment and nonattainment areas with respect to state ambient air quality standards. The CCAA also requires that local and regional air districts expeditiously adopt and prepare an air quality attainment plan if the district violates state air quality standards for CO, SO_2, NO_2, or ozone. However, unlike the federal CAA, the CCAA does not set precise attainment deadlines. These clean air plans are specifically designed to attain these standards and must be designed to achieve an annual 5% reduction in district-wide emissions of each nonattainment pollutant or its precursors. Where an air district is unable to achieve a 5% annual reduction in district-wide emissions of each nonattainment pollutant or its precursors, the adoption of "all feasible measures" on an expeditious schedule is acceptable as an alternative strategy (Health and Safety Code Section 40914(b)(2)). No locally prepared attainment plans are required for areas that violate the state PM10 standards, but CARB is currently addressing PM10 attainment issues.

The CCAA emphasizes the control of indirect and area-wide sources of air pollutant emissions. The CCAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish TCMs. The CCAA does not define indirect and area-wide sources. However, Section 110 of the federal CAA defines an indirect source as:

> a facility, building, structure, installation, real property, road, or highway, which attracts, or may attract, mobile sources of pollution. Such term includes parking lots, parking garages, and other facilities subject to any measure for management of parking supply.

TCMs are defined in the CCAA as "any strategy to reduce trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing vehicle emissions."

As required by the CCAA, CARB has adopted CAAQS. CARB's standards are generally either the same as, or more stringent than, the NAAQS adopted by EPA under the federal CAA.

Local

PCAPCD has specified significance thresholds for daily emissions resulting from construction and project operations. If emissions exceed the following thresholds, they have the potential to result in a significant air quality impact: 82 pounds per day for ROG, NO_X, PM10, and SO_X; and 550 pounds per day for CO (Chang pers. comm.). The Proposed Project may also be subject to the following PCAPCD rules, which have been adopted by the district to reduce emissions throughout the County:

- **Rule 202: Visible Emissions.** The purpose of Rule 202 is to establish limits regarding the opacity of emissions.
- **Rule 205: Nuisance.** The purpose of Rule 205 is to limit emissions of any substance that would cause a nuisance to the public.
- **Rule 207: Particulate Matter.** The purpose of Rule 207 is to establish limits regarding the emissions of particulate matter.
- **Rule 217: Cutback and Emulsified Asphalt Paving Materials.** The purpose of Rule 217 is to reduce the amount of volatile organic compounds caused by asphalt paving. It establishes restrictions on the type of asphalt that can be sold or manufactured in Placer County.
- **Rule 228: Fugitive Dust.** The purpose of Rule 228 is to reduce the amount of particulate matter entrained and discharged into the air by requiring actions to prevent, reduce, or minimize fugitive dust emissions. This rule also applies to construction activities.
- **Rule 501: General Permit Requirements.** The purpose of Rule 501 is to provide an orderly procedure for the review of new sources of air pollution and modification and operation of existing sources through the issuance of permits. Under Rule 501, a preconstruction permit or Authority to Construct is required prior to starting construction to ensure conformance with Rule 502, New Source Review.

- **Rule 502: New Source Review.** The purpose of Rule 502 is to provide for the review of new and modified existing sources, as well as provide mechanisms by which authorities to construct may be granted without interfering with the attainment of air quality standards. The rule applies to all new stationary sources and to all modifications of existing stationary sources that after construction may emit any of the following regulated pollutants: ROG, NO_X, SO_X, PM10, CO, lead, vinyl chloride, sulfuric acid mist, hydrogen sulfide, and reduced sulfur compounds. Rule 502 requires the implementation of best available control technology.

The Proposed Project is also subject to the Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations. According to the California Geologic Survey Map of Placer County, the project area could potentially contain naturally occurring asbestos.

3.1.4 Environmental Consequences

This section discusses the approach and methodology used to assess impacts of the Proposed Project on air quality; thresholds used to determine whether an impact would be significant; individual impacts relative to the thresholds; mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and overall significance of the impact with mitigation incorporated.

Methodology

Construction

Construction emissions would originate from mobile and stationary construction equipment exhaust, employee vehicle exhaust, dust from clearing the land, and exposed soil eroded by wind. Construction-related emissions would vary substantially depending on the level of activity, length of the construction period, specific construction operations, types of equipment, number of personnel, wind and precipitation conditions, and soil moisture content.

The URBEMIS 2007 (version 9.2.4) model was used to estimate emissions associated with construction of the Proposed Project. To estimate construction emissions, URBEMIS 2007 analyzes the type of construction equipment used and the duration of the construction period associated with construction of each of the land uses. Construction is expected to begin in spring 2012 and end in winter 2013. A list of construction equipment required to construct each phase of the project was provided by Placer County and is shown in Table 3.1-6. Equipment load factors, horsepower, and hours of use were based on default values generated by URBEMIS 2007. To calculate emissions from the foreman trucks, it was assumed that there would be two trips per day during each phase foreman trucks are used (Table 3.1-6). To calculate emissions from the striping

Table 3.1-6. Anticipated Construction Schedule and Equipment

Construction Phase	Duration	Pieces of Off-Road Equipment	Hours Per Day
Site work for new pump station	2 months (Aug. 2012–Sept. 2012)	1 excavator	8
		2 dump trucks	8
		1 backhoe	8
		1 frontend loader	8
		1 foreman truck	8
Construct new pump station	3 months (Oct. 2012–Dec. 2012)	1 excavator	8
		2 dump trucks	8
		1 backhoe	
		1 frontend loader	
		1 foreman truck	
Pipeline installation—trenched sections	4 months (May 2012–Aug. 2012)	4 dump trucks	8
		1 excavators	8
		1 paving truck	8
		1 sawcut	8
		1 backhoe	8
		1 frontend loader	8
		1 foreman truck	8
		1 striping truck	8
Pipeline installation—trenchless sections	2 months (May 2012–June 2012)	2 dump trucks	8
		1 excavator	8
		2 HDD equipment	8
		1 backhoe	8
		1 frontend loader	8
		1 crane	
		1 foreman truck	8
Demolish Applegate Wastewater Treatment Plant	2 months (Unknown: Assumed Jan.2013–Feb. 2013)	1 dump truck	8
		1 excavator	8
		1 dozer	8
		1 water truck	8
		1 dozer	8
		1 water truck	8

Construction Phase	Duration	Pieces of Off-Road Equipment	Hours Per Day
Upsizing	2 months (July 2012–Aug. 2012)	2 dump trucks	8
		1 backhoe	8
		1 front loader	8
		1 foreman truck	8
		1 sawcut	8
		1 striping truck	8
		1 water truck	8
		1 generator	8
		1 bypass pump	8

trucks, it was assumed that all of the striping would occur on one day and that 5.3 miles of roadway would be striped (the entire length of the pipeline) in order to represent the most conservative scenario. It was also assumed that the striping trucks would travel at 15 miles per hour. Complete URBEMIS outputs are provided in Appendix B.

Operations

Operational emissions of criteria pollutants would decrease under the Proposed Project because daily maintenance trips to check on the Applegate WWTP would be eliminated. In addition, trips associated with hauling wastewater during wet weather months would also no longer be required. Therefore, operational emissions are discussed qualitatively.

Greenhouse Gases

GHG emissions were calculated for construction and operation of the Proposed Project. Construction-related GHG emissions were calculated using the construction activity estimates summarized in Table 3.1-6 (above). GHG emissions from construction activities are primarily the result of fuel use by construction equipment, as well as worker trips. Operational estimates were calculated for the pump stations using the information provided in the Applegate Regional Sewer Pipeline Final Basis of Design Report (CDM 2010). According to the report, the pump stations would require 150.56 kilowatt-hours of power per day.

The URBEMIS2007 model (version 9.2.4) was used to calculate CO_2 emissions associated with construction. URBEMIS2007 accounts for CO_2 emissions resulting from fuel use by on-road and off-road construction equipment and worker commutes. Equipment load factors, horsepower, and worker trip emissions were based on default values generated by URBEMIS 2007. Complete URBEMIS outputs are provided in Appendix B.

URBEMIS does not quantify methane and N_2O emissions, although these two pollutants are known to be emitted from construction equipment. Methane and N_2O emissions that would result from off-road construction equipment were calculated from anticipated fuel consumption based on calculated CO_2 emissions using data from the California Climate Action Registry General Reporting Protocol, Version 3.1 (California Climate Action Registry 2009). The California Climate Action Registry (CCAR) emission factor for CO_2 is 10.15 kilogram (kg) CO_2 per gallon of diesel fuel. Construction equipment using diesel fuel emits 0.58 gram methane per gallon and 0.26 gram N_2O per gallon (California Climate Action Registry 2009). The estimated gallons of diesel fuel were then multiplied by the CCAR emission rates for methane and N_2O to estimate methane and N_2O emissions from construction equipment operation. These emissions were then converted to CO_2 equivalent (CO_2e) using the global warming potential (GWP) of each gas (see Appendix B). This allows the GHG emissions to be analyzed and compared as one single unit. In order to estimate GHG emissions from on-road construction activity (foreman trucks and striping trucks), it was assumed that on-road CO_2 emissions would be 5% of the off-road CO_2 emissions. This assumption is based on guidance from EPA (U.S. Environmental Protection Agency 2011).

Operational GHG emissions that would result from the Applegate Regional and I-80 Pump Stations were calculated using the CCAR Protocol mentioned previously (California Climate Action Registry 2009). The CCAR Protocol was used to calculate GHG emissions from electricity usage. The emission factors provided in the CCAR Protocol for CO_2, methane, and N_2O are 724.12 pounds per megawatt hour (lbs/MWh), 0.0302 lb/MWh, and 0.0081 lb/MWh, respectively. These emissions factors along with the GWPs for each gas were used to calculate GHG emissions and their CO_2e (see Appendix B). New operational GHG emissions were compared to existing GHG emissions generated by the Applegate WWTP. Existing GHG emissions generated by the Applegate WWTP were calculated using annual kilowatt hours of energy usage provided by Placer County. The same emission factors and GWPs were used to calculate existing GHG emissions (see Appendix B).

Thresholds of Significance

The thresholds identified below are used to determine the level of impacts associated with the Proposed Project, unless otherwise specified. Criteria for determining the significance of impacts related to air quality were developed based on the environmental checklist form in Appendix G of the State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). An impact related to air quality was considered significant if it would:

- conflict with or obstruct implementation of the applicable air quality management plan,
- violate any air quality standard or contribute substantially to an existing or projected air quality violation,

- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors),
- expose sensitive receptors to substantial pollutant concentrations, or
- create objectionable odors affecting a substantial number of people.

The State CEQA Guidelines further state that the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the determinations above. PCAPCD thresholds used to determine project significance are summarized below. The Proposed Project would potentially result in a significant impact on air quality if it would:

- produce greater than 82 pounds per day of ROG,
- produce greater than 82 pounds per day of NOx,
- produce greater than 82 pounds per day of PM10, or
- produce greater than 550 pounds per day of CO.

Impacts associated with the Proposed Project would be considered significant if emissions exceed the federal *de minimis* thresholds shown in Tables 3.1-4 and 3.1-5.

As stated above, air quality within Placer County is managed by PCAPCD. Currently, PCAPCD has not published guidelines for determining CEQA impacts related to climate change. In place of this, emissions were compared with completed GHG emissions inventories to provide context for estimated emission levels.

Environmental Impacts

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pumps Station(s)

Impact AQ -1. Exceed PCAPCD Thresholds

Construction

Table 3.1-7 summarizes modeled unmitigated emissions for 2012–2013 that would result from Alternative 1. The majority of emissions in Table 3.1-7 are generated by diesel-powered off-road construction equipment.

Table 3.1-7. Unmitigated Construction Emissions (pounds per day)

Phase	ROG	NOx	CO	PM10	PM2.5	CO2*	N2O*	CH4*	CO2e*
Site Work for new pump station									
Offroad (construction)	1.68	11.33	8.94	0.84	0.77	1,376.27	0.03525	0.07864	1,388.51
Onroad (foreman truck)	0.01	0.01	0.29	0.01	0	122.82	0.00315	0.00702	123.91
Total	1.69	11.34	9.23	0.85	0.77	1499.09	0.03840	0.08566	1,512.43
Constructing new pump station									
Offroad (construction)	1.02	6.59	4.7	0.56	0.52	701.23	0.01796	0.04007	707.47
Onroad (foreman truck)	0.01	0.01	0.29	0.01	0	122.82	0.00315	0.00702	123.91
Total	1.03	6.6	4.99	0.57	0.52	824.05	0.02111	0.04709	831.38
Pipeline installation-trenched sections									
Offroad (construction)	2.59	16.96	11.21	1.31	1.2	1,733.33	0.04440	0.09905	1,748.75
Onroad (foreman truck)	0.01	0.01	0.29	0.01	0	122.82	0.00315	0.00702	123.91
Onroad (striping truck)	0	0	0.08	0	0	9.40	0.00024	0.00054	9.48
Total	2.6	16.97	11.58	1.32	1.2	1865.55	0.04779	0.10660	1,882.15
Pipeline installation-trenchless sections									
Offroad (construction)	3.23	27.2	14.97	1.42	1.3	3,656.58	0.09367	0.20895	3,689.11
Onroad (foreman truck)	0.01	0.01	0.29	0.01	0	122.82	0.00315	0.00702	123.91
Total	3.24	27.21	15.26	1.43	1.3	3779.4	0.09681	0.21597	3,813.02

Phase	ROG	NOx	CO	PM10	PM2.5	CO2*	N2O*	CH4*	CO2e*
Demolish Applegate WWTP									
Offroad (construction)	1.55	10.54	8.81	0.76	0.7	1,376.31	0.03526	0.07865	1,388.55
Onroad (foreman truck)	0.01	0.01	0.29	0.01	0	122.82	0.00315	0.00702	123.91
Total	1.56	10.55	9.1	0.77	0.7	1499.13	0.03840	0.08566	1,512.47
Upsizing									0.00
Offroad (construction)	4.35	41.17	18.82	1.91	1.75	5,156.47	0.13209	0.29466	5,202.34
Onroad (foreman truck)	0.01	0.01	0.29	0.01	0	122.82	0.00315	0.00702	123.91
Onroad (striping truck)	0	0	0.08	0	0	9.40	0.00024	0.00054	9.48
Total	4.36	41.18	19.19	1.92	1.75	5288.69	0.13547	0.30221	5,335.74

*Greenhouse gas emissions are presented in metric tons per day

As shown in Table 3.1-6, above, several phases of construction would occur simultaneously. Table 3.1-8 shows the calculated emissions for the period when the maximum construction activity would occur (August 2012, when three construction phases would be occurring simultaneously: site work, construction of new pump station, and pipeline installation of trenched sections). This represents a conservative analysis, because it is unlikely that all pieces of construction equipment under these three phases would be used simultaneously.

Table 3.1-8. Unmitigated Emissions for Concurrent Phases

Month	Phases	ROG	NOx	CO	PM10	PM2.5	CO_2
May 2012	Pipeline installation—trenched sections	2.6	16.97	11.58	1.32	1.2	1865.55
	Pipeline installation—trenchless sections	3.24	27.21	15.26	1.43	1.3	3779.4
Total		5.84	44.18	26.84	2.75	2.5	5644.95
June 2012	Pipeline installation—trenched sections	2.6	16.97	11.58	1.32	1.2	1865.55
	Pipeline installation—trenchless sections	3.24	27.21	15.26	1.43	1.3	3779.4
Total		5.84	44.18	26.84	2.75	2.5	5644.95
July 2012	Pipeline installation—trenched sections	2.6	16.97	11.58	1.32	1.2	1865.55
	Upsizing	4.36	41.18	19.19	1.92	1.75	5288.69
Total		6.96	21.33	15.94	5.68	5.56	7154.24
August 2012	Site work for new pump station	1.69	11.34	9.23	0.85	0.77	1499.09
	Pipeline installation—trenched sections	2.6	16.97	11.58	1.32	1.2	1865.55
	Upsizing	4.36	41.18	19.19	1.92	1.75	5288.69
Total		8.65	69.49	40	4.09	3.72	8653.33
PCAPCD Thresholds		82	82	50	82	N/A	N/A
Exceeds Thresholds?		No	No	No	No	N/A	N/A

As shown in Table 3.1-8, even in August 2012, when three phases of construction are occurring at once, PCAPCD thresholds would not be exceeded. In addition, Authority to Construct would be required prior to construction and would require compliance with Rule 502 as described above. Therefore, this impact is considered **less than significant**.

Operational

Alternative 1 would decommission the Applegate WWTP. This would eliminate daily maintenance trips to the WWTP and trips for hauling wastewater during wet weather, resulting in a decrease in operational emissions of all criteria pollutants. Therefore, this impact is considered **beneficial**.

Impact AQ-2. Expose Asbestos during Construction

Ultramafic rocks in the project area include serpentine ricks, which can, but do not always, contain naturally occurring asbestos. Serpentine and partially serpentinized ultramafic rocks commonly include chrysotile asbestos, and may also contain amphibole asbestos. The associated ultramafic soils or serpentine soils may also contain asbestos. The U.S. Geological Survey geologic maps (Department of Conservation, California Geological Survey 1981) indicate that asbestos deposits may be found in the project vicinity. Grading and ground-disturbing activities conducted for Alternative 1 may disturb asbestiform-containing soils and generate asbestos dust. This impact is considered significant. Implementation of Mitigation Measure AQ-1 would reduce this impact to a **less-than-significant** level.

Mitigation Measure AQ-1: Implement Asbestos Dust Mitigation during Construction Activities

Placer County will implement measures to control asbestos dust emissions from construction activities. These measures will include, at a minimum, those specified by the PCAPCD *Asbestos Dust Mitigation Plan (ADMP) Guidance for Naturally-Occurring Asbestos* (Appendix B). These measures will be implemented prior to the approval of grading/improvement plans and will include the following actions.

- The applicant shall prepare an Asbestos Dust Mitigation Plan pursuant to 17 CCR 93105 (“Asbestos Airborne Toxic Control Measures for Construction, Grading, Quarrying, and Surface Mining Operations”) and obtain approval by PCAPCD. The Plan shall include all measures required by the State of California and the PCAPCD.
- If asbestos is found in concentrations greater than 5%, the material shall not be used as surfacing material as stated in state regulation 17 CCR 93106 (“Asbestos Airborne Toxic Control Measure-Asbestos Containing Serpentine”). The material with naturally occurring asbestos can be reused at the site for subgrade material covered by other non-asbestos-containing material.

Impact AQ-3. Exceed Federal *de Minimis* Thresholds during Construction

Table 3.1-9 summarizes annual emissions that would result from construction activities in tons per year, in order to compare to the federal de minimis thresholds. As mentioned above, air quality emissions would be reduced during project operation. As shown, federal de minimis thresholds would not be exceeded. This impact is considered **less than significant** and no mitigation is required.

Table 3.1-9. Calculated Unmitigated Emissions Compared to Federal *de Minimis* Thresholds (tons/year)

Year	ROG	NO_x	CO	$PM_{2.5}$
2012	0.38	2.68	1.67	0.15
2013	0.03	0.23	0.20	0.02
Federal *de minimis* significance thresholds	50	50	100	100
Exceeds threshold?	No	No	No	No

Impact AQ-4. Elevate Health Risk by Exposing Nearby Sensitive Receptors to Diesel Particulate Matter

Construction

Construction activities are anticipated to involve the operation of diesel-powered equipment for various activities. In October 2000, CARB identified diesel exhaust as a TAC. Cancer health risks associated with exposures to diesel exhaust are typically associated with chronic exposure, in which a 70-year exposure period is often assumed. Although excess cancer can result from exposure periods of less than 70 years, acute exposure (i.e., exposure periods of 2 to 3 years) to diesel exhaust are typically not anticipated to result in an increased health risk because acute exposure typically does not result in the exposure concentrations necessary to result in a health risk.

Health impacts associated with exposure to diesel exhaust from project construction are not anticipated to be significant, because construction activities would be phased along the pipeline, rather than being concentrated in any one location for a long period. Because construction activity would progress along the pipeline, no single receptor would be exposed to construction related diesel emissions for longer than 1 to 2 months. Therefore, Alternative 1 would not result in long-term emissions of diesel exhaust at any one location in the project area, and the impact would be **less than significant**. No mitigation is required.

Impact AQ-5. Increase Greenhouse Gas Contaminant Emissions During Construction

Table 3.1-7, above, shows the GHGs that would be emitted by each phase of the Proposed Project. Table 3.1-10, below, shows the annual GHG emissions that would be emitted during each year of construction.

Table 3.1-10. GHG Emissions in Metric Tons per Year

Year	CO_2	N_2O	CH_4	CO_2e
2012	13,256.8	0.3	0.8	13,374.7
2013	1,499.1	0.1	0.2	3,813.0
Total	14,755.9	0.4	1.0	17,187.7

As shown above in Table 3.1-10, construction of the Proposed Project is anticipated to result in approximately 17,187.7 metric tons of CO_2e over the course of construction (2 years). Placer County does not currently have a GHG inventory. Therefore, the statewide GHG inventory and Sacramento County's GHG inventory are used here for a reasonable comparison. California's overall GHG emissions were estimated to be approximately 468.8 million metric tons of CO_2e averaged from 2002 to 2004 (California Air Resources Board 2008). GHGs generated by construction of the Proposed Project would represent approximately 0.00004% of California's total net average GHG emissions from 2002 to 2004. Sacramento County's total GHG emissions were estimated to be approximately 13,900 million metric tons of CO_2e in 2005. GHGs generated by construction of the Proposed Project would represent approximately 0.0014% of Sacramento County's total net average GHG emissions for 2005. Although Placer County has not performed a GHG inventory, it is unlikely that total emissions associated with construction of the Proposed Project would be greater than 1% of the County's annual emissions.

Although project construction emissions would be temporary and represent a relatively small amount of GHG emissions, Alternative 1 would result in a small increase in GHGs over the current baseline. Because PCAPCD has not established any thresholds or guidance on evaluating GHGs, it is unclear whether Alternative 1 would exceed the threshold to result in significant increases in GHGs. Therefore, this impact is considered to be potentially significant. With implementation of Mitigation Measure AQ-2 this impact would be **less than significant**.

Mitigation Measure AQ-2: Implement Best Management Practices to Reduce Construction Tailpipe Emissions

Placer County will implement all applicable and feasible measures to reduce tailpipe emissions from diesel-powered construction equipment. This requirement will be incorporated into the construction contract. The following measures would be implemented.

- Shut down idling equipment that is not used for more than 5 consecutive minutes, where applicable and required by CARB regulations for off-road vehicles.
- Maintain all construction equipment in proper tune according to manufacturer's specifications.
- Maximize the use of diesel construction equipment meeting CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.
- Use emission control devices at least as effective as the original factory-installed equipment.
- Locate stationary diesel-powered equipment and haul truck staging areas as far as practicable from sensitive receptors.
- Use existing power sources (e.g., power lines) or clean fuel generators rather than temporary power generators.

- Substitute gasoline-powered for diesel-powered equipment when feasible.
- Use alternatively fueled construction equipment on site where feasible, such as compressed natural gas, liquefied natural gas, propane, or biodiesel.

Operational

As shown in Table 3.1-11, operation of Alternative 1 is estimated to result in approximately 18.1 metric tons of CO_2e per year. This represents a decrease of approximately 439.8 metric tons of CO_2e compared to operational emissions from the current Applegate WWTP (Table 3.1-12). In addition, there would be fewer on-road truck trips once the existing WWTP is decommissioned, which would result in a further decrease in GHG emissions. This would be a **beneficial** impact.

Table 3.1-11. Estimated Operational GHG Emissions from Proposed Applegate and I-80 Pump Stations (metric tons/year)

CO_2	CH_4	N_2O	CO_2e
18.05007	0.00075	0.00020	18.12714

Source: California Climate Action Registry 2009
Notes: Refer to Appendix B for the calculations used to produce this table.

Table 3.1-12. Estimated Operational GHG Emissions from Current Applegate WWTP (metric tons/year)

CO_2	CH_4	N_2O	CO_2e
447.99793	0.01868	0.00501	449.91109

Source: California Climate Action Registry 2009
Notes: Refer to Appendix B for the calculations used to produce this table.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Impact AQ-1. Exceed PCAPCD Thresholds

Construction

Construction impacts associated with Alternative 2 would be the same as those described above under Alternative 1. Even under the most conservative scenario, construction activities would not result in exceedance of PCAPCD thresholds. Therefore, this impact would be **less than significant**.

Operational

Operational impacts associated with Alternative 2 would be the same as those described under Alternative 1 and would be lower than under existing conditions. The reduction in operational emissions is considered a beneficial impact.

Impact AQ-2. Expose Asbestos During Construction

Construction impacts associated with Alternative 2 would be the same as those described above under Alternative 1. Construction of Alternative 2 would result in potential exposure to asbestos. This impact would be **less than significant** with the implementation of Mitigation Measure AQ-1.

Impact AQ-3. Exceed Federal *de Minimis* Thresholds During Construction

Construction impacts associated with Alternative 2 would be the same as those described above under Alternative 1. Construction of Alternative 2 would not cause emissions to exceed federal *de minimis* thresholds. This impact would be **less than significant** and no mitigation is required.

Impact AQ-4. Elevate Health Risk by Exposing Nearby Sensitive Receptors to Diesel Particulate Matter During Construction

The health risk impacts from diesel particulate matter associated with Alternative 2 would be the same as those described above under Alternative 1. This impact would be **less than significant**.

Impact AQ-5. Increase Greenhouse Gas Contaminant Emissions

Construction

GHG impacts associated with Alternative 2 would be the same as those described for Alternative 1. This impact would be potentially significant. With implementation of Mitigation Measure AQ-2 this impact would be **less than significant**.

Operational

GHG impacts associated with Alternative 2 would be the same as those described for Alternative 1. This impact would be **beneficial**.

Alternative 3 – No Project/No Action Alternative

Impact AQ-1. Exceed PCAPCD Thresholds

Under Alternative 3, the Applegate WWTP would not be decommissioned and the proposed pump stations and pipeline would not be constructed. The WWTP would continue to operate as it does under existing conditions. Currently, Placer

County is in compliance with PCAPCD thresholds for operation of its facility. Therefore, there would be **no impact** associated with construction or operational activities.

Impact AQ-2. Expose Asbestos During Construction

Under Alternative 3, the Applegate WWTP would not be decommissioned and the proposed pump stations and pipeline would not be constructed. There would be **no impact** associated with construction or operational activities.

Impact AQ-3. Exceed Federal *de Minimis* Thresholds During Construction

Under Alternative 3, the Applegate WWTP would not be decommissioned and the proposed pump stations and pipeline would not be constructed. There would be **no impact** associated with construction or operational activities.

Impact AQ-4. Elevate Health Risk by Exposing Nearby Sensitive Receptors to Diesel Particulate Matter During Construction

Under Alternative 3, the Applegate WWTP would not be decommissioned and the proposed pump stations and pipeline would not be constructed. Sensitive receptors would not be exposed to diesel particulate matter from construction equipment or operational activities and there would be **no impact**.

Impact AQ-5. Increase Greenhouse Gas Contaminant Emissions

Under Alternative 3, the Applegate WWTP would not be decommissioned and the proposed pump stations and pipeline would not be constructed. There would be no **impact** associated with additional GHG emissions.

3.2 Biological Resources

3.2.1 Introduction

This section describes the existing environmental and regulatory setting with respect to biological resources, including sensitive natural vegetative communities, special-status plant and wildlife species, and protected trees. This section also identifies potential impacts that would result from the Proposed Project and includes recommended mitigation measures to address those impacts that are determined to be potentially significant.

3.2.2 Affected Environment

Study Area

The study area for biological resources includes the limits of disturbance of the Proposed Project plus a 25-foot-wide buffer zone. The disturbance area includes the construction area for the pipeline alignment (20 feet from the centerline), the proposed pump station areas, staging areas, and the existing Applegate WWTP. The purpose of the buffer zone is to account for indirect impacts on biological resources adjacent to the disturbance area.

Methods

In order to collect information relative to the resources found within the study area, ICF biologists collected and reviewed background information, conducted field surveys, and coordinated with resource agencies.

Background Investigation

ICF biologists reviewed the following sources of background information for use in completing the analysis presented in this section:

- a California Natural Diversity Database (CNDDB) records search for the Auburn, Wolf, Lake Combie, Colfax, Greenwood, Coloma, Pilot Hill, Gold Hill, and Rocklin USGS 7.5-minute quadrangles (California Natural Diversity Database 2011) (Appendix C);
- the California Native Plant Society's (CNPS's) online *Inventory of Rare and Endangered Plants of California* (California Native Plant Society 2011);
- the U.S. Fish and Wildlife Service (USFWS) list of endangered, threatened, and proposed species for that occur in or may be affected by projects in the Auburn and Greenwood U.S. Geological Survey (USGS) 7.5-minute quadrangles or Placer County (U.S. Fish and Wildlife Service 2010) (Appendix C);

- Section 6, Natural Resources, of the Placer County General Plan (Placer County 1994: 104–121) climate and soil information for Placer County (Natural Resources Conservation Service 2010a, 2010b);
- aerial photographs from Placer County (scale 1:9600); and
- other environmental documents prepared for other projects in the area.

Field Surveys

The following sections describe the type of field surveys conducted in the study area and the methods used for identifying and documenting resources.

Reconnaissance-Level Surveys

ICF biologists conducted reconnaissance-level, habitat-based assessments in February and October 2008 and March 2011. On February 28, 2008, an ICF Jones & Stokes biologist conducted a reconnaissance-level assessment of the Applegate WWTP and the initial pipeline alignment. On October 29, 2008, two ICF Jones & Stokes biologists conducted a reconnaissance-level assessment of the final proposed and alternative pipeline alignments, staging areas, and pump station locations. On March 9, 2011, an ICF botanist conducted a reconnaissance-level assessment of the portion of the study area located west of the junction of Winchester Club Drive and Pinnacle View Drive.

The goals of the reconnaissance-level field surveys were to characterize biological communities and describe associated wildlife habitat uses within the study area, evaluate the study area for the presence of potential waters of the United States that would be subject to federal regulations, and identify other wetland habitats that may be considered sensitive by state and federal agencies.

California Red-Legged Frog Site Assessment

In anticipation of consultation between EPA and USFWS on the federally listed California red-legged frog (listed as a threatened species), an ICF biologist conducted a California red-legged frog site assessment in April 2010 to document potential habitat for this species within and near the study area. The site assessment was conducted in accordance with USFWS guidelines (U.S. Fish and Wildlife Service 2005), which require assessing aquatic features within the study area and all accessible property within 1 mile of the study area for their suitability as habitat for California red-legged frog. The results of the assessment were sent to USFWS on April 23, 2010 (ICF 2010a). On April 28, 2010, following UWFWS review of the site assessment, USFWS staff recommended that protocol-level California red-legged frog surveys be conducted at the Applegate WWTP ponds.

California Red-Legged Frog Protocol-Level Surveys

Two ICF biologists conducted protocol-level surveys for California red-legged frog at the Applegate WWTP ponds between May and July 2010. The surveys were conducted according to the guidelines outlined in *Revised Guidance on Site*

Assessments and Field Surveys for the California Red-legged Frog (U.S. Fish and Wildlife Service 2005). No California-red legged frogs were detected during these surveys.

Delineation of Wetlands and Other Waters

Two ICF biologists conducted a delineation of wetlands and other waters in the study area located east of the junction of Winchester Club Drive and Pinnacle View Drive on September 29, 2010, and a reconnaissance-level evaluation of the remainder of the study area on March 9, 2011. The delineation was conducted using the routine on-site determination method described in the 1987 *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) as well as the supplemental procedures and wetland indicators provided in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (U.S. Army Corps of Engineers 2008). For other waters (i.e., non-wetlands) the ordinary high water mark was identified using 2005 and 2010 guidance issued by the U.S. Army Corps of Engineers (Corps) (2005 and 2010). Data for wetlands and other waters were collected to support a preliminary jurisdictional determination approach during the permitting phase.

Existing Conditions

Overview

The study area occurs in the northern Sierra Nevada foothill subregion of the California Floristic Province (Hickman 1993:45). Elevations in the study area are approximately 1,400–1,900 feet above mean sea level, and the topography varies from relatively level to gently sloping. The majority of the surrounding area consists of rural residences and the I-80 corridor. Soils documented in the study area consist of the following soil map units (Natural Resources Conservation Service 2010b):

- Mariposa-Josephine complex, 5–30% slopes;
- Sites loam, 9–15% slopes;
- Sites loam, 15–30% slopes;
- Sites-rock outcrop complex, 15–30% slopes; and
- Xerorthents, cut and fill areas

The climate in the study area is characterized by warm, dry summers and cool, moist winters; the mean annual precipitation is approximately 47 inches, and the mean annual air temperature is 58°F. The length of the growing season (based on 28°F air temperature thresholds at a frequency of 5 years in 10) is approximately 282 days, extending from approximately late February to late November (Natural Resources Conservation Service 2010a).

Vegetation Communities

The vegetation communities in the study area include annual brome grassland (hereafter referred to as annual grassland), mixed oak forest, ponderosa pine forest, arroyo willow thicket, cattail marsh (hereafter referred to as freshwater marsh), and white-root beds (hereafter referred to as wet meadow) (Figure 3.2-1). These vegetation communities were classified based on *A Manual of California Vegetation* (Sawyer et al. 2009). The approximate extent, composition, and wildlife usage of each of these vegetation communities is provided in Appendix C. The study area also contains developed areas. Lists of plant and wildlife species observed in the study area during field surveys are presented in Appendix C.

Waters of the United States, Including Wetlands

The September 29, 2010, delineation of wetlands and other waters in the portion of the study area located east of the junction of Winchester Club Drive and Pinnacle View Drive was conducted to support the submission of a preliminary jurisdictional determination to the Corps Sacramento District. Therefore, in accordance with a preliminary jurisdictional determination approach, all the wetlands and other waters in the study area were interpreted to be waters of the United States, including wetlands that fall within the scope of Corps jurisdiction under the Clean Water Act (CWA) Section 404. The wetlands and other waters are also subject to regulation under the state Porter-Cologne Water Quality Control Act. The remainder of the study area was surveyed during a reconnaissance-level evaluation on March 9, 2011, to determine the potential for wetlands to occur within this area.

Wetlands

There are seven wetlands located in the study area that encompass a total area of approximately 1.4 acres. Vegetative characteristics of these wetlands are described in Appendix C.

- A portion of a freshwater marsh occurs adjacent to Winchester Club Drive approximately 1,000 feet east of the western terminus of the study area (Sheet 1 of Figure 3.2-1)

  A narrow fringe of freshwater marsh borders the pond adjacent to the eastbound lane of Winchester Club Drive approximately 300 feet south of the intersection with Wild Lilac Court (Sheet 2 of Figure 3.2-1)

- A wet meadow occurs adjacent to Winchester Club Drive on both sides of the road approximately 500 feet from the easternmost intersection with Pinnacle View Drive (Sheet 3 of Figure 3.2-1)

- A small freshwater marsh is located adjacent to Applegate Road (Sheet 11 of Figure 3.2-1)

- A topographic depression that contains wet meadow and arroyo willow thicket is located adjacent to Applegate Road at a proposed pump station site(Sheet 11 of Figure 3.2-1)

- Pond 3 (Sheet 12 of Figure 3.2-1), which is vegetated with freshwater marsh, is located at the Applegate WWTP.

Figure 3.2-1
Land Cover Types in the Biological Study Area
Sheet: 1

- Biological Study Area
- Proposed Pump Station
- Proposed Staging Areas

Stream Type

- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

Land Cover Type

- Annual Grassland
- Arroyo Willow Thicket
- Developed / Graded
- Freshwater Marsh
- Mixed Oak Forest
- Ponderosa Pine Forest
- Wet Meadow
- WWTP Pond (Open Water)

N

0 100 200

Feet

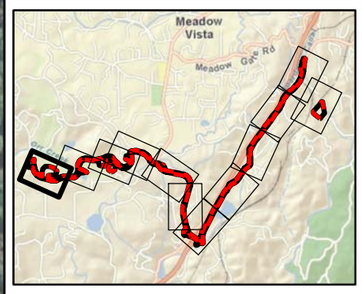

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Figure 3.2-1
Land Cover Types
in the Biological Study Area
Sheet: 2

- Biological Study Area
- Proposed Pump Station
- Proposed Staging Areas

Stream Type

- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

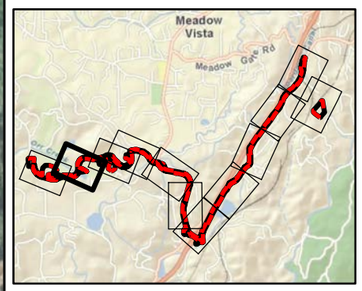
Land Cover Type

- Annual Grassland
- Arroyo Willow Thicket
- Developed / Graded
- Freshwater Marsh
- Mixed Oak Forest
- Ponderosa Pine Forest
- Wet Meadow
- WWTP Pond (Open Water)

N

0 100 200

Feet



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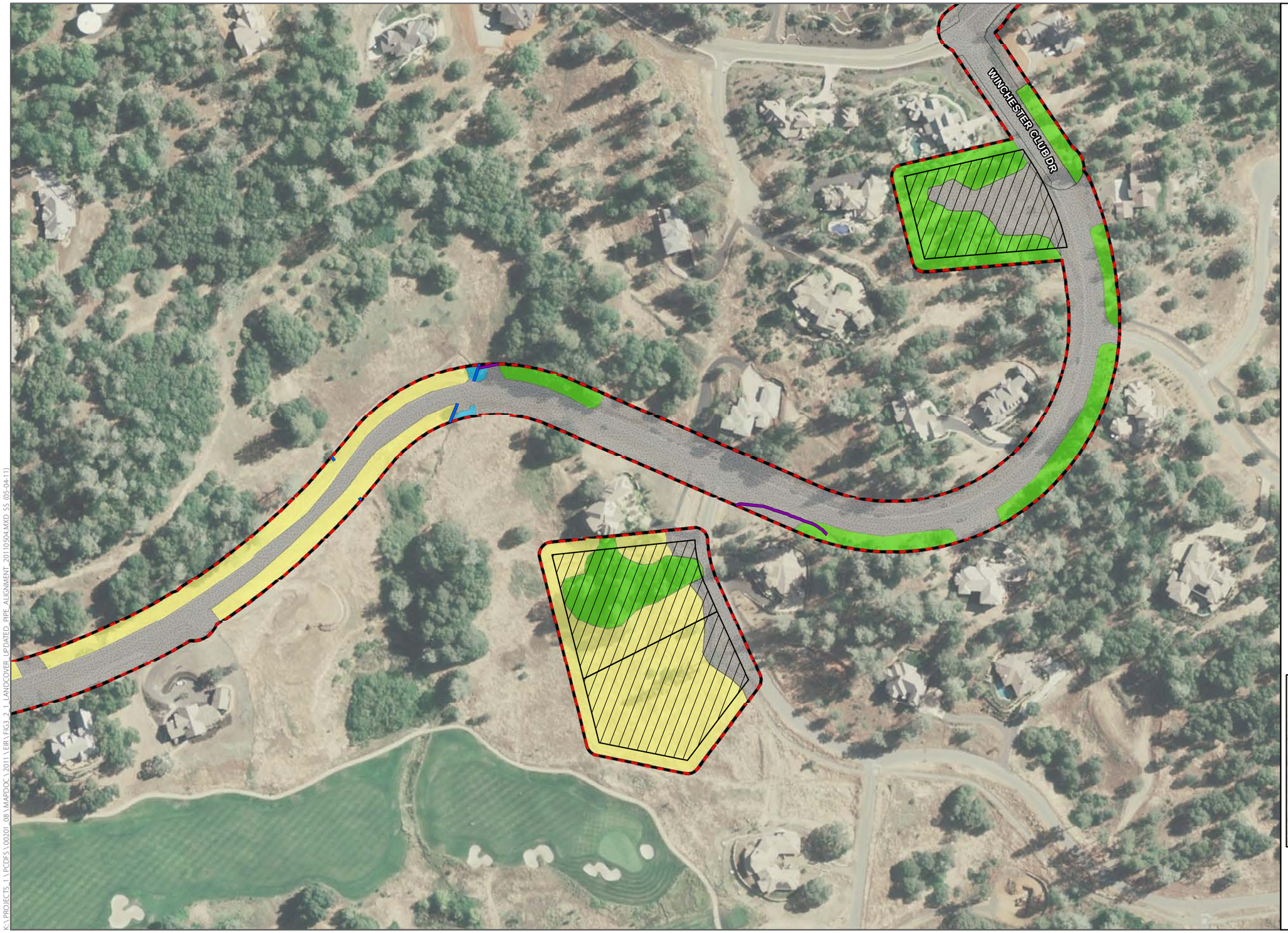


Figure 3.2-1
Land Cover Types in the Biological Study Area
Sheet: 3

- Biological Study Area
- Proposed Pump Station
- Proposed Staging Areas

Stream Type

- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

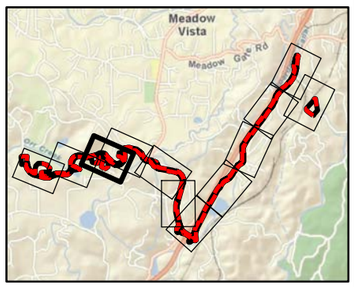
Land Cover Type

- Annual Grassland
- Arroyo Willow Thicket
- Developed / Graded
- Freshwater Marsh
- Mixed Oak Forest
- Ponderosa Pine Forest
- Wet Meadow
- WWTP Pond (Open Water)

N

0 100 200

Feet



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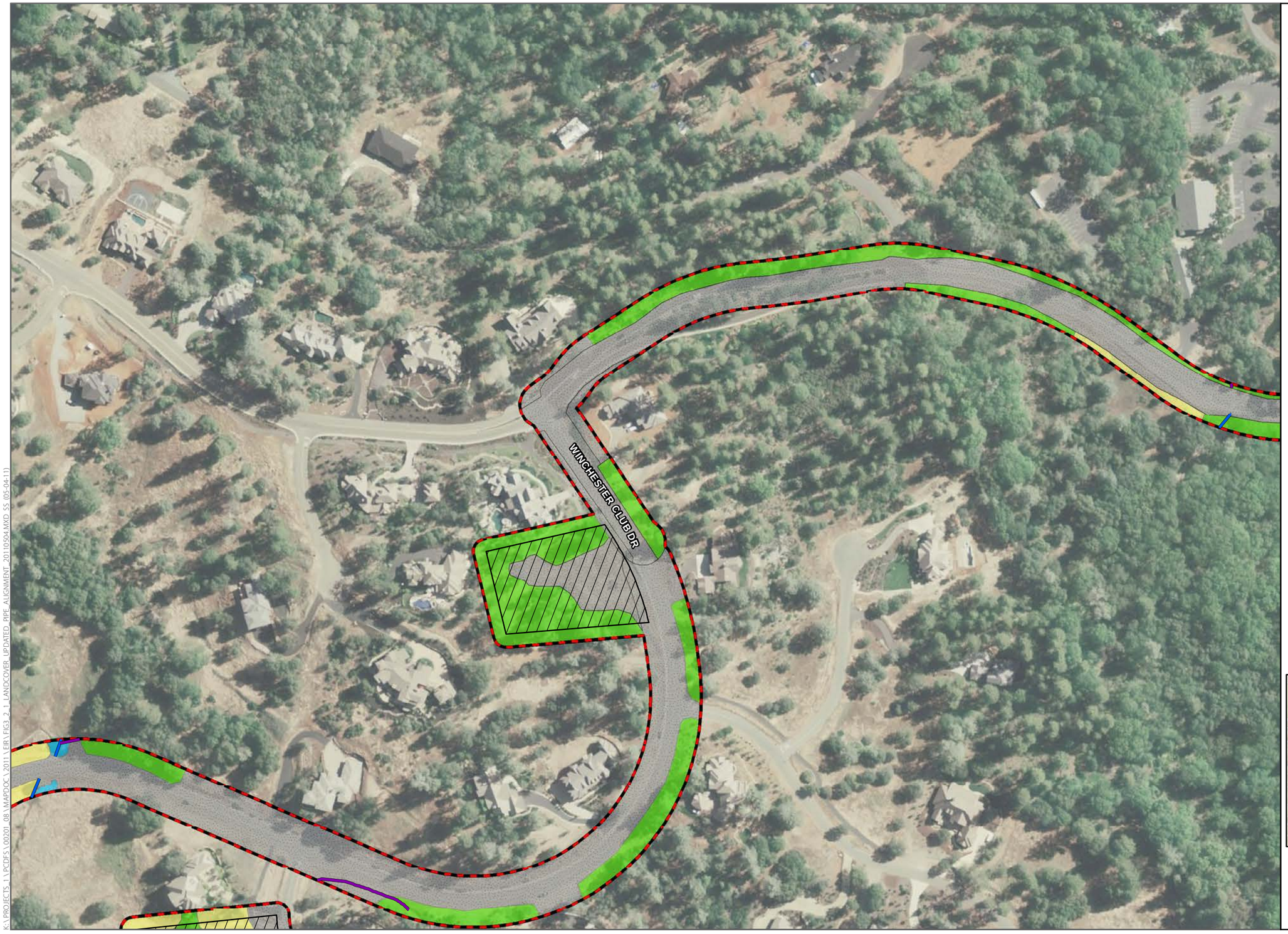

Figure 3.2-1
Land Cover Types in the Biological Study Area
Sheet: 4

- Biological Study Area
- Proposed Pump Station
- Proposed Staging Areas

Stream Type

- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

Land Cover Type

- Annual Grassland
- Arroyo Willow Thicket
- Developed / Graded
- Freshwater Marsh
- Mixed Oak Forest
- Ponderosa Pine Forest
- Wet Meadow
- WWTP Pond (Open Water)

N

0 100 200

Feet

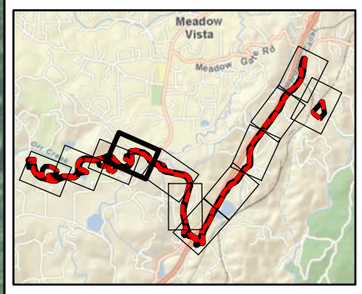

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Figure 3.2-1
Land Cover Types in the Biological Study Area
Sheet: 5

- Biological Study Area
- Proposed Pump Station
- Proposed Staging Areas

Stream Type

- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

Land Cover Type

- Annual Grassland
- Arroyo Willow Thicket
- Developed / Graded
- Freshwater Marsh
- Mixed Oak Forest
- Ponderosa Pine Forest
- Wet Meadow
- WWTP Pond (Open Water)

N

0 100 200

Feet

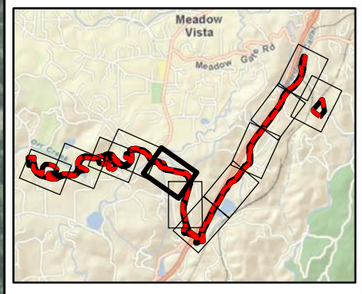

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Figure 3.2-1
Land Cover Types in the Biological Study Area
Sheet: 6

- Biological Study Area
- Proposed Pump Station
- Proposed Staging Areas

Stream Type

- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

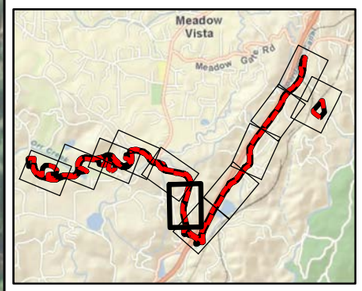
Land Cover Type

- Annual Grassland
- Arroyo Willow Thicket
- Developed / Graded
- Freshwater Marsh
- Mixed Oak Forest
- Ponderosa Pine Forest
- Wet Meadow
- WWTP Pond (Open Water)

N

0 100 200

Feet



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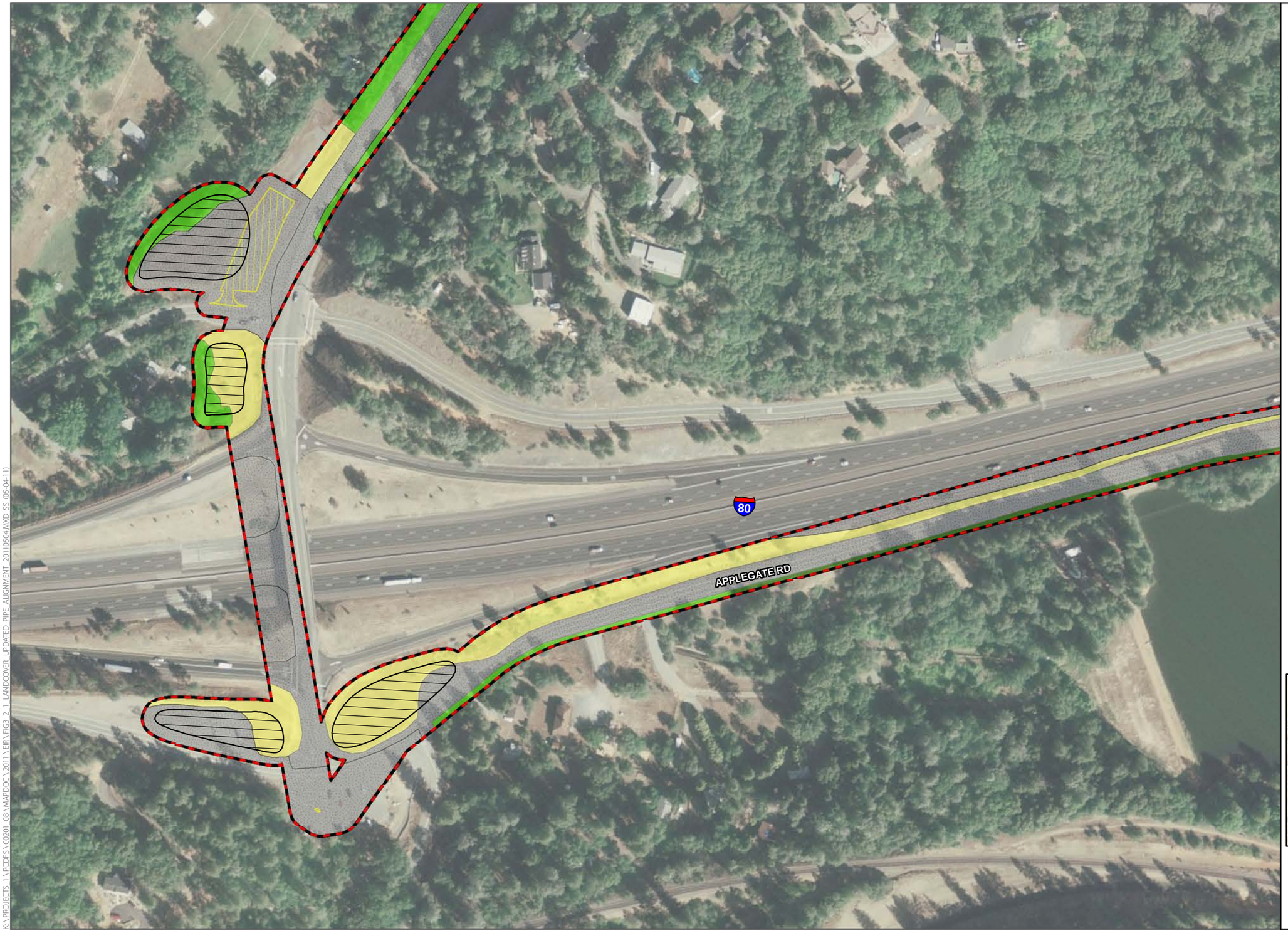

Figure 3.2-1
Land Cover Types in the Biological Study Area
Sheet: 7

- Biological Study Area
- Proposed Pump Station
- Proposed Staging Areas

Stream Type

- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

Land Cover Type

- Annual Grassland
- Arroyo Willow Thicket
- Developed / Graded
- Freshwater Marsh
- Mixed Oak Forest
- Ponderosa Pine Forest
- Wet Meadow
- WWTP Pond (Open Water)

0 100 200
Feet

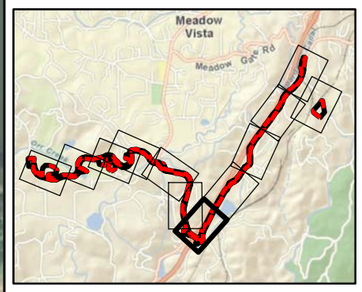

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Figure 3.2-1
Land Cover Types in the Biological Study Area
Sheet: 8

- Biological Study Area
- Proposed Pump Station
- Proposed Staging Areas

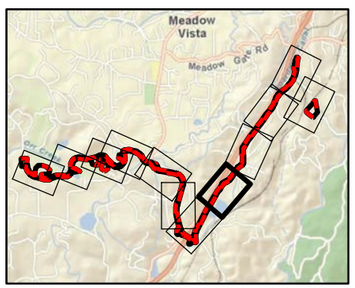
Stream Type

- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

Land Cover Type

- Annual Grassland
- Arroyo Willow Thicket
- Developed / Graded
- Freshwater Marsh
- Mixed Oak Forest
- Ponderosa Pine Forest
- Wet Meadow
- WWTP Pond (Open Water)

0 100 200
Feet



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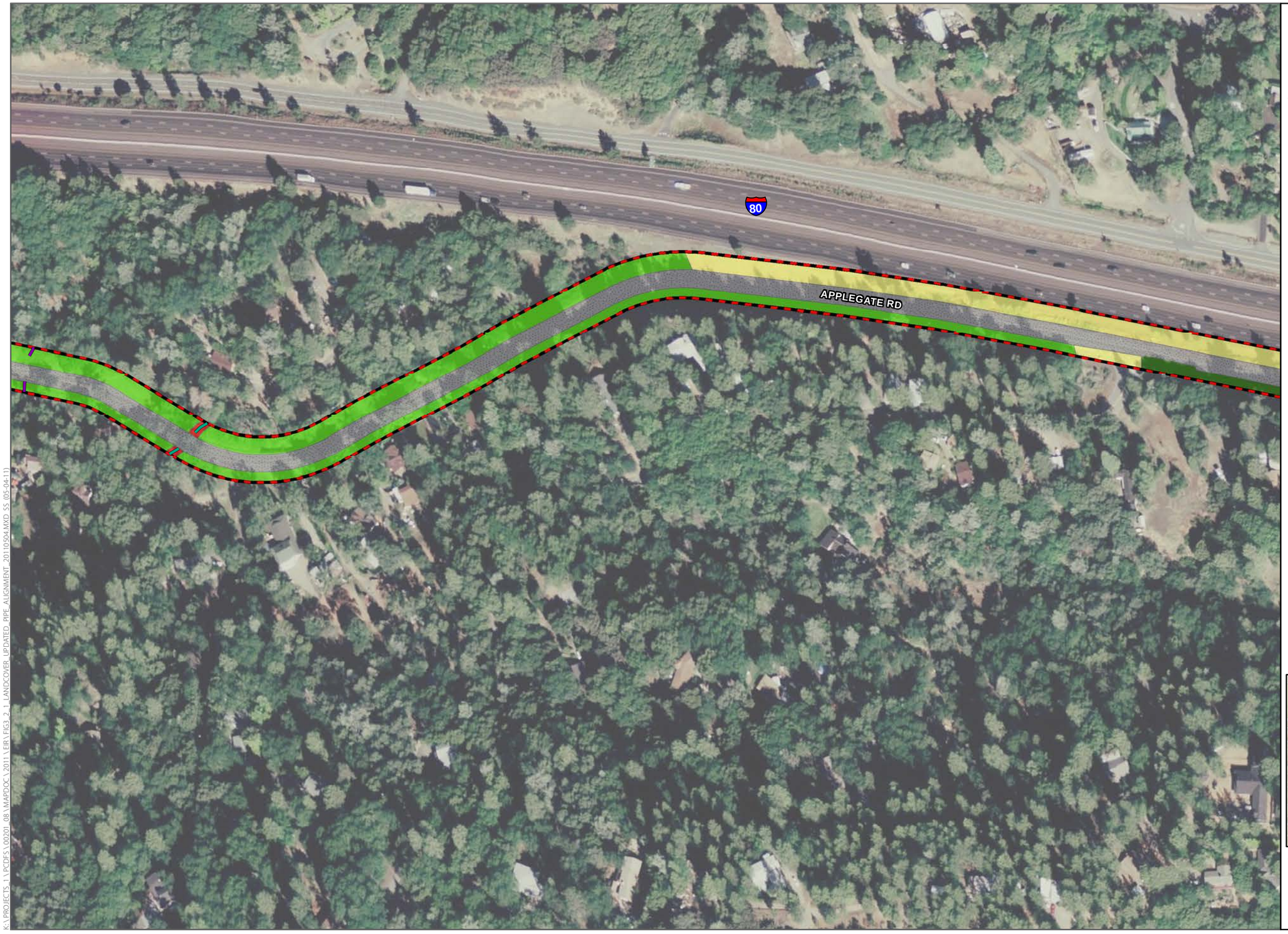

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Figure 3.2-1
Land Cover Types in the Biological Study Area
Sheet: 9

- Biological Study Area
- Proposed Pump Station
- Proposed Staging Areas

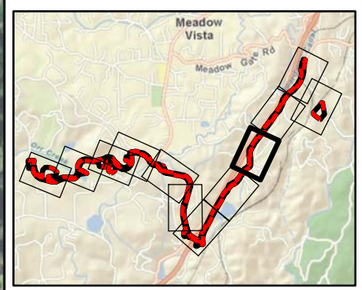
Stream Type

- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

Land Cover Type

- Annual Grassland
- Arroyo Willow Thicket
- Developed / Graded
- Freshwater Marsh
- Mixed Oak Forest
- Ponderosa Pine Forest
- Wet Meadow
- WWTP Pond (Open Water)

0 100 200
Feet



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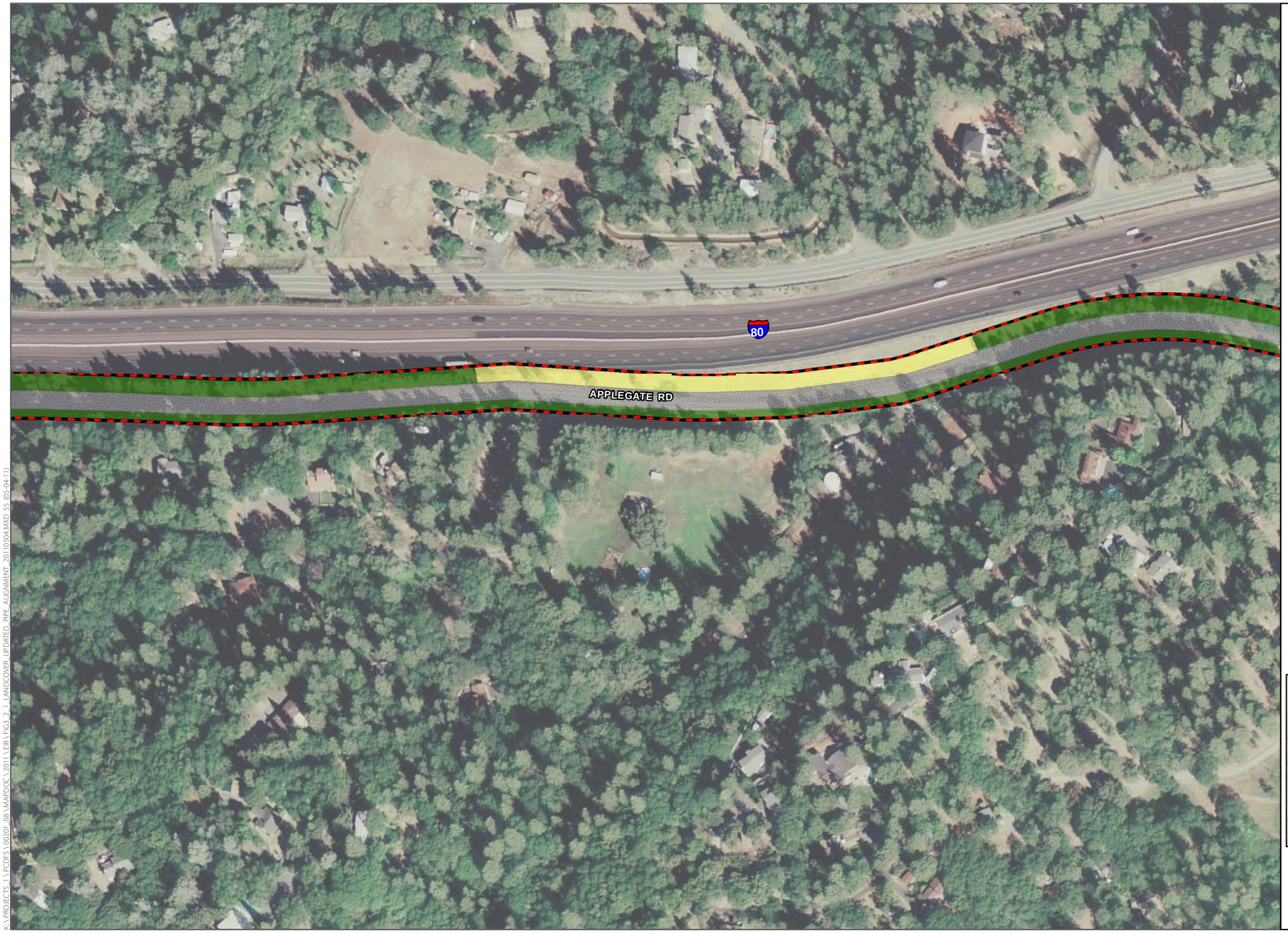


Figure 3.2-1
Land Cover Types in the Biological Study Area
Sheet: 10

- Biological Study Area
- Proposed Pump Station
- Proposed Staging Areas

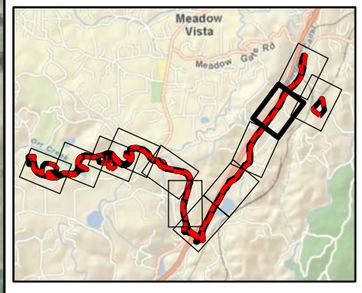
Stream Type

- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

Land Cover Type

- Annual Grassland
- Arroyo Willow Thicket
- Developed / Graded
- Freshwater Marsh
- Mixed Oak Forest
- Ponderosa Pine Forest
- Wet Meadow
- WWTP Pond (Open Water)

0 100 200
Feet



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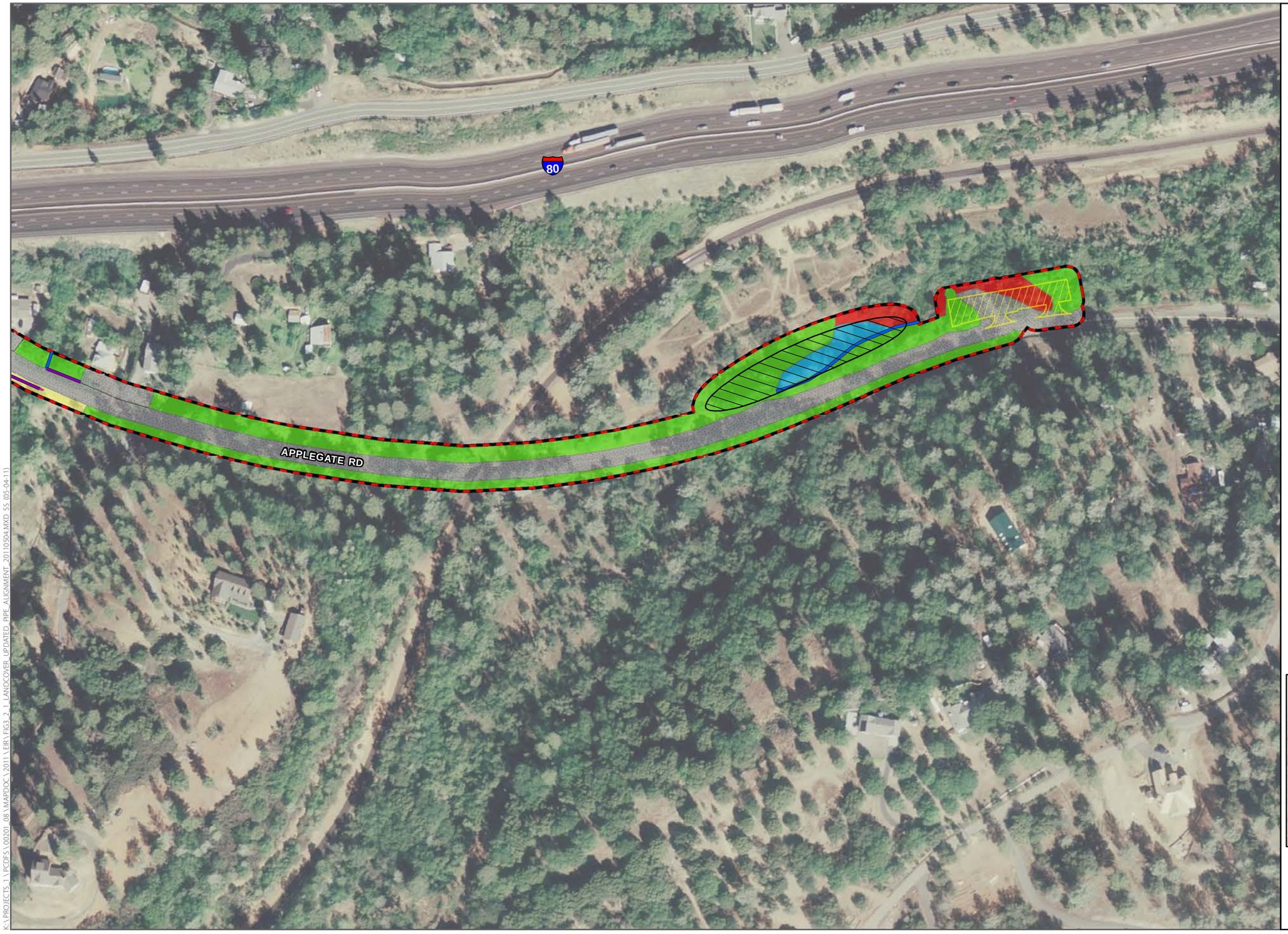

Figure 3.2-1
Land Cover Types in the Biological Study Area
Sheet: 11

- Biological Study Area
- Proposed Pump Station
- Proposed Staging Areas

Stream Type

- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

Land Cover Type

- Annual Grassland
- Arroyo Willow Thicket
- Developed / Graded
- Freshwater Marsh
- Mixed Oak Forest
- Ponderosa Pine Forest
- Wet Meadow
- WWTP Pond (Open Water)

N

0 100 200

Feet

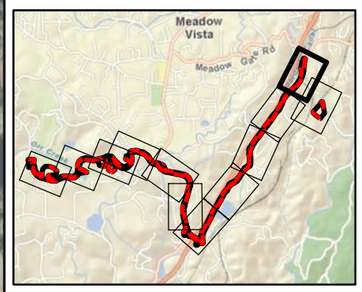

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Figure 3.2-1
Land Cover Types in the Biological Study Area
Sheet: 12

- Biological Study Area
- Proposed Pump Station
- Proposed Staging Areas

Stream Type

- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

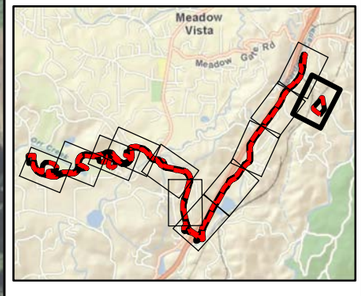
Land Cover Type

- Annual Grassland
- Arroyo Willow Thicket
- Developed / Graded
- Freshwater Marsh
- Mixed Oak Forest
- Ponderosa Pine Forest
- Wet Meadow
- WWTP Pond (Open Water)

N

0 100 200

Feet



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Other Waters

The other waters (i.e., non-wetlands) in the study area are perennial streams, intermittent streams, ephemeral streams, and the other two ponds at the Applegate WWTP that contain open water.

Perennial Streams

Two segments of perennial streams occur in the study area: Dry Creek (Sheet 3, Figure 3.2-1) and an unnamed, natural channel (Sheet 6, Figure 3.2-1). The natural channel is captured by the Boardman Canal in the study area. Water from the canal ultimately drains into Lake Theodore. The perennial stream segments encompass a total area of 0.01 acre within the study area. They are unvegetated and appear to convey water year-round. They support a sparse, poorly developed band of riparian vegetation that consists of small, scattered individuals of plants observed in the arroyo willow thicket vegetation community.

Intermittent Streams

Seven segments of unnamed intermittent streams, encompassing approximately 0.03acre, occur in the study area. The intermittent stream segments are unvegetated, lack a riparian corridor, and appear to convey water during wetter seasons (i.e., winter and spring).

Ephemeral Streams

Five segments of ephemeral streams occur in the study area and encompass a total area of approximately 0.03 acre. Ephemeral stream segments are unvegetated or support upland (i.e., non-wetland) plant species and appear to convey water only during, and for a short time immediately following, a rainfall event.

Wastewater Treatment Plant Ponds

The two ponds in the southern half of the WWTP property contain open water, which encompass approximately 1.8 acres. The third, northernmost pond is filled with freshwater marsh. The amount of inundation observed in the ponds was variable. During the February 28, 2008, site visits, all three ponds were filled with winter rainfall and groundwater. During the October 29, 2008, site visit, the sewage flows had already been diverted and the ponds were observed with shallow amounts of wastewater. During the 2010 California red-legged frog surveys, the ponds were observed to be full in early May and began drawing down by early July. At the time of the September 29, 2010, delineation field work, only the pond in the northwest corner of the property was fully inundated. The other two ponds were only partially inundated in their deepest areas.

During the reconnaissance-level visit, the ponds were observed being used by various waterfowl, western pond turtles (*Actinemys marmorata*), and Pacific tree frogs. During the 2010 California red-legged frog surveys, the ponds contained

many American bullfrog (*Rana catesbeiana*) larvae, juveniles, and adults, western toad (*Bufo boreas*) larvae and juveniles, Pacific tree frog larvae and adults, and one western pond turtle.

Invasive Plant Species

Plants that have been identified as invasive by California Department of Food and Agriculture (CDFA) and/or the California Invasive Plant Council (Cal-IPC) were observed throughout the study area (California Department of Food and Agriculture 2010; California Invasive Plant Council 2006, 2007). These plants are noted with an asterisk in Table of Plant Species Observed (Appendix C).

Sensitive Biological Resources

Sensitive biological resources include sensitive natural communities, special-status species, and protected trees.

Sensitive Natural Communities

Sensitive natural communities are characterized by high species diversity, high productivity, unusual nature, limited distribution, or declining status. The CNDDB maintains a list of sensitive natural communities that have been reported to occur within California. Northern volcanic mud flow vernal pool is a sensitive natural community that has been reported in the project region but is not present in the study area (Appendix C). Freshwater marsh and wet meadow, which are also identified as sensitive natural communities by CNDDB, were observed in the study area.

In addition, the area of arroyo willow thicket located adjacent to the wet meadow is considered a sensitive natural community. Although it is not listed as such by the CNDDB, it does meet the federal criteria for being classified as a wetland, which would be designated a sensitive natural community by state and federal agencies.

Special-Status Species

Special-status species are plants, animals, and fish that are legally protected under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), or other regulations and species that are considered sufficiently rare by the scientific community to qualify for such listing. Special-status plants, animals, and fish fall into the following categories:

- species listed or proposed for listing as threatened or endangered under the ESA (50 CFR 17.11 [listed animals], 50 CFR 17.12 [listed plants], and various notices in the *Federal Register* [FR] [proposed species]);

- species that are candidates for possible future listing as threatened or endangered under the ESA (75 FR 69222, November 10, 2010);
- species listed or proposed for listing by the State of California as threatened or endangered under CESA (14 CCR 670.5);
- species that meet the definitions of rare or endangered under CEQA (CEQA Guidelines Section 15380);
- plants listed as rare under the California Native Plant Protection Act (CNPPA) (California Fish and Game Commission 1900 *et seq.);*
- plants considered by CNPS to be "rare, threatened, or endangered in California" (California Native Plant Society 2010);
- plants listed by CNPS as plants about which more information is needed to determine their status and plants of limited distribution, which may be included as special-status species on the basis of local significance or recent biological information (California Native Plant Society 2010);
- animal species of special concern to the California Department of Fish and Game (CDFG) (Shuford 2008 [birds]; Williams 1986 [mammals]; and Jennings and Hayes 1994 [amphibians and reptiles]); and
- animals fully protected in California (California Fish and Game Commission 3511 [birds], 4700 [mammals], 5050 [amphibians and reptiles], and 5515 [fish]).

The Table of Special-Status Species in Appendix C lists the special-status species identified during the background investigation that are known to occur in the project region and/or have the potential to occur in the study area.

Special-Status Plants

The results of the background investigation identified 17 special-status plant species known to occur in the project region. The legal status, distribution, habitat requirements, reported blooming period, and likelihood of occurrence within the study area are listed in the Table of Special-Status Species in Appendix C.

For four of the 17 special-status species, the study area lacks suitable habitat (decomposed granite beaches, chaparral) or microhabitat (Gabbro soils). The remaining 13 special-status plant species were determined to have potential to occur within the study area based on the presence of potential habitat.

Of the 13 special-status species with potentially suitable habitat in the study area, 10 were identified as having moderate likelihood to occur, because potential habitat is present (suitable microhabitat may or may not be present) and there are known occurrences within approximately 10 miles of the study area. Three special-status species were identified as having low potential for occurrence, because although potential habitat is present, either the habitat conditions are poor quality or the study area is substantially outside of the species' elevation range, or there are no reported occurrences within 10 miles of the study area (Appendix C).

Special-Status Wildlife

Five of the 13 wildlife species listed in the Table of Special-Status Species in Appendix C have a high or moderate potential to occur in the study area and are discussed further below. The remaining species are not likely to be found in the study area. Those species with moderate to high potential to be found have a current range in the study area, recorded occurrences within 10 miles of the study area, or suitable habitat present. Discussions of these species and their potential to occur within the project area are provided below.

California Red-Legged frog

California red-legged frog was previously recognized as one of two subspecies of red-legged frog (*Rana aurora*) found on the Pacific coast. USFWS currently recognizes California red-legged frog as a separate species, *Rana draytonii* (75 *FR* 12815). The species is listed as threatened under the ESA and is a species of special concern in the state of California.

California red-legged frog is known to currently occur along the coast from Marin County south to Los Angeles County (with inland populations in San Bernardino and Riverside Counties), the inner Coast Range from Tehama County south to eastern San Luis Obispo County, and in the Sierra Nevada from Butte County south to Stanislaus County (California Natural Diversity Database 2010). Populations in the Sierra Nevada are scattered and relatively isolated (U.S. Fish and Wildlife Service 2007).

California red-legged frog uses ponds or pools in streams with none to abundant emergent vegetation for breeding during the wet season (December through March) and ponds, riparian areas, or other aquatic habitat during the rest of the year (Fellers and Kleeman 2007). California red-legged frog is known to occur up to several hundred feet from water in adjacent vegetation for extended periods of time. Use of these upland areas is most often associated with drying aquatic habitat in mid to late summer. California red-legged frog upland habitat has habitat features that provide cover and moisture during the dry season, typically within 300 feet of a riparian area (U.S. Fish and Wildlife Service 2005). These habitat features include boulders or rocks, organic debris such as downed trees, industrial debris, and agricultural features, such as drains, watering troughs, spring boxes, and abandoned sheds (U.S. Fish and Wildlife Service 2005). Adults have been documented moving as far as 1mile from breeding sites during the dry season (Bulger et al. 2003).

The upland vegetation communities in the study area are suitable upland habitat for California red-legged frog. Perennial and intermittent streams and ephemeral drainages in the study area represent potential refugia and dispersal corridors for California red-legged frog. Habitat provided by the WWTP ponds is considered of low quality. None the streams, canals, or drainage ditches that cross the proposed pipeline alignment represent potential breeding habitat for California red-legged frogs but these features do provide potential non-breeding habitat. Suitable breeding habitat in the form of ponds occur in the vicinity of the study area, the closest being a golf course pond just east of the study area off of Winchester Club Drive (see Figure 3.2-, Sheet 2).

No California red-legged frogs have been documented within 10 miles of the study area (California Natural Diversity Database 2011). The nearest record for California red-legged frog is approximately 14 miles northeast of the study area in Michigan Bluff, at a site consisting of ponds created by past mining activity (California Natural Diversity Database 2011). No red-legged frogs were identified during USFWS protocol-level surveys conducted at the WWTP ponds in 2010; therefore, their potential for occurrence in the WWTP ponds is believed to be low. The remainder of the study area, though not required by USFWS to be surveyed, does represent potential habitat for red-legged frogs. This combined with the presence of suitable habitat in the vicinity creates a moderate potential for red-legged frogs to occur in the study area.

Foothill Yellow-Legged Frog

Foothill yellow-legged frog (*Rana boylii*) is a California species of special concern that occurs in creeks and rivers with rock and gravel substrates in woodlands and forests from near sea level to around 6,000 feet in elevation (California Department of Fish and Game 2005). This species is rarely encountered far from water sources. Adults bask on exposed rock surfaces near streams in close enough proximity to take refuge in instream pools, submerged rocks, or sediments. Reproduction occurs in moving water, where egg clusters are attached to gravel or rocks in moving water near stream margins (California Department of Fish and Game 2005). Tadpoles require water for at least 3 or 4 months while completing their aquatic development.

Perennial streams in the study area represent potential habitat for foothill yellow-legged frog. The intermittent streams and ephemeral drainages do not provide enough flow or instream habitat for this species. The remaining aquatic features do not represent suitable habitat for this species.

Western Pond Turtle

Western pond turtle (*Actinemys marmorata*) is a California species of special concern that occurs in ponds, rivers, streams, and irrigation canals throughout most of California from near sea level to about 4,700 feet in elevation (California Department of Fish and Game 2005). They require basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. Western pond turtles also utilize upland habitat within a 0.25 mile of aquatic habitat for nesting and overwintering (Reese and Welsh 1997). Nests are built in uplands in a variety of soil types with a relatively high humidity (California Department of Fish and Game 2005).

The WWTP ponds represent habitat for pond turtles but poor water quality compromises habitat quality in the ponds during the dry season when they receive sewage. An unidentified turtle was observed in one of the WWTP ponds during the February 28, 2008, site visit. A western pond turtle was identified in one of the ponds on June 8, 2010, during one of the daytime red-legged frog surveys.

California Horned Lizard

California horned lizard (*Phrynosoma coronatum frontale*) is a California species of special concern that occurs in the Sierra Nevada foothills from Butte County to Kern County and throughout the central and southern California coast. California horned lizards inhabit open county, especially sandy areas, washes, flood plains, and wind-blown deposits in valley-foothill hardwood, conifer, riparian, and annual grassland habitats. The species forages on the ground in open areas, often near ant nests (California Department of Fish and Game 2005).

California horned lizard could occur throughout the upland areas of the study area. However, project activities are unlikely to affect this species and, therefore, it is not discussed further.

Townsend's Big-Eared Bat

Townsend's big-eared bat (*Corynorhinus townsendii*) is a California species of special concern that is found throughout California but is most abundant in wetter habitats. The species roosts in caves, mines, tunnels, buildings, or other human-made structures. Maternity roosts are typically in relatively warm areas in caves, tunnels, mines, and buildings. Maternity roosts consist of small clusters or groups (usually fewer than 100 individuals) of females and young from the colony (California Department of Fish and Game 2005).

Townsend's big-eared bat roosts could occur in caves or human-made structures throughout in the project vicinity, although no such features occur in the immediate study area. Therefore, this species is not discussed further.

Other Protected Species

Some migratory birds and raptors have the potential to nest in trees and shrubs throughout and adjacent to the study area. Although these species are not considered special-status wildlife species, their occupied nests and eggs are protected by California Fish and Game Code Sections 3503 and 3503.5 and the Migratory Bird Treaty Act (MBTA) (50 CFR 10 and 21).

Special-Status Fish

No special-status fish species occur in the study area. Anadromous fish such as Central Valley steelhead or Chinook salmon cannot access Clipper Creek, Dry Creek, or any other tributaries in the study area. Clipper Creek is tributary to the North Fork of the American River, which flows into Folsom Lake. There is no fish passage over the Folsom Dam, or the Nimbus Dam, which is further downstream on the American River (CalFish 2008). Dry Creek has not been identified as habitat for salmonids. Although it is tributary to Coon Creek, which does support Central Valley steelhead, there are several barriers to fish passage along Dry Creek, which include the Lake Arthur Dam, the Halsey Afterbay Dam, and the Lakewood Dam (CalFish 2008). Potential project-related impacts on Dry Creek and its tributaries all occur above the Lakewood Dam.

Protected Tree Resources

Trees known to occur in the study area are blue oak, valley oak, black oak, canyon live oak, interior live oak, white alder, ponderosa pine, foothill pine, arroyo willow, and red willow. Some of these trees are protected (i.e., native trees within riparian zones) or have the potential to be protected under the County's Tree Preservation Ordinance, which is described in the Regulatory Setting under local regulations. Additionally, the oaks that comprise the mixed oak forest are protected under Section 21083.4 of the California Public Resources Code.

3.2.3 Regulatory Setting

An overview of the laws and regulations that influence the management of biological resources in the study area is provided below. Although many of these regulations may not apply to the Proposed Project if the resources in question are avoided, they are discussed here to provide context in determining which biological resources are considered sensitive for the purposes of the Proposed Project and to discuss the potential impacts of the Proposed Project on these resources.

Federal

Federal Endangered Species Act

USFWS has jurisdiction over plants, wildlife, and non-anadromous fish species listed as threatened or endangered under the federal ESA. Section 9 of the ESA protects listed species from take, which is broadly defined as actions to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." For actions involving a federal agency in which a listed species could be affected, the federal agency must consult with USFWS in accordance with Section 7 of the ESA. USFWS issues a biological opinion and, if the project does not jeopardize the continued existence of the listed species, issues an incidental take permit. Because the Proposed Project has the potential to result in take of the federally listed (threatened) California red-legged frog, EPA will initiate consultation with USFWS.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 United States Code [USC] 668-668d) prohibits the take or possession of bald eagle or golden eagles, either alive or dead, or any part, nest, or egg thereof. Take and possession may be allowed by approval of the Secretary of the Interior if it is compatible with the preservation of bald eagle or golden eagle for scientific or exhibition purposes of public museums, scientific societies, and zoological parks, or for religious purposes of Indian tribes, or that is necessary to permit the taking of such eagles

for the protection of wildlife or of agricultural or other interests in any particular locality, the Secretary may authorize the taking of such eagles pursuant to regulations which the Secretary is authorized prescribed.

Migratory Bird Treaty Act

The MBTA (16 USC 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703, 50 CFR 21, 50 CFR 10). USFWS is responsible for overseeing compliance with MBTA, and the U.S. Department of Agriculture's Animal Damage Control Officer makes recommendations on related animal protection issues. The Proposed Project has the potential to affect migratory birds regulated by the MBTA.

Clean Water Act

The CWA was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

The CWA empowers EPA to set national water quality standards and effluent limitations and includes programs addressing both point-source and nonpoint-source pollution. *Point-source pollution* is pollution that originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. *Nonpoint-source pollution* originates over a broader area and includes urban contaminants in stormwater runoff and sediment loading from upstream areas. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool.

Section 404 regulates the discharge of dredged and fill materials into waters of the United States. In the study area, this includes streams, ponds, and wetlands. Compliance with Section 404 is regulated by the Corps. Section 402 regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES). The NPDES program for the study area is regulated by the CVRWQCB. NPDES permits are required for disturbance of more than 1 acre of land. The NPDES permitting process requires the applicant to submit a notice of intent to discharge stormwater and to prepare a stormwater pollution prevention plan (SWPPP), which includes best management practices (BMPs) to protect water quality. Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction

over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401.

State

California Endangered Species Act

California implemented CESA in 1984 to prohibit the take of species that are listed as endangered and threatened. Under CESA, *take* is defined as an activity that would directly or indirectly kill an individual of a species, but the definition does not include harm or harassment, nor does it include impacts on habitat. CDFG administers CESA and authorizes take through either Section 2080.1 (for species listed under ESA and CESA) or Section 2081 agreements (except for species designated as fully protected). Regarding rare plant species, CESA defers to the California Native Plant Protection Act of 1977, which prohibits importing rare and endangered plants into California, taking rare and endangered plants, and selling rare and endangered plants.

California Fish and Game Code

Fully Protected Species

The California Fish and Game Code provides protection from take for a variety of species, referred to as fully protected species. Section 5050 lists fully protected amphibians and reptiles, Section 3515 lists fully protected fish, Section 3511 lists fully protected birds, and Section 4700 lists fully protected mammals. The California Fish and Game Code defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Except for take related to scientific research, all take of fully protected species is prohibited, and CDFG cannot issue take permits for fully protected species.

Lake and Streambed Alteration

CDFG regulates activities that would interfere with the natural flow of, or substantially alter the channel, bed, or bank of, a lake, river, or stream, including disturbance of riparian vegetation under CDFG Code Sections 1600–1616. CDFG requires a streambed alteration agreement permit for these activities. Requirements to protect the integrity of biological resources and water quality are often conditions of streambed alteration agreements. Conditions that CDFG may require include avoidance or minimization of vegetation removal, use of standard erosion control measures, limitations on the use of heavy equipment, limitations on work periods to avoid impacts on fisheries and wildlife resources, and requirements to restore degraded sites or compensate for permanent habitat losses.

Protection of Birds and Raptors

Section 3503 of the California Fish and Game Code prohibits the killing of birds and/or the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and/or the destruction of raptor nests. Typical violations include destruction of active bird and raptor nests as a result of tree removal, and failure of nesting attempts (loss of eggs and/or young) as a result of disturbance of nesting pairs caused by nearby human activity.

Porter-Cologne Water Quality Act

California Water Code Section 13260 requires "any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements)." Under the Porter-Cologne Water Quality Control Act definition, *waters of the state* are "any surface water or groundwater, including saline waters, within the boundaries of the state." Although all waters of the United States that are within the borders of California are also waters of the state, the reverse is not true. Therefore, California retains authority to regulate discharges of waste into any waters of the state, regardless of whether the Corps has concurrent jurisdiction under CWA Section 404. If the Corps determines that a wetland is not subject to regulation under Section 404, CWA Section 401 water quality certification is not required. However, the RWQCB may impose WDRs if fill material is placed into waters of the state.

California Native Plant Protection Act

The CNNPA prohibits importation of rare and endangered plants into California, take of rare and endangered plants, and sale of rare and endangered plants. The CESA defers to the CNPPA, which ensures that state-listed plant species are protected when state agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the CNPPA are not protected under CESA but rather under CEQA.

California Public Resources Code 21083.4

As required by Senate Bill 1334 and promulgated under California Public Resources Code 21083.4, a CEQA lead agency is required to determine whether a project in its jurisdiction may result in a conversion of oak woodlands that would have a significant effect on the environment and would require the lead agency to implement one or more of the specified mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. This regulation apples to only trees that are 5 inches or greater diameter at breast height.

Local

Placer County General Plan

The Natural Resources Element of the Placer County General Plan (Placer County 1994: 104–121) contains four goals for natural resources in Placer County:

- **Goal 6.A:** To protect and enhance the natural qualities of Placer County's streams, creeks, and groundwater.
- **Goal 6.B:** To protect wetland communities and related riparian areas throughout Placer County as valuable resources.
- **Goal 6.C:** To protect, restore, and enhance habitats that support fish and wildlife species so as to maintain populations at viable levels.
- **Goal 6.D:** To preserve and protect the valuable vegetation resources of Placer County.

Placer County Tree Preservation Ordinance

Placer County's Tree Preservation Ordinance provides protection for trees in unincorporated areas within the County. The ordinance requires locating and characterizing protected trees to provide the data needed to prepare a formal tree report and subsequent tree removal permit. A formal protected tree report is required before a tree can be removed. This ordinance states that "no person, firm, corporation or county agency shall conduct any development activities within the protected zone of any protected tree on public or private land, or harm, destroy, kill or remove any protected tree unless authorized by a tree permit" Under the ordinance, a protected tree is defined as the following:

- A tall woody plant native to California (excluding foothill pines and plants that are typically shrubs), with a single main stem or trunk at least 6 inches diameter at breast height (dbh), or a multiple trunk with an aggregate of at least 10 inches dbh.
- All native trees regardless of size within riparian zones. A riparian zone is defined as any area within 50 feet from the centerline of a seasonal creek or stream; any area 100 feet from the centerline of a year round creek, stream, or river; and any area within 100 feet of the shoreline of a pond, lake, or reservoir.
- All landmark trees. A landmark tree is defined as a tree or grove of trees designated by resolution of the County board of supervisors to be of historical or cultural value, an outstanding specimen, an unusual species and/or of significant community benefit. Landmark trees may include nonnative species.

3.2.4 Environmental Consequences

Methodology

This biological resources impact analysis is based on conceptual design information and site-specific information gathered during field surveys. To the extent possible, the mitigation measures described for potential impacts on sensitive biological resources were developed through coordination with resource agencies. Additional compensatory mitigation for impacts on streams, riparian habitats, and special-status species may also be identified as conditions of project permits (e.g., the Section 404 CWA permit from the Corps, streambed alteration agreement from CDFG, the Section 7 consultation process, and tree permit from Placer County Planning Department) and will be implemented as part of the Proposed Project.

Impact Assumptions

Construction activities associated with the Proposed Project could result in temporary or permanent impacts on biological resources in the study area. In assessing the magnitude of possible effects, the following assumptions were made regarding construction-related impacts on biological resources.

- The extent of vegetation communities, wetlands, and other waters that could be temporarily or permanently affected by project construction activities were estimated using the most current project information provided by the County.
- The ground disturbance area is limited to the pipeline alignment, proposed pump station areas, proposed staging areas, and the existing Applegate WWTP. Construction activities would occur within an area 20 feet from the centerline along the pipeline alignment.
- The use of the proposed staging areas would result in only temporary impacts on biological resources.

Thresholds of Significance

The significance criteria for this analysis were developed from criteria presented in Appendix G of the State CEQA Guidelines. The Proposed Project would result in a significant impact if it would:

- 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 CDFG and USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations by CDFG and USFWS.

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Environmental Impacts

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Impact BIO-1. Cause the Loss of Special-Status Plant Populations

Construction activities (e.g., grading) could result in indirect disturbance or the direct loss of one or more habitats that could potentially contain special-status plant populations. Because of the timing of field surveys conducted to date (i.e., they did not coincide with the reported blooming periods of all of the special-status species), biologists were unable to confirm whether special-status plants were present. Construction could adversely affect special-status plant species habitat through compaction of soils from heavy equipment, displacement of upper soil layers containing seeds and roots, and direct crushing or removal of vegetation. Because construction of Alternative 1 has the potential to directly or indirectly adversely modify potential special-status habitat, this impact would be considered a significant impact.

The County will implement Mitigation Measure BIO-1 to determine if special-status plants are present in the study area. If no special-status plant populations are identified in the study area, no further mitigation is required. If special-status plant populations are present, the County will implement Mitigation Measures BIO-2 and BIO-3 to reduce this impact to **less than significant**.

Mitigation Measure BIO-1: Survey for Special-Status Plant Species Prior to Construction

A qualified botanist will survey the study area to document the presence of special-status plants before project implementation. The botanists will conduct a floristic survey that follows the CDFG botanical survey guidelines, which typically entail spring surveys during the blooming period from approximately April to May (California Department of Fish and Game 2009). Special-status plant populations identified during the field surveys will be mapped and documented as part of the public record.

If no special-status plant populations are identified during appropriately timed botanical surveys, no further mitigation is needed. If special-status plant populations are present, the County will implement Mitigation Measures BIO-2 and BIO-3.

Mitigation Measure BIO-2: Avoid or Minimize Impacts on Sensitive Biological Resources

If special-status plant populations are present in study area, the County will avoid and minimize impacts on them and other sensitive biological resources (e.g., riparian habitat, wetlands), where feasible, as follows.

- Redesign portions of the Proposed Project at the locations of sensitive biological resources, relocating staging areas, or modifying the limits of disturbance to avoid impacts.
- Install protective fencing. The County will retain a qualified biologist to identify the boundaries of sensitive biological resources that will be avoided during construction. These areas will be fenced off with construction barrier fencing and sediment fencing and if necessary, concrete barriers will also be installed to protect sensitive biological resources in areas adjacent to the directly affected area.

The protected area will be clearly identified on the construction plans and specifications. The fencing will be in place before construction activities are initiated. The fencing will be maintained by the County or its contractor throughout the duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities will cease until the fencing is replaced.

The contractor will brief its construction personnel on the sensitive biological resources within or adjacent to the project site that will be avoided during construction and the penalties for not complying with permit requirements. Additional training information specific to special-status wildlife (i.e., California red-legged frog) is provided in Mitigation Measure BIO-8.

Mitigation Measure BIO-3: Compensate for Direct Impacts on Special-Status Plants

If complete avoidance of special-status plant populations is not feasible, the County will compensate for the loss of special-status plant populations. Compensation for the direct impacts on special-status plants may consist of either transplantation (if approved by resource agencies) or of preserving an off-site special-status plant occurrence.

If regulatory agencies (CDFG and/or USFWS) concur that transplantation is a feasible mitigation option, the County will retain a qualified restoration ecologist to work closely with the resource agency specialist to develop a detailed transplantation and monitoring plan with success criteria. If an off-site special-status plant occurrence will be preserved it will be the same population size (not acreage) as the one affected and the County will develop a mitigation and monitoring plan

that will be developed in conjunction with, and approved by, the appropriate regulatory agencies prior to construction of the Proposed Project. The mitigation and monitoring plan will contain success criteria to ensure that the goal of preserving an appropriately-sized population at another special-status plant occurrence will be met.

Impact BIO-2. Cause the Loss or Disturbance of Wetlands and Other Waters of the United States

The wetlands and other waters delineated in the study area are interpreted to be waters of the United States under the preliminary jurisdictional determination approach. Therefore, these features are subject to Corps regulation under CWA.

Alternative 1 would result in permanent fill of wetlands and has the potential to temporarily affect other wetlands. Construction of the Applegate Regional Pump Station would result in the placement of permanent fill in the arroyo willow thicket (Sheet 8, Figure 3.2-1). Construction activities associated with Alternative 1 would also result in direct impacts from grading and the temporary placement of equipment within wetlands (wet meadow and arroyo willow thicket) located in the adjacent staging area (Sheet 8 of Figure 3.2-1). There is also a potential for temporary disturbance at stream crossings and other wetlands along the rest of the new pipeline and pipeline replacement. Additionally, if the County restores the WWTP ponds to pre-project conditions, grading and restoration activities at the WWTP ponds would result in direct temporary disturbance at this location; however, the restoration of the WWTP ponds to pre-project conditions would be considered beneficial.

Construction-related impacts would include loss of habitat and potential impacts on water quality. For more information about habitat loss, see Impact BIO-3. Water quality impacts are discussed in greater detail in Section 3.4, Hydrology and Water Quality. The disturbance or loss of wetlands and other waters of the United States would be a significant impact. This is because Alternative 1 would result in direct permanent and temporary effects on wetlands protected under federal and state law.

As mentioned above, construction of the Proposed Project would require a permit pursuant to the CWA for the disturbance of wetlands and other waters of the United States. This would likely include minimizing the construction disturbance area in wetlands and other waters, prohibiting the storage of materials or placement of fill in adjacent wetlands, implementing erosion control measures, and implementing a wetland mitigation plan. A Section 401 water quality certification from the CVRWQCB would also be required. Depending on the type of construction activities used for stream crossings, a Section 1602 streambed alteration agreement may also need to be obtained from CDFG. All conditions that are attached to the state and federal permits would be implemented as part of Alternative 1. The conditions would be clearly identified in the construction plans and specifications and monitored during and after construction to ensure compliance.

The County will implement Mitigation Measure BIO-2 to avoid and minimize impacts on sensitive biological resources, including wetlands to the extent feasible. If complete avoidance of wetlands and other waters is not feasible, the County will implement Mitigation Measure BIO-4 to reduce this impact to **less than significant**.

Mitigation Measure BIO-4: Compensate for Loss or Disturbance of Wetlands and Other Waters

The County will mitigate for impacts on wetlands and waters through post-construction restoration or contribution to a certified wetland mitigation bank to ensure no net loss of wetland habitat functions and values. The restoration will be provided at a minimum ratio of 1:1 (1 acre restored or created for every 1 acre filled), but final restoration ratios will be based on site-specific information and determined through coordination with state and federal agencies as part of the permitting process for the project. Restoration will be conducted on site after all construction activities are complete.

Impact BIO-3. Cause the Loss or Disturbance of Riparian Vegetation

Pipeline construction across streams in the study area has the potential to result in the temporary disturbance and minor permanent loss of riparian vegetation along the perennial streams. Even though vegetation in these corridors is sparse and the potential area of disturbance would be minor, this impact would be significant. This is because riparian habitat is considered a sensitive natural community and CDFG requires no net loss of riparian habitat as regulated via the streambed alteration agreement process.

The County will implement Mitigation Measure BIO-2 to avoid and minimize impacts on sensitive biological resources, including riparian vegetation. If complete avoidance of riparian vegetation is not feasible, the County will implement Mitigation Measure BIO-5 to reduce this impact to **less than significant**.

Mitigation Measure BIO-5: Compensate for the Loss or Disturbance of Riparian Vegetation

The County will compensate for any disturbance or loss of riparian vegetation that may occur during construction of Alternative 1 to ensure no net loss of habitat functions and values, as required by regulatory agencies. Compensation ratios will be based on site-specific information and determined through coordination with CDFG during the streambed alteration agreement permitting process (e.g., 1:1=1 acre restored/enhanced for every 1 acre removed). Restoration, if appropriate and feasible, will be conducted on site after all construction activities are complete to the extent possible; however, any riparian trees that cannot be replaced by on-site replanting because of the County's pipeline operation and maintenance activities will be replaced, or otherwise mitigated for, in accordance with the California Public Resources Code 21083.4 or the County's Tree Preservation Ordinance as discussed under Mitigation Measure BIO-7.

Impact BIO-4. Disturb or Remove Protected Trees

Construction activities under Alternative 1 could disturb or remove trees that potentially qualify for protection as either heritage or landmark trees under the County's Tree Preservation Ordinance or as oaks that comprise the mixed oak forest that is protected under Section 21083.4 of the California Public Resource Code. This impact is potentially significant because the disturbance or removal of protected trees during project construction would conflict with the state code and the local ordinance in place to protect trees. Implementation of Mitigation Measures BIO-6 and BIO-7 would reduce this impact to **less than significant**. If the arborist's survey (BIO-6) does not identify any protected trees that would be removed or damaged as a result of implementation of the Proposed Project, no additional mitigation would be necessary. If protected trees are present, the County will implement Mitigation Measure BIO-7.

Mitigation Measure BIO-6: Conduct a Tree Survey

The County will retain a certified arborist to conduct a tree survey or vegetative landcover survey to identify protected trees or oak woodlands in the study area. The arborist will document the results of the tree/vegetative landcover survey in a report that may include the location, species, size (dbh), overall health, and dripline diameter of the trees. These activities will be conducted before any trees are removed.

Mitigation Measure BIO-7: Compensate for the Loss of Protected Trees

The County will comply with the requirements or conditions of the Tree Preservation Ordinance, which are described in Article 12.16 of the Placer County Code and the mitigation alternatives described in Section 21083.4 of California Public Resources Code. If the project results in impacts on protected trees or oak woodlands, the County will obtain a tree permit that identifies individual tree impacts and, if applicable, oak woodland impacts, prior to development activities within the protected zone of any protected tree. The County will implement appropriate mitigation measures as required by the permit.

Impact BIO-5. Affect the California Red-Legged Frog

Alternative 1 could potentially affect the federally listed (threatened) California red-legged frog by adversely modifying habitat or resulting in direct injury or mortality of frogs during construction. Dewatering and recontouring of the WWTP ponds and the temporary disturbance to upland habitat from construction of the pipeline, construction of the pump stations, and use of the staging areas could result in the loss of individual California red-legged frogs and the disruption of movement during the breeding season. These impacts could result in a reduction in the local population. Therefore, this impact would be considered significant.

Implementation of Mitigation Measures BIO-8, BIO-9, and BIO-10 would reduce this impact to **less than significant**. In addition, EPA will conduct consultation with the USFWS under Section 7 of the ESA regarding the potential impacts on California red-legged frog. Mitigation may be further refined during this process.

Mitigation Measure BIO-8: Conduct Mandatory Contractor Training for the Protection of the California Red-Legged Frog

Before any work, including grading, occurs in the construction area, a USFWS-approved biologist will conduct an environmental education program for construction personnel concerning the California red-legged frogs that could occur in the project area. The mandatory environmental education program will include a description, representative photographs, and legal status of each federally listed species; the terms and conditions of the biological opinion; and the penalties for not complying with biological mitigation requirements. Proof of this instruction will be kept on file with the County. In the absence of a USFWS-approved biologist, environmental training pamphlets will also be available on site for use by environmentally trained leads in training new personnel. Construction personnel will learn that if a California red-legged frog is encountered in the work area, construction will cease, and USFWS will be called for guidance before any construction activities resume.

The program will emphasize the need to protect water quality and the importance of implementing the conservation measures included in the EIR. The biologist will review the measures that must be implemented to protect water quality as well as general restrictions and guidelines that must be followed by all construction personnel to avoid or reduce effects on federally listed species during project implementation. The resident inspector will be responsible for ensuring that construction personnel adhere to the guidelines and restrictions. If new construction personnel are added to the project, the crew foreman will ensure that they receive the mandatory training before starting work. Restrictions and guidelines that must be followed by construction personnel are listed below.

- The contractor will clearly delineate the project boundaries and prohibit any off-road construction travel outside these boundaries.
- Project-related vehicles and construction equipment will be restricted to the designated construction area.
- The contractor will provide closed garbage containers for the disposal of all food-related trash items (e.g., wrappers, cans, bottles, food scraps). All garbage will be picked up daily around the project site. Construction personnel will not feed or otherwise attract fish or wildlife to the project area.
- To prevent possible resource damage from hazardous materials such as motor oil or gasoline, construction personnel will not service vehicles or construction equipment outside designated staging areas. Staging areas as well as areas for fueling and maintenance activities will be located a minimum of 100 feet from riparian or aquatic habitats. The project proponent will prepare a spill prevention and cleanup plan.
- Any worker who inadvertently injures or kills a federally listed species or finds one dead, injured, or entrapped will immediately report the incident to the resident inspector. The resident inspector

will immediately notify the County, which will provide verbal notification to the USFWS Endangered Species Office in Sacramento, California, and the local CDFG warden or biologist within 3 working days of the incident. The County will follow up with written notification to USFWS and CDFG within 5 working days of the incident.

Mitigation Measure BIO-9: Avoid and Minimize Effects on California Red-Legged Frog during Construction

Biological Monitoring During Construction

Wet season. During project construction activities occurring during the wet season (generally October 15 to April 15), a USFWS-approved biological monitor will conduct a preconstruction survey for California red-legged frogs no more than 48 hours before new ground disturbance and remain on site for all construction activities that occur during the wet season. If a California red-legged frog is encountered during any project activities, construction will cease and the USFWS will be notified.

Dry season. During construction activities occurring during the dry season (generally April 15 to October 15), the construction monitor will monitor for California red-legged frog when construction occurs within 300 feet of suitable aquatic habitat as identified as suitable or marginally suitable in Table 1 of the California red-legged frog site assessment prepared for the project (ICF 2010a). If a California red-legged frog is encountered during any project activities, construction will cease until the frog is removed by a USFWS-approved biologist and relocated to a nearby suitable aquatic habitat.

The County will submit to USFWS the name and credentials of the biologist or team of biologists who will monitor the project for California red-legged frog. Review and approval must occur at least 15 days prior to the onset of construction activities. Minimum credentials for a biologist include completion of at least 4 years of university training in wildlife biology or a related science and/or demonstrated field experience pertaining to the identification and life history of the California red-legged frog as well as common amphibians known to occur in area. Once approved, said biologist, or team of biologists, will be referred to as the USFWS-approved biological monitor for the project.

Pipeline Installation

Where possible, all trenches created for pipeline installation will be filled in on the same day they are created during the duration of construction for either the wet or dry season.

In the event that trenches remain open overnight, exclusion fencing (defined as sediment fencing 18 to 24 inches high buried at least 6 inches into the ground) will be installed around the open area or the trench will be covered to reduce the likelihood of California red-legged frogs entering the trench. Prior to filling any portion of the trenches along the

pipeline alignment, the USFWS-approved biological monitor or environmentally trained lead will check for frogs. If any frogs are located within the trench, the USFWS-approved biological monitor and USFWS will immediately be contacted for guidance.

Wastewater Treatment Plant Pond Dewatering and Recontouring

If feasible, dewatering of the WWTP ponds will occur in mid- to late summer to avoid affecting breeding habitat. A USFWS-approved biological monitor will be placed on site just prior to and shortly after drawdown of the ponds to determine whether frogs are present regardless of when the drawdown occurs. If California red-legged frogs are present, USFWS will be notified. During dewatering, frogs and other wildlife should be allowed to disperse passively to nearby aquatic and upland habitat outside of the WWTP. Shortly after the ponds are dewatered and the area is surveyed and cleared by a biologist, exclusion fencing will be placed around the perimeter of the Applegate facility to prevent frogs and other wildlife from re-entering the site.

In the event that the ponds are restored, once recontouring is completed, the exclusion fencing will be removed. Recontoured areas will be stabilized with erosion control materials (e.g., fiber blankets, waddles) and hydro-seeded with a mix of native herbs and grasses.

Mitigation Measure BIO-10: Restore Disturbed Areas to Pre-Project Conditions

After completion of construction activities in natural areas, the County will ensure that any temporary fill or construction debris is removed from the project areas and that unpaved disturbed areas are restored to pre-project conditions (regrading and replanting the areas to pre-project conditions). No trees will be planted over the pipeline to prevent potential damage to the pipeline from roots.

Impact BIO-6. Affect the Foothill Yellow-Legged Frog

Construction of Alternative 1 could potentially affect foothill yellow-legged frog by disturbing habitat along the portions of the Boardman Canal that is not tunneled that passes beneath Applegate Road. The construction of the pipeline alignment across this channel could result in temporary disturbance to foothill yellow-legged frog habitat and the potential loss of individual frogs. This impact would be significant. The implementation of Mitigation Measure BIO-11 would make this impact **less than significant**.

Mitigation Measure BIO-11: Avoid and Minimize Construction-Related Impacts on Foothill Yellow-Legged Frog

If avoidance is not feasible, prior to construction of the pipeline across the natural section of Boardman Canal, a survey for foothill yellow-legged frogs will be conducted by a qualified biologist within 48 hours of the commencement of construction activities. If foothill yellow-legged frogs are found within the impact area they will be relocated downstream of the construction area. This biologist will monitor all construction activities within in and immediately adjacent to this channel.

Impact BIO-7. Affect the Western Pond Turtle

Construction of Alternative 1 could potentially affect western pond turtles. If the are WWTP ponds are dewatered and recontoured, these activities could result in the loss of habitat and the loss of individual turtles. This impact would be potentially significant. The implementation of Mitigation Measure BIO-12 would make this impact **less than significant**.

Mitigation Measure BIO-12: Avoid and Minimize Construction-Related Impacts on Western Pond Turtle.

In the event the WWTP ponds are restored to pre-project conditions, if feasible, dewatering and re-contouring will occur in late summer/early fall. A biological monitor will be placed on site just prior to and shortly after the ponds drawdown to determine whether turtles and other wildlife are stranded and require relocation. During the dewatering, turtles and other wildlife will be allowed to passively disperse to nearby aquatic and upland habitat outside of the WWTP. Shortly after the ponds are dewatered and the area is surveyed and cleared by a biologist, exclusion fencing will be placed up around the perimeter of the WWTP to prevent turtles and other wildlife from re-entering the site under the remaining construction activities are complete.

Impact BIO-8. Affect Nesting Migratory Birds

Construction activities such as tree and shrub removal, excavation, grading, and blasting could result in direct and indirect impacts on nesting habitat for a number of common migratory birds and raptors. Removing or causing the abandonment of active nests (with eggs or young) violates California Fish and Game Code 3503 and 3503.5 and the MBTA and would be considered a significant impact. Implementation of Mitigation Measures BIO-13 through BIO-15 would reduce these impacts to **less than significant**.

Mitigation Measure BIO-13: Conduct Tree and Shrub Removal Activities during the Non-Breeding Season for Migratory Birds and Raptors, and Survey and Avoid Nesting Sites during Tree and Shrub Trimming

To avoid removing any active special-status species or other non-special status bird and raptor nests, tree and shrub trimming and removal activities will be conducted during the non-breeding season for these species (generally between August 15 and January 15).

If tree and shrub trimming and removal activities are conducted during breeding season (generally between January 15 and August 15), a preconstruction survey will be conducted by a qualified biologist retained by the County to determine if there are active nests present. The survey will be conducted no more than 14 days prior to tree and shrub removal activities. If the biologist determines that the area surveyed does not contain any active nests, then trimming and removal activities can commence without any further mitigation.

If an active migratory bird or raptor nest is discovered during the nesting survey, a no-disturbance buffer will be established around the nest to avoid disturbance or destruction of the nest. The distance around the no-disturbance buffer will be determined by the biologist in coordination with CDFG and will depend on the level of noise or construction activity, the level of ambient noise in the vicinity of the nest, and line-of-sight between the nest and disturbance. The no-disturbance buffer will remain in place until after the nesting season (January 15 through August 15) or until the biologist determines that the young have fledged.

Mitigation Measure BIO-14: Survey and Avoid Nesting Sites during Pipeline Construction

For pipeline construction occurring between January 15 and August 15, preconstruction surveys for nesting birds and raptors will be conducted two weeks prior to construction activities. Since the alignment occurs within existing roadways adjacent to rural residences that receive regular traffic, the survey distance for nesting migratory birds will be limited to the immediate vicinity of the pipeline alignment and for nesting raptors surveys will extend out to 500 feet where accessible. Since pipeline construction will occur over an extended period of time, multiple preconstruction surveys will be conducted so as to provide clearance for each new section of pipeline to be constructed. Preconstruction surveys shall be coordinated with construction timing so as to remain two weeks ahead of expected progress on each new segment and therefore it is anticipated that these surveys will occur approximately every two weeks, and will be conducted by the biological monitor throughout the breeding season.

If an active migratory bird or raptor nest is discovered during the nesting survey, a no-disturbance buffer will be established around the nest to avoid disturbance or destruction of the nest. The distance around the no-disturbance buffer will be determined by the biologist in coordination with CDFG and will depend on the level of noise or construction activity, the level of ambient noise in the vicinity of the nest, and line-of-sight between the nest and disturbance. The no-disturbance buffer will remain in place until after the nesting season (January 15 through August 15) or until the biologist determines that the young have fledged.

Mitigation Measure BIO-15: Conduct Surveys for Nesting Birds and Raptors Prior to any Blasting

If any blasting is to occur between January 15 and August 15, surveys for nesting birds and raptors will be conducted two weeks prior to scheduled blasts. The survey distance for nesting migratory birds will extend out to 500 feet, where accessible, and for nesting raptors surveys will extend out to 0.25 mile, where accessible.

If an active migratory bird or raptor nest is discovered during the nesting survey, the surveying biologist will consult with CDFG to determine the appropriate measures to avoid and minimize impacts on nesting birds and raptors.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Impact BIO-1. Cause the Loss of Special-Status Plant Populations

Potential project construction-related impacts on special-status plants resulting from implementation of Alternative 2 would be the same as potential impacts resulting from the implementation of Alternative 1.With the implementation of Mitigation Measures BIO-1, BIO -2, BIO -3, and BIO -4, these impacts would be **less than significant**.

Impact BIO-2. Cause the Loss or Disturbance of Wetlands and Other Waters of the United States

Project construction-related impacts on wetlands and other waters of the United States resulting from implementation of Alternative 2 would be slightly less than the project impacts resulting from the implementation of Alternative 1. This is because the proposed Applegate Regional Pump Station would likely require a smaller footprint and would, therefore, result in slightly smaller impacts on wetlands in that location. Implementation of Mitigation Measures BIO-2, BIO-3, and BIO-5 would reduce these impacts to **less than significant**.

Impact BIO-3. Cause the Loss or Disturbance of Riparian Vegetation

Project construction-related impacts on riparian vegetation resulting from implementation of Alternative 2 would be the same as impacts resulting from the implementation of Alternative 1. Implementation of Mitigation Measures BIO-2, BIO-3, and BIO-6 would ensure that these impacts are **less than significant**.

Impact BIO-4. Disturb or Remove Protected Trees

Potential project construction-related impacts on protected trees resulting from implementation of Alternative 2 would be the same as potential impacts resulting from the implementation of Alternative 1. Implementation of Mitigation Measures BIO-7 and BIO-8 would reduce these impacts to **less than significant**.

Impact BIO-5. Affect the California Red-Legged Frog

The potential construction-related impacts on California red-legged frog resulting from implementation of Alternative 2 would be the same as the potential impacts resulting from the implementation of Alternative 1.

Implementation of Mitigation Measures BIO-8, BIO-9, and BIO-10 would reduce these impacts to **less than significant**. In addition, EPA will conduct consultation with the USFWS under Section 7 of the ESA regarding the potential impacts on California red-legged frog. Mitigation may be further refined during this process.

Impact BIO-6. Affect the Foothill Yellow-Legged Frog

The potential construction-related impacts on foothill yellow-legged frog resulting from implementation of Alternative 2 would be the same as the potential impacts resulting from the implementation of Alternative 1. The implementation of Mitigation Measure BIO-11 would make these impacts **less than significant**.

Impact BIO-7. Affect the Western Pond Turtle

The potential construction-related impacts on western pond turtle resulting from implementation of Alternative 2 would be the same as the potential impacts resulting from the implementation of Alternative 1. The implementation of Mitigation Measure BIO-12 would make these impacts **less than significant**.

Impact BIO-8. Affect Nesting Migratory Birds

The potential construction-related impacts on nesting migratory birds resulting from implementation of Alternative 2 would be the same as the potential impacts resulting from the implementation of Alternative 1. Implementation of Mitigation Measures BIO-13, BIO-14, and BIO-15 would reduce these impacts to **less than significant**.

Alternative 3 – No Project/No Action Alternative

Impact BIO-1. Cause the Loss of Special-Status Plant Populations

Alternative 3 would not involve any construction activities or changes compared with existing conditions. There would be **no impact** on special-status plant populations.

Impact BIO-2. Cause the Loss or Disturbance of Wetlands and Other Waters of the United States

Alternative 3 would not involve any construction activities or changes compared with existing conditions. There would be **no impact** on wetlands or other waters of the United States.

Impact BIO-3. Cause the Loss or Disturbance of Riparian Vegetation

Alternative 3 would not involve any construction activities or changes compared with existing conditions. There would be **no impact** on riparian vegetation.

Impact BIO-4. Disturb or Remove Protected Trees

Alternative 3 would not involve any construction activities or changes compared with existing conditions. There would be **no impact** on protected trees.

Impact BIO-5. Affect the California Red-Legged Frog

Alternative 3 would not involve any construction activities or changes compared with existing conditions. There would be **no impact** on California red-legged frog.

Impact BIO-6. Affect the Foothill Yellow-Legged Frog

Alternative 3 would not involve any construction activities or changes compared with existing conditions. There would be **no impact** on foothill yellow-legged frog.

Impact BIO-7. Affect the Western Pond Turtle

Alternative 3 would not involve any construction activities or changes compared with existing conditions. There would be **no impact** on western pond turtle.

Impact BIO-8. Affect Nesting Migratory Birds

Alternative 3 would not involve any construction activities or changes compared with existing conditions. There would be **no impact** on nesting migratory birds.

3.3 Cultural Resources

3.3.1 Introduction

This section describes the existing environmental and regulatory setting with respect to cultural resources, including prehistoric, ethnographic, and historic resources. This section also identifies potential impacts on cultural resources that would result from the Proposed Project and the mitigation measures that would reduce these impacts.

Additional detail is provided in the Cultural Resources Inventory Report that was prepared for the Proposed Project (Appendix D) to satisfy the requirements of the National Historic Preservation Act (NHPA). As required by the NHPA, the Cultural Resources Inventory Report focuses on the area of potential effects (APE) for the federal action. For the purposes of this EID cultural resources analysis, the study area includes the Applegate WWTP, proposed staging areas, proposed pump stations, and the proposed pipeline alignment and upgrade, including the area 20 feet on each side of the pipeline centerline.

3.3.2 Affected Environment

Prehistory

Although the Sacramento Valley may have been inhabited by humans as early as 10,000 years ago, the evidence for early human use is likely buried under deep alluvial sediments that accumulated rapidly during the late Holocene epoch. Archaeological remains of this early period, although rare, have been identified in and around the Central Valley (Johnson 1967, Peak & Associates 1981, Treganza and Heizer 1953). Johnson (1967) presents evidence for some use of the Mokelumne River area, under what is now Camanche Reservoir, during the late Pleistocene. Archaeologists working at the reservoir found a number of lithic cores and a flake that are associated with Pleistocene gravels. These archaeological remains have been grouped into what is called the Farmington Complex, which is characterized by core tools and large, reworked percussion flakes (Treganza and Heizer 1953). The economy of this early period generally is thought to be based on exploitation of large game. Later periods are better understood because of their more-abundant representation in the archaeological record.

The taxonomic framework of the Sacramento Valley has been described in terms of archaeological patterns (Moratto 1984). A pattern is a general mode of life characterized archaeologically by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture. Fredrickson (1973) identified three general patterns of resource use for the period between 4500 and 3500 Before Present (BP): the Windmiller, Berkeley, and Augustine Patterns.

The Windmiller Pattern (4500–3000 BP) shows evidence of a mixed economy of game procurement and use of wild plant foods. The archaeological record contains numerous projectile points with a wide range of faunal remains. Hunting was not limited to terrestrial animals; fishing hooks and spears have been found in association with the remains of sturgeon, salmon, and other fish (Moratto 1984). Plants were also used, as indicated by ground stone artifacts and clay balls that were used for boiling acorn mush. Settlement strategies reflect seasonal adaptations: habitation sites in the valley were occupied during winter, but populations moved into the foothills during summer (Moratto 1984).

The Windmiller Pattern ultimately changed to the more specialized adaptation of the Berkeley Pattern (3500–2500 BP). A reduction in the number of manos and metates and an increase in mortars and pestles indicate a greater dependence on acorns. Although gathered resources gained importance during this period, the continued presence of projectile points and atlatls (spear-throwers) in the archaeological record indicates that hunting was still an important activity (Fredrickson 1973).

The Berkeley Pattern was superseded by the Augustine Pattern around AD 500. The Augustine Pattern reflects a change in subsistence and land use patterns to those of the ethnographically known people (Nisenan) of the historic era. This pattern exhibits a great elaboration of ceremonial and social organization, including the development of social stratification. Exchange became well developed, and a greater emphasis was placed on the use of the acorn, as evidenced by the presence in the archaeological record of shaped mortars and pestles and numerous hopper mortars. Other notable elements of the artifact assemblage associated with the Augustine Pattern include flanged tubular smoking pipes, harpoons, clam shell disc beads, and an especially elaborate baked clay industry, which included figurines and pottery vessels (Cosumnes Brownware). The presence of small projectile point types, referred to as the Gunther Barbed series, suggests the use of the bow and arrow. Other traits associated with the Augustine Pattern include the burning of pre-interment offerings in a grave pit during the mortuary ritual, increased village sedentism, population growth, and an incipient monetary economy in which beads were used as a standard of exchange (Moratto 1984).

Ethnography

The study area lies within the ethnographic territory of the Nisenan, also referred to as the Southern Maidu (Kroeber 1925). Nisenan territory included the drainages of the Yuba, Bear, and American Rivers, and the lower drainages of the Feather River. This territory was bordered on the west by the Wintu, who occupied the valley floor west of the Sacramento River. To the east were the Washoe, surrounding Lake Tahoe. To the north and south were the Maidu and Miwok, respectively.

Nisenan typically built settlements on low natural rises along streams or on gentle slopes with southern exposure. These sites ranged in size from small, three-house villages to larger villages of over 500 people. Villages were further

combined to form tribelets, the largest sociopolitical unit identified for Nisenan groups. Each tribelet controlled a geographically bounded area of land averaging 100 square miles (Beals 1933:359) and used the natural resources found within.

Nisenan made use of a wide variety of plant and animal foods. Acorns were gathered in the fall and stored in granaries for use during winter. The black oak (*Quercus kelloggii*) acorn was the most preferred. Acorns were prepared by first cracking and shelling them using an anvil, then pounding them into flour using a mortar and pestle. The flour was leached of tannic acids and cooked as a mush or soup in watertight baskets. Deer, rabbit, and salmon were the preferred source of animal protein. Quail, insects such as grasshoppers, and rodents were also an important part of their diet. W.G. Roop (1981) found manos and pestles designed for use with wooden mortars, as well as flaked-stone tools near vernal pools in Placer, Merced, Solano, and Napa counties. Roop suggests that native people used these pools for brief intervals to harvest freshwater shrimp, hunt waterfowl, and gather the greens, bulbs, and seeds associated with the pools (Moratto 1984:198).

The Nisenan are among the more recent populations to have moved into the western Sierra foothills, sometime around AD 1400 to 1500 and had established their territories and villages by AD 1600 to 1700 (Moratto 1984:338). Their population was reduced significantly during the nineteenth century. Events such as the migration of valley tribes seeking refuge in the foothills, the malaria epidemic of 1833, and the Gold Rush era from 1848 to 1860, contributed to the decline of the Nisenan.

Historic Context

Earliest European contact with the Nisenan probably occurred during the Moraga expedition into the Sacramento Valley in 1808. Subsequent visits to the area were made by American fur trappers such as Jedediah Strong Smith. One consequence of these visits was the introduction of malaria, which in 1833 resulted in a massive epidemic that killed from 50 to 75% of the Nisenan population (Cook 1955). In 1839, John Sutter established the first permanent Euroamerican settlement in the Sacramento Valley at Sutter's Fort in what is now the city of Sacramento.

The Sacramento Valley area was slowly settled by ranchers and farmers through the 1840s until the discovery of gold in the Mother Lode. The influx of tens of thousands of miners and related commercial enterprises and settlers into the area began the American period in California history and drastically altered the early Nisenan culture (Beals 1933). Gold discoveries in the 1850s and 1860s in Auburn Ravine and Secret Ravine resulted in dramatic growth in Placer County. By 1859, lots were being sold in the new town of Lincoln, established as the northern terminus of the California Central Railroad (Gudde 1969).

Placer County was formed in 1851 from parts of Sutter and Yuba Counties. The City of Auburn has been the only county seat. The thousands of miners that swarmed up the American River and its tributaries during the Gold Rush

established camps and towns at the sites of major discoveries. These communities along the north fork of the American River in Placer County included Beals Bar, Horseshoe Bar, Smith's Bar, and Rattlesnake Bar (Kyle 1990).

The study area is located in the unincorporated town of Applegate and to the north of Auburn. Auburn (originally known as Wood Dry Diggings) was originally settled in 1848 as one of the earliest mining camps in the state. Because of its central location in the gold country, Auburn became a major shipping a supply center for gold camps in the area. By 1850, Auburn had a population of 1,500; the town incorporated in 1860. In 1865, the Central Pacific Railroad established a depot at Auburn; for many years, the town served as the center of staging and freight operations. Gold mining remained a major industry in Auburn well into the 1880s, but agriculture and timber replaced it as the main enterprise in the region within a few decades. By the turn of the twentieth century, more than 2,000 people lived in the town. Auburn and the surrounding area enjoyed moderate growth throughout the twentieth century (Kyle 1990).

Paleontological Resources

Paleontology is defined as a science dealing with the life of past geological periods as known from fossil remains. Paleontological resources include fossil remains, localities, and formations that may have produced fossil material in other nearby areas. Paleontological resources are important and nonrenewable educational resources.

CEQA offers protection for these sensitive resources and requires that they be addressed during the EIR process. Although 30 paleontological resources have been recovered in Placer County with the closest discovery 30 miles northeast of the study area, no paleontological resources were identified in the study area.

3.3.3 Regulatory Setting

Federal

Section 106 of the National Historic Preservation Act

The Proposed Project would be funded, in part, by EPA and is therefore subject to evaluation under NEPA, which requires compliance with Section 106 of the NHPA. Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties and affords the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings.

The ACHP's implementing regulations, Protection of Historic Properties, can be found in 36 CFR 800. The goal of the Section 106 review process is to review sites considered eligible for listing on the National Register of Historic Places

(NRHP). The criteria for determining National Register eligibility are found in 36 CFR 60. Recent amendments to the NHPA (1986 and 1992) and subsequent revisions to the implementation regulations have strengthened the provisions for Native American consultation and participation in the Section 106 review process.

The Section 106 process (36 CFR 800) normally includes the steps listed below.

- Delineate the APE and identify and evaluate cultural resources in consultation with the State Historic Preservation Officer (SHPO) and any other consulting parties.
- Assess adverse effects on historic properties that are eligible for inclusion in NHRP, and notify ACHP if adverse effects are identified.
- Consult with SHPO and other participating parties to resolve adverse effects on historic properties, generally resulting in a memorandum of agreement stipulating how the properties will be treated.

Historic properties are any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP (36 CFR 800.16[1]). For federal projects, cultural resource significance is evaluated in terms of eligibility for listing in the NRHP. The NRHP criteria for evaluation are defined at 36 CFR 60.4 as reproduced below.

> The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling and association, and that
>
> A. are associated with events that have made a contribution to the broad pattern of our history;
>
> B. are associated with the lives of people significant in our past;
>
> C. embody the distinct characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> D. have yielded, or are likely to yield, information important in prehistory or history (36 CFR 60.4).

State

California Environmental Quality Act

CEQA requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. This determination applies to those resources that meet significance criteria, qualifying them as unique, important, listed on the California Register of Historical Resources (CRHR), or eligible for listing on the CRHR.

If the lead agency determines that a project may have a significant effect on a significant resource, the project is determined to have a significant effect on the environment, and these effects must be addressed. If a cultural resource is found not to be significant under the qualifying criteria, it need not be considered further in the planning process.

CEQA emphasizes avoidance of archaeological and historic resources as the preferred means of reducing potential significant effects. If avoidance is not feasible, an excavation program or some other form of mitigation must be developed to mitigate the impacts.

California Register of Historical Resources Criteria

State CEQA Guidelines Section 15064.5(a) defines three ways that a property may qualify as a historical resource for the purposes of CEQA review, which are summarized below.

- The resource is listed in or determined eligible for listing in the CRHR.
- The resource is included in a local register of historical resources, as defined in Public Resources Code (PRC) 5020.1(k), or identified as significant in an historical resource survey meeting the requirements of PRC 5024.1(g), unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- The lead agency determines the resource to be significant as supported by substantial evidence in light of the whole record.

These ways of qualifying as an historical resource for the purpose of CEQA are related to the eligibility criteria for inclusion in the CRHR (PRC 5020.1[k], 5024.1, 5024.1[g]). A historical resource may be eligible for inclusion in the CRHR if it:

- 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 our 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, information important in prehistory or history.

Properties that are listed or eligible for listing in the NRHP are considered eligible for listing in the CRHR. Therefore, they would be significant historical resources for the purposes of CEQA (PRC 5024.1[d][1]).

In addition to meeting the above criteria, potentially historic properties must possess integrity to be considered for listing in the CRHR. Integrity is a quality that applies to historic resources in seven specific ways: location, design, setting, materials, workmanship, feeling, and association. To be eligible for CRHR

listing, a resource must possess two (and usually more) of these criteria of integrity, depending on the context and the reasons that the property is significant.

Local

Placer County General Plan

The Placer County General Plan (1994) provides goals, objectives, and policies for the identification and protection of significant cultural resources. The General Plan Goals, Policies, and Implementation Programs include Goal 5.D, Policies 1.I.1, 5.D.1 - 52.D.12, and Implementation Programs 5.4 - 5.7. These goals, policies, and implementation programs emphasize avoidance of cultural resources as the preferred means of reducing potentially significant effects. The consistency of the Proposed Project with the general plan is summarized in Table 3.3-1.

Table 3.3-1. Project Consistency with Appropriate General Plan Cultural Resources Policies

Placer County General Plan Policies	Consistency with General Plan	Policy	Analysis
Policy 5.D.1	N/A	The County shall assist the citizens of Placer County in becoming active guardians of their community's cultural resources.	This policy is not applicable to the Proposed Project since project activities would occur within the public road right-of-way.
Policy 5.D.2	N/A	The County shall solicit the cooperation of the owners of cultural and paleontological resources, encourage those owners to treat these resources as assets rather than liabilities, and encourage the support of the general public for the preservation and enhancement of these resources.	This policy is not applicable to the Proposed Project since project activities would occur within the public road right-of-way.
Policy 5.D.3	Yes	The County shall solicit the views of the Native American Heritage Commission and/or the local Native American community in cases where development may result in a disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.	A sacred lands file search was conducted by the Native American Heritage Committee (NAHC) on October 20, 2010. Letters regarding the Proposed Project were sent on October 21, 2010, to all individuals and groups listed by the NAHC. Subsequent consultations occurred with the Auburn Rancheria on July 11, 2011, and September 14, 2011, to discuss cultural monitoring and two ethnographic areas of concern that, while not located in the project APE, are within the project vicinity.

Placer County General Plan Policies	Consistency with General Plan	Policy	Analysis
Policy 5.D.4	N/A	The County shall coordinate with the cities and municipal advisory councils in the County to promote the preservation and maintenance of Placer County's paleontological and archaeological resources.	This policy is not applicable to the Proposed Project since no archaeological or paleontological resources were identified in the study area.
Policy 5.D.5	N/A	The County shall use, where feasible, incentive programs to assist private property owners in preserving and enhancing cultural resources.	This policy is not applicable to the Proposed Project since the study area is located entirely within the public road right-of-way.
Policy 5.D.6	Yes	The County shall require that discretionary development projects identify and protect from damage, destruction, and abuse, important historical, archaeological, paleontological, and cultural sites and their contributing environment. Such assessments shall be incorporated into a Countywide cultural resource data base, to be maintained by the Department of Museums.	A cultural resources inventory included archival research and a records search at the North Central Information Center; consultation with NAHC and the local Native American community; and a pedestrian survey of the study area.
Policy 5.D.7	Yes	The County shall require that discretionary development projects are designed to avoid potential impacts to significant paleontological or cultural resources whenever possible. Unavoidable impacts, wherever possible, shall be reduced to a less than significant level and/or shall be mitigated by extracting maximum recoverable data. Determinations of impacts, significance, and mitigation shall be made by qualified archaeological (in consultation with recognized local Native American groups), historical, or paleontological consultants, depending on the type of resource in question.	A cultural resources inventory included archival research and a records search at the North Central Information Center, consultation with NAHC and the local Native American community, and a pedestrian survey of the study area. Mitigation Measure CR-1 would reduce any adverse impacts on cultural resources to a less-than-significant level.
Policy 5.D.8	N/A	The County shall, within its power, maintain confidentiality regarding locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts.	Cultural resources investigations did not identify archaeological sites in the study area; therefore, this policy does not apply.
Policy 5.D.9	N/A/	The County shall use the State Historic Building Code to encourage the preservation of historic structures.	Cultural resources investigations did not identify historic buildings in the study area; therefore, this policy does not apply.
Policy 5.D.10	N/A	The County will use existing legislation and propose local legislation for the identification and protection of cultural resources and their contributing environment.	Cultural resources investigations were completed without the need for existing or proposed legislation. Therefore, this policy does not apply.

Placer County General Plan Policies	Consistency with General Plan	Policy	Analysis
Policy 5.D.11		The County shall support the registration of cultural resources in appropriate landmark designations (i.e., National Register of Historic Places, California Historical Landmarks, Points of Historical Interest, or Local Landmark). The County shall assist private citizens seeking these designations for their property.	This policy is not applicable to the Proposed Project since project activities would occur within the public road right-of-way.
Policy 5.D.12	N/A	The County shall consider acquisition programs as a means of preserving significant cultural resources that are not suitable for private development. Organizations that could provide assistance in the area include, but are not limited to, the Archaeological Conservancy, The Nature Conservancy, and the Placer Land trust.	This policy is not applicable to the Proposed Project since the project does not involve any private development.

3.3.4 Environmental Consequences

This section discusses the approach and methodology used to assess impacts of the Proposed Project on cultural resources; thresholds used to determine whether an impact would be significant; individual impacts relative to thresholds; mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for individual impacts; and overall significance of the impact with mitigation incorporated.

Methodology

Efforts to identify potential cultural resources in the study area included conducting a records search, contacting the Native American Heritage Commission (NAHC) and Native American representatives, consulting with historical societies, and conducting a cultural resources survey.

Records Searches

A cultural resources records search was conducted on August 18, 2008, at the North Central Information Center of the California Historical Resources Information System. The search indicated that three cultural resource studies have been conducted within the boundaries of the study area, encompassing approximately 3.0 miles of the proposed pipeline alignment. Three cultural resources (a segment of the First Transcontinental Railroad, a feeder for the Boardman Canal, and a stable [which is no longer present]) were previously recorded within the study area. Another records search was conducted for the area that could be affected by the potential pipeline upgrade on March 29, 2011.

Pedestrian Survey

On September 23, 2010, ICF cultural resources staff members conducted a pedestrian survey of the study area, including the footprint for the Proposed Project. A First Transcontinental Railroad bridge (known today as the Union Pacific Railroad bridge, Caltrans Local Agency Bridge Number 19C0015), a feeder for the Boardman Canal (P-31-2448-H), a segment of the Boardman Canal, and a historic-era residential complex at 15730 Lake Arthur Road (APN 077-120-052) were identified during the survey. An additional survey of the area that could be affected by the potential upgrade of the existing collection system was conducted on March 9, 2011. No other cultural resources were identified in the study area. No additional cultural resources were identified as a result.

Archival Research and Historical Society Consultation

To document further the Union Pacific Railroad bridge, the feeder segment of the Boardman Canal, the Boardman Canal segment, and the historic-era residential complex, additional historic research was conducted at the Placer County Archives, the Placer County Assessor's and Recorder's Offices, and the California History Room at the California State Library in October 2010**.**

In addition, letters requesting information regarding historic resources in the study area were sent to the Placer County Historical Society, Placer County Department of Parks and Museums, and the Placer County Museum on July 14, 2010. To date, no responses have been received.

Native American Consultation

On October 18, 2010, ICF cultural resources staff requested a sacred lands search and a list of Native American contacts from NAHC. The NAHC responded on October 20, 2010, and indicated that the sacred lands search failed to identify any resources within the study area. Letters describing the study area and a request for information regarding cultural resources were sent to the Native American representatives on October 21, 2010.

Rancheria responded via letter, indicating that it is unaware of cultural resources in the study area. On December 7, 2010, the United Auburn Indian Community of the Auburn Rancheria (Auburn Rancheria) responded via letter, indicating that it may have information regarding cultural resources in the study area. Follow-up telephone calls were made to the Auburn Rancheria on March 8, 2011, March 27, 2011, and March 28, 2011, and voicemails requesting a call back were left.

On July 11, 2011, the Auburn Rancheria contacted EPA to discuss the presence of Native American resources in the vicinity of the Proposed Project and request that a monitor be present during ground disturbance in the vicinity of these resources. On September 14, 2011, an ICF archaeologist met with Auburn Rancheria representatives, including Marcos Guerrero, the Tribal Historic Preservation Officer, in the project area. Mr. Guerrero indicated that there are two areas of concern because ethnographic information mentions that two Native American village locations are in the vicinity of the project area. One location is

just north of Lake Theodore, along Applegate Road, and the other is adjacent to the west side of Interstate 80 at the Clipper Gap westbound entrance and near the proposed pump house. These areas of concern are not located within the APE and, therefore, would not be affected by the Proposed Project. However, Mr. Guerrero did request construction monitoring at two specific locations within the APE. The County is continuing to coordinate with the Auburn Rancheria.

Known Cultural Resources

As a result of the records search and pedestrian survey, no archaeological resources were identified within the study area. However, the records searches and surveys identified four built-environment resources 50 years old or older that required formal recordation and evaluation in compliance with Section 106 of the NHPA and in accordance with Section 15064.5(a)(2)–(3) of the CEQA Guidelines. These built-environment resources are described and evaluated below. For more detailed information on these resources see the Department of Parks and Recreation 523 forms provided in Appendix D.

Union Pacific Railroad Bridge (Site 19C0015)

A segment of the Union Pacific Railroad (formerly Southern Pacific, associated with the First Transcontinental Railroad), crosses the study area via a bridge at Applegate Road approximately 0.1 mile west of the proposed pipeline connection point. A railroad bridge was originally constructed as part of the alignment in 1909 as part of the Southern Pacific Railroad line in the area. In 1927, the original bridge was replaced with the existing structure. The subject bridge is a deck plate girder bridge and consists of reinforced concrete abutments supporting standard gauge railroad tracks approximately 14 feet high. The bridge is topped by a concrete deck with girders, wood beams, and metal rails and ties. The year 1927 is stamped in the concrete on the inside of both abutments.

Although the Union Pacific Railroad Bridge (19C0015) is associated with the First Transcontinental/Southern Pacific railroad alignment, it is a replacement of the original 1909 bridge and is not representative of the initial development of the Southern Pacific Railroad and the expansion of railroad development in the Placer County region. The structure was also likely built using standard plans, because it is a bridge type commonly found throughout California and in other regions of the U.S. where the Southern Pacific Railroad was active during the first half of the twentieth century. The Union Pacific Railroad Bridge (19C0015) does not appear to meet the criteria for listing in the NRHP or the CRHR. Therefore, it is not a historical resource for the purposes of CEQA or NEPA.

Boardman Canal Feeder Segment

The Boardman Canal feeder segment (P-31-2448-H) is located just east of Applegate Road and west of Bon Vue Road. This feeder segment receives water from the Boardman Canal, which is just northwest, and travels in a west/southwest direction. This portion of the feeder segment has a top width of approximately 6 feet, a bottom width of approximately 4 feet, a slope of 3 feet,

and is roughly 1 foot deep. The segment is lined with gunite and portions of the segment are surrounded by wood planks. A metal pipe measuring approximately 3 feet in diameter and a metal gate that spans the width of the segment are located at the east end of the segment.

The Boardman Canal feeder segment does not appear to be eligible for listing in the NRHP or CRHR. Although a case could be made for the feeder's significance due to its association with the Boardman Canal, which is an important part of the Placer County water conveyance system, it has lost integrity as a result of alterations, including the addition of gunite, contemporary metal piping, and a gate. Therefore, the structure does not appear eligible for listing in the NRHP or CRHR and is not considered a historical resource under CEQA or NEPA.

Boardman Canal Segment

An approximately 200-foot segment of the Boardman Canal (which extends through Placer County from the Cedar Creek Canal in Alta to Rocklin), is located north and south of Applegate Road, between Fairidge Drive on the east and Cheryl Lane on the west. The canal segment runs under Applegate Road and receives water from the Yuba and Bear River systems, located north of the study area.

The southern portion of the Boardman Canal segment is lined with rock and concrete, and covered with overgrown riparian vegetation. This portion of the canal is approximately 2 to 3 feet deep and 2 to 5 feet wide. A modern concrete pump is located at this portion of the segment and a wood fence surrounds the pump on the south side. The northern portion of the canal segment is lined with rock and broken concrete. This segment is approximately 3 feet deep and is 3 to 4 feet wide.

This segment of the Boardman Canal does not appear to be eligible for listing in the NRHP or the CRHR. This segment was constructed as early as 1890 as part of the original Boardman Canal. It has lost integrity to its period of significance (1890) as a result of modifications over time, including the addition of concrete lining and the addition of a contemporary concrete pump. The structure is therefore not a historical resource for the purposes of CEQA or NEPA.

15730 Lake Arthur Road Residential Complex (APN 077-120-052)

The residential complex, constructed circa 1910, is located at 15730 Lake Arthur Road, at the southwest intersection of Lake Arthur and Placer Hills Roads. The property consists of three single-family residences, two sheds, and one outbuilding situated on a 1.6-acre parcel. All buildings on the property lack historical and architectural significance. For these reasons, they do not appear to meet the criteria for listing in the NRHP or the CRHR. Consequently, the property located at 15730 Lake Arthur Road does not contain historical resources significant under CEQA or NEPA guidelines.

Thresholds of Significance

California Environmental Quality Act

The impact analysis provided below is based on the following State CEQA Guidelines Appendix G thresholds of significance. An impact is considered significant if it would:

- cause a substantial adverse change in the significance of a historic resource as defined in Section 15064.5;
- cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- disturb any human remains, including those interred outside of formal cemeteries.

State CEQA Guidelines Section 15064.5 defines *substantial adverse change* as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historic resource is materially impaired.

Section 106 of the National Historic Preservation Act

Adverse effects occur when those characteristics of a historic property that qualify it for inclusion in the NRHP are altered in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association (36 CFR 800.5[a]). Adverse effects are listed below.

- Physical destruction of or damage to all or part of the property.
- Alteration of the property that is not consistent with the Secretary of the Interior's standards for the treatment of historic properties (36 CFR 68).
- Removal of the property from its historic location.
- Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance.
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features.
- Neglect of a property that causes its deterioration.
- Transfer, lease, or sale of the property out of federal ownership or control.

Environmental Impacts

Built-environment resources (buildings, structures, and linear features) located in the study area over 50 years old have been identified and evaluated for historical significance. None of the resources evaluated appears to be historically or architecturally significant. No impact on historic built-environment structures or features is anticipated under any of the alternatives.

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Impact CR-1. Disturb Unknown Cultural Resources, Paleontological Resources, or Human Remains

A reasonable effort has been made to identify cultural resources that could be affected by implementation of Alternative 1. As a result, no historic properties were found to be located within the Alternative 1 project area. Regardless, it is possible that buried cultural or paleontological resources could be unearthed as a result of project construction. If such deposits were determined to be significant under CEQA or Section 106 of the NHPA, the disturbance of the buried deposit would be considered a significant impact. Implementation of Mitigation Measure CR-1 would ensure that this impact is **less than significant**.

Mitigation Measure CR-1: Stop Work and Implement Appropriate Measures

If any artifact or an unusual amount of bone, shell, or nonnative stone is uncovered during construction or other ground-disturbing activities, work will be halted in that area so that a professionally qualified archaeologist or paleontologist, as appropriate, can determine the significance of the find. If human bone is uncovered, the Placer County Coroner and NAHC will be contacted immediately. If human remains are discovered in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- Redesign portions of the Proposed Project at the locations of sensitive cultural resources, relocating staging areas, or modifying the limits of disturbance.
- the Placer County Coroner has been informed and has determined that no investigation of the cause of death is required; and
- if the remains are of Native American origin, the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work regarding the means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC 5097.98, or the NAHC was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the NAHC.

According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052).

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Impact CR-1. Disturb Unknown Cultural Resources, Paleontological Resources, or Human Remains

Impacts under Alternative 2 would be the same as those described under Alternative 1. Alternative 2 would result in the potential to affect unknown cultural resources during construction. This would be considered a significant impact. Implementation of Mitigation Measure CR-1 would ensure this impact is **less than significant**.

Alternative 3 – No Project/No Action Alternative

Impact CR-1. Disturb Unknown Cultural Resources, Paleontological Resources, or Human Remains

Under Alternative 3, there would be no construction activity and current use of the Applegate WWTP would continue. Because no demolition, construction, or ground-disturbing activities would take place, there would be **no impact** on unidentified cultural resources in the study area. No mitigation would be required.

3.4 Hydrology and Water Quality

3.4.1 Introduction

This section describes the existing environmental and regulatory setting with respect to hydrology and water quality. This section also identifies potential impacts on hydrology and water quality that would result from the Proposed Project and includes recommended mitigation measures to address those impacts that are deemed to be potentially significant.

3.4.2 Affected Environment

Topography and Precipitation

The project area is located north of Auburn, at the base of the central Sierra Nevada just south of Applegate. The topography in the region varies from relatively flat in the western portions to steep, sloped foothills in the east. This region is characterized by cool, wet weather during the fall and winter months and hot, dry weather during the summer months. Annual rainfall ranges 19 to 42 inches, depending on the elevation. Storms that originate in the Pacific Ocean cause the precipitation. The elevations in the project area range from approximately 1,400 to 2,020 feet above mean sea level (amsl).

Project Area Watersheds

The term watershed refers to a land area that collects water and drains into a hydrologic system such as a river, stream, creek, lake, or marsh. The water can also infiltrate into an underlying groundwater aquifer. Watersheds can be described on a regional scale or more locally depending on the scale of the drainage system.

The project area is located in three watersheds (Figure 3.4-1): the Clementine watershed, the Auburn watershed, and the Lake Combie watershed.

Clementine Watershed

The Clementine Watershed drains approximately 42 square miles (California Integrated Mapping Agency 2004) and includes the northeastern portion of the project area where the proposed pipeline alignment would originate (Figure 3.4-1). The Applegate WWTP is also located in this watershed. Clipper Creek, a tributary of the North Fork of the American River, is located to the east of the WWTP and water from the ponds has occasionally overflowed into an unnamed drainage that flows into Clipper Creek. Clipper Creek flows for approximately 6 miles before it reaches its confluence with the American River about 3.25 miles northeast of Auburn.

Auburn Watershed

The majority of the project area occurs in the Auburn watershed, which is part of the larger Sacramento River hydrological unit (Figure 3.4-1). The Auburn watershed drains an area of approximately 110 square miles, and includes Coon Creek, the Upper and Lower Orr Creek, Salt Creek, Dotty Ravine, North Ravine, Auburn Ravine, Sweetwater Creek, and Lake Theodore (California Integrated Mapping Agency 2004).

Lake Combie Watershed

A portion of the proposed pipeline alignment would be located in the Lake Combie watershed. Lake Combie watershed drains approximately 45 square miles (California Integrated Mapping Agency 2004) and includes portions of Bear River. Other water bodies in the watershed include Wooley Creek, Campbell Creek, Shady Glen, and Lake of the Pines. Water within this watershed flows west until it converges with the Feather River. Lake Combie Watershed is part of the larger Sacramento River hydrological unit.

Surface Waters

Creeks and Small Drainages

Surface waters in the project area consist mostly of small, ephemeral, and intermediate creeks, which usually have water flowing only during the fall and winter seasons. During the late spring and summer months flows in these creeks dissipate to little or no flow. The primary surface waters in the project vicinity consist of various unnamed drainages and Clipper Creek, located to the southeast of the project area (Figure 3.4-1).

Rivers

As mentioned above, surface waters in the project vicinity drain into three different watersheds. Drainage from the Auburn watershed flows into the Sacramento River. Drainage from the Lake Combie watershed flows into the Bear River and eventually into the Sacramento River. Drainage from the Clementine watershed eventually flows into the American River. The Bear, Sacramento, and American Rivers are the major water bodies that have the potential to be affected by the Proposed Project.

Bear River

Bear River is the major surface water body in the Lake Combie watershed. The headwaters begin in the vicinity of Emigrant Gap and Lake Spaulding, located in the central Sierra Nevada, and the river terminates when it converges with the Feather River just north of the city of Nicolaus. The drainage area for Bear River

Alternative 1
Decommission Applegate WWTP
and Construct Pipeline[1]

Existing Applegate Collection System

Existing SMD 1 Collection System

Watershed Boundary

100-Year
Flooding

[1]Alternative 2 would also include the construction of the proposed pipeline.

0 500 1,000 2,000
Feet

N

LAKE COMBIE WATERSHED

AUBURN WATERSHED

CLEMENTINE WATERSHED

Existing
Applegate
WWTP

Potential Upgrade
of the Existing
Collection System

Meadow Vista
Placer Hills Union Sch
Siphon
Applegate
Tunnel
Hotchkiss Hill
Honor Camp No 7 (Iron Mine)
Christian Valley
Forebay
Clipper Gap
Lake Theodore
Lake Arthur
Nielsburg (Site)
Powerhouse
Long Point
Sugar Pine Road
Placer Hills Road
Applegate Road
Christian Valley Road
Lake Arthur Road
Dry Creek Road
Clipper Creek
Pacific Canal
Bowman Canal
Upper Bowman Canal
Shimp Road
Meadow Vista Road
Bear River
South Yuba Canal
Tunnel
BM 1722
BM 2022
BM 1954
BM 1778
BM 1756
BM 2337

Figure 3.4-1
Floodplain Analysis

is approximately 550 square miles (California Integrated Mapping Agency 2004). Its tributaries include Green Horn Creek, Wolf Creek, Rock Creek, and Dry Creek. Bear River contains diversion and holding facilities owned by Pacific Gas and Electricity (PG&E) and Nevada Irrigation District and used for hydroelectric power, irrigation, and drinking water. Storage facilities along the river include Rollins reservoir, Combie Lake, Camp Far West, Dutch Flat Afterbay, and Drum Afterbay (Smithson et al. 2002).

Sacramento River

The Sacramento River is approximately 327 miles long and drains an area of approximately 110 square miles (Central Valley Regional Water Quality Control Board 2007). Average runoff from the Sacramento River watershed is estimated to be approximately 30 million acre feet per year (Domagalski et al. 2000). The Auburn watershed is part of the larger Sacramento River watershed, which is bounded by the Sierra Nevada to the east, the Coastal Range to the west, the Trinity Mountains and Cascade Range to the north, and the Sacramento-San Joaquin Delta to the south. The principal tributaries to the Sacramento River are the Pit, Feather Yuba, Bear, and American Rivers; the smaller tributaries are the Cottonwood, Stony, Cache, and Putah Creeks (Central Valley Regional Water Quality Control Board 2007). The Sacramento River is the principal water body in the region. The Sacramento River starts near the California-Oregon border and ends at the I Street Bridge when it becomes the Sacramento-San Joaquin Delta (California Water Code Section 12220).

American River

The Clementine watershed is part of the larger American River watershed that begins near the crest of the central Sierra Nevada near Lake Tahoe. The American River is split into three forks: the North American, the Middle American, and the South American. The north and middle forks converge above Folsom Lake Reservoir before they join with the south fork at Folsom Lake. Below Folsom Lake Dam there is a secondary reservoir, Nimbus Lake. After the river is released from the Nimbus Dam, it is referred to as the Lower American River. The Lower American River flows for approximately 24 river miles before its confluence with the Sacramento River at Discovery Park. In total, the American River drains approximately 1,875 square miles and drains approximately 2.7 million acre feet a year (U.S. Army Corps of Engineers 1991). The flows on the lower American River are controlled by the releases of the Folsom and Nimbus Dams.

The water levels in all three rivers vary depending on the time of year, location, diversions, and releases from dams upriver. All three water bodies are have impairments and beneficial uses designated by the Water Quality Control Plan (Basin Plan), discussed in the Surface Water Quality section below.

Surface Water Quality

The CWA 303(d) list is the primary means by which the State Water Resources Control Board (SWRCB) determines and regulates the water quality of surface waters. The CWA, including Section 303, is discussed in greater detail in Section 3.4.3, Regulatory Setting.

The Sacramento, Bear, and American Rivers are the larger surface water bodies in the project vicinity that potentially would receive runoff from the smaller tributaries in the project area. Dry Creek and Clipper Creek are tributaries to these rivers, and are not listed as being impaired on the CWA Section 303(d) List. However, there is a potential for Clipper Creek to receive point source discharge during storm season from the WWTP when heavy rains and groundwater flow cause the ponds to overtop. Currently, the County is meeting its WDRs by ensuring that overflow does not occur by trucking excess wastewater away. Such discharges would have the potential to affect the water quality of Clipper Creek and may affect downstream water quality. Water quality constituents of concern for such discharges may include nitrates, ammonia, phosphorus, bacteria, and fecal coliform.

The American, Bear, and Sacramento Rivers have been placed on the CWA Section 303(d) list of impaired water bodies. The American River is listed from Nimbus Dam to the confluence with the Sacramento River as being impaired for mercury and unknown toxicity; the Sacramento River is listed from Knights Landing to the Sacramento- San Joaquin Delta as being impaired for mercury and unknown toxicity; and the Bear River is listed above Camp Far West Reservoir as being impaired for mercury (California State Water Resources Control Board 2006). Mercury is a contaminant dating from the historical gold mining activities in California.

Groundwater

The project area is located above the Sacramento River Groundwater Basin, North American Subbasin (California Department of Water Resources 2003). The basin is bounded by the central Sierra Nevada to the east, the Sacramento River to the west, the Bear River to the north, and the North Fork of the American River to the south (California Department of Water Resources 2003). Groundwater resources supplied from the fractured rock sources of the Sierra Nevada are highly variable in terms of water quantity and quality because of the many confined and unconfined groundwater layers (California Department of Water Resources 2003).

Groundwater Quality

There are insufficient data to determine ambient groundwater quality conditions along the pipeline alignment; however, groundwater quality conditions can be generally characterized using existing regional data. In general, groundwater in the Sierra Nevada foothills may encounter uranium and radon-bearing rock or sulfide mineral deposits containing heavy metals (California Department of Water Resources 2003).

Flooding

The Federal Emergency Management Agency (FEMA) delineates 100-year floodplains and publishes the information on Flood Insurance Rate Maps. Figure 3.4-1 shows the 100-year flood zones in the project area. According to the Flood Insurance Rate Maps, the majority of the project area is located in Zone X, or outside of the 500-year floodplain (Federal Emergency Management Agency 1998).

3.4.3 Regulatory Setting

Regulations and policies considered relevant to the assessment of public health and safety in the context of the Proposed Project and its alternatives are summarized below.

Federal

Clean Water Act

The CWA of 1972 is the federal law that governs water quality. Under this law, the EPA is responsible for regulating water quality. In order to guide water quality control activities, the EPA has published regulations under title 40 of the CFR. Below is a list of the sections from the CFR that pertain to the project alternatives.

Section 303(d) Water Quality Impaired Streams and Water Bodies

Section 303(d) of the CWA requires each state to create a list of streams and water bodies that do not meet federal water quality standards for specific parameters. For waters identified in the 303(d) list, the CWA requires states to establish total maximum daily loads (TMDLs) that ensure water quality standards are attained. In California, SWRCB is authorized by EPA to oversee Section 303 responsibilities.

Section 401 Water Quality Certification

Under Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate, or if appropriate, from the interstate water pollution control agency with jurisdiction over the affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component must also comply with Section 401.

Section 402 Permits for Stormwater Discharge

Section 402 of the CWA regulates construction-related stormwater discharges to surface waters through the NPDES program, which is administered by EPA. In California, SWRCB is authorized by EPA to oversee the NPDES program.

NPDES permits are required for construction projects that disturb more than 1 acre of land. The NPDES permitting process requires the applicant to file a public notice of intent to discharge stormwater and to prepare and implement a Stormwater Pollution Prevention Plan. The plan includes a site map and a description of proposed construction activities. In addition, it describes the BMPs that will be implemented to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water resources. Permitted projects are required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants.

Section 404 Permits for Placement of Fill in Waters and Wetlands

Section 404 regulates the discharge of dredged and fill materials into waters of the United States. The U.S. Army Corps of Engineers has permitting jurisdiction under this section and cannot issue or verify any permit until a water quality certification, or waiver of certification, has been issued in accordance with Section 401.

Safe Drinking Water Act

The Safe Drinking Water Act of 1974 (Public Law 93-523, 42 USC 300 *et seq.)* is intended to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and again in 1996 and requires various actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and groundwater wells. Under the Safe Drinking Water Act, EPA has the authority to designate aquifers that serve as the sole or principal source of drinking water for an area. To meet the criteria for sole source designation, an aquifer must supply at least 50% of the drinking water to persons living over the aquifer and there can be no feasible alternate source of drinking water. Once an aquifer is so designated, EPA can review proposed projects that are to receive federal funds and that have the potential to contaminate the aquifer.

National Toxics Rule

The National Toxics Rule establishes numeric, chemical-specific water quality requirements that dischargers must adhere to when discharging wastewater into waters of the United States. The rule was set forth to bring all states into compliance with the requirements of Section 303 of the CWA. As required by the CWA, states are also required to establish numeric water quality standards. The California National Toxics Rule is discussed below under State Regulations.

Antidegradation Policy

The federal Antidegradation Policy was established in 1968 to protect the existing uses and water quality objectives for the nation's waters. The federal policy directs states to adopt a statewide policy that includes the following provisions, although the policy does not provide any guidance for implementation. In the state of California, these standards have been adopted in addition to those under the California Toxics Rule, which is discussed in greater detail below under State Regulations.

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

National Flood Insurance Act and the Flood Disaster Protection Act

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 were enacted in response to concern about the increasing costs of disaster relief. The intent of those Acts was to reduce the need for large publicly funded flood-control structures and to limit disaster relief costs by restricting development on floodplains.

FEMA administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development on floodplains. FEMA is responsible for issuing Flood Insurance Rate Maps for communities participating in the National Flood Insurance Program. These maps delineate flood hazard zones in the community. The analysis in this section was based on the most recent Flood Insurance Rate Maps, effective June 8, 1998.

Standards for the Use or Disposal of Sewage Sludge

The quality requirements for the use and disposal of sewage sludge are established under 40 CFR 503. The rule encourages public acceptance and expanding markets for the beneficial use of biosolids as a soil conditioner or fertilizer. The rule helps biosolids managers identify "exceptional quality" biosolids—those that meet Class A pathogen reduction requirements, the most stringent metals limits (pollutant concentrations), and vector control requirements. The rule encourages municipal wastewater treatment facilities to

treat biosolids to a higher quality level and minimize constraints on use. The rule requires relatively expensive pollution control equipment and management practices, further ensuring clean and safe biosolids that can be applied in the least restrictive manner, thereby maximizing their beneficial uses.

Executive Order 11988, Floodplain Management

Executive Order 11988 (Floodplain Management) addresses floodplain issues related to public safety, conservation, and economics. The policy applies to projects that would significantly encroach into the floodplain and requires that the following goals be achieved as part of a project's implementation:

- avoidance of incompatible floodplain development,
- consistency with the standards and criteria of the National Flood Insurance Program, and
- restoration and preservation of the natural and beneficial floodplain values.

State

In California, SWRCB has the authority over water quality control issues. The SWRCB is responsible for implementation of the state water policies and exercises its powers delegated from the federal government under the CWA. Other state agencies with jurisdiction over water quality under the federal government include the Office of Environmental Health and Hazard Assessment, the California Department of Pesticide Regulation, and the California Department of Health Services. Applicable regulations are discussed below.

Porter-Cologne Water Quality Act

In 1969, California passed the Porter-Cologne Act Water Quality Act to coordinate with the CWA and provide a basis for water quality regulations within California. The Act established SWRCB and divided the state into nine regions. Under SWRCB the nine Regional Water Quality Control Boards (RWQCBs) are responsible for implementing CWA Sections 303, 401, and 402. In general, SWRCB focuses on managing the water rights and the statewide regulations, where the RWQCBs are responsible for the water quality within their regions. The project area is located in Region 5, the Central Valley Region.

This act also requires SWRCB and the RWRCBs to adopt and periodically update basin plans. Basin plans identify and designate the beneficial uses for a specific water body, either surface or groundwater, then apply the applicable criteria and objectives necessary to support the beneficial uses. A basin plan also identifies programs that are necessary to establish and maintain these objectives to protect the water body from degradation.

California Toxics Rule

The California Toxics Rule is enforced in the state of California by EPA and SWRCB. The California Toxics Rule sets forth numeric water quality criteria for priority toxic pollutants affecting waters of the state. Under section 303(c)(2)(B) of the CWA, states must adopt numeric criteria for the priority toxic pollutants listed under section 307(a) if those pollutants could be reasonably expected to interfere with the designated uses of state waters.

Local

Western Regional Sanitary Landfill

Disposal of the wastewater treatment sludge is regulated by the CVRWQCB. The Waste Discharge Requirements Order R5-2007-0047 for the Western Regional Sanitary Landfill specifies the stipulations for the acceptance of the Applegate WWTP sludge. These prohibitions include the following:

- The discharge to landfill units of liquid or semisolid waste (i.e., waste containing less than 50% solids), except dewatered sewage or water treatment sludge as provided in Section 20220(c) of Title 27, is prohibited.
- Dewatered sewage or water treatment sludge may be accepted for disposal at the Class III landfill if the sludge contains at least 20% solids (primary sludge) or 15% solids (secondary sludge), is mixed with refuse at a minimum solids-to-liquid ratio of 5:1 by weight, and does not exceed the initial moisture-holding capacity of the solid waste. Any waste that contains liquid in excess of the moisture-holding capacity of the waste in the Class II landfill or that contains liquid in excess of the moisture- holding capacity as a result of waste management operations, compaction, or settlement shall only be discharged to another unit with containment features equivalent to a surface impoundment. Dewatered sewage or water treatment sludge may be used as alternative daily cover if it is blended with soil or other approved material, at a quarterly rate of 25% sludge to 75% soil or approved material.

Placer County Flood Control Policies

Placer County Flood Control and Water Conservation District was created in 1984. The District is supported through a cooperative effort by the County and the Cities of Auburn, Colfax, Lincoln, Rocklin, and Roseville, and the Town of Loomis. District policies and activities are largely guided by the consensus of participating members. The primary policies of the district that relate to water quality and hydrology are to:

- maintain major drainage facilities, primarily stream channels, and detention and retention basins;
- provide technical support to local governments; and
- perform regional drainage studies, including master drainage plans, and implement the regional projects and programs delineated therein.

Placer County General Plan

The Placer County General Plan (1994) lists a number of policies related to hydrology and water quality that are applicable to the Proposed Project.

Water Resources

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

Policy 6.A.2. The County shall require all development in the 100-year floodplain to comply with the provisions of the Placer County Flood Damage Prevention Ordinance 15.52.050. This provision prohibits encroachments, including fill, new construction, substantial improvements, and other new development unless certification by a California registered civil engineer is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge (Placer County Code Definitions 2008).

Policy 6.A.3. The County shall require development projects proposing to encroach into a creek corridor or creek setback to do one or more of the following, in descending order of desirability:

a. Avoid the disturbance of riparian vegetation;
b. Replace riparian vegetation (on-site, in-kind);
c. Restore another section of creek (in-kind); and/or
d. Pay a mitigation fee for restoration elsewhere (e.g., wetland mitigation banking program).

Policy 6.A.4. Where creek protection is required or proposed, the County should require public and private development to:

a. Preserve creek corridors and creek setback areas through easements or dedications. Parcel lines (in the case of a subdivision) or easements (in the case of a subdivision or other development) shall be located to optimize resource protection. If a creek is proposed to be included within an open space parcel or easement, allowed uses and maintenance responsibilities within that parcel or easement should be clearly defined and conditioned prior to map or project approval;
b. Designate such easement or dedication areas (as described in a. above) as open space;
c. Protect creek corridors and their habitat value by actions such as:
    1. providing an adequate creek setback,
    2. maintaining creek corridors in an essentially natural state,
    3. employing creek restoration techniques where restoration is needed to achieve a natural creek corridor,
    4. utilizing riparian vegetation within creek corridors, and where possible, within creek setback areas.
d. Use design, construction, and maintenance techniques that ensure development near a creek will not cause or worsen natural hazards (such as erosion, sedimentation, flooding, or water pollution and will include erosion and sediment control practices such as:

1. turbidity screens and other management practices, which shall be used as necessary to minimize siltation, sedimentation, and erosion, and shall be left in place until disturbed areas; and/or are stabilized with permanent vegetation that will prevent the transport of sediment off site; and
2. temporary vegetation sufficient to stabilize disturbed areas.

e. Provide for long-term creek corridor maintenance by providing a guaranteed financial commitment to the County which accounts for all anticipated maintenance activities.

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

Policy 6.A.8. Where the stream environment zone has previously been modified by channelization, fill, or other human activity, the County shall require project proponents to restore such areas by means of landscaping, revegetation, or similar stabilization techniques as a part of development activities.

Flood Hazards

Goal 8.B: To minimize the risk of loss of life, injury, damage to property, and economic and social dislocations resulting from flood hazards.

Policy 8.B.1. The County shall promote flood control measures that maintain natural conditions within the 100- year floodplain of rivers and streams.

Policy 8.B.8. The County shall require that flood management programs avoid alteration of waterways and adjacent areas, whenever possible.

Stormwater Drainage

Goal 4.E: To collect and dispose of stormwater in a manner that least inconveniences the public, reduces potential water-related damage, and enhances the environment.

Policy 4.E.4. The County shall ensure that new storm drainage systems are designed in conformance with the Placer County Flood Control and Water Conservation District's Stormwater Management Manual and the County Land Development Manual.

Placer County Grading Ordinance

Except for the specific exemptions listed in Section 15.48.070, all grading activities in unincorporated Placer County require a grading permit. Placer County requires a grading permit prior to any land disturbance or other construction activity causing a ground disturbance of 1 acre or more (Ord. 5407-B § 3, 2006: Ord. 5373-B (part), 2005; Ord. 5056-B (part). County projects such as the Proposed Project are exempted.

3.4.4 Environmental Consequences

Methodology

It is assumed that the Proposed Project would conform to all federal, state, and County requirements, codes, and building standards. Impacts were identified by comparing the proposed facility changes for each alternative to the impact criteria described below. The significance of the impact was then assessed using those criteria.

As discussed in the Initial Study (IS) (ICF Jones & Stokes 2008a), the Proposed Project would not include any features that would affect groundwater recharge or result in increased exposure to risks associated with tsunamis or seiches. Therefore, issues related to these topics are not discussed further in this analysis.

Thresholds of Significance

Based on State CEQA Guidelines Section 15065 and Appendix G of the Guidelines, adverse impacts would be potentially significant if the Proposed Project could:

- violate any water quality standard or waste discharge requirements, or otherwise substantially degrade water quality;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site;
- create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- place housing or structures within a 100-year floodplain or place structures that would impede or redirect flood flows; or
- expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or Dam.

Environmental Impacts

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Impact WQ-1. Violate Water Quality Standards

Construction Impacts

Construction of the Alternative 1 would involve ground-disturbing activities, including trenching, grading, excavating, and blasting that could increase the risk of ground and surface water contamination. These activities pose a threat to water quality by increasing the risk of introducing sediment and hazardous materials into receiving waters.

Discharge of sediment and hazardous materials such as gasoline, engine oil, and lubricants could occur via stormwater runoff leaving the construction area and flowing to adjacent drainages. In addition, discharge of construction-related dewatering (groundwater) effluent could result in the release of contaminants, such as sediment or elevated total dissolved solids to nearby surface waters.

Trenching, excavation, and tunneling during pipeline installation and upgrading may also reach a depth that could expose the water table. Construction of the pump station wells would also directly connect with groundwater. This could provide an immediate and direct route for contaminants to enter the groundwater system.

Construction would require completion of an NPDES permit and preparation of a Stormwater Pollution Prevention Plan (SWPPP) (Environmental Commitment [EC]-8). Along with implementation of EC-9, Prepare and Implement a Grading and Erosion Control Plan and incorporation of Mitigation Measure WQ-1, Impact WQ-1 would be less than significant.

> **Mitigation Measure WQ-1: Ensure Adequacy of NPDES Permit Provisions for Dewatering and Implement Provisions**
> Before discharging any dewatered effluent to surface water, the County or its contractors will obtain an NPDES permit and/or WDRs from the CVRWQCB. Depending on the volume and characteristics of the discharge, coverage under the CVRWQCB's General Construction Permit or General Dewatering Permit is possible. As part of the permit, the permittee will design and implement measures as necessary so that the discharge limits identified in the relevant permit are met. As a performance standard, these measures will be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable. Implemented measures may include retention of dewatering effluent until particulate matter has settled before it is discharged, use of infiltration areas, and other BMPs. Final selection of water quality control measures will be subject to approval by the County.

The County will verify that coverage under the appropriate NPDES permit has been obtained before allowing dewatering activities to begin. The County or its agent will perform routine inspections of the construction area to verify that the water quality control measures are properly implemented and maintained. The County will notify its contractors immediately if there is a noncompliance issue and will require compliance.

Operational Impacts

Under operational conditions, the wastewater would be transported via an enclosed pipeline to the Sewer Maintenance District No. 1 (SMD 1) WWTP. This would represent an improvement in the water quality of Clipper Creek. This is because under Alternative 1, there would no longer be the possibility for the WWTP ponds to overflow, exceeding WDRs. However, the treated wastewater would be discharged at a new location, Rock Creek via SMD 1, with potential water quality impacts at that location.

The environmental impacts associated with operation of the SMD 1 WWTP have been previously analyzed in an environmental impact report for the SMD 1 Update (Placer County 1975) and then updated for the SMD 1 Ammonia Removal (Placer County 2000). In addition, SMD 1 has sufficient permitted capacity to treat additional wastewater from Applegate and would continue to operate under its existing permit, which includes the requirement to meet certain water quality standards to mitigate any potential impacts from discharge to Rock Creek. Currently, the County is working to address water quality issues related to meeting its WDRs by 2012. Solutions to meeting the WDRs will consider increased flows from Applegate. For these reasons, impacts related to controlled wastewater discharges would be considered less than significant.

There is a possibility that a rupture of the pipeline could release wastewater into the groundwater and possibly surface waters. With the implementation of Environmental Commitment EC-7, Implement Seismic Standards into Design, this impact would be considered less than significant, but slightly greater than under Alternative 3.

Impact WQ-2. Increase Erosion as a Result of Altering Drainage Patterns

Under Alternative 1, there would be no changes in drainage patterns along the proposed pipeline alignment once installation and upgrading was complete; however, the WWTP ponds could be filled and the natural contours of the site would then be restored and revegetated. The intent would be to allow surface water runoff to drain naturally toward Clipper Creek per pre-project conditions. If done, grading work at this location has the potential to result in increased erosion during and immediately following construction. The topography of the site is such that once the contours are restored, there would not be a significant potential for erosion to occur as a result of sheet flow towards Clipper Creek.

The implementation of BMPs, including EC-8 and EC-9, would ensure that potential erosion impacts from construction activities are minimized. In addition, all construction areas will be revegetated. Therefore, this impact would be considered less than significant.

Impact WQ-3. Exceed Stormwater Capacity

Under Alternative 1, the WWTP ponds may be filled and regraded to establish the natural contours of the area. The stormwater runoff would be channeled toward the unnamed drainage that flows to Clipper Creek. Alternative 1would represent an improvement in stormwater drainage conditions such that surface water would flow in a controlled and directed manner. Because stormwater would no longer have the potential to mix with the wastewater in the treatment ponds, water quality in Clipper Creek during heavy rain events could be improved. Therefore, there would be no impact on stormwater capacity under Alternative 1.

Impact WQ-4. Increase the Risk of Flooding Hazard

Under Alternative 1, the proposed pipeline route would follow an alignment that is not located within the 100-year floodplain. Therefore, the potential impacts related to flooding hazard would be considered less than significant and no mitigation would be required.

Impact WQ-5: Increase the Risk of Mudflow

Implementation of the Proposed Project would require grading and trenching activities that could result in destabilization of soil and increase the risk of mudflow. However, as indicated in the IS (ICF Jones & Stokes 2008a), the risk of mudflow is low based on the soil types and topography of the project area. Furthermore, the ground-disturbing activities would be subject to the recommendations of the final geotechnical report and Placer County regulations, and described under Environmental Commitments EC-7, Implement Seismic Standards into Design; and EC-10, Incorporate Placer County General Construction Specifications into Design. Therefore, this impact would be considered less than significant and no mitigation would be required.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Impact WQ-1. Violate Water Quality Standards

Construction Impacts

Alternative 2 would involve the same construction-related impacts on water quality as Alternative 1 and would be considered less than significant.

Operational Impacts

The operational impacts would be the same as under Alternative 1 and would be considered less than significant.

Impact WQ-2. Increase Erosion as a Result of Altering Drainage Patterns

Similar to Alternative 1, there would be no changes in drainage patterns along the proposed pipeline alignment once installation was complete. This impact would be considered less than significant.

Impact WQ-3. Exceed Stormwater Capacity

Similar to Alternative 1, there would be no impact related to stormwater treatment or capacity.

Impact WQ-4. Increase the Risk of Flooding Hazard

This impact would be the same as Alternative 1 and would be considered less than significant.

Impact WQ-5: Increase the Risk of Mudflow

Similar to the Alternative 1, this impact would be considered less than significant.

Alternative 3 – No Project/No Action Alternative

Impact WQ-1. Violate Water Quality Standards

Construction Impacts

Because there would be no construction associated with Alternative 3, there would be no construction-related impacts on water quality.

Operational Impacts

Under Alternative 3, the County would continue to haul wastewater from the WWTP during the winter months to prevent possible overflowing of the WWTP ponds and meet its WDRs. As indicated under Impact WQ-4, even if wastewater is hauled away from the WWTP, groundwater inflow alone has the potential to cause the ponds to overtop. Although there is a potential for a combination of stormwater and treated wastewater to overtop the ponds and reach the tributary to Clipper Creek, it is unlikely that water quality standards within the receiving waters would be exceeded. This is because the volume of discharge would be diluted by the receiving waters and because the water in the pond likely to discharge is primarily stormwater. Furthermore, Clipper Creek currently does not exceed any thresholds under the 303(d) listing. However,

discharges to surface waters are still considered a violation of WDRs. Because Alternative 3 involves no action, this impact would be **significant and unavoidable**.

Impact WQ-2. Increase Erosion as a Result of Altering Drainage Patterns

Alternative 3 involves no action. There would be no alteration of the existing drainage patterns. There would be **no impact**.

Impact WQ-3. Exceed Stormwater Capacity

As mentioned previously, even though the County would be required to haul wastewater away from the WWTP ponds during the winter months, there is still a potential for the WWTP ponds to overflow as a result of stormwater and groundwater inflow. Alternative 3 would not result in any changes to drainage patterns and, therefore, stormwater capacity would continue to have the potential to be exceeded. Because Alternative 3 involves no action, this impact would be **significant and unavoidable**.

Impact WQ-4. Increase the Risk of Flooding Hazard

Although no new structures are proposed under Alternative 3, there is a potential for increased risk of flooding associated with overflow from the WWTP ponds. Under existing conditions, the treatment ponds occasionally fill with runoff water from the adjacent hillside and artesian flows from groundwater, causing the ponds to overflow. Because Alternative 3 does not involve any modifications to the drainage patterns at the WWTP, there would be no improvements for stormwater diversion structures to minimize the risk of potential overflow from the ponds. Even if wastewater is hauled away from the WWTP, groundwater inflow alone has the potential to cause the ponds to overflow increasing the risk of downstream flooding. Although the potential for overflow does exist under Alternative 3, the risk of flooding is considered to be less than significant. This is because the incremental increase in the amount of discharge to Clipper and Dry Creeks from the ponds is relatively minor compared to the size of the creeks' drainage capacities. In addition, although not a viable long-term solution, the existing operation does include hauling wastewater away from the facility to prevent the ponds from overflowing. The incremental overtopping during storm events would likely be sporadic and short in duration. This impact would be considered **less than significant**.

Impact WQ-5. Increase the Risk of Mudflow

Alternative 3 involves no action. No changes are proposed that would increase the risk of mudflow compared with existing conditions. There would be **no impact**.

3.5 Land Use

3.5.1 Introduction

This section describes the existing environmental and regulatory setting with respect to land use and analyzes the potential for land use incompatibilities between the Proposed Project and local plans and policies. Excerpts from the relevant County planning documents and ordinances are presented below; complete copies of the documents and ordinances may be obtained by contacting the Placer County Planning Department.

3.5.2 Affected Environment

The project area is located in an area that is primarily zoned residential with some open space. A portion of the proposed pipeline alignment crosses under a major east-west transportation corridor. A majority of the proposed construction activities would take place within existing roadways. Decommissioning the Applegate WWTP and building the new pipeline and pump stations is anticipated to take place primarily within the existing public rights-of way.

The properties located within the project area were compared with the Placer County General Plan (1994) and applicable land use and zoning designations to ensure that proposed uses are consistent with the requirements set forth in the plan.

The pattern of land uses proposed in the Placer County General Plan (1994) is shown in two forms: Generalized Land Use Pattern and Countywide General Plan Land Use Diagram. The Generalized Land Use Pattern map is intended to provide readers of the General Plan with a simple, composite overview. The Generalized Land Use designations for the project area include Urban, Rural Residential, and Agriculture lands.

Land use designations for areas within community plans are depicted on the land use diagrams of each community plan. The project area is incorporated into two community plans: Weimar/Applegate/Clipper Gap General Plan (1980) and the Meadow Vista Community Plan (Placer County 1996). The specific land use designations from the applicable community plans include:

- Rural Low Density Residential. Parcel sizes from 0.4 to 2.3-acre minimum (Weimar/Applegate/Clipper Gap Community Plan).
- Rural Estate. Parcel sizes from 2.3 to 10-acre minimum (Meadow Vista Community Plan).
- Low Density Residential. Lot sizes from 40,000 square feet to 1 acre min (Meadow Vista Community Plan).
- Highway Service (Weimar/Applegate/Clipper Gap Community Plan).

- Tourist/Resort Commercial (Meadow Vista Community Plan).
- Water Influence (Meadow Vista Community Plan and Weimar/Applegate/Clipper Gap Community Plan).

The County's zoning maps (Chapter 30 of the Placer County Code) implement the General Plan land use designations by ordinance at a much more detailed, parcel-specific level. The zoning districts found by assessors' parcel number within the proposed project area include:

- Residential Agricultural
- Residential Single-Family
- Water Influence District
- Highway Services
- General Commercial

3.5.3 Regulatory Setting

State

California Environmental Quality Act

CEQA requires that lead agencies determine whether projects may have a significant effect on land use and planning. If the lead agency determines that a project may have a significant effect on a significant resource, the project is determined to have a significant effect on the environment, and these effects must be addressed.

Local

Sacramento Area Council of Governments

The Sacramento Area Council of Governments (SACOG) is an association of local governments in the six-county Sacramento region. Its members include the counties of El Dorado, Placer, Sacramento, Sutter, Yolo and Yuba as well as 22 additional cities.

SACOG provides transportation planning and funding for the region, and serves as a forum for the study and resolution of regional issues. In addition to preparing the region's long-range transportation plan, SACOG approves the distribution of affordable housing in the region and assists in planning for transit, bicycle networks, clean air, and airport land uses (Sacramento Area Council of Governments 2010)

General Plans

Placer County General Plan

The countywide general plan provides an overall framework for the development of the county and protection of its natural and cultural resources. The goals and policies contained in the countywide general plan are applicable throughout the county, except to the extent that County authority is preempted by cities within their corporate limits.

Community plans, adopted in the same manner as the countywide general plan, provide a more detailed focus on specific geographic areas within the unincorporated county. The goals and policies contained in the community plans supplement and elaborate upon, but do not supersede, the goals and policies of the countywide general plan (see Table 3.5-1).

The entire project area is within two areas directed by either the Weimar/Applegate/Clipper Gap General Plan (Placer County 1980) or the Meadow Vista Community Plan (Placer County 1996). Because these two plans provide more detailed goals and objectives than the general plan, this analysis assumes consistency with the placer county general plan.

Weimar/Applegate/Clipper Gap General Plan

The Weimar-Applegate-Clipper Gap General Plan prepared by Placer County (1980) establishes goals and policies to be used as a guide for growth and development in the subject communities during the plan period to the year 2000.

Meadow Vista Community Plan

The Meadow Vista Community Plan, in combination with the Placer County General Plan, establishes the goals and policies that guide the physical, social, and economic development of the Meadow Vista area.

Placer County Conservation Plan

The Placer County Conservation Plan (Placer County 2005) is a joint habitat conservation plan and natural community conservation plan planning document that is currently in draft form. The project area falls within Phase 1 of the conservation plan, which encompasses approximately 227,530 acres of unincorporated western Placer County and the City of Lincoln. The conservation plan provides ESA coverage for activities such as residential, commercial, and industrial development; transportation facility installation; flood control and waste management activities; and habitat restoration activities, as long as such activities comply with the requirements for performing these actives specified in the conservation plan.

Table 3.5-1. Project Consistency with Appropriate General Plan and Community Plan Land Use Policies

Plan	Consistent with Plan (Y/N)
Placer County General Plan	
Land Use for the Year 2000 Goals and Policies	
Goal 1: To preserve and enhance the rural character of the Weimar, Applegate, Clipper Gap area.	Y
Policies:	
Maintain large lot development where urban services are not available.	
Discourage public service from expanding into areas with significant value as rural open space.	
Public Services Goals and Policies	
Goal 1: Insure availability of urban services is consistent with the adopted land use plan and projected demand.	Y
Policies:	
Encourage the long term use of individual sewage disposal systems within the plan, except for existing sewer district properties, to maintain the rural environment.	
Require that adequate services are available for proposed developments prior to granting approval.	
Consider mitigation measures for new developments to reduce the impacts on local services (i.e., schools and parks, etc.)	
Goal 2: Minimize areas where urban services will be required to protect the rural character of the Weimar, Applegate, and Clipper Gap Communities.	Y
Policies:	
Limit higher density developments within the existing sewer district boundaries.	
Encourage cluster developments within the existing sewer districts to minimize environmental degradation.	
Meadow Vista Community Plan	
Goal I.E: To designate adequately-sized. well-located areas for the development of public facilities (i.e., schools, tire stations, parks, and other public uses) to serve both community and regional	Y
Policies	
The County will encourage the concentration of public and quasi-public facilities	
The County shall require public facilities, such as wells. pumps. tanks, and yards. to be located and designed so that noise, light, odors, and appearance do not adversely affect nearby land uses.	
The County shall support efforts to establish a community center in Meadow Vista.	

Plan	Consistent with Plan (Y/N)
Goal 5.A: To ensure the timely development of public facilities and the maintenance of specified service levels for these facilities. **Policies** The County shall require that where new development requires the construction of new public facilities, the new development shall fund its fair share of the construction. The County shall require dedication of land within newly developing areas for public facilities, where necessary. The County shall ensure through the development review process that adequate public facilities and services are available to serve new development. The County shall not approve new development where existing facilities are inadequate unless the following conditions are met: The applicant can demonstrate that all necessary public facilities will be installed or adequately financed (through fees or other means); and The facilities improvements are consistent with applicable facility plans approved by the County or with agency plans where the County is a participant. The County shall require proposed new development in identified underground conversion districts and along scenic corridors to install underground utility lines on and adjacent to the site of proposed development or, when this is infeasible, to contribute funding for future undergrounding. The County shall encourage the development of a community center in Meadow Vista to serve community residents.	Y
Goal 5.D: To ensure adequate wastewater collection and treatment and the safe disposal of liquid and solid waste. **Policies** The County shall promote efficient water use and reduced wastewater system demand by: Requiring water-conserving design and equipment in new construction; Encouraging retrofitting with water-conserving devices; and Designing wastewater systems to minimize inflow and infiltration to the extent economically feasible. The County shall permit on-site sewage treatment and disposal on parcels where all current regulations can be met and where parcels have the area, soils, and other characteristics that permit such disposal facilities without threatening surface or groundwater quality or posing any other health hazards. The County shall require septic tank maintenance by a public entity as a condition of tentative map approval for subdivisions (100 or more units) in which septic tanks are to be used. The County shall continue use of current technically based criteria in review and The County shall facilitate extension of septic tank effluent pumping (STEP) service or conventional wastewater collection service to non-residential areas with failing on-site systems. The County shall promote technologies that permit water reuse, such as treated wastewater for irrigation, when public health is not endangered.	Y

3.5.4 Environmental Consequences

Methodology

The potential land use and planning impacts associated with the Proposed Project have been evaluated through a qualitative comparison of the anticipated project impacts under existing site conditions and under the project alternatives. The Proposed Project was also determined to be consistent with existing land use plans, regulations, and policies applicable to the project area and vicinity. Significant impacts would occur if the Proposed Project would result in adverse physical environmental impacts when evaluated in accordance with the significance criteria described below.

Thresholds of Significance

Thresholds for land use and planning impacts are based on Appendix G of the State CEQA Guidelines Section 15065, as adapted to the circumstances of this project. Land use impacts are deemed to be significant if the Proposed Project would:

- physically divide an established community; or
- conflict with any applicable land use plan, including any applicable habitat conservation plan or natural community conservation plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.

Environmental Impacts

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Impact LU-1. Divide an Established Community

Implementation of Alternative 1 would not result in the physical division of an established community. Activities to implement Alternative 1 would occur within existing public roadways and intersections and would not require the displacement or relocation of any housing structures. All construction activities would be temporary and subject to traffic controls to allow restricted passage of vehicles and entrance to driveways during work. There would be **no impact** and no mitigation is required.

Impact LU-2. Conflict with an Applicable Land Use Plan, Policy, or Regulation

Alternative 1 would improve and expand wastewater collection facilities in the project area, as documented in Chapter 2, Project Alternatives. Alternative 1 is consistent with the land use goals and policies of the adopted Weimar/Applegate/Clipper Gap General Plan and the Meadow Vista Community Plan as shown in Table 3.5-1. In addition, Alternative 1 would allow the County to meet the conditions of the Settlement Agreement between the County and the CVRWQCB, as outlined in Chapter 2. There would be **no impact** and no mitigation is required.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Impact LU-1. Divide an Established Community

Implementation of Alternative 2 would not result in the physical division of an established community. Activities to implement this alternative would be the same as Alternative 1 and would occur within existing public roadways and intersections and would not require the displacement or relocation of any housing structures. All construction activities would be temporary and subject to traffic controls to allow restricted passage of vehicles and entrance to driveways during work. There would be **no impact** and no mitigation is required.

Impact LU-2. Conflict with an Applicable Land Use Plan, Policy, or Regulation

Alternative 2 would be the same as Alternative 1 with the exception that no future connections to the pipeline would be allowed. Therefore, Alternative 2 is also consistent with the land use goals and policies of the adopted Weimar/Applegate/Clipper Gap General Plan and the Meadow Vista Community Plan as shown in Table 3.5-1. In addition, Alternative 2 would allow the County to meet the conditions of the Settlement Agreement between the County and the CVRWQCB, as outlined in Chapter 2. There would be **no impact** and no mitigation is required.

Alternative 3 – No Project/No Action Alternative

Impact LU-1. Divide an Established Community

Under Alternative 3, there would be no construction activity and current use of the Applegate WWTP would continue. Because no demolition, construction, or ground-disturbing activities would take place, there would be no division of an established community. There would be **no impact** and no mitigation would be required.

Impact LU-2. Conflict with an Applicable Land Use Plan, Policy, or Regulation

Under Alternative 3, there would be no construction activity and current use of the Applegate WWTP would continue. Because no demolition, construction, or ground-disturbing activities would take place, there would be no conflicts with applicable land use plans, policies or regulations. There would be **no impact** and no mitigation would be required.

3.6 Noise and Vibration

3.6.1 Introduction

This section describes the existing environmental and regulatory setting with respect to noise and vibration. This section also identifies potential noise impacts that would result from the Proposed Project and includes recommended mitigation measures to address those impacts that are determined to be potentially significant.

3.6.2 Affected Environment

Noise Terminology

The following are definitions of general noise terms used in the description of the environmental setting and the analysis.

Sound: A physical and vibratory disturbance in a medium (e.g., air) which, when transmitted by pressure waves, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.

Noise: Sound that is interpreted as loud, unpleasant, unexpected, or otherwise undesirable.

Decibel (dB): A dimensionless unit of sound power or intensity that is equal to the logarithmic ratio of a squared sound pressure amplitude to a reference sound pressure (20 micropascals).

A-Weighted Decibel Level (dBA): An overall frequency-weighted sound level that approximates the frequency response of the human ear.

C-Weighted Decibel Level (dBC): An overall frequency-weighted sound level with a relatively small amount of attenuation at both low and high frequencies. C-weighting is used primarily to measure high amplitude sound levels with low-frequency content, such as those produced by blasting.

Maximum Sound Level (L_{max}): The maximum measured sound level during a given period.

Equivalent Sound Level (L_{eq}): A level of steady-state noise that would have the same energy as that of the fluctuating levels of a stated measurement period.

Sound Exposure Level (SEL): Over a specified time period or event, the logarithmic ratio of a given time integral of squared frequency-weighted sound pressure to a reference sound pressure (20 micropascals) and the reference duration of 1 second.

It is generally accepted that, in typical noisy environments, people are able to begin to detect sound level increases of 3 dBA. A change of 5 dBA is clearly noticeable and an increase of 10 dBA is perceived as a doubling of the sound level. Noise levels for typical activities are displayed in Table 3.6-1.

Table 3.6-1. Typical Environmental Noise Levels

Noise Source	Sound Level (dBA)	Subjective Interpretation/Human Response
Civil defense siren (100 feet)	130	Pain threshold
Jet takeoff (200 feet)	120	
Rock concert (50 feet)	110	
Pile driver (50 feet)	100	Very loud
Ambulance siren (100 feet)	90	
Diesel locomotive (25 feet)	85	Loud
Pneumatic drill (50 feet)	80	
Freeway (100 feet)	70	Moderately loud
Vacuum cleaner (10 feet)	60	
Light traffic (100 feet)	50	
Large transformer (200 feet)	40	Quiet
Quiet urban nighttime	40	
Soft whisper (5 feet)	30	
Quiet rural nighttime	20-30	
Threshold of hearing	0	Threshold of hearing

Blasting Terminology

Blasting may be required for construction of the pipeline. The two primary environmental effects of blasting are airblast and groundborne vibration. The following is a brief background and discussion of potential impacts that typically result from blasting.

Airblast

Energy released in an explosion creates an air overpressure (commonly called an airblast) in the form of a propagating wave. If the receiver is close enough to the blast, the overpressure can be felt as the pressure front of the airblast passes. The accompanying booming sound lasts for only a few seconds. The explosive charges used in construction are typically wholly contained in the ground, resulting in an airblast with frequency content below about 250 cycles per second, or hertz (Hz).

Because an airblast lasts for only a few seconds, use of L_{eq} to describe blast noise is inappropriate. Airblast is properly measured and described as a linear peak air overpressure (i.e., an increase above atmospheric pressure) in pounds per square inch (psi). Modern blast monitoring equipment is also capable of measuring peak overpressure data in terms of unweighted dB. Decibels, as used to describe airblast, should not be confused with or compared to dBA, which are commonly used to describe relatively steady-state noise levels. An airblast with a peak overpressure of 130 dB can be described as being mildly unpleasant, whereas exposure to jet aircraft noise at a level of 130 dBA would be painful and deafening.

Ground Vibration

Blasting creates seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Ground vibration can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes will decrease with increasing distance.

As seismic waves travel outward from a blast, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (ppv).

Human Response to Airblast and Vibration

Human response to blast vibration and airblast is difficult to quantify. Vibration and airblast can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does blast frequency. Blast events are relatively short, on the order of several seconds for sequentially delayed blasts. Generally, as blast duration and vibration frequency increase, the potential for adverse human response increases. Studies have shown that a few blasts of longer duration will produce a less adverse human response than short blasts that occur more often.

Table 3.6-2 summarizes the average human response to vibration and airblast that may be anticipated when a person is at rest in quiet surroundings. If the person is engaged in any type of physical activity, the level required for the responses indicated are increased considerably.

It is important to understand that the forgoing describes the responses of average individuals. Individual responses can fall anywhere within the full range of the human response spectrum. At one extreme are those people who receive some tangible benefit from the blasting operation and probably would not be disturbed by any level of vibration and airblast, as long as it does not damage their

Table 3.6-2. Human Response to Airblast and Groundborne Vibration from Blasting

Response	Ground Vibration Range ppv (inches per second)	Airblast Range (dB)
Barely perceptible to distinctly perceptible	0.02–0.10	50–70
Distinctly perceptible to strongly perceptible	0.10–0.50	70–90
Strongly perceptible to mildly unpleasant	0.50–1.00	90–120
Mildly unpleasant to distinctly unpleasant	1.00–2.00	120–140
Distinctly unpleasant to intolerable	2.00–10.00	140–170

Source: Caltrans 2004

property. At the opposite extreme are people who would be disturbed by even barely detectable vibration or airblast. Individuals at either of these two extremes were not considered in the listing of average human response or in the impact conclusions that follow.

Noise-Sensitive Land Uses

Within the project area there are several potential noise-sensitive land uses. Noise-sensitive land uses are those locations where noise can potentially interfere with primary activities. In the project vicinity, noise sensitive land uses include numerous residences, a church, two schools, and several recreation areas.

Within the project area, residential property lines are located adjacent to the proposed pipeline alignment and houses are located as close as about 40 feet to the pipeline alignment. There are also many other residences located within several hundred feet of the alignment. Recreational areas nearby to the project area include Black Oak Golf Course, Lake Theodore, Lake Arthur, and Halsey Afterbay.

Ambient Noise Conditions

Primary noise sources in the project vicinity include traffic on local roads and I-80. Secondary noise sources include flyovers to and from the Auburn Municipal Airport, miscellaneous neighborhood noise, and any activity on local railroad tracks located to the east of the project area.

Existing ambient sound levels in the project area are typical of a rural/suburban environment where sound levels typically range from 40 to 60 dBA during the day and 30 to 50 dBA at night. At locations near I-80, noise levels may be in the range of 70 to 80 dBA during peak daytime traffic hours.

3.6.3 Regulatory Setting

Local

Placer County Noise Ordinance

The County has established policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise- sensitive land uses. The County noise ordinance is the primary enforcement tool for the operation of locally regulated noise sources such as mechanical equipment and construction activity. The County noise ordinance is set forth in Article 9.36 of the County Code.

Construction Noise

Noise associated with construction activities occurring between 6:00 a.m. and 8:00 p.m., Monday through Friday and between 8:00 a.m. and 8:00 p.m., Saturday and Sunday is exempted from the provisions of the County noise ordinance. The ordinance states that construction equipment shall be fitted with factory-installed muffling devices.

General Noise Levels

The County Code stipulates that noise-sensitive land uses shall not be exposed to exterior noise levels exceeding the ambient sound level by 5 dBA or the noise level standards displayed below in Table 3.6-3, whichever is greater.

Table 3.6-3. Placer County Noise Level Standards

Noise Level Descriptor	Daytime (7:00 a.m. - 10:00 p.m.)	Nighttime (10:00 p.m. - 7:00 a.m.)
Hourly L_{eq}, dBA	55	45
Maximum level, L_{max} dBA	70	65

Notes: The noise standards shall be applied at the property line of the receiving land use

Each noise level standard specified shall be reduced by 5 dBA for single tone noise sources

Emergencies

The noise ordinance exempts noise associated with emergencies from the provisions of the ordinance. Specifically, this includes emergencies involving the execution of the duties of duly authorized governmental personnel and others providing emergency response to the general public, including but not limited to sworn peace officers, emergency personnel, utility personnel, and the operation of emergency response vehicles and equipment.

Noise from Blasting

To remove boulders or hard bedrock encountered along the pipeline blasting may be necessary. Section 9.A.4 of the Placer County General Plan (1994) specifies that:

> Single event impulsive noise levels produced by… blasting shall not exceed a peak linear overpressure of 122 dB, or a C-weighted SEL of 98 dBC. These standards shall be applied at the property line of a receiving land use.

Vibration

The County does not have criteria for vibration impacts from blasting. However, U.S. Bureau of Mines Report of Investigations 8507 (Siskind et al. 1980) contains blasting-level criteria that can be appropriately applied to keep ground vibration well below levels that might cause damage to neighboring structures. The report indicates a vibration level criterion of 0.5 inches per second (in/s) for potential cosmetic damage to structures due to blasting. Additionally, the U.S. Department of Transportation indicates a vibration damage threshold of 0.12 in/s for extremely fragile historic buildings (Federal Transit Administration 2006). The distribution and frequency (timing) of explosions, distance from the blast, blast charge weight and the nature of the transmitting medium (soil and rock) between the blast site and the affected structure are all factors in the resulting measured vibration level.

3.6.4 Environmental Consequences

Methodology

This analysis focuses on the potential construction-related and operational noise impacts associated with the project alternatives. Potential noise impacts associated with construction activities have been evaluated by assuming the simultaneous use of multiple pieces of heavy equipment as a reasonable upper bound for noise impacts. These temporary construction-related noise sources associated with the project alternatives have been modeled using prediction methods recommended by the Federal Highway Administration (2006) and the Federal Transit Administration (2006). Operational noise associated with pump stations has been evaluated using methods recommended in Hoover & Keith 2000.

Thresholds of Significance

For this analysis, noise impacts are considered significant if the Proposed Project would result in the following environmental effects. These criteria are based on professional practice and Appendix G of the State CEQA Guidelines. Additional considerations relating to airports and air fields are not included because those potential impacts were analyzed and subsequently dismissed as being less than significant or no impact for the project alternatives in the Initial Study (IS) prepared for the Proposed Project (ICF Jones & Stokes 2008a).

The Proposed Project would result in a potentially significant impact if it would:

- expose persons to, or generate noise levels in excess of standards established in the local general plan or noise ordinance;
- cause a substantial temporary increase or periodic increase in ambient noise levels in the project vicinity above levels existing without the Proposed Project;
- expose persons to, or generate excessive groundborne vibration or groundborne noise levels; or
- cause a substantial permanent increase or periodic increase in ambient noise levels in the project vicinity above levels existing without the Proposed Project.

The criteria thresholds used in this analysis include the specific provisions for noise and blasting activities set by the County in the noise ordinance described above. With respect to vibration, the threshold of 0.1 in/s for distinctly perceptible vibration was used to assess human disturbance impacts from construction equipment. For vibration from blasting, the threshold of 0.5 in/s was used. Although there is the potential for human disturbance at lower measured velocity levels, because the number of blasts that may be required is small, 0.5 in/s is used as the human disturbance threshold.

With regard to potential structural damage to buildings, FTA has identified 0.2 in/sec as a threshold for non-engineered timber and masonry buildings and 0.12 in/sec for buildings that are extremely susceptible to vibration damage. (Federal Transit Administration 2006).

Environmental Impacts

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Impact NOI-1. Expose Noise-Sensitive Receptors to Construction Noise other than Blasting

Construction activities associated with Alternative 1 are expected to occur between spring 2012 and spring 2013. Construction would normally occur between 6:00 a.m. and 8:00 p.m., Monday through Friday. Construction might also occur on Saturdays between 8:00 a.m. and 8:00 p.m. These hours are exempt from the provisions of the Placer County Noise Ordinance. Some nighttime construction might also be required.

Table 3.6-4 summarizes typical construction noise levels for various types of equipment likely to be used for Alternative 1. L_{max} sound levels at 50 feet are shown along with the typical acoustic use factor. The acoustic use factor is the percentage of time each piece of construction equipment is assumed to be operating at full power (i.e., its loudest condition) during construction operation

Table 3.6-4. Typical Construction Noise Emission Levels

Equipment	Typical Noise Level (L_{max})[a]	Acoustical Use Factor	Typical Noise Level (L_{eq})[a]
AC truck[b]	76	40	72
Auger drill rig	84	20	77
Backhoe	78	40	74
Boring jack power unit	83	50	80
Crane	81	16	73
Compactor	83	20	76
Compressor	78	40	74
Dump truck	76	40	72
Excavator	81	40	77
Forklift[c]	75	40	71
Front-end loader	79	40	75
Grader	85	40	81
Hoe ram	90	20	83
Horizontal boring hydraulic jack	82	25	76
Jackhammer	89	20	82
Paver	77	50	74
Pickup truck	75	40	71
Roller	80	20	73
Water truck[b]	76	40	72

Source: Federal Highway Authority 2006

[a] dBA, A-weighted decibel level, measured at 50 feet

[b] Based on data for dump truck

[c] Based on data for pickup truck

and is used to estimate L_{eq} values from L_{max} values. For example the L_{eq} value for a piece of equipment that operates at full power 50% of the time (acoustical use factor of 50) is 3 dB less than the L_{max} value.

To determine the potential noise impacts from project construction, noise from the three loudest pieces of equipment likely to operate at the same time is summed and evaluated for each construction component:

- pipeline construction,
- staging area activities,
- decommissioning the WWTP, and
- trucking on haul routes.

Construction noise levels at various distances are then calculated and compared with the applicable threshold, as presented below in Tables 3.6-5 through 3.6-8.

Pipeline Construction

The types of equipment that are proposed for pipeline construction include asphalt/concrete trucks, backhoes, front-end loaders, ten-wheel dump trucks, motor graders, compactors, repaving equipment, tracked excavator, water trucks, forklifts, flat-bed delivery trucks, hoe ram, auger, horizontal hydraulic boring jack, compressors and jack hammers. The two main construction phases associated with pipeline construction include open trench construction and the trenchless technology installation along the I-80 crossing. These are discussed in greater detail below.

Open Trench Pipeline Construction

The three loudest pieces of equipment likely to operate at the same time during open trench pipeline construction include the hoe ram, backhoe, and front-end loader. Table 3.6-5 summarizes noise from this activity at various distances.

Table 3.6-5. Predicted Open Trench Installation-Related Construction Noise in Project Vicinity

Distance Between Source and Receiver (feet)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
50	0	0	90	84
100	-6	-2	82	76
200	-12	-4	74	68
300	-16	-5	69	63
400	-18	-6	66	60
500	-20	-6	64	57
1000	-26	-8	56	50
2000	-32	-10	48	42
3000	-36	-11	43	37

Notes: Calculations based on Federal Transit Administration 2006.

These calculations do not include the effects, if any, of local shielding from walls, topography or other barriers which may reduce sound levels further

As shown in Table 3.6-5, the combined noise level for this equipment is 90 dBA-L_{max} and 84 dBA-L_{eq} at 50 feet. Residences are located along pipeline alignments in Applegate Road, Placer Hills Road, Winchester Club Drive, and the nearest house to the proposed pipeline is located on Applegate Road, just south of Old Stagecoach Road, approximately 40 feet from the edge of the alignment. At this distance construction noise could be as high as 92 dBA- L_{max} and 87 dBA- L_{eq}.

Construction noise impacts that would occur during the hours exempted by the County would be less than significant. However, any construction outside of these exempt hours would be subject to the County's noise ordinance listed in Table 3.6-3. Because noise associated with pipeline construction outside of exempted hours could exceed the general noise threshold, construction noise associated with pipeline construction could result in a significant impact. With implementation of Mitigation Measures NOI-1 and NOI-2, this impact would be **less than significant**.

Mitigation Measure NOI-1: Employ Noise-Reducing Construction Practices to Comply with the Placer County Noise Ordinance

The County or its contractor will ensure that noise-reducing construction practices are implemented so that construction noise does not exceed applicable County noise control standards. The project contractor will prepare a noise control plan that will identify feasible measures that can be employed to reduce construction noise. These may include but are not limited to the measures listed below:

- Scheduling substantial noise-generating activity during daytime hours where feasible;
- Requiring that construction equipment be equipped with factory-installed muffling devices, as per the County noise ordinance, and that all equipment be operated and maintained in good working order to minimize noise generation;
- Locating noise-generating equipment as far as practical from noise-sensitive uses;
- Using noise-reducing enclosures around noise-generating equipment;
- Placing temporary barriers between noise sources and noise-sensitive land uses or taking advantage of existing barrier features (terrain, structures, edge of trench) to block sound transmission; and
- Prohibiting use of backup alarms and providing an alternate warning system, such as a flagman or radar-based alarm, that is compliant with state regulations.

The noise control plan will demonstrate that noise control measures will reduce noise to be in compliance with the County noise ordinance.

Mitigation Measure NOI-2: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program

The County or its contractor will notify residents within 1,000 feet of the construction areas of the construction schedule in writing before construction. This notification will include a description of the activity that will occur, measures that the contractor will be taking to control noise, and specific information as to when blasting will occur. The County or its contractor will designate a noise disturbance coordinator who will be responsible for responding to complaints regarding construction noise. The coordinator will determine the cause of the

complaint and will ensure that reasonable measures are implemented to correct the problem when feasible. A contact telephone number for the noise disturbance coordinator will be conspicuously posted on construction site fences and will be included in the written notification of the construction schedule sent to nearby residents.

Tunneling

Tunneling is anticipated to be used where the proposed alignment crosses under I-80. Noise associated with activity has been estimated using source levels from a horizontal boring hydraulic jack, a boring jack power unit, an auger drill rig, and a dump truck. Table 3.6-6 summarizes estimated noise from this activity at various distances.

Table 3.6-6. Predicted Tunneling-Related Construction Noise in Project Vicinity

Distance Between Source and Receiver (feet)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
50	0	0	86	83
100	-6	-2	79	75
200	-12	-4	71	67
300	-16	-5	66	63
400	-18	-6	63	60
500	-20	-6	60	57
1000	-26	-8	52	49
2000	-32	-10	44	41
3000	-36	-11	40	37

Notes: Calculations based on Federal Transit Administration 2006.

These calculations do not include the effects, if any, of local shielding from walls, topography or other barriers which may reduce sound levels further

Noise due to tunneling is predicted to result in a noise level of L_{max} 86 dBA and L_{eq} 83 dBA at 50 feet. The nearest house to this activity is located at a distance of approximately 100 feet from potential drilling activity. At this distance construction noise could be as high as 79 dBA-L_{max} and L_{eq} 75 dBA-L_{eq}. Tunneling noise that occurs during the hours exempted by the County is considered to be less than significant. However, any construction that occurs outside of the exempt hours would be subject to the County's noise ordinance listed in Table 3.6-3. Because noise associated with pipeline construction could exceed the nighttime thresholds, construction noise associated with tunneling could result in a significant impact.

With implementation of Mitigation Measures NOI-1 and NOI-2, this impact would be **less than significant**.

Staging Area Activities

Heavy trucks would be the primary sources of noise in the construction staging areas. Table 3.6-7 summarizes noise from this activity at various distances.

Table 3.6-7. Predicted Staging Area-Related Construction Noise in Project Vicinity

Distance Between Source and Receiver (feet)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
50	0	0	81	77
100	-6	-2	73	69
200	-12	-4	65	61
300	-16	-5	60	56
400	-18	-6	57	53
500	-20	-6	55	51
1000	-26	-8	47	43
2000	-32	-10	39	35
3000	-36	-11	34	30

Notes: Calculations based on Federal Transit Administration 2006.

These calculations do not include the effects, if any, of local shielding from walls, topography or other barriers which may reduce sound levels further

Assuming three trucks could operate in the area at the same time, the combined noise level for this equipment would be 81 dBA- L_{max} and 77 dBA- L_{eq} at 50 feet. Residences could be as close as 50 feet to proposed staging areas. At this distance construction noise could be as high as 81 dBA- L_{max} and 77 dBA- L_{eq}. Staging area activities during the hours exempted by the County would be less than significant. However, any construction outside of the exempt hours would be subject to the County's noise ordinance listed in Table 3.6-3. Because noise associated with staging area activities could exceed these thresholds, construction noise associated with staging activities could result in a significant impact.

With implementation of Mitigation Measures NOI-1 and NOI-2, this impact would be **less than significant**.

Decommissioning of the Wastewater Treatment Plant

The types of equipment that are proposed for use in decommissioning the existing WWTP facilities are cranes, backhoes, compaction equipment, and dump trucks. The three loudest pieces of equipment likely to operate at the same time are a crane, compactor, and backhoe. Table 3.6-8 summarizes noise from this activity at various distances.

Table 3.6-8. Predicted WWTP Decommissioning-Related Construction Noise in Project Vicinity

Distance Between Source and Receiver (feet)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
50	0	0	86	80
100	-6	-2	78	72
200	-12	-4	71	64
300	-16	-5	66	60
400	-18	-6	63	56
500	-20	-6	60	54
1000	-26	-8	52	46
2000	-32	-10	44	38
3000	-36	-11	40	34

Notes: Calculations based on Federal Transit Administration 2006.
These calculations do not include the effects, if any, of local shielding from walls, topography or other barriers which may reduce sound levels further

The combined noise level for this equipment would be 86 dBA- L_{max} and 80 dBA- L_{eq} at 50 feet. The nearest house to this activity is located at a distance of approximately 500 feet from the center of the WWTP site. At this distance construction noise could be as high as 60 dBA- L_{max} and 54 dBA- $L_{eq.}$

Construction noise from decommissioning activities during the hours exempted by the County would be less than significant. However, any construction of the exempt hours would be subject to the County's noise ordinance listed in Table 3.6-3. Because noise associated with decommissioning activities could exceed the nighttime thresholds, construction noise associated with decommissioning activities could result in a significant impact.

With implementation of Mitigation Measures NOI-1 and NOI-2, this impact would be **less than significant**.

Trucking on Haul Routes

Truck hauling on public roads would be required during project construction. Although trucking activities on public roads is not subject to the County noise ordinance, the County's noise standards provide a reasonable means for assessing noise from trucking. The following are assumptions related to truck hauling:

- Hauling spoils and sludge away from the project site:
  - 1.5 truck trips per day (three truck "pass-bys") for spoils, 40 truck pass-bys per day for sludge to either Placer County Western Regional Sanitary Landfill or Auburn Placer Disposal Service.

- Hauling trench backfill soil to the project site:
  - Four truck pass-bys per day
- Water trucks:
  - Four truck pass-bys per day

Hauling volumes and routes would vary depending on construction needs. A conservative assumption is that all 51 truck trips per day would occur along the same route. Assuming a normal workday of 12 hours, this would amount to an average of about five truck pass-bys per hour. Assuming five truck trips per hour traveling at a speed of 35 miles per hour, the estimated noise level using the Federal Highway Administration's Traffic Noise Model would be 53 dBA-L_{eq} at 40 feet (the typical distance to the nearest residence).

This indicates that trucking noise would not exceed the County's daytime noise standard of 55 dBA-L_{eq}. Nighttime trucking could, however, exceed the nighttime standard of 45 dB-L_{eq}. Therefore, trucking noise could result in a significant impact.

With implementation of Mitigation Measure NOI-3, this impact would be **less than significant**.

Mitigation Measure NOI-3: Limit Truck Hauling Activities to Daytime Hours

The County will limit truck hauling activities to the hours between 6:00 a.m. and 8:00 p.m. Monday through Friday and 8:00 a.m. and 8:00 p.m. Saturday where trucking occurs on roads with residences.

Impact NOI-2. Expose Noise Sensitive Receptors to Construction Vibration other than Blasting

Operation of heavy equipment may generate groundborne vibration that could be perceptible at residences or other sensitive land uses close to construction activity. Table 3.6-9 summarizes vibration levels at various distances based on source levels developed by the Federal Transit Administration (2006).

Table 3.6-9. Vibration from Construction Equipment

Equipment	PPV at 25 feet	PPV at 50 feet	PPV at 100 feet	PPV at 250 feet
Vibratory roller	0.210	0.074	0.026	0.007
Hoe ram or large bulldozer	0.089	0.031	0.011	0.003
Loaded truck	0.076	0.027	0.01	0.002
Jackhammer	0.035	0.012	0.004	0.001

Source: Federal Transit Administration 2006

It is anticipated that vibration generated by horizontal drilling would be no worse than vibration generated by a vibratory roller. The results in Table 3.6-9 indicate that vibration from construction activity, including horizontal drilling, would attenuate to less than 0.1 in/s within about 50 feet. The closest residence is about 40 feet from construction activity. Vibration from a vibratory roller would be 0.10 in/s at 40 feet. The property near the horizontal drilling site on the north side of I-80 contains residential structures within about 100 feet of the drilling site. Vibration at these structures is expected to be below 0.12 in/sec, which has been identified by FTA as a vibration damage threshold for buildings that are extremely susceptible to vibration damage. Because vibration from construction activity is not predicted to exceed 0.1 in/s at the nearest structures, this impact is considered to be **less than significant**. No mitigation is required.

Impact NOI-3. Expose Noise-Sensitive Receptors to Blasting Noise and Vibration

Blasting may be required for construction of Alternative 1 and would result in localized noise and groundborne vibration that could be perceptible at residences or other sensitive land uses close to this activity. Blasting activities would also have the potential to adversely affect structures and near-by utilities, including (but not limited to) houses and other buildings, wells, tunnels, and pipelines in the project vicinity.

The need for blasting would depend on site-specific conditions and engineering considerations that are not known at this time. However, based on certain assumptions, it is possible to estimate noise and vibration that could potentially occur as a result of blasting.

Noise and vibration generated by blasting is a complex function of the charge size, charge depth, hole size, degree of confinement, initiation methods, spatial distribution of charges, and other factors. To provide a general indication of the potential for airblast and vibration levels to cause significant impacts from blasting, airblast and vibration levels have been estimated using methods recommended in Caltrans (2004) assuming a 100-pound charge and average normal confinement of the charge. No blasting is proposed during nighttime hours.

Table 3.6-10 presents estimated airblast and ground vibration values as a function of distance based on these assumptions. The results in Table 3.6-10 indicate that receptors within 500 feet may be exposed to airblast levels that exceed the acceptable level specified by the County (122 dB or a C-weighted SEL of 98 dBC), and that ground vibration could exceed the USBM standard for potential damage of 0.5 in/s within about 275 feet of the blast. The results also indicate that blasting could result in vibration that exceeds the FTA criteria of 0.12 in/sec for buildings that are extremely susceptible to vibration damage within about 700 feet. Therefore, this impact is considered to be potentially significant. With implementation of EC-1, Prepare and Implement a Blasting Plan, and Mitigation Measure NOI-2, this impact would be **less than significant**.

Table 3.6-10. Estimated Airblast and Ground Vibration Levels

Distance (feet)	Peak Particle Velocity Under Average Normal Confinement (inches/second)	Peak Air Overpressure (dB)
100	2.5	136
250	0.58	127
500	0.19	120
750	0.1	115
1,000	0.063	112
1,250	0.044	110
1,500	0.033	108
2,000	0.021	105

Source: Caltrans 2004

Impact NOI-4. Expose Noise-Sensitive Receptors to Operational Noise

The proposed Applegate Pump Station and the I-80 Pump Station are potential sources of noise associated with operation of Alternative 1. The Applegate Pump Station could have two pumps of up to 88 horsepower with one being a duty pump and the other being a standby pump. For noise analysis purposes it is assumed that only one pump would operate at a time. The I-80 Pump Station could have four pumps of up to 88 horsepower with two pumps being duty pumps and two pumps being standby pumps. For noise analysis purposes it is assumed that only two pumps would operate at a time at this location. Pumps would be housed in the lift station underground wet well.

Each station would have a backup generator. Except for occasional testing these generators would only be used in an emergency situation where power is lost at the stations. Because the County noise ordinance exempts noise from emergency equipment from the provisions of the ordinance noise only noise from operation of the pumps is evaluated.

An 88-horsepower pump is estimated to produce a sound level of 67 dBA at 50 feet (Hoover & Keith 2000). Two pumps would produce a sound level of 70 dBA at 50 feet. It is estimated that the enclosures around each station would provide about 5 dB of noise reduction resulting source levels of 62 dBA and 65 dBA at 50 feet for the Applegate Pump Station and the I-80 Pump Station, respectively.

The nearest residence is about 250 feet from Applegate Pump Station. The residence nearest to the I-80 Pump Station is at a distance of about 300 feet. Based on these distances, the noise level at the residence near the Applegate Pump Station is estimated to be 48 dBA and the noise level at the residence nearest the I-80 Pump Station is estimated to be 49 dBA. This indicates that pump noise would not exceed the County's daytime noise standard of 55 dBA but there is potential for noise to exceed the nighttime standard of 45 dBA. This would be a significant impact.

With implementation of Mitigation Measure NOI-4, this impact would be **less than significant**.

Mitigation Measure NOI-4: Employ Noise-Reducing Design Measures at the New Pump Station Site

Placer County will ensure that noise at the pump stations does not exceed the County noise ordinance standards at the nearest sensitive residence. Measures to achieve this include but are not limited to those listed below:

- Locate equipment as far as practical from noise sensitive uses.
- Construct pump station enclosures with upgraded acoustical insulation and acoustically designed vents.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Impact NOI-1. Expose Noise-Sensitive Receptors to Construction Noise other than Blasting

This impact would be the same as under Alternative 1. Impacts associated with pipeline construction, staging area activities, decommissioning the WWTP, and trucking on haul roads would be potentially significant.

With implementation of Mitigation Measures NOI-1, NOI-2, and NOI-3, this impact would be **less than significant**.

Impact NOI-2. Expose Noise-Sensitive Receptors to Construction Vibration other than Blasting

This impact would be the same as under Alternative 1. Because vibration from construction activity is not predicted to exceed 0.1 in/s, this impact is considered to be **less than significant**. No mitigation is required.

Impact NOI-3. Expose Noise-Sensitive Receptors to Blasting Noise and Vibration

This impact would be the same as under Alternative 1. The results in Table 3.6-10 indicate that receptors within 500 feet may be exposed to airblast levels that exceed the acceptable level specified by the County (122 dB or a C-weighted SEL of 98 dBC), and that ground vibration could exceed the U.S. Bureau of Mines standard for potential damage of 0.5 in/s within about 275 feet of the blast (Siskind et al. 1980). Therefore, this impact is considered to be potentially significant.

With implementation of EC-1 and Mitigation Measure NOI-2, this impact would be **less than significant**.

Impact NOI-4. Expose Noise-Sensitive Receptors to Operational Noise

This impact would be the same as under Alternative 1. This impact is considered to be significant because there is potential for pump station noise to exceed the nighttime standard of 45 dBA.

With implementation of Mitigation Measure NOI-4, this impact would be **less than significant**.

Alternative 3 – No Project/No Action Alternative

Impact NOI-1. Expose Noise-Sensitive Receptors to Construction Noise other than Blasting

Under Alternative 3, there would be no construction; therefore, there would be no noise associated with construction activities. There would be **no impact**.

Impact NOI-2. Expose Noise-Sensitive Receptors to Construction Vibration other than Blasting

Under Alternative 3, there would be no construction; therefore, there would be no vibration associated with construction activities. There would be **no impact**.

Impact NOI-3. Expose Noise-Sensitive Receptors to Blasting Noise and Vibration

Under Alternative 3, there would be no construction; therefore, there would be no blasting associated with construction activities. There would be **no impact**.

Impact NOI-4. Expose Noise-Sensitive Receptors to Operational Noise

Under Alternative 3, operations would continue as they do under existing conditions. Therefore, there would be no change in operational noise levels compared with the current conditions. There would be **no impact**.

3.7 Public Health and Safety

3.7.1 Introduction

This section describes the existing environmental and regulatory setting with respect to public health and safety, including the use of hazardous materials. This section identifies potential impacts on public health and safety that would result from the Proposed Project and includes recommended mitigation measures to address those impacts that are deemed to be potentially significant.

The scope of the analysis does not include impacts on public health and safety associated with flood hazards, water quality, air quality, soil erosion, transportation, land uses, or noise. The potential impacts associated with these resources areas are discussed under the corresponding resource sections found elsewhere in this EID (see Sections 3.1, Air Quality, and 3.4, Hydrology and Water Quality) or the Notice of Preparation–Initial Study. In addition, this analysis does not address routine hazards associated with construction, such as incidental injury to construction workers. The analysis assumes that construction would occur in accordance with federal Occupational Safety and Health Administration (OSHA) and California Division of Occupational Health and Safety (DOSH) workplace rules.

3.7.2 Affected Environment

Hazardous Sites

A Phase I Site Assessment was completed for a portion of the project area from the Applegate WWTP to the I-80 crossing (Camp Dresser & McKee 2008). This assessment found that long-term herbicide and pesticide use in the area may have resulted in soil and groundwater contamination in the project vicinity. The assessment recommended that appropriate safety precautions be taken when working in the vicinity of historic mines that have been found in the area. In addition, serpentine rock in the project vicinity poses a potential risk of exposure to asbestos.

Chemical Use at the Existing Wastewater Treatment Plant

A hazardous material is defined by the California Environmental Protection Agency (Cal-EPA) Department of Toxic Substances Control as a material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released (26 CCR 25501). For the purposes of this discussion, hazardous materials consist of chemicals or other substances, such as petroleum, that are used in construction or operation of the WWTP.

Chemicals used in the wastewater treatment process include calcium thiosulfate and chlorine. Chlorine is used to disinfect the wastewater and is currently stored in a 5,000-gallon tank. Calcium thiosulfate is used for dechlorination and is stored on site in a 55-gallon tank.

Emergency Service Response

The project area falls within the jurisdiction of the Auburn City Fire Department, the Placer County and California Department of Forestry and Fire Protection, and the Placer Consolidated Fire Protection District. Law enforcement services in the project area are provided by the City of Auburn Police Department and the Placer County Sheriff's Department (Auburn Main Station).

The Applegate WWTP has provided its chemical location plan to the Placer Consolidated Fire Protection District and Placer County Department of Emergency Services. The Placer Consolidated Fire Protection District is the primary responder in the event of a chemical spill. WWTP employees and Placer Hills Fire Protection District personnel are required to attend semiannual training sessions on emergency response issues. The WWTP currently has a spill prevention control and countermeasures (SPCC) plan in place.

Naturally Occurring Asbestos

Asbestos is classified as a known human carcinogen by state, federal, and international agencies. State and federal health officials consider all types of asbestos to be hazardous, and there is no level of exposure considered to be free from risk. Information on the health effects of asbestos can be found in the Toxicological Profile for Asbestos (Agency for Toxic Substances and Disease Control 2001).

Naturally occurring asbestos is most frequently found in ultramafic rock, and often in serpentine rock. Geologic maps prepared by the California Geologic Survey show areas of higher probability for ultramafic rock and serpentine soils within the broad zone of faults that follows the low foothills and lay in a southeast to northwest band (California Geologic Survey 2007). The Placer County communities of Auburn, Colfax, Meadow Vista, and Foresthill are among those that are within this fault band. Being located in between Auburn and Foresthill, the Proposed Project is in an area mapped as moderately likely to contain naturally occurring asbestos (California Geologic Survey 2007). Naturally occurring asbestos is addressed in further detail in Section 3.1, Air Quality.

3.7.3 Regulatory Setting

Regulations and policies considered relevant to the assessment of public health and safety in the context of the Proposed Project and its alternatives are summarized below.

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act enables the EPA to administer a "cradle-to-grave" regulatory program (i.e., from manufacture of the hazardous material to its disposal) regulating the generation, transportation, treatment, storage, and disposal of hazardous wastes at all facilities and sites in the nation. Because state regulations are as or more stringent than federal regulations, the state has been granted primacy (primary responsibility for oversight) by EPA to administer and enforce hazardous waste management programs. The Placer County Department of Public Health is the administering agency for state and federal laws pertaining to hazardous materials handling. Other applicable federal regulations are contained primarily in CFR 29, 40, and 49.

Uniform Fire Code and Uniform Fire Code Standards

The Uniform Fire Code contains provisions for fire prevention and information about fire safety, special processes, explosives, and flammable, combustible, and hazardous materials. The standards are a companion publication to the code.

State

Hazardous Waste Control Act

The Hazardous Waste Control Act (HWCA) is the primary state hazardous waste law. HWCA created the state hazardous waste management program, which is like the federal Resource Conservation and Recovery Act program but generally more stringent. HWCA is implemented by regulations contained in Title 26 CCR, which describes the requirements for the proper management of hazardous wastes, including:

- criteria for identification and classification of hazardous wastes;
- requirements for generation and transportation of hazardous wastes;
- standards for design and permitting of facilities that recycle, treat, store, and dispose of hazardous wastes;
- standards for treatment;
- guidelines for operation of facilities and staff training; and
- requirements for closure of facilities and liability requirements.

Title 26 CCR lists more than 800 materials that may be hazardous, as well as the criteria for identifying, packaging, and disposing of wastes identified as hazardous. Title 26 CCR also establishes permit requirements for facilities that recycle, treat, store, or dispose of hazardous wastes. Under HWCA and Title 26 CCR, the generator of a hazardous waste must complete a manifest that

accompanies the waste from the generator to the transporter to the ultimate disposal location. Copies of the manifest must be filed with the Department of Toxic Substances Control.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act of 1985, also known as the Business Plan Act (California Health and Safety Code Chapter 6.95), requires businesses using hazardous materials to prepare a plan describing their facilities, inventories, emergency response plans, and training programs. The federal Superfund Amendments and Reauthorization Act community right-to-know requirements are similar to state hazardous materials management planning regulations, except that the state regulations are more stringent.

Emergency Services Act

Under the Emergency Services Act, the state developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Response to hazardous material or waste incidents is a key part of the plan. The plan is administered by the state Office of Emergency Services, which coordinates the responses of other agencies, including Cal-EPA, the California Highway Patrol, RWQCBs, air quality management districts, and county disaster response offices.

California Division of Occupational Safety and Health

DOSH has jurisdiction over every employer and place of employment in California, and enforces and administers all occupational safety and health standards and regulations. The DOSH enforcement unit conducts inspections of California workplaces in response to a report of an industrial accident, a complaint about an occupational safety and health hazard, or as part of an inspection program targeting industries that have a high rate of occupational hazards, fatalities, injuries, or illnesses (California Department of Industrial Relations 2008).

Safe Drinking Water and Toxic Enforcement Act of 1986

The Safe Drinking Water and Enforcement Act of 1986 (Proposition 65) requires the Governor to publish a list of chemicals known to the state to cause cancer or reproductive toxicity.

Cortese List

The Cortese List (California Government Code Section 2.65962.5) requires the Office of Permit Assistance to compile a list of potentially contaminated sites in the state.

California Building Code

The California Building Code provides minimum standards to safeguard human life, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use, and occupancy of buildings and structures.

Local

The Placer County Environmental Health Division is the designated Certified Unified Program Agency for all areas of the County except for the City of Roseville. In addition to having programs for lead, asbestos, and medical waste, the agency has three programs under which hazardous materials are regulated: the Hazardous Materials Business Plan, a program for underground storage tanks, and a hazardous waste generator program. All of these programs monitor and enforce state and federal environmental health and hazardous material codes. The Placer Mosquito and Vector Control District oversees activities that may affect the presence of disease vectors in Placer County.

3.7.4 Environmental Consequences

Methodology

Because there are no known hazardous waste sites in the project area, this impact analysis focuses on construction and operation activities. The analysis considers whether these activities would pose hazards to the environment or to employees through the use or disposal of hazardous substances and exposure to risk of fire.

For the purposes of this analysis, it was determined that construction of the Proposed Project would involve the use of heavy equipment and small quantities of hazardous materials. Potentially hazardous materials would include petroleum and other chemicals used to operate and maintain construction equipment. The Proposed Project could also create a hazard to the public or the environment from accidental spills or other reasonably foreseeable upset.

Impacts were identified by comparing the proposed facility changes to the impact criteria described below. The significance of the impact was then assessed using those criteria.

Thresholds of Significance

Based on State CEQA Guidelines Section 15065 and Appendix G, adverse impacts would be potentially significant if the Proposed Project could result in the outcomes listed below. Potential impacts on emergency responsiveness are addressed in Section 3.8, Transportation. An impact is considered significant if it would:

- create substantial risk of harm or injury to workers or the general public through the routine transport or use of hazardous materials;
- create a significant hazard to the public or the environment through reasonably foreseeable accident or upset conditions involving hazardous materials; or
- expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

Environmental Impacts

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Impact PH-1. Release Hazardous Materials

Construction Impacts

Implementation of Alternative 1 would involve decommissioning the WWTP and constructing a new pipeline, pump stations, and improvements to a portion of existing pipeline. Closing the WWTP would require the transport and disposal of potentially hazardous chemicals used in the wastewater treatment process, including calcium thiosulfate and chorine. Construction activities would require the use of hazardous materials such as fuels, lubricants, and solvents. Accidental spills or improper disposal of these materials have the potential to adversely affect waterways and could affect the health and safety of workers and the public.

Implementation of the Alternative 1 would require obtaining an NPDES permit. As required by the NPDES permit, the County would prepare and implement a Stormwater Pollution Prevention Plan (EC-8). In addition, the NPDES permit would require the incorporation of BMPs and the preparation of an SPCC plan. As indicated above, the WWTP already has a SPCC in place.

In addition, as required by law, all contractors will prepare a plan describing their facilities, inventories, emergency response plans, and training programs related to any applicable hazardous materials usage, storage, or disposal. All contractors will also file a hazardous material release response plan and declare inventories of hazardous materials above regulated thresholds with the Placer County Environmental Health Division. Contractors will also comply with the Applegate WWTP emergency response plan and fire agency access requirements.

For these reasons, this impact would be considered **less than significant**, although slightly greater than under Alternative 3.

Operational Impacts

Operation of Alternative 1 would entail the transfer of wastewater within an enclosed pipeline to the SMD 1 collection and treatment system. Potentially hazardous materials would not be used in during operations. However, there are several locations where the proposed pipeline alignment would cross a water channel that could involve open-cut crosses. Exposure of the pipeline above these waterways would pose a potential risk if the pipeline were to rupture. With the implementation of EC-7, Implement Seismic Standards into Design, this impact would be considered **less than significant**. This impact would be slightly greater than under Alternative 3.

Impact PH-2. Increase the Risk of Wildland Fires

Construction Impacts

The project vicinity is mainly rural residential land with some agricultural lands. In the summer months, dry vegetation in the area has the potential to catch fire. The presence of construction vehicles, increased construction-related traffic, and the use of construction equipment could temporarily increase the risk of fire hazard.

As required by law, the County would consult with the Placer Hills Fire Protection District to implement the appropriate regulations and control methods during final design and construction of the Alternative 1. Therefore, this impact would be considered less than significant. In addition, fire suppression would continue to be provided by the Placer Consolidated Fire Protection District. Potential impacts related to emergency vehicle access are discussed in Section 3.8, Transportation. Although this impact would be **less than significant**, it would be slightly greater than under Alternative 3.

Operational Impacts

Operation of Alternative 1 would not increase the risk of wildland fires. There would be **no impact**.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Impact PH-1. Release Hazardous Materials

Construction Impacts

Similar to Alternative 1, this impact would be considered **less than significant**.

Operational Impacts

Similar to Alternative 1, this impact would be considered **less than significant**.

Impact PH-2. Increase the Risk of Wildland Fires

Construction Impacts

Similar to Alternative 1, Alternative 2 would increase the risk of wildland fires during project construction. However, this impact would be **less than significant**.

Operational Impacts

Operation of Alternative 2 would not increase the risk of wildland fires, similar to Alternative 1. There would be **no impact**.

Alternative 3 – No Project/No Action Alternative

Impact PH-1. Release Hazardous Materials

Construction Impacts

Under Alternative 3, the Applegate WWTP would not be decommissioned and the proposed pump stations and pipeline would not be constructed. Therefore, there would be **no impact** associated with the release of hazardous materials during construction activities.

Operational Impacts

Under Alternative 3, the County would continue to prevent treated effluent from overflowing the WWTP ponds during wet weather by hauling away wastewater. This would prevent treated effluent from overtopping the WWTP ponds. Therefore, this impact would be considered **less than significant**.

Impact PH-2. Increase the Risk of Wildland Fires

Construction Impacts

Under Alternative 3, the Applegate WWTP would not be decommissioned and the proposed pump stations and pipeline would not be constructed. Therefore, there would be **no impacts** related to risk of wildland fires associated with construction activities.

Operational Impacts

Continued operation of the WWTP under Alternative 3 would not increase the risk of wildland fires. There would be **no impact**.

3.8 Transportation and Traffic

3.8.1 Introduction

This section describes the existing environmental and regulatory setting with respect to transportation and traffic. This section also identifies potential impacts on transportation and traffic that would result from the Proposed Project and includes recommended mitigation measures to address those impacts that are deemed to be potentially significant.

3.8.2 Affected Environment

Circulation System

The circulation system serving the project area consists of one freeway and four Placer County roads, which are described below. None of the County roads are listed in the 2027 Placer County Regional Transportation Plan (RTP) as significant local roads. Significant local roads are "of regional significance, connecting population centers with significant recreational, commercial, industrial, or institutional activity centers." These roads are shown in Figure 2-1 and are described in greater detail below (Placer County Transportation Planning Agency 2005).

- **Interstate 80.** Regional access to the project area is provided by I-80, a four- to six-lane divided freeway under the jurisdiction of the California Department of Transportation (Caltrans). The average annual daily traffic volume in the vicinity of the project area is approximately 50,000 vehicles (Caltrans 2007). Peak-hour traffic on the freeway ranges from 4,450 to 5,500 vehicles per hour.
- **Placer Hills Road.** Placer Hills Road is a two-lane County facility and is designated as a rural arterial in the Placer County General Plan (1994). This road provides access between I-80 and the unincorporated town of Meadow Vista, and primarily accommodates residential traffic and traffic related to the Placer Hills Union School. Because of its rural character, many recreational bicyclists also use this roadway.
- **Sugar Pine Road.** Sugar Pine Road is a two-lane County facility and is not listed with designation in the Placer County General Plan. This road provides access to scattered residences in the community of Christian Valley.
- **Applegate Road.** Applegate Road is a two-lane County facility and is designated as a rural collector in the Placer County General Plan (1994). This road provides access to Lake Theodore, adjacent to I-80; the Clipper Gap Park & Ride, which is located at the intersection of Placer Hills Road and Applegate Road near the I-80 ramps; and scattered residences.

- **Winchester Club Drive.** Winchester Club Drive is a two-lane County facility that provides access from Placer Hills Road to the scattered residences of Winchester Country Club. Traffic is primarily residential; however, there are several cart crossings to accommodate movement within the golf course. The rural setting also facilitates bicycle and pedestrian traffic.

Traffic Volumes

Under existing conditions, traffic in the project area is relatively low. Available traffic counts on project area roads are presented in Table 3.8-1. Traffic counts represent average daily traffic counts for north- and southbound lanes unless otherwise indicated.

Table 3.8-1. Traffic Volume in the Project Area

Road	Direction	Average Daily Traffic Count	Applicable Alternative
Applegate Road (at the Clipper Gap crossing)	Average both directions	1,924	Alternatives 1 and 2
Placer Hills Road (just north of Lake Arthur Road)	Northbound	5,047	Alternatives 1 and 2
	Southbound	4,998	
Sugar Pine Road (just west of Placer Hills Road)	Eastbound	1,212	Alternatives 1 and 2
	Westbound	1,199	

Source: Moorehead pers. comm.

Site Access and Existing Facility Traffic

The Applegate WWTP is accessed by dirt roads connecting to Applegate Road on the south side of I-80. Existing service- and maintenance-related operations at the WWTP generate one round trip per day, 5 days per week by County staff, travelling between the WWTP and the SMD 1 WWTP on Joeger Road in Auburn, a distance of approximately 13 miles. Existing operations also require a County-contracted liquid sewage truck to haul raw sewage from the Applegate WWTP to the SMD1 WWTP between October 15 and May 15 each year. These operations average approximately four round trips per day, 7 days per week (Schmidt pers. comm.).

Alternative Transportation

Transit and Rail Service

Transportation is provided in the project vicinity by Placer County Transit (PCT), which is operated by the Placer County Department of Public Works and Auburn Transit. PCT provides fixed-route and deviated fixed-route commuter bus service, and a commuter vanpool program. PCT and Auburn Transit do not provide regular bus routes in the project vicinity (Placer County Transit 2008,

Auburn Transit 2008). The Placer Commuter Express provides commuter service to and from Sacramento along the I-80 corridor, with an eastern terminus of Colfax. This service stops at the Clipper Gap Park & Ride, which is located near the project area at the intersection of Placer Hills Road and Applegate Road, south of I-80 (Placer County Transit 2008).

Union Pacific Railroad (UPRR) operates freight train service in the project vicinity. Amtrak operates the California Zephyr passenger rail service along these tracks. The stations nearest the project area are in Auburn, approximately 10 miles to the southwest of the WWTP, and in Colfax, approximately 10 miles to the northeast.

Bicycle and Pedestrian Network

The Placer County Transportation Planning Agency prepared the Regional Bikeway Plan in September 2002 and incorporated it into the 2027 RTP (Placer County Transportation Planning Agency 2005). None of the roads in the project area are currently designated as bikeways or are otherwise striped with bike lanes. However, the Regional Bikeway Plan identifies routes where bike routes should be implemented as prospective Class III bike routes, including portions of Lake Arthur Road and Placer Hills Road. No specific improvement projects are listed for any of the project-related roads (Placer County Transportation Planning Agency 2005). Because of the rural nature of the local roads, there are no pedestrian facilities or pedestrian activity in the project vicinity.

Air Traffic

There are no airports in the vicinity of the project area.

3.8.3 Regulatory Setting

State

Caltrans manages the state system of highway and freeway lanes. Although it is not anticipated that the Proposed Project or its alternatives would affect any state-owned facilities, namely I-80, Caltrans will participate in review of this EID to determine potential impacts on its facilities.

Local

Placer County General Plan

County roadways in Placer County are maintained by the Transportation Division of the County Department of Public Works. The County's transportation policies are stated in the Transportation and Circulation Element of the Placer County General Plan (Placer County 1994). The general plan

requires that the level of service (LOS) on County roads be maintained at a grade of C on rural roadways. However, a grade of D is allowed on roads within 0.5 mile of state highways, including most of the roads in the project area. There are no policies that specifically address the construction of utilities in County roadways.

2027 Regional Transportation Plan

The Placer County Transportation Planning Agency is a multi-jurisdictional body consisting of representatives of Placer County, the five incorporated cities within the County, and the unincorporated town of Loomis. With input from Caltrans, local agencies, local businesses, and community groups, this agency prepares and issues updates the Placer County RTP, which was most recently updated in September 2007. The RTP fulfills the state requirements of Assembly Bill 402 (Government Code Title 7, Chapter 2.5, Sections 65080-65082), which require regional transportation planning. Chapter 3 of the RTP lists several "high-priority regional road network projects," but none are located in the project vicinity.

3.8.4 Environmental Consequences

Methodology

Because of the limited amount of traffic generated under existing conditions and the limited amount of traffic that would be generated during construction and operation of the Proposed Project, a quantitative traffic impact analysis was deemed to be unnecessary. Rather, transportation-related impacts were analyzed qualitatively by researching the existing and planned conditions of the local circulation system and examining the ways in which construction and operational activity associated with the Proposed Project could affect roads and traffic. The analysis was conducted using a conservative estimate of the vehicle and truck trips associated with construction and operations. The impacts considered were those related to the effects of increased traffic volume on roadway congestion, safety, and pavement integrity.

As discussed in the Initial Study (IS) (ICF Jones & Stokes 2008a), the Proposed Project would not include an air-traffic component or roadway design features that could result in any traffic hazards or permanently affect traffic corridors. In addition, the Proposed Project would not include any elements that would affect the adequate provision of parking. Therefore, issues related to air traffic, the introduction of roadway hazards, parking, and alternative transportation are not discussed further in this analysis.

Thresholds of Significance

Based on State CEQA Guidelines Section 15065, Appendix G, and other relevant considerations, adverse impacts would be potentially significant if the Proposed Project could:

- cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system and that might exceed, either individually or cumulatively, a LOS standard established by the County;
- result in the creation of roadway hazards;
- result in inadequate emergency access; or
- obstruct operation of freight or passenger trains.

Environmental Impacts

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Impact TRF-1. Degrade Level of Service below Acceptable Thresholds

Construction Impacts

Construction of Alternative 1 would result in increased traffic within the project area from the transport of construction workers and materials within and to and from the project area. In addition, single-lane road closures would be required during construction of the pipeline and both lanes would need to be closed during blasting, necessitating the inclusion of a detailed detour plan. The movement of construction-related vehicles and planned lane closures could adversely affect the LOS on project area roads.

The increase in construction-related traffic would occur as a result of the transport of workers and the transport of construction materials within and to and from the project area. It is assumed that a13-person crew would be working on the pipeline over the course of a 16-month period. This could result in up to 13 additional trips most likely during peak traffic hours in the morning and evenings. Delivery vehicles would arrive and depart via I-80, using the ramps at Haines Road or Clipper Gap, and would travel on other local roads depending on the specific location of the construction and staging areas. All access for delivery, equipment, and construction-related vehicles would be via the roadway in which the pipeline is being constructed.

Construction of the pipeline would also require hauling excavated earth materials from the project area (12 cubic yards per day), resulting in approximately 1.5 haul truck trips per day over a period of 12 months. Soil and other construction waste are expected to be disposed of at the Western Regional Sanitary Landfill on Fiddyment Road in Roseville and would likely travel down local roads to

I-80. The removal of sludge and demolition debris from the WWTP is expected to require five truck trips per day over a period of several days. The wastes would be hauled between the Applegate WWTP and the Materials Recycling Facility in Lincoln, approximately 20 miles south down I-80, then approximately 5 miles west on State Route 65.

Based on the assumptions described above, it is anticipated that construction of Alternative 1would result in up 13 additional trips during peak a.m. and p.m. traffic times for workers commuting to the project area, and an additional 6.5 truck trips throughout the rest of the day. Relative to the amount of traffic already on the roads within the project area as presented in Table 3.8-1, this increase would be minimal and would not result in a noticeable reduction in the LOS of roadways in the project area.

In addition to increased traffic, segments of some local roadways would be temporarily closed. However, during construction of the pipeline, only one lane would be closed and traffic would be allowed to pass under controlled conditions. During blasting, both lanes would temporarily be closed for a short time period. Traffic would be rerouted via a detour. Although road closures would result in traffic delays, these impacts would be temporary. With implementation of EC-2, Prepare and Implement a Traffic Management Plan, this impact would be considered **less than significant** but slightly higher than under Alternative 3, under which no construction would occur.

Operational Impacts

Operation of Alternative 1 would result in a net decrease in the number of truck trips compared with existing conditions. This is because the County would no longer be required to haul sewage away from the plant during the winter months (four round trips per day, 7 days per week, October 15 through May 15). In addition, maintenance of the new pipeline and associated facilities is expected to require the same number of vehicle trips (one per day) that occur under existing conditions. Therefore, there would be no traffic-related impacts under Alternative 1. This impact would be considered **beneficial**.

Impact TRF-2. Increase Traffic Hazards

Construction Impacts

Construction of Alternative 1 would occur primarily within existing road rights-of-way between 6:00 a.m. and 8:00 p.m., Monday through Friday, for approximately 12 months. Construction might also occur on Saturdays between 8:00 a.m. and 8:00 p.m. In most areas, the pipeline would be installed in open trenches. This work would require lane closures in the vicinity of the proposed work throughout the duration of project construction. Lane closures and work within open trenches would potentially result in traffic hazards for vehicles and bicyclists travelling on these roads. In addition, staging areas may be located adjacent to on- and off-ramps for I-80 and the proposed I-80 crossing could potentially affect this highway.

Implementation of EC-2 would reduce, to the maximum extent feasible, traffic congestion during construction. The traffic control element of the traffic management plan would be coordinated and approved by the Placer County Road Department and the Placer County Sheriff's Office, and would meet their standard traffic control performance criteria. The traffic management plan would also include specifics for phasing lane closures, placing cones and warning signs to alert drivers of lane closures and hazardous conditions, and requirements for the presence of flaggers to provide further alerts to drivers. In addition, in order to construct within the state's right-of-way, the County or its contractor would be required by Caltrans to obtain an encroachment permit unless otherwise exempt. With this legal requirement and the implementation of EC-2, this impact would be considered **less than significant**.

Operational Impacts

Alternative 1 would not result in any permanent modifications to project area roadways that would result in increased traffic hazards during project operations. There would be **no impact**.

Impact TRF-3. Conflict with Emergency Access

Construction Impacts

Under Alternative 1, construction activities would increase construction traffic and would require lane closures and the placement of construction equipment along roadway staging areas. These activities have the potential to block emergency vehicle access. In particular, blasting activities would require that both lanes are closed. Because of the rural nature of the project vicinity, emergency access to certain areas is limited. Closure of these routes would potentially result in inadequate emergency access for residents, businesses, schools, and other uses along these roads.

The implementation of EC-1, Prepare and Implement a Blasting Plan, and EC-2, Prepare and Implement a Traffic Management Plan, would implement applicable traffic control standards and traffic safety measures. In addition to addressing the potential safety issues for regular traffic and traffic congestion, traffic control and management plans need to address the potential for road closures and identify alternate routes for emergency service providers. Therefore, this impact would be considered **less than significant**.

Operational Impacts

Alternative 1 would not result in any permanent modifications to project area roadways that would cause a conflict with emergency access during project operations. There would be **no impact**.

Impact TRF-4. Obstruct Train Service

The existing Applegate WWTP is located adjacent to railroad tracks owned by UPRR and operated by UPRR (freight) and Amtrak (passenger). The demolition work required for closure of the WWTP would not require modification of the tracks or right-of-way, and would not obstruct normal operations on the UPRR line. There would be **no impact**.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Impact TRF-1. Degrade Level of Service below Acceptable Threshold Levels

Construction Impacts

Alternative 2 is the same as Alternative 1 except that any future connections to the pipeline would be limited. Therefore, the potential construction-related impacts would be the same as those described for Alternative 1. Under Alternative 2, the road closures and the transport of construction materials, equipment, and workers would have the potential to increase traffic congestion on project area roadways. With the implementation of EC-2, this impact would be considered **less than significant**.

Operational Impacts

Similar to Alternative 1, operation of Alternative 2 would result in a net decrease in the number of truck trips associated with operation. This is because the County would no longer be required to haul sewage away from the plant during the winter months (four round trips per day, 7 days per week, October 15 through May 15). Maintenance of the new pipeline and associated facilities is expected to require the same number of vehicle trips (one per day) that occur under existing conditions. Therefore, there would be no traffic-related impacts under operational conditions and under Alternative 2 this impact would be considered **beneficial**.

Impact TRF-2. Increase Traffic Hazards

Construction Impacts

Similar to Alternative 1, Alternative 2 would have a potential for construction-related activities to create traffic hazards. Lane closures and work within open trenches could result in traffic hazards for passenger vehicles and bicyclists travelling on these roads. In addition, staging areas may be located adjacent to on- and off-ramps for I-80 and the proposed I-80 crossing could potentially affect this highway.

Implementation of EC-2 would reduce, to the maximum extent feasible, traffic congestion during construction. The traffic control element of the traffic management plan would be coordinated and approved by the Placer County Road

Department and the Placer County Sheriff's Office, and would meet their standard traffic control performance criteria. The traffic management plan would also include specifics for phasing lane closures, placement of cones and warning signs to alert drivers of lane closures and hazardous conditions, and requirements for the presence of flaggers to provide further alerts to drivers. In addition, in order to construct within the state's right-of-way, the County or its contractor would be required by Caltrans to obtain an encroachment permit unless otherwise exempt. With this legal requirement and the implementation of EC-2, this impact would be considered **less than significant**.

Operational Impacts

Alternative 2 would not result in any permanent modifications to project area roadways that would result in increased traffic hazards during project operations. There would be **no impact**.

Impact TRF-3. Conflict with Emergency Access

Construction Impacts

Under Alternative 2, construction activities would increase construction traffic and would require lane closures and the placement of construction equipment along roadway staging areas. These activities have the potential to conflict with emergency vehicle access.

The implementation of EC-1 and EC-2 would implement applicable traffic control standards and traffic safety measures and require preparation of a road closure plan. In addition to addressing the potential safety issues for regular traffic and traffic congestion, traffic control and management plans need to address the potential for road closures and identify alternate routes for emergency service providers. Therefore, this impact would be considered **less than significant**.

Operational Impacts

Alternative 2 would not result in any permanent modifications to project area roadways that would cause a conflict with emergency access during project operations. There would be **no impact**.

Impact TRF-4. Obstruct Train Service

The existing Applegate WWTP is located adjacent to railroad tracks owned by UPRR and operated by UPRR (freight) and Amtrak (passenger). The demolition work required for closure of the WWTP would be the same under Alternative 2 as under Alternative 1 and would not require modification of the tracks or right-of-way. Therefore, Alternative 2 would not obstruct normal operations on the UPRR line. There would be **no impact**.

Alternative 3 – No Project/No Action Alternative

Impact TRF-1. Degrade Level of Service below Acceptable Thresholds

Construction Impacts

Under Alternative 3, there would be no construction or construction-related impacts. No construction materials, equipment, or workers would need to be transported to the project area and there would be no increases in traffic that would result in a decrease in the LOS of project area roadways. There would be **no impact**.

Operational Impacts

Under Alternative 3, there would continue to be one routine maintenance trip per day between the Applegate WWTP and the SMD 1 WWTP. Hauling trips for liquid sewage would also continue during the winter months, at least in the short term, and would account for approximately one additional trip per day between these two plants. This small number of vehicle trips is the same as existing conditions and would not represent a substantial increase resulting in the degradation of project area roadways below an acceptable LOS. There would be **no impact** compared with existing conditions.

Impact TRF-2. Increase Traffic Hazards

Implementation of Alternative 3 would result in no changes compared with existing conditions. There would be no construction- or operation-related hazards and no permanent changes to project area roadways. There would be **no impact**.

Impact TRF-3. Conflict with Emergency Access

Implementation of Alternative 3 would result in no changes compared with existing conditions. There would be no construction-related traffic and no proposed lane closures. There would be **no impact** on emergency vehicle access.

Impact TRF-4. Obstruct Train Service

Implementation of Alternative 3 would result in no changes compared with existing conditions. There would be no construction-related traffic or the potential to affect train service. There would be **no impact**.

3.9 Utilities and Service Systems

3.9.1 Introduction

This section describes the existing environmental and regulatory setting with respect to utilities and service systems. The section also identifies potential impacts on utilities and service systems that would result from the Proposed Project and includes recommended mitigation measures to address those impacts that are deemed to be potentially significant.

3.9.2 Affected Environment

Water Supply

Within the project area, water supply is provided by PCWA. PCWA is responsible for water resource planning and management within Placer County and the surrounding region. PCWA also generates hydroelectric power and supplies irrigation and treated drinking water in four service zones in central and western Placer County. Water supply for fire protection is provided either by fire hydrants or via tanker trucks deployed by the Placer Consolidated Fire Protection District or other emergency response teams in the area.

Stormwater

Stormwater in the project area is captured and treated at the Applegate WWTP or is allowed to naturally flow toward Clipper Creek. Stormwater along the proposed pipeline alignments is collected by drainage ditches along project area roads.

Sanitary Sewer and Septic Systems

Sanitary sewer treatment in the project area is currently provided by the Applegate WWTP. The Applegate wastewater conveyance and treatment systems were designed for a buildout population of 100, generating an average daily dry weather flow of 10,000 gallons per day (gpd). The collection system consists of approximately 8,000 linear feet of 6-inch-diameter sewer pipe and a wastewater pump station that conveys domestic wastewater from 28 land parcels with 37 EDUs. These EDUs consist of 24 residences and a motel with 6.34 EDUs. There are also five commercial connections—a church, a firehouse/community center, offices, motel, and a library—that account for the remaining EDUs.

3.9.3 Regulatory Setting

Federal

Water Pollution Control Act

The major federal legislation regulating wastewater is the Water Pollution Control Act, also known as the CWA, which is designed to restore and preserve the integrity of the nation's waters. Enacted originally in 1948, the CWA was amended numerous times until it was reorganized and expanded in 1972. It continues to be amended almost every year. In addition to the CWA, other federal environmental laws regulate the location, type, planning, and funding of wastewater treatment facilities.

State

Water Conservation Projects Act

California's requirements for water conservation are described in the Water Conservation Projects Act of 1985 (California Water Code Sections 11950–11954). Placer County has implemented various water conservation efforts that are consistent with this code.

California Water Code

In 2002, the California Legislature adopted legislation concerning water supply planning efforts in the state of California (Senate Bill 610). Water Code Section 10910 *et seq*. coordinates local water supply and land use decisions to assist California's cities and counties with providing adequate water supplies. Section 10910 requires cities and counties to prepare water supply assessments when considering approval of many types of development projects that would consume the amount of water greater than or equivalent to 500 households (California Department of Water Resources 2008). The water supply assessment, which is also required as part of the CEQA process, includes an identification of existing water supply assessments, water rights, or water service contracts relevant to the identified water supply for the proposed project. The water supply assessment also identifies water received in prior years pursuant to those entitlements, rights, and contracts.

California Integrated Waste Management Act

In 1989, the California Legislature adopted the Integrated Waste Management Act, which established an integrated waste management hierarchy in the following order of importance: source reduction, recycling, composting, and land disposal (California Integrated Waste Management Board 2008). The act also

required that each county prepare a new integrated waste management plan, and that each local jurisdiction prepare a source reduction and recycling element by July 1, 1991. Each source reduction element includes a plan for reducing solid waste by 25% by January 1, 1995; and 50% by January 1, 2000. Recently, a number of changes to the municipal solid waste diversion requirements under the Integrated Waste Management Act were adopted, including a revision to the statutory requirement for 50% diversion of solid waste. Under these provisions, local governments must continue to divert 50% of all solid waste on and after January 1, 2000.

Local

Placer County General Plan

Section 4 of the Placer County General Plan (1994) provides guidance and outlines implementation for utilities and service systems by addressing:

- water supply and delivery;
- sewage collection, treatment, and disposal;
- stormwater drainage; and
- landfills, transfer stations, and solid waste recycling.

3.9.4 Environmental Consequences

Methodology

Impacts were identified by considering how implementation of the alternatives would affect existing utilities and service systems. The significance of the impact was then assessed using the criteria described below. Impacts related to interference with utility and service systems are not discussed further because temporary shutdowns or relocations of existing utilities are not planned as part of the Proposed Project.

Thresholds of Significance

Based on State CEQA Guidelines Section 15065 and Appendix G, adverse impacts would be potentially significant if the Proposed Project could result in the outcomes listed below. Additional considerations presented in Appendix G of the CEQA Guidelines are not included because those potential impacts were analyzed and subsequently dismissed as being less than significant or no impact for the project alternatives in the IS-NOP prepared for the Proposed Project (ICF Jones & Stokes 2008a). The Proposed Project would result in a potentially significant impact if it would:

- exceed wastewater treatment requirements of the applicable RWQCB;
- require or result in the construction of new or expanded facilities for wastewater or stormwater treatment, the construction of which could cause significant environmental effects;
- result in a determination by the wastewater treatment provider that serves or may serve the project that has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments; or
- not be able to serve the project from existing water supply entitlements and resources, or require new or expanded entitlements.

Environmental Impacts

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Impact UTL-1. Exceed Wastewater Treatment Requirements

Implementation of Alternative 1 would eliminate treatment of wastewater at the Applegate WWTP. Under Alternative 1, the Applegate WWTP would be closed and a new pipeline would be constructed to reroute wastewater to the SMD 1 WWTP. The CVRWQCB has issued new waste discharge requirements at SMD 1 that must take effect by 2015. SMD 1 is currently not meeting the new discharge requirements, but options for how best to meet the new standards, including additional flow from the Applegate WWTP, are currently under investigation with the intent of achieving compliance by 2015. This impact would be considered **less than significant**.

Impact UTL-2. Result in Construction of New or Expanded Facilities with Significant Environmental Impacts

Implementation of Alternative 1 would entail the construction of new wastewater facilities to route wastewater from the Applegate WWTP to the SMD 1 WWTP. The impacts of this construction are already addressed in this EID. Some of the impacts have the potential to be significant. With implementation of the mitigation measures to address construction impacts that are identified in the other resource sections in this chapter, these impacts would be **less than significant**.

Impact UTL-3. Exceed Wastewater Treatment Capacity

Under Alternative 1, wastewater would be rerouted to the SMD 1 WWTP. Currently, the SMD 1 WWTP has a permitted average dry weather flow capacity of 2.18 million gallons per day (mgd) and is operating at approximately 1.7 mgd average dry weather flow. Flows transported to SMD 1 under Alternative 1 are anticipated to reach approximately 0.01 mgd. Therefore, there is sufficient capacity at the SMD 1 WWTP to treat wastewater flows from the current Applegate system with some remaining excess capacity at SMD 1. There would be **no impact**.

Impact UTL-4. Require New or Expanded Water Supply Entitlements

Under Alternative 1, a well would be constructed at the pump stations to provide water to operate the biofilter, conduct periodic wash-down of the wet well (approximately three times per week), and for emergency use (e.g., eye wash, shower) in the case of accidental contact with hazardous chemicals or wastewater. The estimated use would be minimal and would be met by existing entitlements. This impact would be **less than significant**.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Impact UTL-1. Exceed Wastewater Treatment Requirements

Similar to Alternative 1, implementation of Alternative 2 would result in closing the WWTP and routing wastewater to the SMD 1 WWTP. This impact would be considered **less than significant**.

Impact UTL-2. Result in Construction of New or Expanded Facilities with Significant Environmental Impacts

Similar to Alternative 1, Alternative 2 would result in the construction of new wastewater facilities, which could result in significant environmental impacts. The impacts of this construction are already addressed in this EID. Some of the impacts have the potential to be significant. With implementation of the mitigation measures addressed in the other sections of this Chapter, these impacts would be **less than significant**.

Impact UTL-3. Exceed Wastewater Treatment Capacity

Similar to Alternative 1, Alternative 2 would not exceed wastewater treatment capacity. There would be **no impact**.

Impact UTL-4. Require New or Expanded Water Supply Entitlements

Similar to Alternative 1, Alternative 2 would not require new or expanded water supply entitlements. This impact would be **less than significant**.

Alternative 3 – No Project/No Action Alternative

Impact UTL-1. Exceed Wastewater Treatment Requirements

Under Alternative 3, the Applegate WWTP would not be decommissioned and wastewater would continue to be treated at the Applegate WWTP. As under existing conditions, Applegate WWTP would continue to meet its requirements for treatment of wastewater by treating and hauling wastewater away, as needed, during the winter months per the terms of the Settlement Agreement. However, as discussed in Section 3.4, Hydrology and Water Quality, even if wastewater is

hauled away during wetter months, there is a potential for stormwater and groundwater to overtop the ponds, thereby exceeding WDRs. Therefore, this impact would be **significant and unavoidable**

Impact UTL-2. Result in Construction of New or Expanded Facilities with Significant Environmental Impacts

Although excess rainwater and artesian groundwater inflows can cause the ponds to overtop, because Alternative 3 by definition involves no action, no new facilities or expansion of any existing facilities would be implemented under Alternative 3. There would be **no impact** related to the construction of new or expanded facilities.

Impact UTL-3. Exceed Wastewater Treatment Capacity

Alternative 3 would result in the potential for stormwater and wastewater to overtop the WWTP ponds under extreme wet weather conditions. Because Alternative 3 involves no action, there is a potential for discharge from the ponds to occur, exceeding WWTP capacity. This impact would be considered **significant and unavoidable**.

Impact UTL-4. Require New or Expanded Water Supply Entitlements

Under Alternative 3, there would be no construction and no changes to demand for water supply. There would be **no impact**.

Chapter 4
Other Considerations

4.1 Introduction

This chapter includes information related to growth inducement, cumulative impacts, and the analysis of socioeconomics and environmental justice for the Proposed Project.

4.2 Growth Inducement

4.2.1 Introduction

Pursuant to Section 15126.2 of the State CEQA Guidelines, a project is to be considered growth inducing when it would remove an obstacle to growth or when it fosters residential or economic growth. A project may be growth inducing even when development has been previously planned for the area, because CEQA requires the project to be considered in the context of the baseline reflected by the current environment. Accordingly, if a project would foster growth or remove obstacles to growth beyond the existing level, it would be considered growth-inducing. A key question in growth-inducing impact analysis is, "If the project were not built, could growth still occur?"

4.2.2 Analysis of Growth Inducement

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Impact GI-1. Remove an Obstacle to Growth

Under Alternative 1, the installed pipelines would be sized to have a maximum capacity of 0.01 million gallons per day (mgd), which is enough capacity to accommodate the existing Applegate system demands (54 equivalent dwelling units [EDUs]) plus approximately 438 additional EDUs. Although these

particular segments of pipe would have capacity for future connections, up to 26,000 feet of downstream collection system would not have capacity to accommodate the 438 future EDUs unless upgraded.

The pump station site(s) also would be designed and laid out to accommodate the full 0.01 mgd; however, only enough storage tank capacity and pumping ability to handle the existing demands (54 EDUs) would be constructed. In other words, after the Proposed Project is constructed, up to approximately 26,000 feet of additional pipe upgrading would be required from the Winchester system to the SMD 1 system, before the collection system could accommodate all of the future 438 EDUs.

These elements would serve as limitations for additional growth. Therefore, Alternative 1 would not result in growth inducement. There would be **no impact**.

Alternative 2– Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Impact GI-1: Remove an Obstacle to Growth

Under Alternative 2, both the pipelines installed and all components of the pump station(s) would prohibit additional connections to the collection system without significant upgrades. As with Alternative 1, the remaining downstream collection system also could not accommodate additional connections unless upgraded. Therefore, Alternative 2 would not provide for additional wastewater treatment capacity above current demand and so would not result in growth inducement. There would be **no impact**.

Alternative 3

Impact GI-1: Remove an Obstacle to Growth

Under Alternative 3, the Applegate Wastewater Treatment Plant (WWTP) would continue to operate as it does under existing conditions. Because there would be no change, Alternative 3 would not result in growth inducement. There would be **no impact**.

4.3 Socioeconomics

4.3.1 Affected Environment

Placer County Service Area No. 28, Zone No. 24 (CSA No. 24), is an independent budget unit of Placer County, governed by the Board of Supervisors and staffed by the Department of Facility Services. Revenue for services is

derived from a user fee imposed on all properties connected to the system. At the present time, the system provides service to approximately 37 active EDUs and 17 inactive EDUs. The active EDUs consist of 23 single-family homes and five commercial connections, including a church, a firehouse/civic center, offices, a motel, and a library. For fiscal year 2010 to 2011 the maintenance and operation fee for a single-family home was $82.00 per month.

4.3.2 Environmental Consequences

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Impact SOC-1. Affect the Local Economy

Construction of Alternative 1 would create temporary construction-related jobs. These jobs would have secondary impacts on the local economy as construction workers spend money within the local economy. These impacts are anticipated to be minor in the context of the local economy but would be **beneficial**.

In addition, operation of Alternative 1 would involve improving the efficiency of wastewater treatment within the project area. The current operation of the Applegate WWTP involves an inefficient and costly system of temporarily storing and hauling wastewater away from the WWTP and daily maintenance trips to the plant. Regionalization of the wastewater treatment system would provide economic benefits to the service area by taking advantage of economies of scale from the operation of larger, state-of-the-art facilities. Alternative 1 would provide a higher level of service to rate payers and would reduce future maintenance costs. These operational impacts would be **beneficial**.

Alternative 2– Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Impact SOC-1. Affect the Local Economy

Construction of Alternative 2 would be the same as Alternative 1. The impact would be **beneficial**. The benefits are anticipated to be the same with the exception that Alternative 2 would not allow for the connection of additional EDUs.

Alternative 3 – No Project/No Action Alternative

Impact SOC-1. Affect the Local Economy

Under Alternative 3, the benefits described for Alternatives 1 and 2 would not be realized and it is anticipated that rate increases could likely occur related to the increasing costs that would be associated with continuing to transport wastewater

from the Applegate WWTP during wet weather. The County would also likely be subject to fines and further penalties associated with not complying with the terms of the Settlement Agreement. However, rate increases are anticipated to be minimal and this impact is considered **less than significant**.

4.4 Environmental Justice

4.4.1 Introduction

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires that a federal agency analyze and address the disproportionately high and adverse human health and environmental effects of a proposed federal action on low income populations or minority communities.

For the purposes of this analysis, minority is defined as those people who have identified themselves as African American, Asian American, American Indian, Alaskan Native, or Hispanic. The U.S. Census defines Hispanic origin as an ethnicity and not a race. Consequently, a person of Hispanic origin may be of any race, and because of this, the U.S. Census reports these characteristics separately.

The term *low income* is used to describe persons whose median household income is at, or below the Department of Health and Human Services poverty guidelines for the applicable household size. The poverty guidelines are a simplified version of the Census Bureau's poverty thresholds. According to the 2000 U.S. Census, poverty thresholds (weighted averages) are as follows for income per year: one person, $8,501; a family unit with two people, $10,869; a three-person family unit, $13,290; and a four-person family unit, $17,029.

Population characteristics are gathered by the U.S. Census Bureau related to race, ethnicity, and economic status. The U.S. Census Bureau groups population data into census tracts. Census tracts are comprised of census blocks. The study area consists of the 26 census blocks that would be affected (overlapping) with the project area.

4.4.2 Affected Environment

According to the 2000 U.S. Census, there are approximately 626 people living in the study area (U.S. Census Bureau 2000). Approximately 3% of the families within the study area are living below the poverty level. Approximately 3% of the study area's population is comprised of individuals who identified themselves as African American, Asian American, American Indian or Alaskan Native, Hawaiian or Pacific Islander, or some other race.

4.4.3 Environmental Consequences

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Impact EJ-1. Disproportionately Affect Environmental Justice Populations

Alternative 1 would result in some construction-related impacts such as temporary increases in dust, noise, and minor traffic delays. However, these impacts would be shared equally by the communities surrounding the project area, regardless of race or economic class. Furthermore, all impacts associated with Alternative 1 would be mitigated to less-than-significant levels. Therefore, Alternative 1 is not anticipated to result in adverse human health effects that would disproportionately affect environmental justice populations. This impact would be **less than significant**. No mitigation is required.

Alternative 2– Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Impact EJ-1. Disproportionately Affect Environmental Justice Populations

Alternative 2 would be the same as Alternative 1 with the exception that no future connections to the new pipeline would be allowed. Therefore, all environmental impacts would be borne equally along the proposed pipeline. This impact would also be **less than significant**. No mitigation is required.

Alternative 3 – No Project/No Action Alternative

Impact EJ-1. Disproportionately Affect Environmental Justice Populations

Under Alternative 3, the WWTP would continue operating as it does under existing conditions. As discussed in Chapter 3 and summarized in Table 3.1-1, under Alternative 3 there would be significant and unavoidable impacts on water quality and utilities and public service. These impacts are not anticipated to result in significant adverse effects on human health and would be experienced equally by all those within the study area. Therefore, this impact would be **less than significant**. No mitigation is required.

4.5 Cumulative Impacts

4.5.1 Introduction

A cumulative impact is one that results from the combined effects of numerous past, present, and future projects or activities. Where a significant cumulative impact exists, the key question is whether the project would make a cumulatively considerable contribution to that impact. A project may make a cumulatively considerable contribution even if the project's individual impact is less than significant. However, a project's impact may be rendered less than cumulatively considerable when the project is required to implement or fund its fair share of a mitigation measure, or take part in a program that is designed to alleviate the impact (State CEQA Guidelines Section 15130).

4.5.2 Approach and Methodology

Under CEQA, cumulative impacts are defined as two or more individual impacts that, when considered together, are considerable, or compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that 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 (State CEQA Guidelines Section 15355[b]).

Potential projects that could result in cumulatively significant impacts when considered along with the Proposed Project were identified based on conversations with Placer County planning staff and review of the Placer County General Plan. As describe in Section 3.5, Land Use, the project area is relatively rural. At present, only one potential project has been identified within the same area. The Sugar Pine Ridge Planned Development is currently in the planning phase and is not anticipated to be constructed during the same timeframe as the Proposed Project (Wells pers. comm.).

The Sugar Pine Ridge Planned Development proposes the development of a 46-lot planned residential development subdivision on a 211-acre property east of Placer Hills Road. The area is bounded by Placer Hills Road to the west, the Meadow Vista community to the north, and Interstate (I)-80/Lake Arthur Road to the south and east. Water service for the Sugar Pine Ridge Planned Development would be provided by the Meadow Vista County Water District (MVCWD). MVCWD requires that the project include the construction of two 250,000-gallon water storage tanks on the project site. Pending authorization from Placer County Facility Services Department, wastewater service for this project site would be provided by SMD 1. The project proposes to tie into the Winchester STEP sewer collection system located to the west via Sugar Pine Road.

4.5.3 Assessment of Cumulative Impacts

Air Quality

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

As presented in Section 3.1, Air Quality, Alternative 1 is consistent with the general conformity rule. The federal conformity analysis is inherently cumulative because it evaluates a project's ability to meet de minimus levels to ensure a project would not contribute to an air quality impact on a statewide level. These thresholds are developed based on assumptions for projected growth and development for each planning region. Because Alternative 1 would not exceed the *de minimus* thresholds as indicated in Table 3.1-9 of Section 3.1, Air Quality, there would be no cumulatively significant impact on regional air quality from construction.

In the event that construction of another project was to occur during the same time as construction-related activity associated with Alternative 1, there would be a potential for cumulatively significant air quality impacts to occur on a localized basis. However, there are no other planned projects or activities in the study area that would affect the same resources as the Proposed Project. Furthermore, this is unlikely because project construction would progress along the pipeline alignment and would not be concentrated in one area for a long period of time.

Operation of Alternative 1would result in an improvement in air quality compared with existing conditions. There would be no cumulatively considerable contribution to an air quality impact from project operation.

Alternative 1 would also result in temporary increases in greenhouse gas (GHG) emissions from construction activities. As indicated in Section 3.1, Air Quality, projected emissions are not considered to be substantial in the context of statewide GHGs and implementation of Mitigation Measure AQ-2 would reduce GHG emissions to less than significant. Therefore, Alternative 1 would not contribute to a cumulatively significant increase in GHG emissions.

Alternative 2– Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Alternative 2 would be the same as Alternative 1, except that Alternative 2 would require a smaller footprint for the proposed Applegate Regional Pump Station. Construction and operation air emissions would be the same as for Alternative 1. There would be no cumulatively considerable contribution to air quality impacts from operation or construction. Similar to Alternative 1, Alternative 2 would not contribute to a cumulatively significant increase in GHG emissions.

Alternative 3 – No Project/No Action Alternative

Under Alternative 3, there would be no construction related air emissions and project operation would continue as it does under existing conditions. There would be no cumulatively considerable contribution to a significant air quality impact.

Biological Resources

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Alternative 1 would result in potential impacts on sensitive biological resources including sensitive plant and animal species, riparian habitat, and wetlands. There would be a potential for Alternative 1 to result in a cumulatively significant impact on biological resources if other projects or activities within the study area also affected these resources. As indicated in Section 3.2, Biological Resources, these impacts would all be mitigated to less than significant. Implementation of these measures would ensure that the contribution of Alternative 1 did not result in a cumulatively significant impact on biological resources.

Alternative 2– Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Alternative 2 would be the same as Alternative 1, except that Alternative 2 would require a smaller footprint for the proposed Applegate Regional Pump Station. Therefore, Alternative 2 would result in slightly fewer impacts on biological resources. Similar to Alternative 1 Alternative 2 would not result in a cumulatively significant impact on biological resources.

Alternative 3 – No Project/No Action Alternative

Under Alternative 3, there would be no construction related impacts and project operation would continue as it does under existing conditions. However, as discussed in Section 3.4, Hydrology and Water Quality, there is a potential for the WWTP ponds to overtop in wet weather. Although it is unlikely that water quality thresholds in the receiving waters would be exceeded, there is a potential for water quality impairment to affect aquatic wildlife. In the event that pollutants from other projects were also discharged in the immediate vicinity, Alternative 3 could result in a potentially significant cumulative contribution to impacts on biological resources. However, there are no other planned projects or activities within the study area that would affect the same resources as the Proposed Project. Therefore, Alternative 3 would not result in a cumulatively significant impact on biological resources.

Cultural Resources

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Alternative 1 has the potential to result in impacts on unknown cultural resources through construction disturbance. Implementation of the mitigation described in Section 3.3, Cultural Resources would ensure that impacts on historic structures would be less than significant. If additional construction occurs near cultural resources within the study area, Alternative 1 could contribute to a cumulatively significant impact on cultural resources. However, there are no other planned projects or activities that would within the study area that would affect the same resources as the Proposed Project. Therefore, Alternative 1 would not result in a cumulatively significant cultural resources impact.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Alternative 2 would be the same as Alternative 1, except that Alternative 2 would require a smaller footprint for the proposed Applegate Regional Pump Station. Therefore, Alternative 2 would result in slightly less ground disturbance. Similar to Alternative 1, there are no other planned projects or activities that would within the study area that would affect the same resources as the Proposed Project. Therefore, Alternative 2 would not result in a cumulatively significant cultural resources impact.

Alternative 3 – No Project/No Action Alternative

Under Alternative 3, there would be no construction and project operation would continue as it does under existing conditions. There would be no cumulatively considerable contribution to a significant cultural resources impact.

Hydrology and Water Quality

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Alternative 1 has the potential to result in water quality impacts associated with construction. Water quality would be improved in the long term by reducing the potential for periodic discharges of wastewater from the existing Applegate WWTP to a tributary of Clipper Creek. In the event that other discharges to surface waters occurred during the same timeframe as construction of the Proposed Project, there would be a potential for cumulatively significant water quality impacts to occur on a localized basis. However, there are no other planned projects or activities that would involve construction within the study

area that would affect the same resources as the Proposed Project. Also, as indicated in Section 3.4, Hydrology and Water Quality, water quality impacts would be mitigated to less-than-significant levels for Alternative 1. Therefore, Alternative 1 would not result in a considerable contribution to a cumulative water quality impact.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Alternative 2 would be the same as Alternative 1, except that Alternative 2 would require a smaller footprint for the proposed Applegate Regional Pump Station. Therefore, similar to Alternative 1, it is unlikely that Alternative 2 would contribute to a cumulatively significant impact on hydrology or water quality.

Alternative 3 – No Project/No Action Alternative

Under Alternative 3, there is a potential for groundwater inflow to cause the WWTP ponds to overflow during extreme wet weather. Currently, none of the surface waters within the study area exceed water quality thresholds. However, in the event that pollutants from other projects were also discharged in the immediate vicinity, Alternative 3 could result in a potentially significant cumulative contribution to water quality impacts. However, as indicated previously, no other projects or activities are currently planned that would affect the same resources. Therefore, Alternative 3 would not result in a cumulatively significant impact on water resources.

Land Use

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Alternative 1 would not result in any land use impacts as indicated in Section 3.5, Land Use. Therefore, Alternative 1 would not result in a considerable contribution to cumulative land use impacts.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Alternative 2 would be the same as Alternative 1, except that Alternative 2 would require a smaller footprint for the proposed Applegate Regional Pump Station. Therefore, similar to Alternative 1, it is unlikely that Alternative 2 would contribute to a cumulatively significant land use impact.

Alternative 3 – No Project/No Action Alternative

Under Alternative 3, the Applegate WWTP would continue to operate as it does under current conditions. There would be no changes that would affect land use. Therefore, Alternative 3 would not result in a considerable contribution to cumulative land use impacts.

Noise and Vibration

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Alternative 1 has the potential to result in noise and vibration impacts associated with construction and operation. In the event that construction of another project was to occur during the same time, there would be a potential for cumulatively significant noise impacts to occur on a localized basis. However, no projects or activities are planned within the same timeframe as the Proposed Project. And as indicated in Section 3.6, Noise and Vibration, construction noise and vibration impacts would be mitigated to a less- than-significant level for Alternative 1. Therefore, Alternative 1 would not result in a considerable contribution to a cumulative noise and vibration impact during construction.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Alternative 2 would be the same as Alternative 1, except that Alternative 2 would require a smaller footprint for the proposed Applegate Regional Pump Station. Therefore, similar to Alternative 1, it is unlikely that Alternative 2 would contribute to a cumulatively significant noise impact.

Alternative 3 – No Project/No Action Alternative

Under Alternative 3, the Applegate WWTP would continue to operate as it does under current conditions. There would be no changes that would result in additional noise impacts. Therefore, Alternative 3 would not result in a considerable contribution to cumulative land use impacts.

Public Health and Safety

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Alternative 1 has the potential to result in increased exposure of construction workers and the public to hazardous materials through routine handling of these materials and the possibility for accidental spills. Alternative 1 would also have

the potential to increase the risk of wildfire during construction. In the event that construction of another project was to occur during the same time, there would be a potential for cumulatively significant public health and safety impacts to occur on a localized basis. However, no projects or activities are planned within the same timeframe as the Proposed Project. Also, as indicated in Section 3.7, Public Health and Safety, construction and operational impacts would be mitigated to less-than-significant levels for Alternative 1. Therefore, Alternative 1 would not result in a considerable contribution to a cumulative public health and safety impacts.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Alternative 2 would be the same as Alternative 1, except that Alternative 2 would require a smaller footprint for the proposed Applegate Regional Pump Station. Therefore, similar to Alternative 1, it is unlikely that Alternative 2 would contribute to a cumulatively significant impact on public health and safety.

Alternative 3 – No Project/No Action Alternative

As discussed in Chapter 3, Alternative 3 would result in a significant impact on public health and safety because of the combined potential for stormwater and wastewater to overtop the ponds and flow into a tributary of Clipper Creek. In the event that pollutants from other projects were also discharged in the immediate vicinity, Alternative 3 could result in a potentially significant cumulative contribution to public health impacts. However, as indicated previously, no projects or activities are planned within the study area that would affect the same resources. Therefore, Alternative 3 would not result in a cumulatively significant impact on public health and safety.

Transportation and Traffic

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Alternative 1 has the potential to temporarily disrupt traffic during construction, including creating traffic hazards and blocking emergency access routes. In the event that construction of another project was to occur during the same time, there would be a potential for cumulatively significant transportation impacts to occur on a localized basis. However, no projects or activities are planned within the same timeframe as the Proposed Project. Also, as indicated in Section 3.8, Transportation and Traffic, transportation impacts would be less than significant for Alternative 1. Therefore, Alternative 1 would not result in a considerable contribution to a cumulative transportation impact from construction.

Under Alternative 1, the WWTP would be closed so daily maintenance trips to the WWTP would no longer be required. This would result in beneficial transportation impacts from project operation. Therefore, there would be no cumulatively significant transportation impacts during operation.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Alternative 2 would be the same as Alternative 1, except that Alternative 2 would require a smaller footprint for the proposed Applegate Regional Pump Station. Therefore, similar to Alternative 1, it is unlikely that Alternative 2 would contribute to a cumulatively significant impact on transportation and traffic.

Alternative 3 – No Project/No Action Alternative

Under Alternative 3, the WWTP would continue to operate as it does under current conditions. There would be no changes that would result in additional transportation impacts. Therefore, Alternative 3 would not result in a considerable contribution to cumulative transportation and traffic impacts.

Utilities and Public Service

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Alternative 1 would result in the transfer of wastewater to the SMD 1 WWTP and would not affect that plant's ability to meet the requirements for treating wastewater. Therefore, Alternative 1 would not result in a considerable contribution to cumulative utilities or public services impacts.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Alternative 2 would be the same as Alternative 1except Alternative 2 would require a smaller footprint for the proposed Applegate Regional Pump Station. Therefore, similar to Alternative 1, it is unlikely Alternative 2 would contribute to a cumulatively significant impact on utilities and public service.

Alternative 3 – No Project/No Action Alternative

Impact CUME-1. Result in a Cumulatively Significant Increase in Wastewater Discharge

Alternative 3 would result in the potential for stormwater and wastewater to overtop the WWTP ponds under extreme wet weather conditions. Because Alternative 3 involves no action, there is a potential for discharge from the ponds to occur, exceeding WWTP capacity. This impact would be considered **significant and unavoidable** and would result in a significant cumulative utilities and public service impact.

Socioeconomics

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

As discussed above in Section 4.3, Socioeconomics, Alternative 1 would result in beneficial socioeconomic impacts. Therefore, Alternative 1 would not result in a considerable contribution to an adverse cumulative impact on socioeconomics.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Construction of Alternative 2 would be the same as Alternative 1. The benefits are anticipated to be the same with the exception that Alternative 2 would not allow for the connection of additional EDUs. Alternative 2 would not result in a considerable contribution to an adverse cumulative impact on socioeconomics.

Alternative 3 – No Project/No Action Alternative

Under Alternative 3, the benefits described for Alternatives 1 and 2 would not be realized and it is anticipated that rate increases would likely occur related to the increasing costs that would be associated with continuing to transport wastewater from the Applegate WWTP during wet weather. The County would also likely be subject to fines and further penalties associated with not complying with the terms of the Settlement Agreement. Increased costs are not anticipated to reach the levels that would cause undue burdens on rate payers.

Environmental Justice

Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Alternative 1 would result in the project-level environmental impacts discussed in Chapter 3 and the cumulative impacts described above. These impacts would not disproportionately affect environmental justice populations because they would be shared equally by the communities surrounding the project area. Therefore, Alternative 1 would not result in a considerable contribution to a cumulative environmental justice impact from construction and operation.

Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Alternative 2 would be the same as Alternative 1 except that Alternative 2 would limit future connections to the pipeline and would therefore require a smaller pump station to service the new pipeline. Alternative 2 would not result in a considerable contribution to a significant cumulative impact on environmental justice populations.

Alternative 3 – No Project/No Action Alternative

Under Alternative 3, the Applegate WWTP would continue operating as it does under existing conditions. As noted previously, there are significant and unavoidable impacts on water quality and utilities and public service. However, these impacts would not be cumulatively significant and would be experienced equally by all those within the study area. Therefore, Alternative 3 would not result in a considerable contribution to a significant cumulative impact on environmental justice populations.

Chapter 5
Distribution List

5.1 Introduction

Table 5-1 lists the agencies and organizations receiving a copy or notification of the availability of the EID.

Table 5-1. Agencies and Organizations Receiving the EID

Agency/Organization
Federal Agencies
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Army Corps of Engineers
State Agencies
California Department of Fish and Game
California Department of Forestry and Fire Protection
California Department of Transportation
California Department of Water Resources
California Highway Patrol Valley Division
California Native American Heritage Commission
California State Historic Preservation Office
California State Water Quality Control Board
Central Valley Regional Water Quality Control Board
Local Agencies
Placer County Air Pollution Control District
Auburn City Fire Department
Placer County Sherriff's Department
Placer Consolidated Fire Protection District
Non-Governmental Organizations
United Auburn Indian Community

Chapter 6
References

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Moorehead, Richard. Placer County. October 2, 2008—E-mail to Alexander Hardy, ICF International, regarding traffic counts in Placer County.

Schmidt, Keith J. Placer County Environmental Engineering Department. August 28, 2008—E-mail to Alexander Hardy, ICF International.

Wells, Mike. Placer County. August 22, 2010—Telephone conversation with Ted Gresh, ICF International.

Chapter 7
List of Preparers

Table 7-1 lists the ICF project team members primarily responsible for the preparation of the EID for the Applegate Regional Sewer Pipeline Project (Proposed Project).

Table 7-1. EID Preparers

Name/Title/Affiliation	Project Role
Mike Rushton	Project Director
Kim Marcotte	Environmental Specialist
Lindsay Christensen	Air Quality Specialist
Shannon Hatcher	Air Quality Specialist
John Howe	Biologist
Nate Martin	Water Quality Specialist /Hydrologist
Dave Buehler	Noise Specialist
Christiaan Havalaar	Cultural Resources Specialist
Katie Haley	Cultural Resources Specialist
Alexander Hardy	Transportation Specialist
Sacha Selim	GIS Specialist
Deborah Bartley	Graphic Designer and Technical Editor
Laura Cooper	Technical Editor
Jennifer Greenman	Publications Specialist
Corrine Ortega	Publications Specialist

Appendix A. Draft Mitigation Monitoring and Reporting Plan

Appendix A

Applegate Regional Sewer Pipeline Project Final Mitigation Monitoring and Reporting Plan

Purpose of and Need for Monitoring

In compliance with the California Environmental Quality Act (CEQA), an Environmental Impact Report (EIR) has been prepared for the Applegate Regional Sewer Pipeline Project (Proposed Project). The EIR identifies potentially significant impacts that could affect the resource areas listed below as well as mitigation measures to reduce those impacts.

- Air quality.
- Biological resources.
- Cultural resources.
- Hydrology and water quality.
- Land use.
- Noise and vibration.
- Public health and safety.
- Transportation and traffic.
- Utilities and service systems.

CEQA requires a lead agency to adopt a Mitigation Monitoring and Reporting Plan (MMRP) for the measures the agency has proposed to avoid or mitigate significant environmental effects (State CEQA Guidelines Section 15097). The purpose of the MMRP is to ensure that the mitigation measures identified in the EIR are implemented and identify the parties responsible for their implementation.

Mitigation Monitoring and Reporting Program

Public Resources Code Section 21081.6 specifies that when a public agency makes findings required by paragraph (1) of subdivision (a) of Section 21081, it "shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval adopted in order to mitigate or avoid significant effects on the environment." Public Resources Code Section 21081.6 further specifies that the MMRP must "ensure compliance during project implementation."

This MMRP for the Proposed Project identifies mitigation measures, the parties responsible for implementing and monitoring the measures, the timing of each measure, and a summary of the actions necessary to implement and monitor each measure. This MMRP is intended to ensure effective implementation of mitigation measures that are within Placer County's (County's) authority to implement, including monitoring, where identified, throughout all phases of development and operation of the Proposed Project. Where responsibility for implementing a mitigation is listed as belonging to Placer County, the County may choose to delegate that responsibility to the construction contractor or another qualified individual, as deemed appropriate by the County or any other regulatory agency.

Table 1. Final Mitigation Monitoring and Reporting Plan, Placer County, Applegate Wastewater Treatment Plant

Measure	Timing	Implementation Responsibility	Monitoring/Reporting Responsibility	Notes
Mitigation Measure AQ-1: Implement Asbestos Dust Mitigation during Construction Activities Placer County will implement measures to control asbestos dust emissions from construction activities. These measures will include, at a minimum, those specified by the Placer County Air Pollution Control District (PCAPCD) Asbestos Dust Mitigation Plan (ADMP) Guidance for Naturally Occurring Asbestos (Appendix B). These measures will be implemented prior to the approval of grading/improvement plans and will include the following actions: • The applicant will prepare an Asbestos Dust Mitigation Plan pursuant to California Code of Regulations (CCR) Title 17 Section 93105 ("Asbestos Airborne Toxic Control Measures for Construction, Grading, Quarrying, and Surface Mining Operations") and obtain approval by PCAPCD. The plan will include all measures required by the state of California and the PCAPCD. • If asbestos is found in concentrations greater than 5 percent, the material will not be used as surfacing material, as stated in state regulation CCR Title 17 Section 93106 ("Asbestos Airborne Toxic Control Measure – Asbestos-Containing Serpentine"). The material with naturally occurring asbestos can be reused at the site for subgrade material covered by other non-asbestos-containing material.	Prior to and during construction	Placer County	Placer County	Asbestos Dust Mitigation Plan to be submitted to the PCAPCD prior to construction. Placer County will ensure compliance during construction.
Mitigation Measure AQ-2: Implement Best Management Practices to Reduce Construction Tailpipe Emissions Placer County will implement all applicable and feasible measures to reduce tailpipe emissions from diesel-powered construction equipment. This requirement will be incorporated into the construction contract. The following measures will be implemented: • Shut down idling equipment that is not used for more than 5 consecutive minutes, where applicable and required by California Air Resources Board (CARB) regulations for off-road vehicles. • Maintain all construction equipment in proper tune according to manufacturer's specifications. • Maximize the use of diesel construction equipment meeting CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines. • Use emission control devices at least as effective as the original factory-installed equipment. • Locate stationary diesel-powered equipment and haul truck staging areas as far as practicable from sensitive receptors. • Use existing power sources (e.g., power lines) or clean fuel generators rather than temporary power generators. • Substitute gasoline-powered for diesel-powered equipment when feasible. • Use alternative fuels (e.g., compressed natural gas, liquefied natural gas, propane, or biodiesel) in onsite construction equipment where feasible.	During construction	Placer County	Placer County	Requirements will be included in the construction specifications prior to construction. Placer County will ensure compliance during construction.
Mitigation Measure BIO-1: Survey for Special-Status Plant Species Prior to Construction A qualified botanist will survey the biological study area to document the presence of special-status plants before project implementation. The botanist will conduct a floristic survey that follows the California Department of Fish and Game (CDFG) botanical survey guidelines, which typically entail spring surveys during the blooming period, from approximately April to May (California Department of Fish and Game 2009). Special-status plant populations identified during the field surveys will be mapped and documented as part of the public record. If no special-status plant populations are identified during appropriately timed botanical surveys, no further mitigation will be needed. If special-status plant populations are present, the County will implement Mitigation Measures BIO-2 and BIO-3.	During construction	Placer County	Placer County	May would be the best time to capture the blooming season for all the special-status plants with the potential to occur in the study area.
Mitigation Measure BIO-2: Avoid or Minimize Impacts on Sensitive Biological Resources If special-status plant populations are present in biological study area, the County will avoid and minimize impacts on them and other sensitive biological resources (e.g., riparian habitat, wetlands), where feasible, as follows: • Redesign portions of the Proposed Project at the locations of sensitive biological resources, relocate staging areas, or modify the limits of disturbance. • Install protective fencing. The County will retain a qualified biologist to identify the boundaries of sensitive biological resources to be avoided during construction. These areas will be fenced off with construction-barrier fencing and sediment fencing and, if necessary, concrete barriers will also be installed to protect sensitive biological resources in areas adjacent to the directly affected area. The protected area will be clearly identified on the construction plans and specifications. The fencing will be in place before construction activities are initiated. The fencing will be maintained by the County or its contractor throughout the duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities will cease until the fencing is replaced. The contractor will brief construction personnel on the sensitive biological resources within or adjacent to the project site that are to be avoided during construction and the penalties for not complying with permit requirements. Additional training information specific to special-status wildlife (i.e., California red-legged frog) is provided in Mitigation Measure BIO-8.	Prior to and during construction	Placer County	Placer County	Project design changes would occur during the design phase, prior to construction. Avoidance areas would be indicated in construction specifications and avoided during construction.

Measure	Timing	Implementation Responsibility	Monitoring/Reporting Responsibility	Notes
Mitigation Measure BIO-3: Compensate for Direct Impacts on Special-Status Plants If complete avoidance of special-status plant populations is not feasible, the County will compensate for the loss of special-status plant populations. Compensation for the direct impacts on special-status plants may consist of either transplantation (if approved by resource agencies) or preserving an offsite special-status plant occurrence. If regulatory agencies (CDFG and/or the U.S. Fish and Wildlife Service [USFWS]) concur that transplantation is a feasible mitigation option, the County will retain a qualified restoration ecologist to work closely with the resource agency specialist to develop a detailed transplantation and monitoring plan with success criteria. If an offsite special-status plant occurrence will be preserved, it will be the same population size (not acreage) as the one affected, and the County will develop a mitigation and monitoring plan that will be developed in conjunction with, and approved by, the appropriate regulatory agencies prior to construction of the Proposed Project. The mitigation and monitoring plan will contain success criteria to ensure that the goal of preserving an appropriately sized population at another special-status plant occurrence will be met.	Post-construction	Placer County, CDFG, and USFWS	Placer County	
Mitigation Measure BIO-4: Compensate for Loss or Disturbance of Wetlands and Other Waters The County will mitigate for impacts on wetlands and waters through post-construction restoration or contribution to a certified wetland mitigation bank to ensure no net loss of wetland habitat functions and values. The restoration will be provided at a minimum ratio of 1:1 (1 acre restored or created for every 1 acre filled), but final restoration ratios will be based on site-specific information and determined through coordination with state and federal agencies as part of the permitting process for the project. Restoration will be conducted on site after all construction activities are complete.	Post-construction	Placer County and the U.S. Army Corps of Engineers	Placer County	Determining potential impacts and obtaining a permit under Section 404 of the Clean Water Act, if required, would occur prior to construction.
Mitigation Measure BIO-5: Compensate for the Loss or Disturbance of Riparian Vegetation The County will compensate for any disturbance or loss of riparian vegetation that may occur during construction of Alternative 1 to ensure no net loss of habitat functions and values, as required by regulatory agencies. Compensation ratios will be based on site-specific information and determined through coordination with CDFG during the Streambed Alteration Agreement permitting process (e.g., 1:1=1 acre restored/enhanced for every 1 acre removed). Restoration, if appropriate and feasible, will be conducted on site after all construction activities are complete to the extent possible; however, any riparian trees that cannot be replaced by onsite replanting because of the County's pipeline operation and maintenance activities will be replaced, or otherwise mitigated for, in accordance with the California Public Resources Code, Section 21083.4, or the County's Tree Preservation Ordinance, as discussed under Mitigation Measure BIO-7.	Post-construction	Placer County	Placer County	Determining potential impacts and obtaining a Streambed Alteration Agreement, if needed, would occur prior to construction.
Mitigation Measure BIO-6: Conduct a Tree Survey The County will retain a certified arborist to conduct a tree survey or vegetative landcover survey to identify protected trees or oak woodlands in the study area. The arborist will document the results of the tree/vegetative landcover survey in a report that may include the location, species, size (dbh), overall health, and dripline diameter of the trees. These activities will be conducted before any trees are removed.	Prior to construction	Placer County	Placer County	
Mitigation Measure BIO-7: Compensate for the Loss of Protected Trees The County will comply with the requirements or conditions of the Tree Preservation Ordinance, which are described in Article 12.16 of the Placer County Code and the mitigation alternatives described in Section 21083.4 of California Public Resources Code. If the project results in impacts on protected trees or oak woodlands, the County will obtain a tree permit that identifies individual tree impacts and, if applicable, oak woodland impacts, prior to development activities within the protected zone of any protected tree. The County will implement appropriate mitigation measures as required by the permit.	Prior to construction	Placer County	Placer County	
Mitigation Measure BIO-8: Conduct Mandatory Contractor Training for the Protection of the California Red-Legged Frog Before any work, including grading, occurs in the construction area, a USFWS-approved biologist will conduct an environmental education program for construction personnel concerning the California red-legged frogs that could occur in the project area. The mandatory environmental education program will include a description, representative photographs, and legal status of each federally listed species; the terms and conditions of the biological opinion; and the penalties for not complying with biological mitigation requirements. Proof of this instruction will be kept on file with the County. In the absence of a USFWS-approved biologist, environmental training pamphlets will also be available on site for use by environmentally trained leads in training new personnel. Construction personnel will learn that if a California red-legged frog is encountered in the work area, construction will cease, and USFWS will be called for guidance before any construction activities resume. The program will emphasize the need to protect water quality and the importance of implementing the conservation measures included in the EIR. The biologist will review the measures that must be implemented to protect water quality as well as general restrictions and guidelines that must be followed by all construction personnel to avoid or reduce effects on federally listed species during project implementation. The resident inspector will be responsible for ensuring that construction personnel adhere to the guidelines and restrictions. If new construction personnel are added to the project, the crew foreman will ensure that they receive the mandatory training before starting work. Restrictions and guidelines that must be followed by construction personnel are listed below.	Prior and during construction	Placer County	Placer County	Conducting contractor awareness training would occur prior to construction. Monitoring of construction activities would occur during construction.

Measure	Timing	Implementation Responsibility	Monitoring/Reporting Responsibility	Notes
• The contractor will clearly delineate the project boundaries and prohibit any off-road construction travel outside these boundaries. • Project-related vehicles and construction equipment will be restricted to the designated construction area. • The contractor will provide closed garbage containers for the disposal of all food-related trash items (e.g., wrappers, cans, bottles, food scraps). All garbage will be picked up daily around the project site. Construction personnel will not feed or otherwise attract fish or wildlife to the action area. • To prevent possible resource damage from hazardous materials such as motor oil or gasoline, construction personnel will not service vehicles or construction equipment outside designated staging areas. Staging areas as well as areas for fueling and maintenance activities will be located a minimum of 100 feet from riparian or aquatic habitats. The project proponent will prepare a spill prevention and cleanup plan. • Any worker who inadvertently injures or kills a federally listed species or finds one dead, injured, or entrapped will immediately report the incident to the resident inspector. The resident inspector will immediately notify the County, which will provide verbal notification to the USFWS Endangered Species Office in Sacramento, California, and the local CDFG warden or biologist within 3 working days of the incident. The County will follow up with written notification to USFWS and CDFG within 5 working days of the incident.				
Mitigation Measure BIO-9: Avoid and Minimize Effects on California Red-Legged Frog during Construction <u>Biological Monitoring during Construction</u> *Wet season.* During project construction activities occurring during the wet season (generally October 15 to April 15), a USFWS-approved biological monitor will conduct a preconstruction survey for California red-legged frogs no more than 48 hours before new ground disturbance and remain on site for all construction activities that occur during the wet season. If a California red-legged frog is encountered during any project activities, construction will cease and USFWS will be notified. *Dry season.* During construction activities occurring during the dry season (generally April 15 to October 15), the construction monitor will monitor for California red-legged frog when construction occurs within 300 feet of aquatic habitat identified as suitable or marginally suitable in Table 1 of the California red-legged frog site assessment prepared for the project (ICF 2010). If a California red-legged frog is encountered during any project activities, construction will cease and USFWS will be notified. The County will submit to USFWS the name and credentials of the biologist or team of biologists who will monitor the project for California red-legged frog. Review and approval must occur at least 15 days prior to the onset of construction activities. Minimum credentials for a biologist include completion of at least 4 years of university training in wildlife biology or a related science and/or demonstrated field experience pertaining to the identification and life history of the California red-legged frog as well as common amphibians known to occur in area. Once approved, said biologist, or team of biologists, will be referred to as "the USFWS-approved biological monitor" for the project. <u>Pipeline Installation</u> Where possible, all trenches created for pipeline installation will be filled in on the same day they are created for the duration of construction during either the wet or dry season. In the event that trenches remain open overnight, exclusion fencing (defined as sediment fencing 18 to 24 inches high and buried at least 6 inches into the ground) will be installed around the open area, or the trench will be covered to reduce the likelihood of California red-legged frogs entering the trench. Prior to filling any portion of the trenches along the pipeline alignment, the USFWS-approved biological monitor or environmentally trained lead will check for frogs. If any frogs are located within the trench, the USFWS-approved biological monitor and USFWS will immediately be contacted for guidance. <u>Wastewater Treatment Plant Pond Dewatering and Recontouring</u> If feasible, dewatering of the wastewater treatment plant (WWTP) ponds will occur in mid- to late summer to avoid affecting breeding habitat. A USFWS-approved biological monitor will be placed on site just prior to and shortly after drawdown of the ponds to determine whether frogs are present regardless of when the drawdown occurs. If California red-legged frogs are present, USFWS will be notified. During dewatering, frogs and other wildlife should be allowed to disperse passively to nearby aquatic and upland habitat outside of the WWTP. Shortly after the ponds are dewatered and the area is surveyed and cleared by a biologist, exclusion fencing will be placed around the perimeter of the Applegate facility to prevent frogs and other wildlife from re-entering the site. In the event that the ponds are restored, once recontouring is completed, the exclusion fencing will be removed. Recontoured areas will be stabilized with erosion control materials (e.g., fiber blankets, waddles) and hydro-seeded with a mix of native herbs and grasses.	During construction	Placer County	Placer County	
Mitigation Measure BIO-10: Restore Disturbed Areas to Pre-Project Conditions After completion of construction activities in natural areas, the County will ensure that any temporary fill or construction debris is removed from the project areas and that unpaved disturbed areas are restored to pre-project conditions (regrading and replanting the areas to pre-project conditions). No trees will be planted over the pipeline to prevent potential damage to the pipeline from roots.	Post construction	Placer County	Placer County	

Measure	Timing	Implementation Responsibility	Monitoring/Reporting Responsibility	Notes
Mitigation Measure BIO-11: Avoid and Minimize Construction-Related Impacts on Foothill Yellow-Legged Frog If avoidance is not feasible, prior to construction of the pipeline across the natural section of Boardman Canal, a survey for foothill yellow-legged frogs will be conducted by a qualified biologist within 48 hours of the commencement of construction activities. If foothill yellow-legged frogs are found within the impact area, they will be relocated downstream of the construction area. This biologist will monitor all construction activities within in and immediately adjacent to this channel.	Prior to and during construction	Placer County	Placer County	Preconstruction surveys would take place prior to construction. Monitoring would occur during construction.
Mitigation Measure BIO-12: Avoid and Minimize Construction-Related Impacts on Western Pond Turtle. In the event the WWTP ponds are restored to pre-project conditions, if feasible, dewatering and re-contouring will occur in late summer/early fall. A biological monitor will be placed on site just prior to and shortly after drawdown to determine if turtles and other wildlife are stranded and require relocation. During the dewatering, turtles and other wildlife will be allowed to passively disperse to nearby aquatic and upland habitat outside of the WWTP. Shortly after the ponds are dewatered and the area is surveyed and cleared by a biologist, exclusion fencing will be placed up around the perimeter of the WWTP to prevent turtles and other wildlife from re-entering the site until the remaining construction activities are complete.	During construction	Placer County	Placer County	
Mitigation Measure BIO-13: Conduct Tree and Shrub Removal Activities during the Non-Breeding Season for Migratory Birds and Raptors, and Survey and Avoid Nesting Sites during Tree and Shrub Trimming To avoid removing any active special-status species or non-special status bird and raptor nests, tree and shrub trimming and removal activities will be conducted during the non-breeding season for these species (generally between August 15 and January 15). If tree and shrub trimming and removal activities are conducted during the breeding season (generally between January 15 and August 15), a preconstruction survey will be conducted by a qualified biologist retained by the County to determine if there are active nests present. The survey will be conducted no more than 14 days prior to tree and shrub removal activities. If the biologist determines that the area surveyed does not contain any active nests, then trimming and removal activities can commence without any further mitigation. If an active migratory bird or raptor nest is discovered during the nesting survey, a no-disturbance buffer will be established around the nest to avoid disturbance or destruction of the nest. The distance around the no-disturbance buffer will be determined by the biologist in coordination with CDFG and will depend on the level of noise or construction activity, the level of ambient noise in the vicinity of the nest, and line of sight between the nest and disturbance. The no-disturbance buffer will remain in place until after the nesting season (January 15 through August 15) or until the biologist determines that the young have fledged.	Prior to and during construction	Placer County	Placer County	If tree and shrub removal takes place during the nesting season (between January 15 and August 15), conduct surveys 14 days prior to tree and shrub removal activities. Biological monitoring would occur during construction.
Mitigation Measure BIO-14: Survey and Avoid Nesting Sites during Pipeline Construction For pipeline construction occurring between January 15 and August 15, preconstruction surveys for nesting birds and raptors will be conducted 2 weeks prior to construction activities. Because the alignment occurs within existing roadways adjacent to rural residences that receive regular traffic, the survey distance for nesting migratory birds will be limited to the immediate vicinity of the pipeline alignment; for nesting raptors, surveys will extend out to 500 feet, where accessible. Because pipeline construction will occur over an extended period of time, multiple preconstruction surveys will be conducted so as to provide clearance for each new section of pipeline to be constructed. Preconstruction surveys will be coordinated with construction timing so as to remain 2 weeks ahead of expected progress on each new segment. Therefore, it is anticipated that these surveys will occur approximately every 2 weeks and will be conducted by the biological monitor throughout the breeding season. If an active migratory bird or raptor nest is discovered during the nesting survey, a no-disturbance buffer will be established around the nest to avoid disturbance or destruction of the nest. The distance around the no-disturbance buffer will be determined by the biologist in coordination with CDFG and will depend on the level of noise or construction activity, the level of ambient noise in the vicinity of the nest, and line of sight between the nest and disturbance. The no-disturbance buffer will remain in place until after the nesting season (January 15 through August 15) or until the biologist determines that the young have fledged.	Prior to and during construction	Placer County	Placer County	Surveys would occur 2 weeks prior to construction. Biological monitoring would occur during construction.
Mitigation Measure BIO-15: Conduct Surveys for Nesting Birds and Raptors Prior to any Blasting If any blasting is to occur between January 15 and August 15, surveys for nesting birds and raptors will be conducted 2 weeks prior to scheduled blasts. The survey distance for nesting migratory birds will extend out to 500 feet, where accessible; for nesting raptors, surveys will extend out to 0.25 mile, where accessible. If an active migratory bird or raptor nest is discovered during the nesting survey, the surveying biologist will consult with CDFG to determine the appropriate measures to avoid and minimize impacts on nesting birds and raptors.	Prior to construction	Placer County and CDFG	Placer County	Surveys and consultation with CDFG to occur 2 weeks prior to blasting.
Mitigation Measure CR-2: Stop Work and Implement Appropriate Measures If any artifact or an unusual amount of bone, shell, or nonnative stone is uncovered during construction or other ground-disturbing activities, work will be halted in that area so that a professionally qualified archaeologist or paleontologist, as appropriate, can determine the significance of the find. If human bone is uncovered, the Placer County Coroner and Native American Heritage Commission (NAHC) will be contacted immediately. If human remains are discovered in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:	During construction	Placer County	Placer County	

Measure	Timing	Implementation Responsibility	Monitoring/Reporting Responsibility	Notes
• Redesign portions of the Proposed Project at the locations of sensitive cultural resources, relocating staging areas, or modifying the limits of disturbance. • The Placer County Coroner is informed of the discovery and determines that no investigation of the cause of death is required. • If the remains are of Native American origin, the descendants of the deceased Native Americans make a recommendation to the landowner or the person responsible for the excavation work regarding the means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, as provided in Public Resources Code Section 5097.98, or the NAHC fails to identify a descendant or the descendant fails to make a recommendation within 24 hours after being notified by the NAHC. According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052).				
Mitigation Measure WQ-1: Ensure Adequacy of National Pollutant Discharge Elimination System Permit Provisions for Dewatering and Implement Provisions Before discharging any dewatered effluent to surface water, the County or its contractors will obtain an National Pollutant Discharge Elimination System (NPDES) permit and/or Waste Discharge Requirement permit from the Central Valley Regional Water Quality Control Board (CVRWQCB). Depending on the volume and characteristics of the discharge, coverage under the CVRWQCB's General Construction Permit or General Dewatering Permit is possible. As part of the permit, the permittee will design and implement measures as necessary so that the discharge limits identified in the relevant permit are met. As a performance standard, these measures will be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable. Implemented measures may include retention of dewatering effluent until particulate matter has settled before it is discharged, use of infiltration areas, and other best management practices. Final selection of water quality control measures will be subject to approval by the County. The County will verify that coverage under the appropriate NPDES permit has been obtained before allowing dewatering activities to begin. The County or its agent will perform routine inspections of the construction area to verify that the water quality control measures are properly implemented and maintained. The County will notify its contractors immediately if there is a noncompliance issue and will require compliance.	Prior to construction	Placer County and CVRWQCB	Placer County	Obtaining the NPDES permit would occur prior to construction. Placer County would ensure compliance during construction.
Mitigation Measure NOI-1: Employ Noise-Reducing Construction Practices to Comply with the Placer County Noise Ordinance The County or its contractor will ensure that noise-reducing construction practices are implemented so that construction noise does not exceed applicable County noise control standards. The project contractor will prepare a noise control plan that will identify feasible measures that can be employed to reduce construction noise. These may include the measures listed below: • Scheduling substantial noise-generating activity during daytime hours where feasible. • Requiring construction equipment to be equipped with factory-installed muffling devices, as per the County Noise Ordinance, and all equipment to be operated and maintained in good working order to minimize noise generation. • Locating noise-generating equipment as far as practical from noise-sensitive uses. • Using noise-reducing enclosures around noise-generating equipment. • Placing temporary barriers between noise sources and noise-sensitive land uses or taking advantage of existing barrier features (e.g., terrain, structures, edge of trench) to block sound transmission. • Prohibiting use of backup alarms and providing an alternate warning system, such as a flagman or radar-based alarm, that is compliant with state regulations. The noise control plan will demonstrate that noise control measures will reduce noise to be in compliance with the County Noise Ordinance.	Prior to and during construction	Placer County	Placer County	A noise plan would be developed and approved prior to construction. Placer County would ensure compliance during construction.
Mitigation Measure NOI-2: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program The County or its contractor will notify residents within 1,000 feet of the construction areas of the construction schedule in writing before construction. This notification will include a description of the activity that will occur, measures that the contractor will be taking to control noise, and specific information as to when blasting will occur. The County or its contractor will designate a noise disturbance coordinator who will be responsible for responding to complaints regarding construction noise. The coordinator will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem when feasible. A contact telephone number for the noise disturbance coordinator will be conspicuously posted on construction site fences and will be included in the written notification of the construction schedule sent to nearby residents.	Prior to construction	Placer County	Placer County	
Mitigation Measure NOI-3: Limit Truck Hauling Activities to Daytime Hours The County will limit truck hauling activities to the hours between 6:00 a.m. and 8:00 p.m. Monday through Friday and 8:00 a.m. and 8:00 p.m. Saturday where trucking occurs on roads with residences.	During construction	Placer County	Placer County	

Measure	Timing	Implementation Responsibility	Monitoring/Reporting Responsibility	Notes
Mitigation Measure NOI-4: Employ Noise-Reducing Design Measures at the New Pump Station Site Placer County will ensure that noise at the pump stations does not exceed the County Noise Ordinance standards at the nearest sensitive residence. Measures to achieve this include those listed below. • Locate equipment as far as practical from noise sensitive uses. • Construct pump station enclosures with upgraded acoustical insulation and acoustically designed vents.	Prior to and during construction	Placer County	Placer County	Noise-reducing measures would be incorporated during the design phase. Placer County would ensure compliance during construction.

Appendix B. Air Quality Data

3/28/2011 3:39:31 PM

Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: G:\Sacramento\LGT-Air&Noise\Air\Applegate EIR (PCAPCD)\Urbemis\Applegate_construction_only.urb924

Project Name: Applegate-Construction Only

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 5/1/2012-6/29/2012 Active Days: 44	5.88	44.25	27.95	0.00	0.02	2.72	2.75	0.01	2.51	2.51	5,620.23
Trenching 05/01/2012-06/29/2012	3.23	27.20	14.97	0.00	0.01	1.41	1.42	0.00	1.30	1.30	3,656.58
Trenching Off Road Diesel	3.18	27.12	13.40	0.00	0.00	1.41	1.41	0.00	1.29	1.29	3,451.86
Trenching Worker Trips	0.05	0.08	1.57	0.00	0.01	0.00	0.01	0.00	0.00	0.01	204.72
Trenching 05/01/2012-08/31/2012	2.65	17.05	12.98	0.00	0.01	1.31	1.32	0.00	1.21	1.21	1,963.64
Trenching Off Road Diesel	2.59	16.96	11.21	0.00	0.00	1.31	1.31	0.00	1.20	1.20	1,733.33
Trenching Worker Trips	0.05	0.09	1.77	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.31
Time Slice 7/2/2012-7/31/2012 Active Days: 22	7.00	58.22	31.81	0.00	0.02	3.21	3.24	0.01	2.95	2.96	7,120.11
Trenching 05/01/2012-08/31/2012	2.65	17.05	12.98	0.00	0.01	1.31	1.32	0.00	1.21	1.21	1,963.64
Trenching Off Road Diesel	2.59	16.96	11.21	0.00	0.00	1.31	1.31	0.00	1.20	1.20	1,733.33
Trenching Worker Trips	0.05	0.09	1.77	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.31
Trenching 07/02/2012-08/31/2012	4.35	41.17	18.82	0.00	0.01	1.90	1.91	0.00	1.75	1.75	5,156.47
Trenching Off Road Diesel	4.30	41.08	17.05	0.00	0.00	1.90	1.90	0.00	1.74	1.74	4,926.16
Trenching Worker Trips	0.05	0.09	1.77	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.31

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Time Slice 8/1/2012-8/31/2012 Active Days: 23	**8.67**	**69.56**	**40.75**	**0.01**	**0.03**	**4.05**	**4.08**	**0.01**	**3.72**	**3.73**	**8,496.38**
Fine Grading 08/01/2012-09/30/2012	1.68	11.33	8.94	0.00	0.01	0.84	0.84	0.00	0.77	0.77	1,376.27
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	1.65	11.28	7.95	0.00	0.00	0.83	0.83	0.00	0.77	0.77	1,248.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	127.95
Trenching 05/01/2012-08/31/2012	2.65	17.05	12.98	0.00	0.01	1.31	1.32	0.00	1.21	1.21	1,963.64
Trenching Off Road Diesel	2.59	16.96	11.21	0.00	0.00	1.31	1.31	0.00	1.20	1.20	1,733.33
Trenching Worker Trips	0.05	0.09	1.77	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.31
Trenching 07/02/2012-08/31/2012	4.35	41.17	18.82	0.00	0.01	1.90	1.91	0.00	1.75	1.75	5,156.47
Trenching Off Road Diesel	4.30	41.08	17.05	0.00	0.00	1.90	1.90	0.00	1.74	1.74	4,926.16
Trenching Worker Trips	0.05	0.09	1.77	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.31
Time Slice 9/3/2012-9/28/2012 Active Days: 20	1.68	11.33	8.94	0.00	0.01	0.84	0.84	0.00	0.77	0.77	1,376.27
Fine Grading 08/01/2012-09/30/2012	1.68	11.33	8.94	0.00	0.01	0.84	0.84	0.00	0.77	0.77	1,376.27
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	1.65	11.28	7.95	0.00	0.00	0.83	0.83	0.00	0.77	0.77	1,248.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	127.95
Time Slice 10/1/2012-12/31/2012 Active Days: 66	1.02	6.59	4.70	0.00	0.00	0.56	0.56	0.00	0.52	0.52	701.23
Building 10/01/2012-12/31/2012	1.02	6.59	4.70	0.00	0.00	0.56	0.56	0.00	0.52	0.52	701.23
Building Off Road Diesel	1.02	6.59	4.70	0.00	0.00	0.56	0.56	0.00	0.52	0.52	701.23
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Time Slice 1/1/2013-2/28/2013 Active Days: 43	1.55	10.54	8.81	0.00	0.01	0.75	0.76	0.00	0.69	0.70	1,376.31
Demolition 01/01/2013-02/28/2013	1.55	10.54	8.81	0.00	0.01	0.75	0.76	0.00	0.69	0.70	1,376.31
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	1.53	10.50	7.91	0.00	0.00	0.75	0.75	0.00	0.69	0.69	1,248.32
Demo On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Worker Trips	0.03	0.05	0.90	0.00	0.01	0.00	0.01	0.00	0.00	0.00	127.99

Phase Assumptions

Phase: Demolition 1/1/2013 - 2/28/2013 - Demolish Applegate WWTP

Building Volume Total (cubic feet): 29000

Building Volume Daily (cubic feet): 0

On Road Truck Travel (VMT): 0

Off-Road Equipment:

2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

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

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

Phase: Fine Grading 8/1/2012 - 9/30/2012 - Site work for new pump station

Total Acres Disturbed: 0

Maximum Daily Acreage Disturbed: 0

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

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

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

Phase: Trenching 5/1/2012 - 8/31/2012 - Pipeline installation-trenched sections

Off-Road Equipment:

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

4 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

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

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

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

Phase: Trenching 5/1/2012 - 6/29/2012 - Pipeline installation-trenchless sections

Off-Road Equipment:

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

2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

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

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

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

Phase: Trenching 7/2/2012 - 8/31/2012 - Upsizing-7,700 new feet of pipeline

Off-Road Equipment:

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

2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

1 Generator Sets (549 hp) operating at a 0.74 load factor for 8 hours per day

1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day

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

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

Phase: Building Construction 10/1/2012 - 12/31/2012 - Constructing new pump station

Off-Road Equipment:

2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

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

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Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: G:\Sacramento\LGT-Air&Noise\Air\Applegate EIR (PCAPCD)\Urbemis\Applegate_Onroad.urb924

Project Name: Applegate-Onroad Emissions

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (lbs/day unmitigated)	0.03	0.05	0.94	0.00	0.01	0.00	0.01	0.00	0.00	0.00	122.83
2013 TOTALS (lbs/day unmitigated)	0.01	0.01	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.96

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.19	0.83	2.23	0.00	0.01	0.01	969.25

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.47	0.00	0.08	0.02	48.27

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SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.23	0.88	2.70	0.00	0.09	0.03	1,017.52

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Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: G:\Sacramento\LGT-Air&Noise\Air\Applegate EIR (PCAPCD)\Urbemis\Applegate_striping_truck.urb924

Project Name: Applegate-Onroad Emissions

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 8/30/2012-8/30/2012 Active Days: 1	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.40
Building 08/30/2012-08/30/2012	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.40
Building Off Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.40

Phase Assumptions

Phase: Building Construction 8/30/2012 - 8/30/2012 - Pipeline installation-trenched sections

Off-Road Equipment:

Calculation of GHGs from Pump Stations

PG&E Emission Factor
641.35 lbsCO2/MWh

Source: PG&E PUP report for 2008

Emission Factors for Calculating GHGs		
CO2	724.12	lbs/MWh
CH4	0.0302	lbs/MWh
N2O	0.0081	lbs/MWh

Source: California Climate Action Registry 2009

1 kWh =	0.001	MWh
1LB=	0.000454	metric tons
1 ton =	0.907185	metric tons

Energy used = 55.40000 kWh/day*

55.4 kWh/day = 0.0554 MWh/day

Calculation of GHG Emissions Resulting from Proposed Project Operations (lbs/day)	
CO2	40.11625
CH4	0.00167
N2O	0.00045

*From project BDR report, page 51 table 5-1

Calculation of GHG Emissions Resulting from Proposed Project Operations (metric tons/year)	
CO2	6.64170
CH4	0.00028
N2O	0.00007

Calculation of CO2e Resulting from the Proposed Project (metric tons/year)	
CO2e of CO2[a]	6.64170
CO2e of CH4[b]	0.00637
CO2e of N2O[c]	0.02199
Total CO2e	6.67006

[a] GWP of CO2 = 1

[b] GWP of CH4 = 23

[c] GWP of N2O = 296

Source: California Climate Action Registry 2009

Fuel Type	CO_2 Emission Factor (kilogram CO_2/gallon)
Diesel	10.15
Source: California Climate Action Registry 2009	

1 metric ton (t) =	1,000	kilograms (kg)

Back-Calculation to Gallons of Diesel Fuel from Estimated CO_2 Calculated by URBEMIS 2007

		Total CO_2/Phase (t)	Total CO_2/Phase (kg)	Gallons of Diesel (gal)
Site Work for new pump station				
Offroad (construction)		1,376.27	1,376,270.00000	135,593.10345
Onroad (foreman trucks)		122.82	122,820.00000	12,100.49261
Total		1499.09	1,499,090.00000	147,693.59606
Constructing new pump station				
Offroad (construction)		701.23	701,230.00000	69,086.69951
Onroad (foreman trucks)		122.82	122,820.00000	12,100.49261
Total		824.05	824,050.00000	81,187.19212
Pipeline installation-trenched sections				
Offroad (construction)		1,733.33	1,733,330.00000	170,771.42857
Onroad (foreman trucks)		122.82	122,820.00000	12,100.49261
Onroad (striping truck)		9.40	9,400.00000	926.10837
Total		1865.55	1,865,550.00000	183,798.02956
Pipeline installation-trenchless sections				
Offroad (construction)		3,656.58	3,656,580.00000	360,254.18719
Onroad (foreman trucks)		122.82	122,820.00000	12,100.49261
Total		3779.4	3,779,400.00000	372,354.67980
Demolish Applegate WWTP				
Offroad (construction)		1,376.31	1,376,310.00000	135,597.04433
Onroad (foreman trucks)		122.82	122,820.00000	12,100.49261
Total		1499.13	1,499,130.00000	147,697.53695
Upsizing				
Offroad (construction)		5,156.47	5,156,470.00000	508,026.60099
Onroad (foreman trucks)		122.82	122,820.00000	12,100.49261
Onroad (striping truck)		9.40	9,400.00000	926.10837
Total		5288.69	5,288,690.00000	521,053.20197

Vehicle Type/ Fuel Type	N_2O (grams/gallon)	CH_4 (grams/ gallon)
Construction/Diesel Fuel	0.26	0.58
Source: California Climate Action Registry 2009		

	Unmitigated Construction Greenhouse Gas Emissions Estimates (grams)			
	Year	**Gallons of Diesel**	**N_2O**	**CH_4**
Site Work for new pump station	**2012**			
Offroad (construction)		135,593.10345	35254.2069	78644
Onroad (foreman trucks)		12,100.49261	3146.128079	7018.285714
Total		147,693.59606	38400.33498	85662.28571
Constructing new pump station	**2012**			
Offroad (construction)		69,086.69951	17962.54187	40070.28571
Onroad (foreman trucks)		12,100.49261	3146.128079	7018.285714
Total		81,187.19212	21108.66995	47088.57143
Pipeline installation-trenched sections	**2012**			
Offroad (construction)		170,771.42857	44400.57143	99047.42857
Onroad (foreman trucks)		12,100.49261	3146.128079	7018.285714
Onroad (striping truck)		926.10837	240.7881773	537.1428571
Total		183,798.02956	47787.48768	106602.8571
Pipeline installation-trenchless sections	**2012**			
Offroad (construction)		360,254.18719	93666.08867	208947.4286
Onroad (foreman trucks)		12,100.49261	3146.128079	7018.285714
Total		372,354.67980	96812.21675	215965.7143
Demolish Applegate WWTP	2013			
Offroad (construction)		135,597.04433	35255.23153	78646.28571
Onroad (foreman trucks)		12,100.49261	3146.128079	7018.285714
Total		147,697.53695	38401.35961	85664.57143
Upsizing	2012			
Offroad (construction)		508,026.60099	132086.9163	294655.4286
Onroad (foreman trucks)		12,100.49261	3146.128079	7018.285714
Onroad (striping truck)		926.10837	240.7881773	537.1428571
Total		521,053.20197	135473.8325	302210.8571

Greenhouse Gas	Global Warming Potential (GWP)
N_2O	296
CH_4	23
Source: California Climate Action Registry 2009	

1 gram (g) =	0.000001 t

		Unmitigated Construction Greenhouse Gas Emissions Estimates (metric tons)				
	Year	N_2O	N_2O CO_2e	CH_4	CH_4 CO_2e	Total CO_2e
Site Work for new pump station	**2012**					
Offroad (construction)		**0.035254207**	**10.43524524**	**0.078644**	**1.808812**	**1,388.51**
Onroad (foreman trucks)		**0.003146128**	**0.931253911**	**0.007018286**	**0.161420571**	**123.91**
Total		**0.038400335**	**11.36649915**	**0.085662286**	**1.970232571**	**1,512.43**
Constructing new pump station	**2012**					
Offroad (construction)		**0.017962542**	**5.316912394**	**0.040070286**	**0.921616571**	**707.47**
Onroad (foreman trucks)		**0.003146128**	**0.931253911**	**0.007018286**	**0.161420571**	**123.91**
Total		**0.02110867**	**6.248166305**	**0.047088571**	**1.083037143**	**831.38**
Pipeline installation-trenched sections	**2012**					
Offroad (construction)		**0.044400571**	**13.14256914**	**0.099047429**	**2.278090857**	**1,748.75**
Onroad (foreman trucks)		**0.003146128**	**0.931253911**	**0.007018286**	**0.161420571**	**123.91**
Onroad (striping truck)		**0.000240788**	**0.0712733**	**0.000537143**	**0.012354286**	**9.48**
Total		**0.047787488**	**14.14509635**	**0.106602857**	**2.451865714**	**1,882.15**
Pipeline installation-trenchless sections	**2012**					
Offroad (construction)		**0.093666089**	**27.72516225**	**0.208947429**	**4.805790857**	**3,689.11**
Onroad (foreman trucks)		**0.003146128**	**0.931253911**	**0.007018286**	**0.161420571**	**123.91**
Total		**0.096812217**	**28.65641616**	**0.215965714**	**4.967211429**	**3,813.02**
Demolish Applegate WWTP	2013					
Offroad (construction)		**0.035255232**	**10.43554853**	**0.078646286**	**1.808864571**	**1,388.55**
Onroad (foreman trucks)		**0.003146128**	**0.931253911**	**0.007018286**	**0.161420571**	**123.91**
Total		**0.03840136**	**11.36680244**	**0.085664571**	**1.970285143**	**1,512.47**
Upsizing	2012					**0.00**
Offroad (construction)		**0.132086916**	**39.09772721**	**0.294655429**	**6.777074857**	**5,202.34**
Onroad (foreman trucks)		**0.003146128**	**0.931253911**	**0.007018286**	**0.161420571**	**123.91**
Onroad (striping truck)		**0.000240788**	**0.0712733**	**0.000537143**	**0.012354286**	**9.48**
Total		**0.135473833**	**40.10025442**	**0.302210857**	**6.950849714**	**5,335.74**

Total 2012		**0.339582542**	**100.5164324**	**0.757530286**	**17.42319657**	**13374.71963**
Total 2013		**0.096812217**	**28.65641616**	**0.215965714**	**4.967211429**	**3813.023628**

Pounds per day

Phase	# of days per phase	ROG	NOx	CO	PM10	PM2.5	CO2
Site Work for new pump station	**43.3**						
Offroad (construction)		1.68	11.33	8.94	0.84	0.77	1,376.27
Onroad (foreman trucks)		0.01	0.01	0.29	0.01	0	122.82
Total		1.69	11.34	9.23	0.85	0.77	1499.09
Constructing new pump station	**64.95**						
Offroad (construction)		1.02	6.59	4.7	0.56	0.52	701.23
Onroad (foreman trucks)		0.01	0.01	0.29	0.01	0	122.82
Total		1.03	6.6	4.99	0.57	0.52	824.05
Pipeline installation-trenched sections	**86.6**						
Offroad (construction)		2.59	16.96	11.21	1.31	1.2	1,733.33
Onroad (foreman trucks)		0.01	0.01	0.29	0.01	0	122.82
Onroad (striping truck)		0	0	0.08	0	0	9.40
Total		2.6	16.97	11.58	1.32	1.2	1865.55
Pipeline installation-trenchless sections	**43.3**						
Offroad (construction)		3.23	27.2	14.97	1.42	1.3	3,656.58
Onroad (foreman trucks)		0.01	0.01	0.29	0.01	0	122.82
Total		3.24	27.21	15.26	1.43	1.3	3779.4
Demolish Applegate WWTP	**43.3**						
Offroad (construction)		1.55	10.54	8.81	0.76	0.7	1,376.31
Onroad (foreman trucks)		0.01	0.01	0.29	0.01	0	122.82
Total		1.56	10.55	9.1	0.77	0.7	1499.13
Upsizing	**43.3**						
Offroad (construction)		4.35	41.17	18.82	1.91	1.75	5,156.47
Onroad (foreman trucks)		0.01	0.01	0.29	0.01	0	122.82
Onroad (striping truck)		0	0	0.08	0	0	9.40
Total		4.36	41.18	19.19	1.92	1.75	5288.69

Tons per year

Phase	ROG	NOx	CO	PM10	PM2.5	CO2
Site Work for new pump station						
Offroad	0.036372	0.245295	0.193551	0.018186	0.016671	29.7962455
Onroad	0.002165	0.002165	0.062785	0.002165	0	26.59053
Constructing new pump station						
Offroad	0.033125	0.21401	0.1526325	0.018186	0.016887	22.77244425
Onroad	0.000325	0.000325	0.00941775	0.000325	0	3.9885795
Pipeline installation-trenched sections						
Offroad	0.112147	0.734368	0.485393	0.056723	0.05196	75.053189
Onroad (foreman trucks)	0.000433	0.000433	0.012557	0.000433	0	5.318106
Onroad (striping truck)	0	0	0.003464	0	0	0.40702
Pipeline installation-trenchless sections						
Offroad	0.06993	0.58888	0.3241005	0.030743	0.028145	79.164957
Onroad	0.000217	0.000217	0.0062785	0.000217	0	2.659053
Demolish Applegate WWTP (2013)						
Offroad	0.033558	0.228191	0.1907365	0.016454	0.015155	29.7971115
Onroad	0.000217	0.000217	0.0062785	0.000217	0	2.659053
Upsizing						
Offroad	0.094178	0.891331	0.407453	0.041352	0.037888	111.6375755
Onroad (foreman trucks)	0.000217	0.000217	0.0062785	0.000217	0	2.659053
Onroad (striping truck)	0	0	0.001732	0	0	0.20351

ASBESTOS DUST MITIGATION PLAN (ADMP) GUIDANCE

FOR NATURALLY-OCCURRING ASBESTOS (NOA)

PLACER COUNTY
AIR POLLUTION CONTROL DISTRICT

ASBESTOS DUST MITIGATION PLAN
GUIDANCE

CONTENTS:

1. Introduction

This Guidance addresses the requirements of the Placer County Air Pollution Control District (District) for the control of dust from construction, excavation, and grading activities, in areas where naturally occurring asbestos has been found and in the areas where naturally occurring asbestos is most likely to be found.

Asbestiform minerals belonging to the serpentine or amphibole mineral groups are found in many areas throughout California and are abundant in the Sierra foothills. They are commonly exposed near faults. Ultramafic or serpentine rock, which often contains asbestos, has been used in surfacing applications subject to pedestrian, vehicular, and recreational use. Activity in areas with asbestos-containing rock or soil may create dust emissions containing asbestos fibers. All types of asbestiform minerals are considered hazardous with no safe exposure level established for non-occupational exposures. While exposure to low levels of asbestos for short periods of time is thought to pose minimal risk, asbestos fibers can penetrate body tissues and remain in lung or abdominal areas for a long time. Asbestosis is widespread scarring of lung tissue caused by breathing air contaminated with asbestos dust or fibers. Asbestos inhalation also can cause the two layers of membrane covering the lungs (the pleura) to thicken. The more a person is exposed to asbestos fibers, the greater the risk of developing asbestos-related diseases including lung cancer and rarely, mesotheliomas – asbestos-caused tumors in the pleura. The illnesses caused by asbestos may not be noticed for twenty years or more, with mesotheliomas usually developing 30 to 40 years after exposure.[1]

Asbestos is classified as a known human carcinogen by state, federal, and international agencies, and as a toxic air contaminant by the Air Resources Board. California Code of Regulations, Title 17, Section 93105, Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations (ATCM), applies to earthwork that disturbs, or potentially disturbs, naturally occurring asbestos. ATCM requirements are applicable within Placer County and enforceable by Placer County Air Pollution Control District. This Guidance, and the Asbestos Dust Mitigation Plan Instructions and Application Form, conform to the ATCM and Placer County APCD Rule 228, Fugitive Dust.

Asbestos as defined by the State's ATCM includes only the group of six commercially important silicate minerals of fibrous or asbestiform habit having properties of high tensile strength, flexibility, chemical resistance, and heat resistance. Such properties made these minerals useful in many manufactured products and industrial processes during the twentieth century. The six types of asbestos are chrysotile, crocidolite (asbestiform riebeckite), amosite (asbestiform cummingtonite, grunerite), asbestiform tremolite, asbestiform actinolite, and asbestiform anthophylite. However, many other minerals such as brucite, erionite, talc, tourmaline, palygorskite, sepiolite, and others can crystallize in the fibrous habit (asbestiform) under the right conditions.[2] In this context, "asbestiform" means the unusual crystallization habit of a mineral when the crystals are thin, hair-like fibers. Historically, the definition of asbestiform habit was based primarily on appearance, and the properties were only implied. At present, the definition of asbestiform habit is often augmented to include a statement on the properties of asbestiform fibers, i.e., shape; enhanced strength, flexibility, and durability; diameter-dependent strength; and unique surfaces. The fibers of asbestos are good examples of the asbestiform habit.[3] For purposes of exemptions from ADMP requirements and air sampling analyses, when it is required, all asbestiform structures exhibiting an aspect ratio of greater than 3:1 must be counted as asbestos.

[1] THE MERCK MANUAL OF MEDICAL INFORMATION, 1997, pg. 182
[2] Zoltai, 1981; Skinner and Others, 1988, Special Publication 124, The Mineralogy of Asbestos, Page 9
[3] National Research Council, 1984, Special Publication 124, The Mineralogy of Asbestos, Page 20

Placer County Air Pollution Control District (District) requires that if an area to be disturbed is ***greater than one acre***, an owner/operator subject to asbestos ATCM requirements or meeting criteria in subparagraph 2, below, must submit an Asbestos Dust Mitigation Plan (ADMP) to the Air Pollution Control Officer (APCO). An approved plan must be in place prior to the start of any applicable activity, or upon discovery of naturally occurring asbestos, serpentine, or ultramafic rock. The Asbestos Dust Mitigation Plan Application Form may be found in Appendix C.

For **areas of one acre or less** but otherwise meeting criteria of subparagraphs 2.A. and 2.B. below, the applicable ATCM, and subparagraph 5 requirements must be met.

A failure to implement required dust control measures, or to submit an ADMP, or the action of conducting operations without a District approved ADMP when one is required, is punishable by penalties of up to $25,000 per violation if the failure is due to negligence, with each day during any portion of which a violation occurs being a separate offense.

2. Applicability

Unless exempted below, an Asbestos Dust Mitigation Plan under this Guidance is required for any construction project or construction related activity where an area to be disturbed is greater than one acre and meets any of the following criteria:

A. The area:
   1) Is located in a Geographic Ultramafic Rock Unit (GURU) area "most likely" to contain NOA as indicated by the CGS (Department of Conservation, California Geologic Survey) 2006 map entitled, "RELATIVE LIKELIHOOD FOR THE PRESENCE OF NATURALLY OCCURRING ASBESTOS IN PLACER COUNTY, CALIFORNIA," and/or its derivative (vicinity) maps; or
   2) Has naturally occurring asbestos, serpentine or ultramafic rock as determined by owner/operator, registered geologist or the District APCO; or

B. Naturally occurring asbestos, serpentine, or ultramafic rock is discovered by the owner/operator, a registered geologist, or the District Air Pollution Control Officer (APCO) in the area to be disturbed after the start of any construction related activity.

Federal 29 CFR Part 1926.1101, Asbestos Standard for the Construction Industry, Section (k)(1), Communication of Hazards requires that employers, owners/operators identify the presence, location, and quantity of asbestos, and tell prospective bidders, employees etc. in the areas. Particularly workers in areas where asbestos is present, including "(G) Excavation which may involve exposure to asbestos as a natural constituent which is not related to asbestos mining and milling activities" are required to complete basic non-accredited training pursuant to **8 CCR Division 1, Chapter 4 Subchapter 4, Article 4, Section 1529**.

3. General Exemptions

***Geologic Evaluation*:** The APCO may provide an exemption from the requirement for an ADMP submittal, for any property that meets the criteria in subparagraph 2.A. if a registered geologist has conducted a geologic evaluation of the property and determined that no serpentine, ultramafic rock or asbestos is likely to be found in the area to be disturbed. For purposes of this geologic evaluation, "asbestos" shall include all asbestiform minerals – structures with an aspect ratio of 3:1 or greater. Before an exemption can be granted, the owner/operator must provide a copy of a report detailing the geologic evaluation to the APCO for approval.

A. At a minimum, the geologic evaluation must include items as outlined in Appendix A. **Geologic Evaluation Report Requirements**.

B. The District may request any additional tests or other information needed to evaluate an application for exemption.
C. The District shall grant or deny a request for an exemption within 90 days of the receipt of a complete application.
D. If the request for an exemption is denied, the APCO shall provide written reasons for the denial.
E. Expiration of the Geologic Exemption: If the owner/operator discovers any naturally-occurring asbestos, serpentine, or ultramafic rock in the area to be disturbed after the exemption is granted, then:
    1) The owner/operator must comply with the ADMP requirement;
    2) The owner/operator must report the discovery of the naturally-occurring asbestos, serpentine, or ultramafic rock to the APCO no later than the next business day; and
    3) The Geologic Exemption shall expire and cease to be effective.

Agriculture and Timber Harvesting Operations are exempt except for construction of roads and buildings according to the **Requirements for Road Construction** and **Requirements for Construction and Grading Operations** sections below.

Owners/operators engaged in ***Sand and Gravel Operations*** processing materials from an alluvial deposit only, may seek an exemption from the APCO. The District must grant or deny such a request for an exemption within 90 days of the receipt of a complete application. If denied, the APCO shall provide written reasons for denial.

Note: The ATCM contains an additional exemption for ***Homeowners and Tenants***, but dust control provisions of the District's Rule 228, Fugitive Dust, negate this exemption.

4. Requirements for Road Construction and Maintenance

The following represents the Asbestos Dust Mitigation Plan requirements applicable to road construction and maintenance activities that are not part of a construction or grading project, quarry, or surface mine. Persons engaged in road construction and related activities that meet criteria set forth in subparagraph 2.A. must assure the following conditions are met:

A. The APCO is notified in writing a minimum of fourteen days prior to the activity, or per a District-approved schedule;
B. The dust control measures outlined in Appendix B, **Road Construction and Maintenance Dust Control Measures** are implemented during any related activity; and
C. The operations and/or equipment must not cause any emission that is visible crossing the project boundaries.

Persons engaged in road construction and related activities that meet criteria set forth in subparagraph 2.B. must assure the following conditions are met:

D. The APCO is notified the next business day of the discovery that the area disturbed, or to be disturbed, meets the criteria in subparagraph 2.B.; and
E. The requirements of subparagraphs 4.B. and 4.C. are implemented within twenty-four hours of the discovery.

The following *exemptions* may apply in addition to those outlined in **General Exemptions**.

F. Subparagraph 2.A. requirements do not apply to Emergency Road Repairs for hazardous situations, and/or those activities related to hazard mitigation, if the owner/operator notifies the District of such actions and applicable conditions, no later than the next business day.
G. The APCO may provide an exemption from this section for activity occurring at a Remote Location.

1) The District shall grant or deny a request for an exemption within 90 days of the receipt of a complete application.
2) If the request for an exemption is denied, the APCO shall provide written reasons for the denial.

5. Requirements for Construction and Grading Operations

For all project **areas of one acre or less** but otherwise meeting criteria of subparagraphs 2.A. and 2.B., unless an alternate plan has been reviewed and approved in writing by the District, the following requirements shall be met – initiated at the start and maintained throughout the duration of the covered activity:

A. Vehicle speed at the site must be fifteen miles per hour or less;
B. Prior to ground disturbance, grading, or excavation, sufficient water must be applied to the area to be disturbed to prevent visible emissions from crossing the property line;
C. Storage piles must be kept adequately wetted, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile;
D. Equipment must be washed down before moving from the property onto a paved public road; and
E. Visible track-out on a paved public road must be cleaned using wet sweeping or a HEPA filter equipped vacuum device within twenty-four hours.

No person shall engage in any construction or grading operation where the **area to be disturbed is greater than one acre** unless:

F. An Asbestos Dust Mitigation Plan has been submitted to and approved by the District before the start of construction or grading activity. Plan provisions must be initiated at the start and maintained throughout the duration of the covered activity; and
G. For a project start date occurring prior to District approval, but for which an Asbestos Dust Mitigation Plan was submitted sixty days or more prior to the start date:
    1) The measures in subparagraphs 5.A. through 5.E. must be implemented and maintained until the District-approved asbestos dust mitigation plan is implemented; and
    2) The provisions of the District-approved asbestos dust mitigation plan must be implemented within fourteen days of District approval of the plan, and maintained throughout the remainder of the construction or grading activity.

No person shall engage in any construction or grading operation on property that meets criteria set forth under subparagraph 2.B., unless the following requirements are met:

H. The owner/operator notifies the District of the discovery of naturally-occurring asbestos, serpentine, or ultramafic rock no later than the next business day;
I. The measures in subparagraphs 5.A. through 5.E. are implemented within twenty-four hours after determining that the property meets the criteria in subparagraph 2.B.
J. For operations in which the area to be disturbed is **one acre or less**, the dust mitigation measures in subparagraphs 5.A. through 5.E. are maintained throughout the duration of the construction or grading activity; or
K. For operations in which the area to be disturbed is **greater than one acre**, the owner/operator must:
    1) Submit an asbestos dust mitigation plan to the District within fourteen days of the discovery of naturally-occurring asbestos, serpentine, or ultramafic rock;
    2) Maintain the dust mitigation measures in subparagraphs 5.A. through 5.E. until the provisions of the District-approved asbestos dust mitigation plan are implemented;
    3) Implement the provisions of the District-approved asbestos dust mitigation plan within fourteen days of district approval of the plan; and

4) Maintain the provisions of the District-approved asbestos dust mitigation plan throughout the remainder of the construction or grading activity.

The Asbestos Dust Mitigation Plan Application in Appendix C will serve as the applicant's Plan when properly completed, submitted to, and approved by the District. In lieu of the ADMP Application, an actual Plan adhering to the Asbestos Dust Mitigation Plan Requirements in Appendix D, must be submitted to, and approved by the District.

6. Asbestos Dust Mitigation Plan Requirements

Asbestos Dust Mitigation Plans must specify dust mitigation practices to ensure that no equipment or operation emits dust that is visible crossing the property line, in addition to other requirements found in the Asbestos Dust Mitigation Plan Requirements in Appendix D. Owners/operators may prepare their own original Plans by addressing all points and requirements found in the Asbestos Dust Mitigation Plan Requirements, or as stated above, the Asbestos Dust Mitigation Plan Application in Appendix C will serve as the applicant's Plan when properly completed, submitted to, and approved by the District.

Recommended Practices for Projects Requiring Asbestos Dust Mitigation Plans:

- A project kick-off meeting between the District, Contractors and Geologist should occur within a few days prior to the project start.
- Asbestos Dust Mitigation Plans should discuss the Geologist's involvement; such as how often the Geologist is to be onsite to check for asbestos or asbestos-containing materials, and if the Geologist will be responsible for separating and piling asbestos-containing materials.

7. Asbestos Dust Mitigation Plan Fees

The Filing Fee for the Asbestos Dust Mitigation Plan Application is, for example, $96.00 per the 2009/2010 Fee Schedule, subject to change annually, based on the minimum plan review estimate of one hour at the General Time and Materials Rate found in the **PLACER COUNTY AIR POLLUTION CONTROL DISTRICT FEE SCHEDULE,** TABLE 601 – M.1.

If an alternate or original Plan is submitted for approval in lieu of the ADMP Application in Appendix C, the fee is three times the Asbestos Dust Mitigation Plan Application Filing Fee ($288.00 for the July 1, 2009 – June 30, 2010 fiscal year), to be paid upon filing of the Plan. If an alternate Plan submitted requires greater than three hours evaluation by District staff, the applicant will be billed for the extra time at the General Time and Materials Rate found in the current **PLACER COUNTY AIR POLLUTION CONTROL DISTRICT FEE SCHEDULE,** TABLE 601 – M.1.

8. Record Keeping Requirements

The owner shall maintain all of the following records for at least seven years, except for the record of subparagraph 8.D., which shall be kept for at least two years, following the completion of the construction project:

A. The results of any air monitoring conducted at the request of the APCO;
B. The documentation for any geologic evaluation conducted on the property for the purposes of obtaining an exemption, except the archive of collected samples which may

be discarded at the expiration of the exemption or one year after the exemption is granted whichever is less;

C. The results of any asbestos bulk sampling that meets any of the following conditions:
   1) The asbestos bulk sampling was conducted by the owner/operator to document the applicability of, or compliance with this section; or
   2) The asbestos bulk sampling was done at the request of the District APCO; or
   3) Sampling was done at location(s) of on-site disposal of asbestiform containing soils; and

D. The Record of Control Implementation, actions to stabilize surface areas sufficient to establish location, type and date of treatment. Records shall be maintained and be readily accessible for two (2) years after the date of each entry and shall be provided to the District upon request and shall be open for inspection during unscheduled audits during normal business hours. (Rule 228 Section 503.1)

9. Air Monitoring for Asbestos

If the project is located in a Geographic Ultramafic Rock Unit (GURU) area "most likely" to contain NOA as indicated by the CGS (Department of Conservation, California Geologic Survey) 2006 map entitled, "RELATIVE LIKELIHOOD FOR THE PRESENCE OF NATURALLY OCCURRING ASBESTOS IN PLACER COUNTY, CALIFORNIA," and/or its derivative (vicinity) maps, and pursuant to the requirements of Health and Safety Code section 41511:

A. Air monitoring is required pursuant to Appendix E;
B. The APCO may require testing at any time or where projects are nearby (within 1000 feet of) receptors such as schools, hospitals, residential and commercial areas; and
C. The APCO may revise the asbestos dust mitigation plan on the basis of the results of the air monitoring.

NOTE: The purpose of sampling is to assess the effectiveness of engineering controls. **Area sampling results are not intended for purposes of assessing health risk.**

Federal 29 CFR Part 1926.1101, Asbestos Standard for the Construction Industry, Section (k)(1), Communication of Hazards requires that employers, owners/operators identify the presence, location, and quantity of asbestos, and tell prospective bidders, employees etc. in the areas. Particularly workers in areas where asbestos is present, including "(G) Excavation which may involve exposure to asbestos as a natural constituent which is not related to asbestos mining and milling activities" are required to complete basic non-accredited training pursuant to 8 CCR Division 1, Chapter 4 Subchapter 4, Article 4, Section 1529.

10. Test Methods

The following test methods shall be utilized:

A. Ultramafic Rock: The ultramafic rock composition of any material shall be determined using standard analysis techniques including, but not limited to, color index assessment, microscopic examination, petrographic analysis or rock thin sections, or chemical analysis techniques, such as X-ray fluorescence spectrometry or inductively coupled plasma analysis.

B. *Bulk Sampling Methods*: ARB Test Method 435, or an alternative asbestos bulk test method approved in writing by the Executive Officer of the California Air Resources Board, shall be used to determine the asbestos content of a bulk sample. For the purposes of determining compliance with this section, references in ARB Test Method

435 to "serpentine aggregate" shall mean "gravel" or other "bulk materials" to be tested for asbestos content.

C. *Analysis of Air Samples*: Analysis of all air samples shall follow the analytical method specified by the United States Environmental Protection Agency, Asbestos Hazard Emergency Response Act (AHERA) criteria for asbestos (40 CFR, Part 763 Subpart E, Appendix A, adopted October 30, 1987), with the following exceptions:
   1) The analytical sensitivity shall be 0.001 structures per cubic centimeter (0.001 s/cc); and
   2) All asbestiform structures with an aspect ratio greater than three to one (3:1) shall be counted irrespective of length.

D. The results of the analysis of air samples shall be reported as transmission electron microscopy (TEM) asbestos structures per cubic centimeter (s/cc).

11. Posting of Signs

Cal-OSHA regulations require hazard communication plans include signage and postings at job sites. The District requires compliance with Cal-OSHA regulations. Contact Cal-OSHA at (800) 963-9424 for information.

Additionally, for projects where an ADMP is required, warning Signs shall be posted at the main entrance(s) to the project for the duration of soil disturbance activities and at locations visible to persons passing the site if the site is adjacent to publicly accessed areas. Signs shall be posted in lettering of sufficient size to be readily visible and legible. The following wording is recommended: “Warning. Soils in the area may contain naturally occurring asbestos. Asbestos is a known carcinogen. Report excessive fugitive dust to the contractor at (contractor phone number), or PCAPCD: (530) 745-2330.” The sign(s) shall also identify the project name or street address.
Sample:

WARNING

PROJECT #555 AT 55 FIFTH AVE., AUBURN, CA

Soils in the area may contain Naturally Occurring Asbestos. Asbestos is a known carcinogen.

Report excessive fugitive dust to:

“XYZ Contracting” at (555) 555-5555, or

Placer County Air Pollution Control District at (530) 745-2300

12. Definitions.

The following definitions shall apply to this Guidance:

(1) "Access road" means any road extending from a public thoroughfare onto the property of a construction project, quarry, or surface mining operation.

(2) "Adequately wetted" means sufficiently moistened with water to minimize the release of particulate matter into the ambient air as determined by approved test method(s).

(3) "Agricultural operation" means activities necessary for the growing and harvesting of crops or raising of fowl or animals.

(4) "APCO" means the executive officer, air pollution control officer, or the designee of the executive officer or air pollution control officer of any air pollution control or air quality management district created or continued in existence pursuant to Part 3 (commencing with section 40000), Division 26, Health and Safety Code.

(5) "Approved asbestos bulk test method" means ARB Test Method 435 or an alternative asbestos bulk test method approved in writing by the Executive Officer of the California Air Resources Board.

(6) "ARB" means the California Air Resources Board.

(7) "ARB Test Method 435" means the test method specified in title 17, California Code of Regulations, section 94147.

(8) "Asbestos" means asbestiforms of the following minerals: chrysotile (fibrous serpentine), crocidolite (fibrous riebeckite), amosite (fibrous cummingtonite--grunerite), fibrous tremolite, fibrous actinolite, and fibrous anthophyllite. Please note that asbestos as defined by the ATCM includes only the six commercial asbestos minerals that are the most widely known asbestiform minerals. However, many other minerals such as brucite, erionite, talc, tourmaline, palygorskite, sepiolite, and others can crystallize in the fibrous habit (asbestiform) under the right conditions.[4]

(9) "Asbestos-containing material" means any material that has asbestos content of 0.25 percent or greater.

(10) “Asbestos-Containing Waste" or "ACW" means asbestos containing waste managed at a landfill as authorized by section 25143.7, chapter 6.5 of the California Health and Safety Code, which contains greater than (1%) friable asbestos by weight. Asbestos containing waste does not include waste contaminated with another hazardous waste as identified in chapter 11, division 4.5, Title 22, California Code of Regulations.

(11) "Asbestos Dust Mitigation Plan" means a detailed written document specifying measures that would be implemented to minimize the emissions of asbestos-laden dust.

(12) "Carry-out" or "track-out" means any bulk material that adheres to and agglomerates on the exterior surfaces of motor vehicles, haul trucks, and/or equipment, including tires, and that has fallen or been deposited onto a paved public roadway.

(13) "Construction," "grading," "construction or grading operation" and "construction or grading activity" mean any surface disturbance conducted with powered equipment or any related activity, including, but not limited to, all surface and subsurface cuts and fills, excavation, trenching, stockpiling, bulldozing, and landfills.

(14) "District" means any air pollution control or air quality management district created or continued in existence pursuant to Part 3 (commencing with section 40000), Division 26, Health and Safety Code.

(15) "Geographic ultramafic rock unit" means a geographic area that is designated as an ultramafic rock unit or ultrabasic rock unit, including the unit boundary line, on any of the maps referenced in Appendix A of the State ATCM.

[4] Zoltai, 1981; Skinner and Others, 1988, Special Publication 124, The Mineralogy of Asbestos, Page 9

(16) "Geologic evaluation" means an evaluation of a property to determine the presence of various types of rocks, including ultramafic rock, serpentinite, or other metamorphic derivatives of ultramafic rock.

(17) "Gravel pad" means a layer of gravel, rock, or crushed rock which is at least one inch or larger in diameter and less than five (5) percent silt content, maintained at the point of intersection of a paved public roadway and a work site entrance to dislodge mud, dirt, and debris from tires of motor vehicles and haul trucks prior to leaving a worksite.

(18) "Grizzly" means a device used to dislodge mud, dirt, and debris from the tires and undercarriage of motor vehicles and haul trucks prior to leaving the work site.

(19) "HEPA filter" means a High Efficiency Particulate Air filter used to remove particles less than one (1) micron in aerodynamic diameter and operates at removal efficiencies of 99.9 percent or greater.

(20) "Naturally occurring asbestos" means asbestos and asbestiform minerals that have not been processed in an asbestos mill.

(21) "Owner/operator" or "person" includes, but is not limited to:

(A) An individual, trust, firm, joint stock company, business concern, partnership, limited liability company, association, or corporation including, but not limited to, a government corporation;

(B) Any city, county, district, commission, the state or any department, agency, or political subdivision thereof, any interstate body, and the federal government or any department or agency thereof to the extent permitted by law; or

(C) A project proponent and any of its contractors or subcontractors.

(22) "Paving" means creating a cover consisting of Portland cement, asphalt, concrete, or chip seal.

(23) "Project Boundaries" means the right-of-way and any construction easements adjacent to and necessary for the purposes of a specific road construction project or maintenance activity.

(24) "Property" means any real property including, but not limited to, any contiguous parcel or parcels of land and anything attached to, or erected on it.

(25) "Quarrying" means the act of obtaining stone from the earth by means of cutting, digging, excavating, or blasting and includes processes used to convert the excavated material into commercial products.

(26) "Registered geologist" means an individual that is currently licensed as a geologist with the State of California, Department of Consumer Affairs, Board of Geology and Geophysicists.

(27) "Remote location" means any location that is at least one (1.0) mile from the location of a receptor. "Receptor" includes, but is not limited to, any hospital, school, day care center, work site, business, residence, and permanent campground. The distance to the nearest receptor is to be measured from the outermost limit of the area to be disturbed, or road surface, whichever is closer.

(28) "Road Construction and Maintenance" means the activities undertaken to build roads, highways, railroads, bridges, culverts, drains and other works incidental to road or highway construction, and maintenance activities that involve grading or excavation. Road Construction and Maintenance does not include the construction of rest stops, maintenance buildings, or parking lots. (Note: These excluded activities are subject to the **Requirements for Construction and Grading Operations** (subparagraph 5)).

(29) "Road surface" means the traveled way of a road and any shoulder that may extend up ten (10) feet from the edge of the traveled way.

(30) "Sand and Gravel Operation" means any facility operating in alluvial deposits.

(31) “Sensitive Receptor” means areas, facilities, or groups that may be more heavily impacted by various activities, which create air pollutants, based on nature of the contaminant. Examples include, but are not limited to, towns and villages, campgrounds, hospitals, nursing homes, schools, airports, public events, shopping centers.

(32) "Serpentine" means any form of the following hydrous magnesium silicate minerals: antigorite, lizardite, and chrysotile.

(33) "Serpentinite" means a rock consisting almost entirely of serpentine, although small amounts of other minerals such as magnetite, chromite, talc, brucite, and tremolite-actinolite may also be present. "Serpentinite" is a metamorphic derivative of the ultramafic rocks, peridotite, pyroxenite, or dunite.

(34) "Surface mining" means all, or any part of, the process involved in the mining of minerals on mined lands by removing overburden and mining directly from the mineral deposit, open-pit mining of minerals naturally exposed, mining by the auger method, dredging and quarrying, or surface work incident to an underground mine. "Surface mining" includes, but is not limited to, in place distillation or retorting or leaching, the production and disposal of mining waste, prospecting and exploratory activities or any activity subject to regulation under the Surface Mining and Reclamation Act of 1975, Public Resources Code section 2700 et seq.

(35) “Ultrabasic rock" means ultramafic rock.

(36) "Ultramafic rock" means an igneous rock composed of 90 percent or greater of one or a combination of the following iron/magnesium-rich, dark-colored silicate minerals: olivine, pyroxene, or more rarely amphibole. For the purposes of this section, "ultramafic rock" includes the following rock types: dunite, pyroxenite, and peridotite, and their metamorphic derivatives.

(37) "Visible emissions" means any particulate matter that is visually detectable without the aid of instruments other than corrective lenses.

Appendix A

Geologic Evaluation Report Requirements

The APCO may provide an exemption from the requirement for an ADMP submittal, for any property that is otherwise subject to ADMP requirements, if a registered geologist has conducted a geologic evaluation of the property and determined that no serpentine, ultramafic rock or asbestos is likely to be found in the area to be disturbed. For purposes of this geologic evaluation, "asbestos" shall include all asbestiform minerals – structures with an aspect ratio of 3:1 or greater.

Geologic investigations of naturally occurring asbestos should conform to SPECIAL PUBLICATION 124 GUIDELINES FOR GEOLOGIC INVESTIGATIONS OF NATURALLY OCCURRING ASBESTOS IN CALIFORNIA, by California Geological Survey, edited by John P. Clinkenbeard, Ronald K. Churchill, and Kiyoung Lee at the website www.consrv.ca.gov.

Geologic evaluation reports should conform to the State of California Department of Consumer Affairs GUIDELINES FOR ENGINEERING GEOLOGIC REPORTS accessible at the website www.dca.ca.gov/geology, and pursuant to the ATCM shall contain the following elements at a minimum:

1. A general description of the property and the proposed use;

2. A detailed site characterization which may include:
   A. A physical site inspection;
   B. Offsite geologic evaluation of adjacent property;
   C. Evaluation of existing geological maps and studies of the site and surrounding area;
   D. Development of geologic maps of the site and vicinity;
   E. Identification and description of geologic units, rock and soil types, and features that could be related to the presence of ultramafic rocks, serpentine, or asbestos mineralization; and
   F. A subsurface investigation to evaluate the nature and extent of geologic materials in the subsurface where vertical excavation is planned; methods of subsurface investigation may include, but are not limited to borings, test pits, trenching, and geophysical surveys;

3. A classification of rock types found must conform to the nomenclature based on the International Union of Geological Science system;

4. A description of the sampling procedures used;

5. A description of the analytical procedures used, which may include mineralogical analyses, petrographic analyses, chemical analyses, or analyses for asbestos content;

6. An archive of collected rock samples for third party; and

7. A geologic evaluation report documenting observations, methods, data, and findings. The format and content of the report should follow the Guidelines for the Assessment of Naturally Occurring Asbestos issued by the California Geologic Survey.

Appendix B

Road Construction and Maintenance Dust Control Measures

The following dust control measures shall be implemented during any road construction or maintenance activity:

1. Unpaved areas subject to vehicle traffic must be stabilized by being kept adequately wetted, treated with a chemical dust suppressant, or covered with material that contains less than 0.25 percent asbestos; (District Rule 228 Section 401.1)

2. The speed of any vehicles and equipment traveling across unpaved areas must be no more than fifteen miles per hour unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 miles per hour from emitting dust that is visible crossing the project boundaries; (District Rule 228 Section 401.2)

3. Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept adequately wetted, treated with a chemical dust suppressant, or covered material that contains less than 0.25 percent asbestos;

4. A person shall not cause or allow fugitive dust generated by active operations, an open storage pile, or a disturbed surface area, such that the fugitive dust is of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as No. 2 on the Ringelmann Chart (or 40% opacity), as published by the United States Bureau of Mines; (District Rule 228 Section 302) and,

5. Activities must be conducted so that no track-out from any road construction project is visible on any paved roadway open to the public.

Appendix C

Asbestos Dust Mitigation Plan Application

Complete and submit the following Asbestos Dust Mitigation Plan Application pages C-1 through C-7. This application, once completed, submitted to the District, and approved by the District, will stand as the applicant's Asbestos Dust Mitigation Plan.

Placer County
AIR POLLUTION CONTROL DISTRICT

ASBESTOS AIRBORNE TOXIC CONTROL MEASURE FOR CONSTRUCTION, GRADING, QUARRYING AND SURFACE MINING OPERATIONS
§ 93105, Title 17, California Code of Regulations

ASBESTOS DUST MITIGATION PLAN APPLICATION

1. FOR DISTRICT USE ONLY

Fees Due: No Fees Apply for Complete Application	Date Received by District

DISTRICT PLAN APPROVAL
Per information contained in the submitted Asbestos Dust Mitigation Plan documents and Application, the Plan is:

- ☐ Approved
- ☐ Conditionally Approved
- ☐ Denied (See comments for who to contact if denied.)

Comments

_____
_____
_____
_____

Signature_____ Date_____

Placer County Air Pollution Control Officer or Designee

2. GEOLOGIST INFORMATION

Name		
Address	City/State/Zip	
Contact	Phone	Fax

3. CONTRACTOR AND OWNER INFORMATION

Contractor Information		Owner Information	
Name		Name	
Address		Address	
City/State/Zip		City/State/Zip	
Contact		Contact	
Phone	Fax	Phone	Fax
E-mail Address		E-mail Address	

ASBESTOS DUST MITIGATION PLAN APPLICATION

PLACER COUNTY AIR POLLUTION CONTROL DISTRICT

4. PROJECT INFORMATION – DESCRIPTION	Assessor's Parcel Number (APN)
Project Name	Project Number
Estimated Size of Project (total acres):	Disturbed Surface Area (acres):
Brief Description of Project Including List of Equipment to be used. _____ _____ _____ _____	
Start Date	Estimated Completion Date

5. PROJECT INFORMATION – LOCATION

Location (List nearby cross streets or give detailed directions to location.)

_____
_____

Address

City/State/Zip

6. MAP INFORMATION

Maps clearly indicating the following must be included:

- Location
- Property lines / boundaries
- Rights of way / easements
- Areas to be cleared or graded
- Trenching areas
- Excavation sites
- Storage areas / piles
- Staging areas for removal
- Truck routes
- On-site parking lots
- Landmarks and roads
- Sampling locations (label as positive or negative for asbestos)

7. PROJECT TYPE

Activity: (At least one selection required.)

- ☐ Construction
- ☐ Grading
- ☐ Road or Railway Construction
- ☐ Road Maintenance
- ☐ Housing Development
- ☐ Commercial Property Development
- ☐ Quarrying
- ☐ Surface Mining
- ☐ Trenching / Utilities Work
- ☐ Other (please describe)

_____

8. TRACK-OUT PREVENTION

The following control measure MUST be addressed:

- Any visible track-out on a paved public road where vehicles enter and exit the work area must be removed at the end of the workday or at least one time per day. Removal shall be accomplished by using wet sweeping or a HEPA filter equipped vacuum device.

Other control measures: (At least one selection required.)

- ☐ A gravel pad designed using good engineering practices to clean the tires of exiting vehicles
- ☐ A tire shaker
- ☐ A wheel wash system
- ☐ Pavement extending for not less than fifty (50) consecutive feet from the intersection with the paved public road
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____
_____
_____

9. ACTIVE STORAGE PILES

Storage Piles must be stabilized by one of the following: (Check one.)

- ☐ Keep the surface adequately wetted
- ☐ Covering with tarps

10. INACTIVE STORAGE PILES

Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days shall include one or more of the following: (At least one selection required.)

- ☐ Keep the surface adequately wetted
- ☐ Establishment and maintenance of surface crusting sufficient to satisfy the test in ATCM subsection 93105(h)(6)
- ☐ Application of chemical dust suppressants or chemical stabilizers according to the manufacturer's recommendations
- ☐ Covering with tarps or vegetative cover
- ☐ Installation of wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile
- ☐ Installation of wind barriers across open areas
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____
_____
_____

11. TRAFFIC CONTROL FOR ON-SITE UNPAVED ROADS, PARKING LOTS AND STAGING AREAS

The following control measure MUST be addressed:

- A maximum speed limit of fifteen (15) miles per hour (mph) or less

Additional control measures: (At least one selection required.)

- ☐ Water every two hours of active operation or sufficiently often to keep the area adequately wetted
- ☐ Apply chemical dust suppressants consistent with manufacturer's directions
- ☐ Maintain a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____
_____
_____

12. EARTHMOVING ACTIVITIES

Controls for earthmoving activities will include: (At least one selection required.)

- ☐ Pre-wetting the ground to the depth of the anticipated cuts
- ☐ Suspending grading operations when wind speeds are high enough to result in dust emissions crossing the property line, despite the application of dust mitigation measures
- ☐ Application of water prior to any land clearing
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____
_____
_____

13. OFF-SITE TRANSPORT

The owner/operator must ensure that no trucks are allowed to transport excavated material off-site unless:

- Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments
- Loads are adequately wetted

And either: (At least one selection required.)

- ☐ Covered with tarps
- ☐ Loaded such that the material does not touch the front, back or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment

14. POST CONSTRUCTION STABILIZATION OF DISTURBED AREAS

Upon completion of the project, disturbed surfaces shall be stabilized using one or more of the following: (At least one selection required.)

- ☐ Establish a vegetative cover (detail type of vegetative cover to be used)
  _____
  _____
- ☐ Placement of at least twelve (12) inches of non-asbestos-containing material*
- ☐ Paving
- ☐ Any other measure(s) deemed sufficient to prevent wind speeds of ten (10) miles per hour (mph) or greater from causing visible dust emissions (please describe)
  _____
  _____

* All cover materials must be < 0.25% asbestos as determined by ARB Method 435, and reported as required in Box 15.

15. AIR MONITORING FOR ASBESTOS

Check Box, obtain Authorized District Staff Signature if checking waver:

- ☐ Air monitoring will be performed pursuant to Appendix E, Placer County Air Pollution Control District Air Sampling Requirements for Naturally Occurring Asbestos (NOA). OR
- ☐ Air monitoring has been waived. District approval has been obtained.

Authorized District Staff Signature **Date**

_____

Comments/Alternate Air Monitoring Request _____
_____

16. REPORTING REQUIREMENTS

If air monitoring in Box 14. is required, reporting to the district for the following is required:

- The results of any air monitoring conducted at the request of the APCO, per the frequency specified in the Sampling Protocol in Appendix E

If soil cover is utilized per Box 13., cover soil must be sampled and results submitted:

- The laboratory results of any asbestos bulk sampling or testing prior to use of sampled materials as cover

17. DISPOSITION AND FINAL LOCATION OF ASBESTOS-CONTAINING MATERIALS

If any materials originating on site are to be shipped off site during or post construction:

- A signed Acknowledgement Form for Offsite Disposition for the receipt of potentially asbestos-containing or known asbestos-containing materials shall be obtained by the owner/operator (ADMP Requirements Appendix D, Section J) -- one for each site receiving NOA materials.
- The final location or disposition methodology of any spoils created shall be reported as indicated in ADMP Requirements Appendix D, Section I.

If any materials originating on site are to be used or stabilized on site upon completion of the project:

- The areas where asbestos was identified, removed, and placed shall be described (mapped or plotted for example).

If the amount of asbestos is < 0.25% as determined by ARB Method 435, then the owner/operator is relieved from these obligations.

Materials with asbestos content of 1% or greater may be considered Hazardous Waste by the State of California. Please contact the Department of Toxic Substances Control for further guidance on such materials. DTSC: (916) 324-1826

18. BLASTING

Is Blasting required?

- ☐ Yes
- ☐ No

If Blasting is required, describe plans including a projected timeline for blasting operations:

_____
_____
_____
_____

19. POSTING REQUIREMENTS

The owner/operator must ensure that the following Posting Requirements are met:

- Cal-OSHA regulations require hazard communication plans include signage and postings at job sites. The District requires compliance with Cal-OSHA regulations. Contact Cal-OSHA at (800) 963-9424 for information.
- Additionally, for projects where an ADMP is required, warning Signs shall be posted at the main entrance(s) to the project for the duration of soil disturbance activities and at locations visible to persons passing the site if the site is adjacent to publicly accessed areas. Signs shall be posted in lettering of sufficient size to be readily visible and legible. The following wording is recommended: “Warning. Soils in the area may contain naturally occurring asbestos. Asbestos is a known carcinogen. Report excessive fugitive dust to the contractor at (contractor phone number), or PCAPCD: (530) 745-2330.” The sign(s) shall also identify the project name or street address.

20. DISTRICT RULE 228, FUGITIVE DUST

The owner/operator must ensure that the following District Rule 228 measures are observed:

- A person shall not cause or allow fugitive dust generated by active operations, an open storage pile, or a disturbed surface area, such that the fugitive dust is of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as No. 2 on the Ringelmann Chart (or 40% opacity), as published by the United States Bureau of Mines; (District Rule 228 Section 302)
- A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area (including disturbance as a result of the raising and/or keeping of animals or by vehicle use), such that the presence of such dust remains visible in the atmosphere beyond the boundary line of the emissions source. (Rule 228 Section 301)
- Any contractor engaged in any active operation subject to this rule shall maintain records of actions to stabilize surface areas sufficient to establish location, type and date of treatment. Records shall be maintained and be readily accessible for two (2) years after the date of each entry and shall be provided to the District upon request and shall be open for inspection during unscheduled audits during normal business hours. (Rule 228 Section 503.1)

21. COMMENTS

Additional Comments

_____
_____
_____
_____
_____
_____
_____
_____

22. RESPONSIBLE PERSON

By signing this form and under penalty of perjury, I certify that based on information and belief formed after reasonable inquiry, that the information provided is true and accurate, and that all Asbestos Dust Mitigation Plan requirements outlined in this document and Rule 228, Fugitive Dust, will be met.

Signature of Company's Responsible Person _____ Date _____

Name and Title (Printed) _____ Phone Number _____

Appendix D

Asbestos Dust Mitigation Plan Requirements

Asbestos Dust Mitigation Plans must specify dust mitigation practices to ensure that no equipment or operation emits dust that is visible crossing the property line, and must include one or more provisions addressing **each** of the following topics.

A. Track-out prevention and control measures which shall include:
   1) Removal of any visible track-out from a paved public road at any location where vehicles exit the work site; this shall be accomplished using wet sweeping or a HEPA filter equipped vacuum device at the end of the work day or at least one time per day; and
   2) Installation of one or more of the following track-out prevention measures:
      a. A gravel pad designed using good engineering practices to clean the tires of exiting vehicles;
      b. A tire shaker;
      c. A wheel wash system;
      d. Pavement extending for not less than fifty consecutive feet from the intersection with the paved public road; or
      e. Any other measure as effective as the measures listed above.

B. Keeping active storage piles adequately wetted or covered with tarps.

C. Control for disturbed surface areas and storage piles that will remain inactive for more than seven days, which shall include one or more of the following:
   1) Keeping the surface adequately wetted;
   2) Establishment and maintenance of surface crusting;
   3) Application of chemical dust suppressants or chemical stabilizers according to the manufacturers' recommendations;
   4) Covering with tarp(s) or vegetative cover;
   5) Installation of wind barriers of fifty percent porosity around three sides of a storage pile;
   6) Installation of wind barriers across open areas; or
   7) Any other measure as effective as the measures listed above.

D. Control for on-site traffic on unpaved roads, parking lots, and staging areas that shall include:
   1) A maximum vehicle speed limit of fifteen miles per hour or less; and
   2) One or more of the following:
      a. Watering every two hours of active operations or sufficiently often to keep the area adequately wetted;
      b. Applying chemical dust suppressants consistent with manufacturer's directions;
      c. Maintaining a gravel cover with a silt content that is less than five percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, (see Appendix E), to a depth of three inches on the surface being used for travel; or
      d. Any other measure as effective as the measures listed above.

E. Control for earthmoving activities which shall include one or more of the following:
   1) Pre-wetting the ground to the depth of anticipated cuts;
   2) Suspending grading operations when wind speeds are high enough to result in dust emissions crossing the property line, despite the application of dust mitigation measures;
   3) Application of water prior to any land clearing; or
   4) Any other measure as effective as the measures listed above.

F. Per California Code of Regulations, Title 17, Section 93105, Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations (ATCM), the owner/operator shall ensure that no trucks are allowed to transport excavated material off-site unless:
   1) Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments; and
   2) Loads are adequately wetted and either:
      a. Covered with tarps; or

b. Loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.

G. Upon completion of the project, post-construction stabilization of disturbed surfaces shall be accomplished using one or more of the following methods:
   1) Establishment of a vegetative cover;
   2) Placement of at least twelve inches ("one foot" per District Rule 228, Fugitive Dust, Subsection 401.9.2) of non-asbestos-containing material;
   3) Paving;
   4) Any other measure deemed sufficient to prevent wind speeds of ten miles per hour or greater from causing visible dust emissions.

   Note: All cover materials must be < 0.25% asbestos as determined by ARB Method 435, and reported as required in I, below.

H. If required by the district APCO, the plan must include an air-monitoring component conforming to the *Air Sampling Protocol* in Appendix D, and specifying the following;
   1) Type and siting of air sampling device(s);
   2) Sampling duration and frequency; and
   3) Analytical method.

I. The plan shall state a frequency of reporting to the District for the items specified below, and for any other items identified in the plan. The owner/operator of any grading or construction operation subject to this section shall submit the following to the District:
   1) The results of any air monitoring conducted at the request of the APCO, per the frequency specified in the Sampling Protocol in Appendix E; and
   2) The laboratory results of any asbestos bulk sampling or testing prior to use of sampled materials as cover.

J. If any materials originating on site are to be shipped offsite during or post-construction, the plan must contain such details, and a signed Acknowledgement Form for Off-site Disposition (Appendix F), for the receipt of potentially or known asbestos-containing materials stating that prescribed dust control measures and stabilization will be followed, shall be obtained. One Acknowledgment Form is required for **each receiving site** and prior to shipment. Reporting of the final use or location of disposition of such materials is required:
   1) The final location or disposition methodology of any spoils created during the project; and,
   2) The areas where asbestos was identified, removed, and placed shall be described (mapped or plotted for example) upon completion of the project.

   If the amount of asbestos is < 0.25% as determined by ARB Method 435, then the owner/operator is relieved from this obligation.

Materials with asbestos content of 1% or greater may be considered Hazardous Waste by the State of California. Please contact the Department of Toxic Substances Control for further guidance on such materials. DTSC: (916) 324-1826

K. If blasting is required, the plan shall identify any blasting plans including a projected time line for blasting related operations.

L. The owner/operator must ensure that the following District Rule 228, Fugitive Dust measures are observed:
   1) A person shall not cause or allow fugitive dust generated by active operations, an open storage pile, or a disturbed surface area, such that the fugitive dust is of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as No. 2 on

the Ringelmann Chart (or 40% opacity), as published by the United States Bureau of Mines; (District Rule 228 Section 302)

2) A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area (including disturbance as a result of the raising and/or keeping of animals or by vehicle use), such that the presence of such dust remains visible in the atmosphere beyond the boundary line of the emissions source. (Rule 228 Section 301)
3) Any contractor engaged in any active operation subject to this rule shall maintain records of actions to stabilize surface areas sufficient to establish location, type and date of treatment. Records shall be maintained and be readily accessible for two (2) years after the date of each entry and shall be provided to the District upon request and shall be open for inspection during unscheduled audits during normal business hours. (Rule 228 Section 503.1)

Appendix E

Air Sampling Requirements for Naturally Occurring Asbestos (NOA)

Air monitoring is required as a part of all Asbestos Dust Mitigation Plans (see Section 14 of the Application form, Appendix C) unless waived in writing by the District. District considerations as to whether air monitoring is required include the site location in relation to residents and members of the public. Extensive excavation in suspected or known naturally occurring asbestos (NOA) areas with close proximity to residential areas, high-traffic areas, or to a hospital or school is of particular concern. The purpose of the sampling is solely to assess and assure that the dust control measures proposed are effective. To meet the needs of the residents of Placer County and the District, the following air sampling protocol shall be required as a provision of the project and shall be followed on this project during excavation activities where NOA has been identified to be present or suspected of being present:

1. Air sampling shall be performed under the authority of a California Certified Asbestos Consultant (CAC) as defined by the State of California Division of Occupational Safety and Health, California Code of Regulations (CCR) Title 8 Section 1529, Asbestos in Construction Standard.

2. Area air samples shall be collected upwind and downwind of the work site near the immediate work area while NOA is being disturbed. At least one area air sample shall be collected at the fence line downwind of the actual work activity (soil or rock disturbance). At least one air sample shall be collected upwind of the work activity at or near the property line during soil or rock disturbance. Depending upon wind conditions, when the wind shifts during the day, the sample locations shall be re-evaluated and moved as necessary to measure downwind or upwind locations. When this is not possible, the changes in wind direction shall be noted in written daily logs documenting all air sampling data and activities of each day. Air samples shall be collected for full-work shift periods during disturbance of NOA.

3. All area air samples shall be analyzed by phase contrast microscopy (PCM) by NIOSH Method 7400 and by transmission electron microscopy (TEM) per the modified United States Environmental Protection Agency, Asbestos Hazard Emergency Response Act (AHERA) method for asbestos. The modified method of analysis by TEM shall count all asbestiform structures with an aspect ratio of 3:1 or greater, in lieu of the AHERA 5:1 aspect ratio, and at least 10 grid openings shall be evaluated on all air samples.

4. Personal air samples shall be collected to assess worker exposures in accordance with Cal/OSHA regulations CCR Title 8 Section 1529. In addition to analysis by PCM, all personal air samples shall be analyzed by TEM by the modified AHERA method, described previously for area air samples.

5. At least one personal and two area air samples shall be collected daily during excavation activities where NOA is being disturbed during the first week to determine the effectiveness of engineering controls. At least five continuous days of monitoring shall be conducted to determine the effectiveness of the engineering controls being employed. During the second and subsequent weeks of excavation or disturbance, at least two days of air sampling shall be conducted each week to assess engineering controls.

6. Air sampling may be required to be increased in frequency depending upon the effectiveness of dust control measures and the performance of the contractor or at the request of the District. Air sampling frequency may be reduced from the minimum specified only with the approval of the District.

7. Area air samples shall be collected onto either 0.45 micron or 0.8 micron mixed cellulose ester (MCE) filters housed in a 25-millimeter diameter cowled plastic housing at a maximum airflow rate of 10.0 liters per minute. This may require the use of generators for electricity if electrical power is not readily available. Personal air samples shall be collected onto 0.8 micron MCE filters using battery operated personal sampling pumps at flow rates not exceeding 2.5 liters per minute.

8. The airflow rates for both the high volume and personal sampling pumps shall be calibrated prior to, and at the conclusion of the sampling period using either a primary standard calibrator, or a field rotameter calibrated by a primary standard within the previous year. The airflow rate, time, activity, and person or location shall be recorded on a laboratory submittal sheet. The name of the person and company collecting the air sample, identification of the project, and address shall be clearly identified on the submittal sheet. The submittal sheet shall have a completed chain of custody documenting signature, time, and date.

9. The air samples shall be analyzed by a laboratory that is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for TEM analysis, and that maintains proficiency in the American Industrial Hygiene Proficiency Analytical Testing (PAT) Program for PCM analysis.

10. Results of all laboratory analysis shall be faxed to the Placer County APCD Air Pollution Control Officer (APCO), to District fax number (530) 745-2373, within 48 hours of collection of the samples during the first two weeks and within 72 hours of collection for subsequent weeks of monitoring.

11. The QA/QC samples will consist of at least one field blank filter each day that air samples are collected. The field blank sample shall be analyzed for fibers by PCM analysis but not required by TEM analysis in an effort to reduce costs to the owner. Air sampling shall be conducted in accordance with good industrial hygiene sampling protocols and will follow the methods established by both NIOSH and AHERA.

Note that asbestos as defined by the ATCM includes only the group of six commercially important silicate minerals of fibrous or asbestiform habit having properties of high tensile strength, flexibility, chemical resistance, and heat resistance. Such properties made these minerals useful in many manufactured products and industrial processes during the twentieth century. The six types of asbestos are chrysotile, crocidolite (asbestiform riebeckite), amosite (asbestiform cummingtonite, grunerite), asbestiform tremolite, asbestiform actinolite, and asbestiform anthophylite. However, many other minerals such as brucite, erionite, talc, tourmaline, palygorskite, sepiolite, and others can crystallize in the fibrous habit (asbestiform) under the right conditions.[5] In this context, "asbestiform" means the unusual crystallization habit of a mineral when the crystals are thin, hair-like fibers. Historically, the definition of asbestiform habit was based primarily on appearance, and the properties were only implied. At present, the definition of asbestiform habit is often augmented to include a statement on the properties of asbestiform fibers, i.e., shape; enhanced strength, flexibility, and durability; diameter-dependent strength; and unique surfaces. The fibers of asbestos are good examples of the asbestiform habit.[6]

The purpose of the District's sampling requirement is solely to assess the effectiveness of engineering controls. **Area sampling results are not intended for purposes of assessing health risk.** Positive findings of NOA in sampling results may have implications regarding occupational exposure.

[5] Zoltai, 1981; Skinner and Others, 1988, Special Publication 124, The Mineralogy of Asbestos, Page 9

[6] National Research Council, 1984, Special Publication 124, The Mineralogy of Asbestos, Page 20

Appendix F

Acknowledgement Form for Off-site Disposition

Per Asbestos Dust Mitigation Plan Requirements Box 16., Appendix C and Section J, Appendix D, If any materials originating on site are to be shipped offsite during or post-construction, the plan must contain such details, and a signed Acknowledgement Form For Offsite Disposition for the receipt of potentially or known asbestos-containing materials stating that prescribed dust control measures and stabilization will be followed, shall be obtained. Reporting of the final use or disposition of such materials shall be carried out as specified in Appendix C, Box 16., and Appendix D, subparagraph J.1 and J.2.

Where applicable, complete and submit the following Acknowledgement Form for Off-site Disposition -- one for each receiving site. The form may be submitted via fax: (530) 745-2373, mail: Placer County Air Pollution Control District, 3091 County Center Drive, Suite 240, Auburn, CA 95603, or e-mail: pcapcd@placer.ca.gov.

Placer County
AIR POLLUTION CONTROL DISTRICT

ACKNOWLEDGEMENT FORM FOR OFF-SITE DISPOSAL

FILL OUT ONCE PER DISPOSAL SITE

Acknowledgement for the receipt of potentially or known asbestos-containing materials, per the ASBESTOS DUST MITIGATION PLAN Requirements Section J. Page D-2, provides proof that the recipient has been advised that materials accepted may contain Naturally Occurring Asbestos and that these materials will be handled properly.

1. RECIPIENT INFORMATION

Transporter/Driver Information		Disposal Site Information	
Name		Name	
Company		Company	
Address		Address	
City/State/Zip		City/State/Zip	
Phone	Fax	Phone	Fax

2. ACKNOWLEDGEMENT FOR RECEIPT OF ASBESTOS-CONTAINING MATERIALS

If any materials originating on site are to be shipped off site during or post construction:

- I, _____, hereby acknowledge that I have received materials that contain, or may contain, naturally occurring asbestos from the above owner/contractor at the above project location. All such materials will be handled in a manner adherent to the Asbestos Dust Mitigation Plan Guidance and all pertinent federal and state laws. Prescribed dust control measures will be followed.

Signature **Date**

_____

- Note: If the amount of asbestos is < 0.25% as determined by ARB Method 435, then the owner/operator is relieved from this obligation

ACKNOWLEDGEMENT FORM FOR OFF-SITE DISPOSAL

FILL OUT ONCE PER DISPOSAL SITE

3. CONTRACTOR AND OWNER INFORMATION			
Contractor Information		**Owner Information**	
Name		Name	
Address		Addres	
City/State/Zip		City/State/Zip	
Contact		Contact	
Phone	Fax	Phone	Fax
E-mail Address		E-mail Address	

4. PROJECT INFORMATION	Project Name
Location	
Address	
City/State/Zip	

The form may be submitted via fax: (530) 745-2373, mail: Placer County Air Pollution Control District, 3091 County Center Drive, Suite 240, Auburn, CA 95603, or e-mail: pcapcd@placer.ca.gov.

Appendix C. Biological Resources

California Department of Fish and Game
Natural Diversity Database
Special-Status Species and Sensitive Natural Community Identified in the Project Vicinity

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	Agelaius tricolor tricolored blackbird	ABPBXB0020			G2G3	S2	SC
2	Allium jepsonii Jepson's onion	PMLIL022V0			G1	S1.2	1B.2
3	Ammonitella yatesii tight coin (=Yates' snail)	IMGASB0010			G1	S1	
4	Andrena subapasta A vernal pool andrenid bee	IIHYM35050			G1G3	S1S3	
5	Balsamorhiza macrolepis var. macrolepis big-scale balsamroot	PDAST11061			G3G4T2	S2	1B.2
6	Banksula californica Alabaster Cave harvestman	ILARA14020			GH	SH	
7	Banksula galilei Galile's cave harvestman	ILARA14040			G1	S1	
8	Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3	
9	Calystegia stebbinsii Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1.1	1B.1
10	Ceanothus roderickii Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G2	S2.1	1B.2
11	Chlorogalum grandiflorum Red Hills soaproot	PMLIL0G020			G3	S3	1B.2
12	Clarkia biloba ssp. brandegeeae Brandegee's clarkia	PDONA05053			G4G5T3	S3	1B.2
13	Corynorhinus townsendii Townsend's big-eared bat	AMACC08010			G4	S2S3	SC
14	Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2	
15	Elanus leucurus white-tailed kite	ABNKC06010			G5	S3	
16	Emys marmorata western pond turtle	ARAAD02030			G3G4	S3	SC
17	Fritillaria eastwoodiae Butte County fritillary	PMLIL0V060			G3Q	S3	3.2
18	Galium californicum ssp. sierrae El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1.2	1B.2
19	Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060		Endangered	G2	S2	1B.2
20	Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S2	
21	Helianthemum suffrutescens Bisbee Peak rush-rose	PDCIS020F0			G2Q	S2.2	3.2
22	Laterallus jamaicensis coturniculus California black rail	ABNME03041		Threatened	G4T1	S1	
23	Lathyrus sulphureus var. argillaceus dubious pea	PDFAB25101			G5T1T2	S1S2	3

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24	Linderiella occidentalis California linderiella	ICBRA06010			G3	S2S3	
25	Martes pennanti (pacifica) DPS Pacific fisher	AMAJF01021	Candidate		G5	S2S3	SC
26	Northern Volcanic Mud Flow Vernal Pool	CTT44132CA			G1	S1.1	
27	Packera layneae Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
28	Pandion haliaetus osprey	ABNKC01010			G5	S3	
29	Phrynosoma blainvillii coast horned lizard	ARACF12100			G4G5	S3S4	SC
30	Progne subis purple martin	ABPAU01010			G5	S3	SC
31	Rana boylii foothill yellow-legged frog	AAABH01050			G3	S2S3	SC
32	Viburnum ellipticum oval-leaved viburnum	PDCPR07080			G5	S2.3	2.3
33	Wyethia reticulata El Dorado County mule ears	PDAST9X0D0			G2	S2	1B.2

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 110321091842

Database Last Updated: April 29, 2010

Quad Lists

GREENWOOD (526B)
Listed Species

Invertebrates

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

Amphibians

Rana draytonii
California red-legged frog (T)

AUBURN (527A)
Listed Species

Invertebrates

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana draytonii
California red-legged frog (T)

County Lists

Placer County

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Oncorhynchus (=Salmo) clarki henshawi
Lahontan cutthroat trout (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Proposed Species

Amphibians

Rana draytonii
Critical habitat, California red-legged frog (PX)

Candidate Species

Amphibians

Rana muscosa
mountain yellow-legged frog (C)

Mammals

Martes pennanti
fisher (C)

Plants

Rorippa subumbellata
Tahoe yellow-cress (C)

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be

found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be June 19, 2011.

Vegetation Communities

Annual Grassland

Annual grassland, which encompasses approximately 14.7 acres within the biological study area, is dominated by nonnative annual grasses such as soft chess (*Bromus hordeaceus*), wild oat (*Avena* spp.), ripgut brome (*B. diandrus*), hedgehog dogtail grass (*Cynosurus echinatus*), Italian ryegrass (*Lolium multiflorum*), and Medusahead (*Taeniatherum caput-medusae*). Nonnative forbs observed in annual grasslands were hedge-parsley (*Torilis arvensis*), rose clover (*Trifolium hirtum*), yellow star-thistle (*Centaurea solstitialis*), bull thistle (*Cirsium vulgare*), Native forbs observed were common madia (*Madia elegans*), Spanish lotus (*Lotus purshianus*), yarrow (*Achillea millefolium*), and mustang mint (*Monardella* sp.).

The annual grasslands provide habitat for wildlife such as western fence lizard, Botta's pocket gopher (*Thomomys bottae*), and meadow vole (*Microtus californicus*.) These species provide a prey base for raptors, such as red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and great horned owl (*Bubo virginianus*), and for mammals such as American badger (*Taxidea taxus*) and coyote (*Canis latrans*). Columbian black-tailed deer (*Odocoileus hemionus columbianus*) will use the grasslands during the spring to forage on grasses and forbs. Wild turkeys (*Meleagris gallopavo*) occasionally forage in annual grasslands for arthropods when escape cover is nearby.

Mixed Oak Forest

As indicated, several species of oaks dominate the overstory of this vegetation community, which encompasses approximately 25.1 acres within the biological study area. The dominant oaks observed were blue oak (*Quercus douglasii*), valley oak (*Q. lobata*), interior live oak (*Q. wislizeni*). Canyon live oak (*Q. chrysolepis*), black oak (*Q. kelloggii*), and foothill pine (*Pinus sabiniana*) were also present in the overstory. The shrub layer was relatively sparse, and representative species observed were oak sapling (*Quercus* spp.), poison oak (*Toxicodendron diversilobum*), wedgeleaf ceanothus (*Ceanothus cuneatus*), toyon (*Heteromeles arbutifolia*), and common manzanita (*Arctostaphylos manzanita*). The herbaceous layer of the mixed oak forest contains annual grassland species and several perennial grasses such as fescue (*Festuca* sp.) and blue wildrye (*Elymus glaucus*).

Mixed oak forest provides cover, foraging, and breeding opportunities for a variety of wildlife species. Species common to this habitat include western fence lizard, common kingsnake, acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), bushtit (*Psaltriparus minimus*), western scrub jay, red-tailed hawk, red-shouldered hawk, great horned owl, wild turkey, western gray squirrel (*Sciurus griseus*), dusky-footed woodrat (*Neotoma fuscipes*), harvest mouse (*Reithrodontomys megalotis*), and Columbian black-tailed deer.

Ponderosa Pine Forest

Ponderosa pine forest, which encompasses approximately 10.4 acres within the biological study area, is dominated by ponderosa pine (*P. ponderosa*). Other species observed in the overstory were black oak,

interior live oak, and canyon live oak. The shrub understory is comparable to that of the mixed oak woodland, but the density of the herbaceous layer is much sparser.

Ponderosa pine forest provides cover, foraging, and breeding opportunities for a variety of wildlife species. Species common to this habitat include western fence lizard, common kingsnake, acorn woodpecker, Nuttall's woodpecker, bushtit, Steller's jay (*Cyanocitta stelleri*), red-shouldered hawk, great horned owl, wild turkey, western gray squirrel, raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), coyote, and Columbian black-tailed deer.

Arroyo Willow Thicket

Arroyo willow (*Salix lasiolepis*) and Himalayan blackberry (*Rubus armeniacus*) are co-dominant in arroyo willow thickets, which encompass approximately 0.320 acre within the biological study area. Other species observed were red willow (*S. laevigata*) and small white alder (*Alnus rhombifolia*) saplings. Species observed in the herbaceous layer were mugwort (*Artemisia douglasiana*), curly dock (*Rumex crispus*), periwinkle (*Vinca major*), hedgehog dogtail grass, and hedge-parsley. The largest area of arroyo willow thicket is located adjacent to the wet meadow in the topographic depression that exhibits positive indicators of the three federal wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. The species comprising the arroyo willow thicket vegetation community along the perennial stream segments occur as scattered individuals that form a very sparse, poorly developed riparian corridor that is approximately 10-feet-wide in the biological study area.

Arroyo willow thicket provides cover, foraging, and breeding habitat for many small bird and mammal species.

Freshwater Marsh

Freshwater marsh encompasses approximately 4.7 acres within the biological study area. The vegetation within freshwater marsh is dominated by narrowleaf cattail (*Typha angustifolia*). Other representative species observed were waxy mannagrass (*Glyceria declinata*), dallis grass (*Paspalum dilatatum*), hairy willow herb (*Epilobium ciliatum*), curly dock, and umbrella nutsedge (*Cyperus eragrostis*).

Freshwater marsh provides habitat for various common species, including Pacific tree frog (*Pseudacris regilla*), western toad (*Bufo boreas*), garter snakes (*Thamnophis* spp.), redwing blackbird (*Agelaius phoeniceus*) great blue heron (*Ardea Herodias*), and great egret (*A. alba*).

Wet Meadow

Wet meadow, which encompasses approximately 0.233 acre within the biological study area, is dominated by Santa Barbara sedge (*Carex barbarae*). Other representative species observed in wet meadow were iris-leaved rush (*Juncus xiphioides*), Mexican rush (*J. mexicanus*), moth mullein (*Verbascum blattaria*), narrowleaf milkweed (*Asclepias fascicularis*), and soft rush (*J. effusus*).

Wet meadow provides habitat for various common species, including Pacific tree frog, western toad, garter snakes, and meadow vole (*Microtus* sp.).

Developed/Graded Areas

This land cover type, which is not considered a vegetation community, occurs throughout the biological study area. For the purposes of this document, developed/graded areas consist of the following: paved and unpaved roads, pullouts, graded areas, parking lots, and existing structures (e.g., residential residences). The extent of developed/graded areas within the biological study area is approximately 38.4 acres.

Developed and graded areas have little to no wildlife value. Common species may occur in landscaped areas around residences and other developed areas.

Wetlands and Other Waters

Wetlands in the biological study area consist of the freshwater marsh, wet meadow, and the area of arroyo willow scrub adjacent to the wet meadow. The other (i.e., non-wetland) waters in the biological study area are: perennial streams, intermittent streams, ephemeral streams, and two of the three ponds at the Applegate WWTP plant. Each type of other water is discussed in Section 3.2 3. The delineation of wetlands and waters was conducted to support the submission of a preliminary jurisdictional determination to the USACE Sacramento District. Therefore, in accordance with a preliminary jurisdictional determination approach, all the wetlands and other waters in the biological study area were interpreted to be waters of the U.S., including wetlands, that fall within the scope of USACE jurisdiction under CWA Section 404. The wetlands and other waters are also subject to regulation under the state Porter-Cologne Water Quality Control Act.

Plant Species Observed in the Biological Study Area

Scientific Name	Common Name
Achillea millefolium	yarrow
Aesculus californica	California buckeye
Aira caryophllya	annual hairgrass
Alnus rhombifolia	white alder
Amsinckia menziesii	fiddleneck
Anagallis arvensis	scarlet pimpernel
Arctostaphylos manzanita	common manzanita
Arctostaphylos uva-ursi	bearberry manzanita
Artemisia douglasiana	mugwort
Asclepias fascicularis	narrowleaf milkweed
Aster chilensis	common aster
Avena barbata	slender wild oat*
Avena fatua	wild oat*
Baccharis pilularis	coyote brush
Bromus diandrus	ripgut brome*
Bromus hordeaceus	soft chess*
Carduus pycnocephalus	Italian thistle*
Carex barbarae	Santa Barbara sedge
Ceanothus cuneatus	wedgeleaf ceanothus
Centaurea solstitialis	yellow star-thistle*
Centaurium venustum	charming centaury
Cercis occidentalis	western redbud
Chlorogalum pomeridianum var. *pomeridianum*	soap plant
Cichorium intybus	chicory
Cirsium vulgare	bull thistle*
Conyza canadensis	horseweed

Scientific Name	Common Name
Cortaderia selloana	pampas grass*
Cynosurus echinatus	hedgehog dogtail grass
Cyperus eragrostis	umbrella nutsedge
Cytisus scoparius	Scotch broom*
Dactylis glomerata	orchard grass*
Eleocharis acicularis	needle spikerush
Elymus glaucus	blue wildrye
Epilobium ciliatum	hairy willow herb
Eremocarpus setigerus	doveweed
Erodium cicutarium	redstem filaree*
Festuca sp.	fescue
Ficus carica	edible fig*
Geranium dissectum	cutleaf geranium*
Glyceria declinata	waxy mannagrass*
Gnaphalium californicum	California cudweed
Grindelia camporum	common gumplant
Hedera helix	English ivy*
Heteromeles arbutifolia	toyon
Hirschfeldia incana	Mediterranean hoary mustard*
Hordeum murinum ssp. leporinum	hare barley*
Hypericum perforatum	Klamathweed*
Iris sp.	iris
Juncus balticus	Baltic rush
Juncus effusus	soft rush
Juncus mexicanus	Mexican rush
Juncus xiphioides	iris-leaved rush
Juniperus sp.	juniper
Lactuca serriola	prickly lettuce
Lathyrus latifolius	sweet pea

Scientific Name	Common Name
Lepidium virginicum	Virginia pepperweed
Leymus triticoides	creeping wildrye
Linum bienne	pale flax
Lolium multiflorum	Italian ryegrass*
Lotus argophyllus	silver birds foot trefoil
Lotus purshianus	Spanish lotus
Madia elegans	common madia
Marrubium vulgare	horehound*
Medicago polymorpha	bur clover*
Mentha spicata	spearmint
Monardella sp.	mustang mint
Paspalum dilatatum	dallis grass
Phalaris aquatica	Harding grass*
Pinus ponderosa	ponderosa pine
Pinus sabiniana	foothill pine
Plantago lanceolata	English plantain*
Polygonum hydropiper	common smartweed
Polygonum lapathifolium	willow smartweed
Polypogon monspeliensis	rabbitsfoot grass*
Populus fremontii ssp. *fremontii*	Fremont cottonwood
Quercus chrysolepis	canyon live oak
Quercus douglasii	blue oak
Quercus kelloggii	black oak
Quercus lobata	valley oak
Quercus wislizenii	interior live oak
Rhamnus sp.	coffeeberry
Robinia pseudoacacia	black locust*
Rorippa nasturtium-aquaticum	watercress
Rosa sp.	rose

Scientific Name	Common Name
Rubus armeniacus	Himalayan blackberry*
Rumex crispus	curly dock*
Salix laevigata	red willow
Salix lasiolepis	arroyo willow
Sonchus oleraceus	common sow thistle
Stephanomeria virgata	twiggy wreath plant
Symphoricarpos albus var. *laevigatus*	common snowberry
Taeniatherum caput-medusae	Medusahead*
Torilis arvensis	hedge-parsley*
Toxicodendron diversilobum	poison oak
Trifolium ciliolatum	foothill clover
Trifolium hirtum	rose clover
Typha angustifolia	narrowleaf cattail
Verbascum blattaria	moth mullein
Vicia villosa ssp. *varia*	winter vetch
Vinca major	periwinkle*
Vitis californica	California wild grape
Vulpia bromoides	brome fescue
Vulpia myuros	rattail fescue*
Xanthium strumarium	rough cocklebur

* Species are identified as invasive by Cal-IPC and/or CDFA.

Wildlife Species Observed in the Biological Study Area

Scientific Name	Common Name
Rana catesbeiana	American bullfrog
Pseudacris regilla	Pacific tree frog
Bufo boreas	Western toad
Actinemys marmorata	Western pond turtle
Agelaius phoeniceus	Red-winged blackbird
Anas platyrhynchos	Mallard
Aphelocoma californica	Western scrub jay
Ardea herodias	Great blue heron
Buteo lineatus	Red shouldered hawk
Callipepla californica	California quail
Cathartes aura	Turkey vulture
Colaptes auratus	Northern flicker
Meleagris gallopavo	Wild turkey
Pipilo maculatus	Spotted towhee
Sayornis nigricans	Black phoebe
Sialia mexicana	Western bluebird
Odocoileus hemionus	Black-tailed deer

Special-Status Species Identified as Having the Potential to Occur in the Biological Study Area

Common and Scientific Name	Status[a] Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Plants				
Jepson's onion *Allium jepsonii*	--/--/1B.2	Sierra Nevada foothills in Butte, El Dorado, Placer, and Tuolumne Counties	Serpentine or volcanic soils in chaparral, cismontane woodland, lower montane coniferous forest; 300–1,320 meters. Reported blooming period is Apr–Aug.	Moderate–potential habitat present in mixed oak forest, Ponderosa pine forest, and annual grassland, but suitable microhabitat (serpentine) may or may not be present. Occurs within ~5 mi. of study area.
Big-scale balsamroot *Balsamorhiza macrolepis* var. *macrolepis*	--/--/1B.2	Scattered occurrences in the Coast Ranges and Sierra Nevada foothills	Sometimes on serpentine soils in chaparral, cismontane woodland, valley and foothill grassland; 90–1,555 meters, Reported blooming period is Mar–Jun.	Moderate–potential habitat present in mixed oak forest and annual grassland. Historic occurrence within ~10 mi. of study area.
Stebbin's morning-glory *Calystegia stebbinsii*	E/E/1B.1	Northern Sierra Nevada foothills with reported occurrences in El Dorado and Nevada Counties	Serpentine or gabbroic soils in chaparral openings, cismontane woodland; 185–730 meters. Reported blooming period is Apr–Jul.	Low–potential habitat present in mixed oak forest, but suitable microhabitat (serpentine) may or may not be present and no occurrences within ~10 mi. of study area. No Gabbro soils present.
Pine Hill ceanothus *Ceanothus roderickii*	E/R/1B.2	Endemic to El Dorado County	Serpentine or gabbro soils in chaparral or cismontane woodland; 245–630 meters. Reported blooming period is Apr–Jun.	None–according to 2010 CNDDB, occurs only on Gabbro-derived soils. No occurrences within ~10 mi. of study area.

Common and Scientific Name	Status[a] Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Red Hills soaproot *Chlorogalum grandiflorum*	--/--/1B.2	Northern and central Sierra Nevada foothills in Amador, Placer, El Dorado, and Tuolumne Counties	Serpentine or gabbro soils in chaparral, lower montane coniferous forest, and cismontane woodland; 245–1,240 meters. Reported blooming period is May–Jun.	Moderate–potential habitat present in mixed oak forest, Ponderosa pine forest, and annual grassland, but suitable microhabitat (serpentine) may or may not be present. Occurs within ~10 mi. of study area. No Gabbro soils present.
Brandegee's clarkia *Clarkia biloba* ssp. *brandegeeae*	–/–/1B.2	Northern Sierra Nevada foothills from Butte to El Dorado Counties	Chaparral, cismontane woodland, often on roadcuts; 73–915 meters. Reported blooming period is May–Jul.	Moderate–potential habitat present in mixed oak forest and occurs within ~5 mi. of study area.
Butte County fritillary *Fritillaria eastwoodiae*	–/–/3.2	Sierra Nevada foothills from Shasta to El Dorado Counties	Chaparral, cismontane woodland, and openings in lower montane coniferous forest. Sometimes on serpentine between 50 and 1,500 meters. Reported blooming period is Mar–May.	Moderate–potential habitat present in mixed oak forest and Ponderosa pine forest. Serpentine may or may not be present. Occurs within ~5 mi. of study area.
El Dorado bedstraw *Galium californicum* ssp. *sierrae*	E/R/1B.2	Endemic to El Dorado County	On gabbroic soils in chaparral, cismontane woodland, lower montane coniferous forest; 100–585 meters. Reported blooming period is May–Jun.	None–not known to occur off Gabbro-derived soils on Pine Hill formation.

Common and Scientific Name	Status[a] Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Bogg's Lake hedge-hyssop *Gratiola heterosepala*	–/E/1B.2	Occurs in the inner north Coast Range, central Sierra Nevada foothills, Sacramento Valley, and the Modoc Plateau.	Clay soils in areas of shallow water, lake margins of swamps and marshes, vernal pool margins; 10–2,375 meters. Reported blooming period is Apr–Aug.	Low–manmade ponds in the project vicinity are low quality habitat and species does not occur within ~10 mi. of study area.
Bisbee Peak rush-rose *Helianthemum suffrutescens*	--/--/3.2	Amador, Calaveras, El Dorado, Mariposa, Sacramento and Tuolumne Counties	Chaparral openings, often on serpentinite, gabbro, or Ione soils; 45–840 meters. Reported blooming period is Apr–Jun.	None–no potential habitat present and not known to occur within ~10 miles of study area.
Parry's horkelia *Horkelia parryi*	--/--/1B.2	Northern and central Sierra Nevada foothills in Amador, Calaveras, El Dorado, and Mariposa Counties	Chaparral, or cismontane woodland openings, especially Ione formations; 80–1,035 meters. Reported blooming period is Apr–Jun (uncommonly Sep).	Moderate–potential habitat present in mixed oak forest. No Ione soils known from study area. Occurs within ~10 mi. of study area.
Dubious pea *Lathyrus sulphureus* var. *argillaceus*	--/--/3	Klamath Ranges, North Coast Ranges, Sierra Nevada in Calaveras, El Dorado, Nevada (status uncertain), Placer, Shasta, and Tehama Counties	Cismontane woodlands, lower and upper coniferous forests; 150–305 meters. Reported blooming period is Apr–May.	Low–potential habitat present in mixed oak forest and Ponderosa pine forest, but elevation of study area is substantially higher than elevation range of species and not known to occur within ~10 mi. of study area.

Common and Scientific Name	Status[a] Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Layne's ragwort *Packera layneae*	T/R/1B.2	Northern Sierra Nevada foothills, Butte, El Dorado, Tuolumne, and Yuba Counties	Rocky serpentinite or gabbro soils in chaparral and foothill woodland; 200–1,000 meters. Reported blooming period is Apr–Aug.	Moderate–potential habitat present in mixed oak forest but suitable microhabitat (serpentine) may or may not be present. Occurs within ~10 mi. of study area. No Gabbro soils present.
Sierra bluegrass *Poa sierrae*	--/--/1B.3	Butte, El Dorado, Nevada, Plumas, and Shasta Counties	Lower montane coniferous forests; 365–1,500 meters. Reported blooming period is Apr–Jun.	Moderate–potential habitat present in Ponderosa pine forest. Occurs within ~10 mi. of study area.
Tahoe yellow-cress *Rorippa subumbellata*	C/E/1B/.1	Lake Tahoe Basin: El Dorado, Nevada*, and Placer Counties; also adjacent Nevada	Lower montane coniferous forest, meadows and seeps, on decomposed granitic beaches; 1,895–1,900 meters. Reported blooming period is May–Sep.	None–no granite beaches present and study area elevation is substantially lower than species' elevation range. Not known to occur within ~10 mi. of study area.
Oval-leaved viburnum *Viburnum ellipticum*	--/--/2.3	Northwest California, San Francisco Bay Area, northern and central Sierra Nevada foothills in Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Mendocino, Napa, Placer, Shasta, and Sonoma Counties; Oregon, Washington	Chaparral, cismontane woodland, and lower montane coniferous forest; 215–1,400 meters. Reported blooming period is May–Jun.	Moderate–potential habitat present in mixed oak forest and Ponderosa pine forest. Occurs within ~5 mi. of study area.

Common and Scientific Name	Status[a] Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
El Dorado County mule ears *Wyethia reticulata*	--/--/1B.2	Endemic to El Dorado County	On clay, serpentine, or gabbro soils in chaparral, cismontane woodland, and lower montane coniferous forest; 185–630 meters. Reported blooming period is Apr–Aug.	Moderate–potential habitat present in mixed oak forest and Ponderosa pine forest. Serpentine may or may not be present. Not known to occur within ~10 mi. of study area.
Invertebrates				
Vernal pool fairy shrimp *Branchinecta lynchi*		Central Valley; central and south Coast Ranges from Tehama County to Santa Barbara County; isolated populations also in Riverside County	Common in vernal pools; also found in sandstone rock outcrop pools	**No**. No suitable habitat exists within the project area or vicinity.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/--	Riparian and oak woodland habitats below 3,000 feet throughout the Central Valley and surrounding foothills	Riparian and oak savanna habitats with elderberry shrubs, which are the host plant	**No**. Habitat for this species was not observed within 100 feet of the study area.
Fish				
Delta smelt *Hypomesus transpacificus*	T/T	Are found only from the Suisun Bay upstream through the Delta in Contra Costa, San Joaquin, Sacramento, Solano, and Yolo Counties.	Are found in euryhaline waters of the Delta. Spawn in tidally influenced backwater sloughs and channel edgewaters	**No**. Outside of known range for the species.

Common and Scientific Name	Status[a] Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Central Valley steelhead *Oncorhynchus mykiss*	T/--	Sacramento and San Joaquin River and their tributaries.	An anadromous fish that spawns and spends a portions of its life in inland streams, typically maturing in the open ocean.	**No.** Migratory barrier approximately 11 miles downstream of the project.
Central Valley spring-run Chinook salmon *Oncorhynchus tshawytscha*	T/T	Sacramento and San Joaquin River and their tributaries.	An anadromous fish that spawns and spends a portions of its life in inland streams, typically maturing in the open ocean.	**No.** Migratory barrier approximately 11 miles downstream of the project.
Winter-run Chinook salmon, Sacramento River *Oncorhynchus tshawytscha*	E/E	Sacramento River and its tributaries.	An anadromous fish that spawns and spends a portions of its life in inland streams, typically maturing in the open ocean.	**No.** Migratory barrier approximately 11 miles downstream of the project.
Amphibians				
California red-legged frog *Rana draytonii*	T/SSC	Historic range extended along the coast from the vicinity of Point Reyes National Seashore in Marin County, and inland from Shasta County south to Baja California. Current known distribution is along the coast from Marin County south to Los Angeles County (with inland populations in San Bernardino and Riverside Counties), the inner Coast Range from Tehama County south to eastern San Luis Obispo County, and in the Sierra Nevada from Butte County south to Tuolumne County.	Permanent and semi-permanent aquatic habitats, such as creeks and coldwater ponds, with emergent and submergent vegetation and riparian species along the edges; may estivate in rodent burrows or cracks during dry periods	**Moderate**. Suitable habitat is present within the project area. Nearest recorded occurrence is approximately 14 miles northeast of the project area (CNDDB 2010).

Common and Scientific Name	Status[a] Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Foothill yellow-legged frog *Rana boylii*	--/SSC	Occurs in the Klamath, Cascade, north Coast, south Coast, Transverse, and Sierra Nevada Ranges up to approximately 6,000 feet	Creeks or rivers in woodlands or forests with rock and gravel substrate and low overhanging vegetation along the edge; usually found near riffles with rocks and sunny banks nearby instream pools for breeding and refuge.	**Moderate**. Streams in project area represent suitable habitat for this species. There are several occurrences of this species within 5 miles of the project area (CNDDB 2010).
Reptile				
Western pond turtle *Actinemys marmorata*	--/SSC	The western pond turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries.	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests	**High**. Suitable habitat is present within the project area. An unidentified turtle was observed in WWTP Pond #3 and the streams crossed by the pipeline represent potential habitat for this species.
California horned lizard *Phrynosoma coronatum frontale*	--/SSC	Sierra Nevada foothills from Butte County to Kern County and throughout the central and southern California coast, typically below 4,000 feet in the Sierra Nevada foothills.	Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging	**Moderate**. Suitable habitat is present in the project area. There are recorded occurrences of this species approximately 6-7 miles north of the project area (CNDDB 2010).

Common and Scientific Name	Status[a] Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Birds				
Tricolored blackbird (nesting colony) *Agelaius tricolor*	--/SSC	Largely endemic to California; permanent residents in the Central Valley from Butte County to Kern County; at scattered coastal locations from Marin County south to San Diego County; breeds at scattered locations in Lake, Sonoma, and Solano Counties; rare nester in Siskiyou, Modoc, and Lassen Counties	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields; nesting habitat must be large enough to support 50 pairs; probably requires water at or near the nesting colony; requires large foraging areas, including marshes, pastures, agricultural wetlands, dairies, and feedlots, where insect prey is abundant	**Low.** Though there are areas of dense cattails in the project area (e.g. WWTP pond) these areas are not large enough to support large colonies of tri-colored blackbirds and lack nearby large foraging areas. The nearest recorded occurrence is more than 10 miles from the project area (CNDDB 2010).
White-tailed kite (nesting) *Elanus leucurus*	--/FP	Lowland areas west of Sierra Nevada from head of Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging	**Low.** The project area is outside of the typical elevational range of the species and lacks open grassland areas where this species typically forages. The nearest recorded occurrence of this species is approximately 10 miles southwest of the project area (CNDDB 2010).

Common and Scientific Name	Status[a] Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Bald eagle *Haliaeetus leucocephalus*	D/E	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin; reintroduced into central coast; winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County	In western North America, nests and roosts in coniferous forests within 1 mile of large bodies of water(lake, reservoir, river, or the ocean)	**Low**. The nearby Lake Theodore is atypical nesting location for bald eagle, though could be occupied wintering habitat. The nearest recorded occurrence is more than 10 miles from the project area (CNDDB 2010).
California black rail *Laterallus jamaicensis coturniculus*	--/T	Permanent resident in the San Francisco Bay and east-ward through the Delta into Sacramento and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties	Tidal salt marshes associated with heavy growth of pickleweed; also occurs in shallow brackish marshes or freshwater marshes at low elevations	**Low**. There is no suitable habitat in the project area. The nearest recorded occurrence is more than 10 miles from the project area (CNDDB 2010).
Purple martin *Progne subis*	--/SSC	Coastal mountains south to San Luis Obispo County, west slope of the Sierra Nevada, and northern Sierra and Cascade ranges. Absent from the Central Valley except in Sacramento. Isolated, local populations in southern California	Nests in abandoned woodpecker holes in oaks, cottonwoods, and other deciduous trees in a variety of wooded and riparian habitats. Also nests in vertical drainage holes under elevated freeways and highway bridges	**Low**. There is suitable nesting habitat for this species within the project area; however there are no recorded occurrences within 10 miles of the project area and the only known nesting occurrences in the greater Sacramento region and foothills are in highway overpasses (CNDDB 2010).

Common and Scientific Name	Status[a] Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Mammals				
Townsend's big-eared bat *Corynorhinus townsendii*	--/SSC	Widespread throughout California.	Roosts in caves, tunnels, mines, crevices, hollow trees, and buildings; usually near water.	**Moderate.** There is suitable habitat within the project area. The nearest recorded occurrence for this species is approximately 8 miles southwest of the project area (CNDDB 2010).
Pacific fisher *Martes pennanti (pacifica)*	C/SSC	Coastal mountains from Del Norte County to Sonoma Counties, east through the Cascades to Lassen County, and south in the Sierra Nevada to Kern County, typically above 3,000 feet.	Large areas of intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Use cavities, snags, logs, and rocky areas for cover and denning.	**Low.** Habitat within the project area is limited and the project area is below the typical elevational range of this species. The nearest recorded occurrence is approximately 8 miles northeast of the site and was reported in 1973.

[a] Status definitions:

Federal

E = listed as endangered under the federal Endangered Species Act (ESA)
T = listed as threatened under the federal Endangered Species Act (ESA)
D = de-listed
– = no listing

State

E = listed as endangered under the California Endangered Species Act
T = listed as threatened under the California Endangered Species Act
R = listed as rare under the California Endangered Species Act
SSC = species of special concern in California
FP = fully protected under the California Fish and Game Code
– = no listing

California Native Plant Society (CNPS)

1B = List 1B species: rare, threatened, or endangered in California and elsewhere
2 = List 2 species: rare, threatened, or endangered in California, but more common elsewhere
3 = List 3 species: plants about which more information is needed to determine their status

.1 = seriously endangered in California
.2 = fairly endangered in California
.3 = not very endangered in California

[b] Under petition for federal listing under the ESA. Species under petition are required to be actively considered by USFWS for elevation to proposed endangered or threatened status.

The determinations of the potential for each species to occur are generally based on the following criteria:

High: Known occurrence of plant in region from Natural Diversity Data Base, or other documents in the vicinity of the project; or presence of suitable habitat conditions and suitable microhabitat conditions.

Moderate: Known occurrence of plant in region from Natural Diversity Data Base, or other documents in the vicinity of the project; or presence of suitable habitat conditions but suitable microhabitat conditions are not present.

Low: Plant not known to occur in the region from the Natural Diversity Data Base, or other documents in the vicinity of the project; or habitat conditions of poor quality.

None: Plant not known to occur in the region from the Natural Diversity Data Base, or other documents in the vicinity of the project; or suitable habitat not present in any condition.

Appendix D. Department of Parks and Recreation Forms

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z

Other Listings _____
Review Code _____ Reviewer _____ Date _____

 ***Resource Name or #** (Assigned by recorder) 15730/ 15732/ 15735 Lake Arthur Road

P1. Other Identifier: Map Reference #1
***P2. Location:** ☐ **Not for Publication** ☐ **Unrestricted** ***a. County** Placer
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Auburn **Date** 1953 Photorevised 1981 **T** 13N; **R** 9E; __ ¼ **of Sec** 19; _____ **B.M.**
c. Address 15730/ 15732/ 15735 Lake Arthur Road City Applegate Zip 95703
d. UTM: (give more than one for large and/or linear resources) Zone _____; _____mE/ _____mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
APN: 077-120-052
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

A residential compound is located at 15730 Lake Arthur Road, at the southwest intersection of Lake Arthur and Placer Hills Roads. The property consists of three single family residences, an outbuilding, and two sheds situated on a 1.6-acre parcel. Landscaping on the property consists of a lawn with large trees and shrubbery surrounding the buildings and throughout the property.

The complex is situated on a remnant parcel created by the Division of Highways (now Caltrans) when it built the widened and realigned U.S. 40 (now Interstate 80) between 1949 and 1951. The northern eastern edge of the parcel is Placer Hills Road, which also serves as the Clipper Gap overpass over I-80. The eastern edge of the parcel is the westbound on-ramp for I-80, which is heavily bermed; the residential complex is sheltered by that high berm. The western edge of the parcel is Lake Arthur Road. There was a Lake Arthur Road before the Interstate was built but it was realigned and widened when the Interstate was constructed. (See continuation sheet).

***P3b. Resource Attributes:** (List attributes and codes) HP-3, Multiple Family Property
***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) 15730 Lake Arthur Road, camera facing northeast, September 23, 2010

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
ca. 1889, ca. 1915, ca. 1930

***P7. Owner and Address:**
Ronald L. and Doris C. Bailey
461 Julie Way
Applegate, CA 95703

***P8. Recorded by:** (Name, affiliation, address)
K. Haley/ S. Mikesell
ICF
630 K Street, Suite 400
Sacramento, CA 95814

***P9. Date Recorded:** 9/23/10 and 4/8/11

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") ICF. 2011. Cultural Resources Inventory Report. *Applegate Wastewater Treatment Plant Closure and Pipeline Project. Placer County, California*. April. (ICF 00201.08) Sacramento, CA. Prepared for Placer County Department of Facilities Services, Placer County, CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

B1. Historic Name: N/A
B2. Common Name: N/A
B3. Original Use: Residence B4. Present Use: Residence
***B5. Architectural Style:** Italianate
***B6. Construction History:** (Construction date, alteration, and date of alterations) ca. 1889, ca. 1915, ca. 1930

***B7. Moved?** ☒ **No** ☐ **Yes** ☐ **Unknown** **Date:** _____ **Original Location:** _____
***B8. Related Features:** N/A

B9. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** Community Development **Area** Applegate
Period of Significance ca. 1889 **Property Type** Residential **Applicable Criteria** C
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

This property does not appear to meet the criteria for listing in the National Register of Historic Places because it lacks integrity. It is an improbable collection of three residences from very different period of construction: ca. 1889; ca. 1915; and ca. 1930, joined by more recently constructed buildings. The oldest home is original to this site; the other buildings may have been moved here. The real loss of integrity, however, relates to the freeway berms that dominate two of four sides of the parcel, and detract significantly from the integrity of setting, feeling, and association for this property.

This property is located in an area known as Clipper Gap; a community that grew with construction of the transcontinental railroad in the mid 1860s. Clipper Gap is a place name today but it was a small community with a railroad station, post office, and other signs of community in the 19th and early 20th centuries. For various reasons, the property around Clipper Gap developed into an industrial zone, although some agricultural developed in the area as well. In 1880, for example, a San Francisco company opened an iron mine "about three and a half miles" from the Clipper Gap station.[1]
(See continuation sheet).

(Sketch Map with north arrow required.)

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:** See footnotes

B13. Remarks:

***B14. Evaluator:** S. Mikesell

***Date of Evaluation:** April 11, 2011

(This space reserved for official comments.)

[1] San Francisco Chronicle, July 27, 1880. W. B. Lardner and M. J. Brock, *History of Placer and Nevada Counties* Los Angeles, 1924, p. 197.

*P3a. Description (cont'd):

A single family, two story Italianate residence is located at the center of the property. The asymmetrical-plan residence is supported by a concrete perimeter foundation and features a medium pitched pyramidal hipped roof which forms short closed eaves with slight overhang. The roof is clad with diagonally laid shingles. The residence is sided in horizontal clapboards. A single story full length porch under a hipped roof extension covered with diamond pattern shingles is located on the south elevation, (main façade). The porch with squared wood column supports and half wall enclosures clad with narrow horizontal wood siding is topped with a wood balustrade. A single story porch with wood supports is located on the north side of the residence. The north-side porch features a single entry door fronted by a security door accessed by wood steps. Fenestration on the residence consists of original wood 2/2 sash units with plain lintel throughout. A narrow brick chimney is located at the roof slope. County assessor records give an "effective date" of 1922 but reliable documentation about the building indicates it was built in 1889.

A second residence is located northwest of the main residence. It is a single story building with a medium pitched cross gabled roof clad with composition material. Fenestration on the residence appears to be replacement vinyl and a louvered vent is located at the gable on the south elevation. This building is given an "effective date of 1923" by the County Assessor. It is a Craftsman-designed home, indicating a likely date of construction in the years just before World War I.

A third residence is located on the property, northwest of the main residence. The building is supported by a concrete perimeter foundation and features a medium pitched gabled roof which forms short eaves on the eave walls. The roof is clad with corrugated metal cladding. The residence walls are sheathed with clapboard siding. An entry is visible on the east elevation, accessed by full-width concrete steps. Visible fenestration appears to be original wood sash with plain lintel. An air conditioning unit is affixed to the window on the south elevation. County records offer a date of 1930 for this building, which may be accurate, given the Minimal Traditional design of the building.

A shed is located on the property, northwest of the main residence. The shed has a medium pitched gabled roof which forms short closed eaves and is covered with horizontally laid tile shingles. The shed walls are clad with clapboard siding. A louvered vent is located at the gable on the east elevation.

A small wood outbuilding and small wood shed are located on the property. The shed features materials consistent with those on the second residence. County records indicate one of these buildings was constructed in 1969.

*B10. Significance (cont'd):

A 1915 map of land ownership in Placer County provides a snapshot of industrial uses in the vicinity of the Clipper Gap railroad station. Pacific Portland Cement Company owned several section of land south and east of the station. Pacific Gas and Electric Company owned several large parcels just north of Clipper Gap. The land now occupied by this property on Lake Arthur Road was owned by the Giant Powder Company. It appears the powder company owned about 120 acres, including nearly all of the northwest quarter of Section 19 (where this property is located) and most of the southwest quarter of Section 18.

The Giant Powder Company was headquartered, first in San Francisco, then in Berkeley, before moving to Richmond in 1892. It left San Francisco and Berkeley following explosions at its facility, leading it to relocate to an isolated spot at Giant Avenue on Point Pinole in Richmond, the site of which is California Historical Landmark 1002-1. Landmark 1002 is the spot in San Francisco in Glen Canyon Park, the first dynamite factory that blew up a year after it had been built.[2] Giant is generally recognized as the first manufacturer of dynamite in the United States.

George Lay, past president of the Placer County Historical Society, argues the Giant Powder Company operated at Clipper Gap between 1889 and 1917.[3] He maintains that there were many explosions at the plant, resulting in death of many people working at the plant.

[2] California State Parks, California Historical Landmarks, 1996.

[3] Placer-Sierra Railroad Heritage Society Newsletter, May 2008, p. 2.

The oldest house at the Lake Arthur Road parcel – the two story Italianate structure – is directly related to the operations of the Giant Powder Company operations in Clipper Gap. As noted, the company was headquartered in the Bay Area but was likely under some pressure to move some or all of its manufacturing plant to a more remote location, owing to the high potential for deadly explosions at a dynamite plant. In the late 1880s, the company decided to open an auxiliary plant in Placer County which could supplement but not replace work at the main plant in Richmond.

The company hired a 24-year old from Ohio, Walter H. Gaffett, to design, build, and operate the Placer County plant. He selected Clipper Gap and began constructing various components of the mill in 1889.[4] This included a bunkhouse where the workers lived, a company office, and the manufacturing plant, or mill. A final piece of construction there was the Gaffett House, which is the two-story home on Lake Arthur Road.

A photograph from the early 20th century shows the house and the mill property, included in a history of the small communities in central Placer County. The photograph shows the powder mill a short distance west of this house, along Lake Arthur Road. In another photograph in a 2005 article in the *Auburn Journal*, however, the newspaper attempts to overlay modern roads on a 1906 photograph. It indicates the bulk of mill operations were to the north along Placer Hills Road, not along Lake Arthur Road. Both photographs could be accurate because the powder company owned several hundred acres and there were good reasons to separate the operations from one another.

The powder mill operated episodically between the late 1880s and about 1917. There were problems with explosions. One local historian maintains there was one big explosion in 1891, shortly after the plant opened, killing three men. Another accident a year later killed two. A third blast occurred in 1895, killing one.[5] The plant was also idled by a series of lawsuits involving Giant, Atlas, and Hercules, all California producers of dynamite, and the DuPont Company, which tried to shut them down for patent infringements. Agnes Mace, Walter Gaffett's daughter, contends the plant was idle between 1900 and about 1910, then reopened between 1910 and 1917 before it was closed permanently.[6]

Local press accounts say the plant was dismantled almost immediately after the plant closed in 1917. [7] The history of this parcel is less well-documented from the period between the 1917 closure of the mill and the late 1940s construction of what is now Interstate 80.

The construction of the interstate spared the house but profoundly affected its setting. Before 1949, Lake Arthur was a through road, passing directly in front of this house and continuing east under what is now Interstate 80. A stub of the Old Lake Arthur alignment now serves as a drive way connecting this property with the realigned Lake Arthur. The other road in the area was Meadow Vista Road, now essentially displaced by Placer Hills Road. The new Placer Hills Road forms the north border for this parcel. The realigned and widened Lake Arthur Road forms the west side of the parcel and the westbound on ramp for Interstate 80 forms the east side of the parcel.

In summary, Interstate 80 and improvements to local roads to serve as overcrossings realigned all sides of the 1.6 acre parcel on which these houses sit. It was not a simple realignment because the realigned roads were made part of the raised overcrossing. The Clipper Gap overcrossing is Placer Hills Road and it is a huge berm, much taller than the tops of the two-story Gaffett House. The westbound on ramp, which forms the east boundary of the property is the same height as the overcrossing. The realigned Lake Arthur Road is at its original grade but is so wide as to be out of keeping with the property. Only the old Lake Arthur Road to the south is in keeping with the setting for this home, but it operates like a driveway, leading to the house before dead-ending into the westbound onramp.

[4] Donna Howell, *Prose for Posterity: Placer Hills school distract communities: Applegate, Christian Valley, Clipper Gap, Meadow Vista, Weimar,* 2001. This is a privately published book sold by the Placer County Historical Society. Howell's information on Gaffett is documented in letters from Gaffett's daughter. Agnes Mace.

[5] Bill G. Wilson, *Gold and Schemes and Unfulfilled Dreams*, Placer County Historical Museum 2003, pp. 353-354.

[6] Howell, p. 50.

[7] Tom Coghlan, "Explosive History," *Auburn Journal*, April 6, 2005.

The changes to the setting associated with the Interstate construction are well-documented. It appears that the setting has also been modified through the addition of several generations of other buildings on the parcel, in addition to the Gaffett home. Documentation has not been found to substantiate the point but it is likely that the 1915 and 1930 homes were added to this parcel well after the plant shut down in 1917.

On balance, taking into account the known changes to the setting from freeway construction and the visible changes to the setting from the 1915 and 1930 homes, it is concluded that the building and its parcel do not retain sufficient integrity to warrant listing in the National Register of Historic Places. The current owner, Doris Bailey, told a reporter for the Auburn Journal that the home was worth saving but she would never live in it because, "The character was spoilt when the y built the roads all around it." [8] Mrs. Bailey's comments neatly summarize why the property is not eligible for listing in the National Register.

Additionally, the property was evaluated in accordance with Section 15064.5(a) (2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and determined to not be a historical resource for the purposes of CEQA.

Photographs (cont'd):

Photograph 2: Residence 1, camera facing northeast

[8] Tom Coghlan, "Explosive History," *Auburn Journal*, April 6, 2005.

Photographs (cont'd):

Photograph 3: Residence 2 (far left), Residence 3 (right) and shed (center), camera facing north

Photograph 4: Residence 2, Residence 3 and shed, camera facing north

Photographs (cont'd):

Photograph 5: Main residence and berms, camera facing northeast

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z

Other Listings _____
Review Code _____ Reviewer _____ Date _____

***Resource Name or #** (Assigned by recorder) Boardman Canal Segment

P1. Other Identifier: Map Reference # 2

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Placer

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Auburn **Date** 1953/PR 1981 **T**13N; **R** 9E; __ ¼ **of Sec** 17; _____ **B.M.**

c. Address N/A City Applegate Zip 95703

d. UTM: (give more than one for large and/or linear resources) Zone 10; 0672638 mE/ 4316539 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

An approximately 200 foot segment of the Boardman Canal (which extends through Placer County from the Cedar Creek Canal in Alta to Rocklin), is located in a rural portion of Applegate, in Placer County. Specifically, the subject segment extends north and south of Applegate Road, between Fairidge Drive on the east and Cheryl Lane on the west. The subject canal segment runs under Applegate Road. The Boardman Canal receives water from the Yuba and Bear River systems, located north of the subject segment. Water travels in a southwest direction.

The southeastern portion of the subject Boardman Canal segment (east of Applegate Road) is earthen in parts and lined with concrete in other parts. Much of the concrete has broken down or is cracked and is covered with overgrown riparian vegetation. This portion of the canal is approximately 3 feet deep and 6 feet wide at the top to 4 to 5 feet wide at the bottom. A contemporary concrete pump structure is located adjacent to the canal on the east side of the canal. It has a flat roof clad with composition material with pipes coming out of it and into the canal. A concrete bridge structure allows the canal to travel under the road. The northwestern portion of the subject canal segment (west of Applegate Road) is earthen lined and nearly covered by riparian vegetation. This portion of the canal segment is approximately 3 feet deep and is 3-4 feet wide.

***P3b. Resource Attributes:** (List attributes and codes) HP-20, Canal/ Aqueduct

***P4. Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) Boardman Canal Segment, camera facing northwest, September 23, 2010

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
ca. 1870 Placer County Water Agency; JRP Historical Consulting Services and Caltrans 2000

***P7. Owner and Address:**
Placer County Water Agency
P.O. Box 6570 Auburn, CA 95604

***P8. Recorded by:** (Name, affiliation, address)
Kathryn Haley
ICF International
630 K Street, Suite 400
Sacramento CA 95608

***P9. Date Recorded:** September 23, 2010

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") ICF. 2011. Cultural Resources Inventory Report. *Applegate Wastewater Treatment Plant Closure and Pipeline Project. Placer County, California*. April. (ICF 00201.08) Sacramento, CA. Prepared for Placer County Department of Facilities Services, Placer County, CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) Boardman Canal Segment

B1. Historic Name: Boardman Canal
B2. Common Name: Boardman Canal
B3. Original Use: Water Conveyance B4. Present Use: Water Conveyance
***B5. Architectural Style:** N/A
***B6. Construction History:** (Construction date, alteration, and date of alterations) ca.1890 continuous maintenance and upgrades.

***B7. Moved?** ☒ **No** ☐ **Yes** ☐ **Unknown** **Date:** _____ **Original Location:** _____
***B8. Related Features:** N/A

B9. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** Water Conveyance Development **Area** Applegate
Period of Significance ca. 1870 **Property Type** Hydroelectric and Irrigation canal feeder **Applicable Criteria** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The subject segment of the Boardman Canal does not appear to be eligible for listing in the NRHP due to a lack of historic integrity to its period of significance, ca. 1870 the year it was likely initially constructed.

The Boardman Canal is one of the largest canals in Placer County. Portions of this canal are listed in the NRHP. The canal was originally constructed in the early 1870s, for agricultural irrigation purposes (Angel 1882: 370). By the late 1800s the canal was owned and operated by the South Yuba Water Company and subsequently sold to PG&E in the early part of the 20th century. Both companies used the canal for hydroelectric power generation. In the 1980s PCWA took over ownership of a significant portion of PG&E's Placer County's water conveyance system in which the Boardman Canal is a part (Coleman 1952:229; Myer 2002:102; PCWA Update 1994; Placer County Water Agency 2005). (See Continuation Sheet).

(Sketch Map with north arrow required.)

See Location Map

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:** See Cultural Resources Inventory for full citations.

B13. Remarks:

***B14. Evaluator:** Kathryn Haley

***Date of Evaluation:** April 14, 2011

(This space reserved for official comments.)

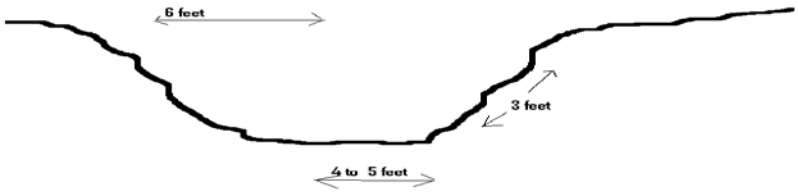
L1. Historic and/or Common Name: Boardman Canal Segment
L2a. Portion Described: ☐ Entire Resource ☒ Segment ☐ Point Observation **Designation:**
b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map.)
Zone 10; 0672638 mE/ 4316539 mN
Zone 10; 0672630 mE/ 4316559 mN

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)
An approximately 200 foot segment of the Boardman Canal is located north and south of Applegate Road, between Fairidge Drive on the east and Cheryl Lane on the west. The subject canal segment runs under Applegate Road. The segment is earthen lined with portions covered with broken concrete, and rock. Overall the segment is surrounded by overgrown riparian vegetation.

L4. Dimensions: (In feet for historic features and meters for prehistoric features)
a. Top Width: Approx 6 ft
b. Bottom Width: Approx 4 to 5 ft
c. Height or Depth: Approx 3 ft
d. Length of Segment: 200 ft

L5. Associated Resources: N/A

L4e. Sketch of Cross-Section (include scale) Facing: southeast



L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.): The Boardman Canal segment travels in a north/south direction and extends under Applegate Road. The canal is located in a rural area of Placer County, just south of the town of Applegate. Riparian vegetation surrounds the canal segment.

L7. Integrity Considerations: Concrete gunite over the original earthen lining along with the addition of the contemporary pumping structure.

L8b. Description of Photo, Map, or Drawing (View, scale, etc.) Photograph 2, Pump, camera facing southeast

L9. Remarks:

L10. Form Prepared by: (Name, affiliation, and address)
Kathryn Haley
ICF International
600 K Street, Suite 300
Sacramento, CA, 95608

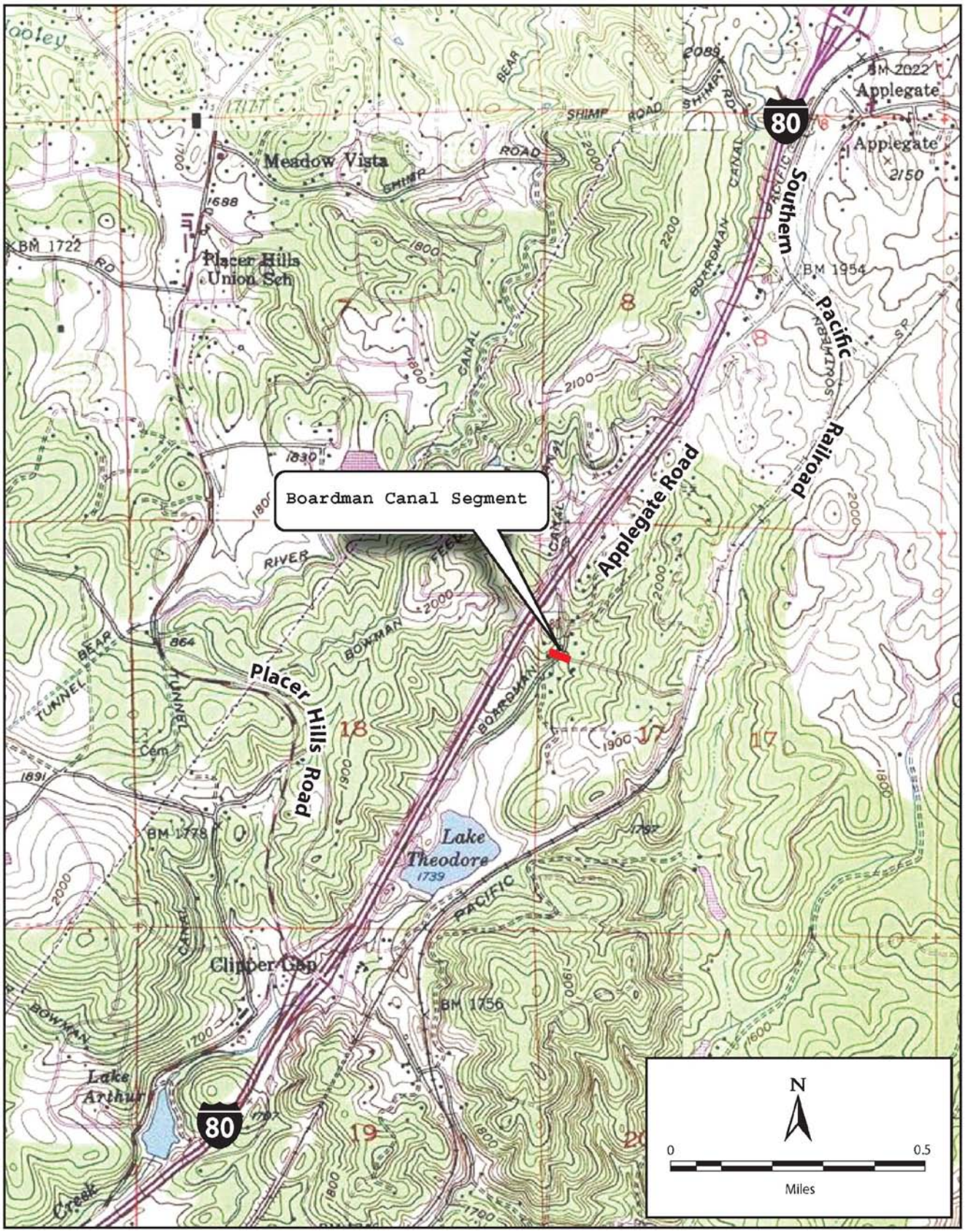
L11. Date: April 2011

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

 ***Resource Name or #:** Boardman Canal Segment

***Map Name:** Auburn 7.5′ USGS ***Scale:** 1:24,000 ***Date of Map:**1953/PR 1981



***B10. Significance:**

The subject segment of the Boardman Canal appears to have been in continuous use since ca. 1870. It has been modified over the years to ensure its functionality to convey water for irrigation and hydroelectric power. Consequently, the segment of the canal has lost integrity to its period of significance due to alterations including the addition of gunite, and metal piping (under Applegate Road). Considering that the segment crosses under Applegate Road it is also highly likely that it was modified as a result of road construction related to the construction of and improvements to Applegate Road (formally part of the Lincoln Highway and Highway 40). From the standpoint of water system engineering, the canal segment is not distinct or exceptional; rather it was constructed in a manner common to canals throughout the state. The canal segment therefore does not appear to meet NRHP Criterion C. Overall, due to its loss of integrity, the segment of the Boardman Canal does not appear to meet criteria for listing in the NRHP.

Additionally, the property was evaluated in accordance with Section 15064.5(a) (2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and determined not to be a historical resource for the purposes of CEQA.

Photographs (cont'd):

Photograph 3: Applegate Road, Canal segment travels under the road. Camera facing northeast

Photographs (cont'd):

Photograph 4: Applegate Road and Boardman Canal Segment, camera facing south

Photograph 5: Boardman Canal Segment from Applegate Road, camera facing northwest

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z

Other Listings _____
Review Code _____ Reviewer _____ Date _____

***Resource Name or #** (Assigned by recorder) Boardman Canal Feeder Segment

P1. Other Identifier: Map Reference # 3

***P2. Location:** ☐ **Not for Publication** ☐ **Unrestricted** ***a. County** Placer

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Auburn **Date** 1953 PR 1981 **T**13N; **R** 9E; __ ¼ **of Sec** 8; _____ **B.M.**

c. Address N/A City Applegate Zip 95703

d. UTM: (give more than one for large and/or linear resources) Zone __10S__; __0673222__mE/ __4317619__mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The subject canal appears to be a feeder or overflow structure related to the Boardman canal. It is located in a rural area in Applegate, in Placer County. Specifically, the Feeder segment is located just east of Applegate Road and west of Bon Vue Road. Generally, the Feeder segment travels in a north/south direction. The subject canal segment is approximately 200 feet long and enclosed by a chain length fence. Directly adjacent to the canal is a contemporary CMU building and large water tank which appears to be a PCWA facility. This segment has a top width of approximately 6 to 5 feet, a bottom width of approximately 4 to 3 feet, and 3 feet deep. The segment is completely lined within gunite. A metal pipe measuring approximately 3 feet in diameter and a metal gate that spans the width of the segment are located at the northeast end of the segment. At that point it appears that the canal runs underground, under Applegate Road and under Interstate 80.

***P3b. Resource Attributes:** (List attributes and codes) HP-20, Canal/ Aqueduct

***P4. Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) Boardman Canal Feeder Segment, camera facing west, September 23, 2010

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
Ca. 1890, Placer County Water Agency; JRP Historical Consulting Services and Caltrans 2000

***P7. Owner and Address:**
Placer County Water Agency
P.O. Box 6570
Auburn, CA 95604

***P8. Recorded by:** (Name, affiliation, address)
Kathryn Haley
ICF International
630 K Street, Suite 400
Sacramento CA 95608

***P9. Date Recorded:** September 23, 2010

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") ICF. 2011. Cultural Resources Inventory Report. *Applegate Wastewater Treatment Plant Closure and Pipeline Project. Placer County, California*. April. (ICF 00201.08) Sacramento, CA. Prepared for Placer County Department of Facilities Services, Placer County, CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) Boardman Canal Feeder Segment

B1. Historic Name: Boardman Canal
B2. Common Name: Boardman Canal
B3. Original Use: Water Conveyance B4. Present Use: Water Conveyance
***B5. Architectural Style:** N/A
***B6. Construction History:** (Construction date, alteration, and date of alterations) ca. 1890; lined with concrete gunite and metal pipe added, dates unknown.

***B7. Moved?** ☒ **No** ☐ **Yes** ☐ **Unknown** **Date:** _____ **Original Location:** _____
***B8. Related Features:** N/A

B9. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** Water Conveyance Development **Area** Applegate
Period of Significance ca. 1890 **Property Type** canal **Applicable Criteria** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

In 1996, Jones & Stokes Associates recorded and evaluated this canal segment as part of the *Archaeological Reconnaissance of the Proposed Applegate Water System Project* (see attached DPR). At that time it was given the Primary number P-31-2448-H. In this recordation the canal was documented as an overflow canal to the Boardman Canal which dated to the 1890s. Portions of Boardman Canal are listed in the NRHP. This segment was recommended as a contributing element of the Boardman Canal System. It appears that since 1996 the structure has undergone significant alterations to its setting including the addition of a contemporary building and water tank. It is inconceivable that the structure which is completely lined in concrete gunite and has a metal pipe which helps to extend the canal under Applegate Road retains any integrity of construction method, setting, feeling, or workmanship related to its period of significance ca. 1890. Consequently, the feeder/overflow structure related to the Boardman canal does not appear eligible for listing in the NRHP individually or as a contributing element to the Boardman Canal system.

Additionally, the property was evaluated in accordance with Section 15064.5(a) (2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and determined not to be a historical resource for the purposes of CEQA.

(Sketch Map with north arrow required.)

See Location Map

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:** See Cultural Resources Inventory for full citations.

B13. Remarks:

***B14. Evaluator:** K. Haley, ICF International

***Date of Evaluation:** April 14, 2011

(This space reserved for official comments.)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LINEAR FEATURE RECORD

Primary # _____
HRI # _____
Trinomial

 ***Resource Name or #** (Assigned by recorder) Boardman Canal Feeder Segment
***Recorded by** K. Haley/ M. Beneli, ICF *Date September 23, 2010 ☒ Continuation ☐ Update

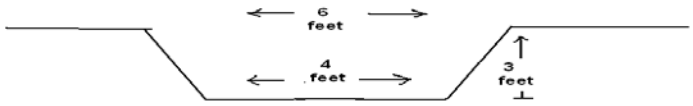
L1. Historic and/or Common Name: Boardman Canal Feeder
L2a. Portion Described: ☐ Entire Resource ☒ Segment ☐ Point Observation **Designation:**
b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map.) Zone 10S ; 0673222 mE/ 4317619 mN

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)
An approximately 200 foot segment of the Boardman Feeder is located south of Applegate Road and west of Bon Vue Drive in Applegate. The segment is gunite lined and is surrounded by dry vegetation. General maintenance and repairs to canal lining have been conducted routinely overtime.

L4. Dimensions: (In feet for historic features and meters for prehistoric features)
- **a. Top Width:** 6 ft
- **b. Bottom Width:** 4 ft
- **c. Height or Depth:** 3 ft
- **d. Length of Segment:** 18 ft

L5. Associated Resources: N/A

L4e. Sketch of Cross-Section (include scale) Facing: southwest



L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.):
The Boardman Feeder segment travels in a north/south direction. It is located directly northwest of Applegate Road. Directly adjacent to the canal (southeast) is a contemporary CMU building and large water tank which appears to be a PCWA facility.

L7. Integrity Considerations: Application of gunite over the original earth and concrete lining and the addition of a metal pipe and gate to the Feeder segment Addition of modern building and water tank just southeast of the segment.

L8b. Description of Photo, Map, or Drawing (View, scale, etc.) Photograph 2, Boardman Canal Feeder segment, camera facing southwest
L9. Remarks:

L10. Form Prepared by: (Name, affiliation, and address)
Kathryn Haley
ICF International
600 K Street, Suite 300
Sacramento, CA, 95608

L11. Date: April 2011

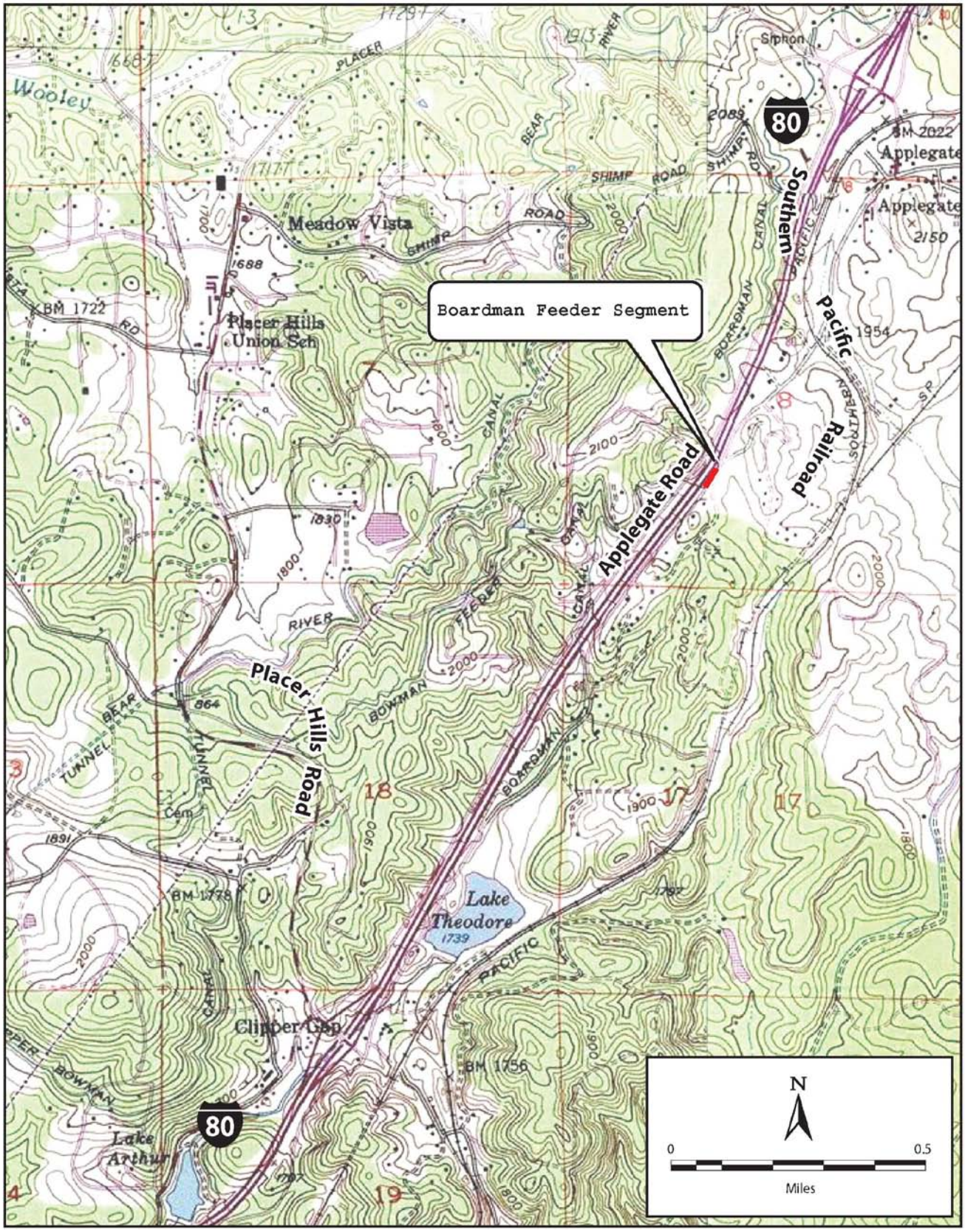
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

***Resource Name or #:** Boardman Feeder Canal Segment

***Map Name:** Auburn 7.5′ USGS

***Scale:** 1:24,000 ***Date of Map:**1953/PR 1981



DPR 523J (1/95)

*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # P-31-2448-H
HRI #
Trinomial
NRHP Status Code

Page 1 of 4

Other Listings
Review Code Reviewer Date

P1. Resource Identifier: JSA-2

P2. Location: **a. County** Placer and (**Address** and/or **UTM** Coordinates. Attach Location Map as required.)

b. Address Bon Vue Road and Applegate Road

City Applegate, CA **Zip** 95703

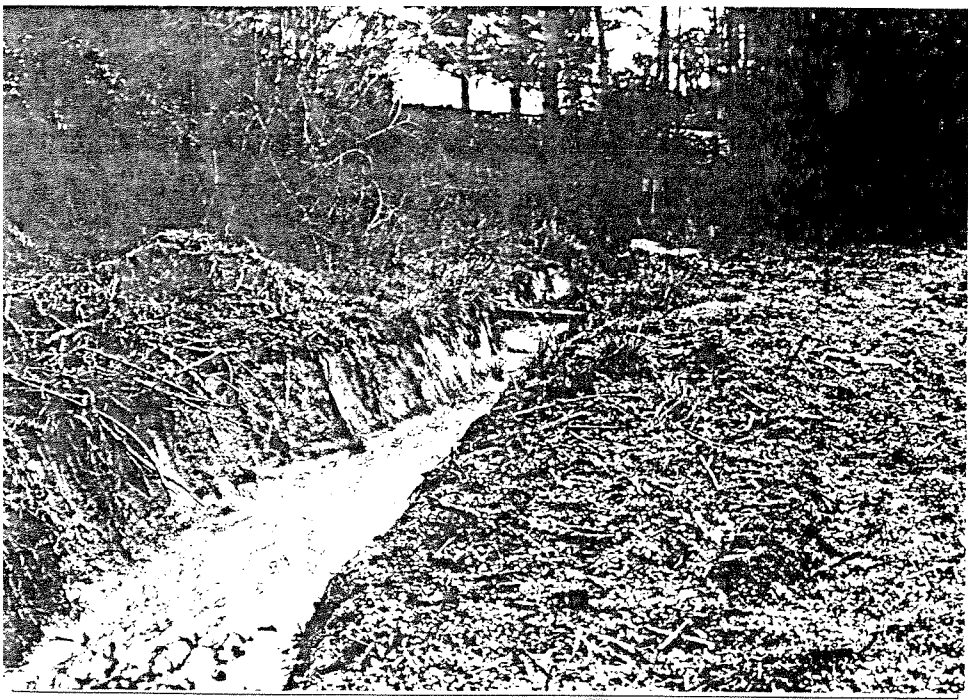
c. UTM: USGS Quad Greenwood, CA (7.5) **(7.5'/15') Date** 1973 **; Zone** 10 , 673320 **mE/** 4317370 **mN**

d. Other Locational Data (e.g., parcel #, legal description, directions to resource, additional UTMs, etc., when appropriate):
673230 mE/ 4317730 mN to 673320 mE/ 4317370 mN

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.):

The cement-lined canal runs along the western boundary of the project area. It is roughly 3 feet deep and 5 feet wide. There are several areas where erosion has undercut the cement, showing the lining to be roughly six inches thick. At the north end of the project area, the canal emerges from a corrugated metal pipe that apparently runs under Highway 80. On the other side of the freeway, near Pine Crest Drive, the overflow canal drops steeply from the Lower Boardman and makes a 90 degree turn to flow down a rather steep drainage. The canal is unlined before the water enters the corrugated metal pipe that apparently carries the it under the freeway. Metal gates, wooden footbridges and cement lining make up the intersection of these canals.

Resources present: ☐ Building ☐ Structure ☐ Object ☒ Site ☐ District ☐ Element of District



P6. Date Constructed/Age:
☐ Prehistoric ☒ Historic ☐ Both
1890s

P7. Owner and Address:
Bert Espy
P.O. Box 68
Applegate, CA 95703

P8. Recorded by (Name, affiliation, and address):
S. Ashkar
Jones & Stokes Assoc.
2600 V St., Ste 100
Sacramento, CA 95818

P9. Date Recorded: March 5, 1996

P10. Type of Survey: ☒ Intensive ☐ Reconnaissance ☐ Other

Describe: Pedestrian Survey in 10 meter transects

P11. Report Citation (Provide full citation or enter "none"): Jones & Stokes Associates, Inc. 1996. Archaeological reconnaissance of the proposed Applegate Water System Project, Placer County, California. April 1996. Sacramento, CA. Prepared for MacIntosh Engineering and Development Company, Auburn, California.

Attachments: ☐ NONE ☒ Map Sheet ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☒ Linear Resource Record
☐ Archaeological Record ☐ District Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record
☐ Other (List):

State of California —The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LINEAR RESOURCE RECORD

Primary # P-31-2448-H
HRI #
Trinomial

L1. Resource Identifier: JSA-2
2. Historic Name: Overflow Canal of Boardman Canal
3. Common Name:
L4. **Detailed Record of:** ☐ Entire Resource ☒ Segment (Describe entire resource on Primary Record before recording a segment in detail.)
L5. **Length:** approx. 2.5 miles Method of Determination: map
L6. **Width:** 5.25 feet (1.6 meters) Method of Determination: tape measure
L7. Depth/Height: approx. 3 feet Method of Determination: tape measure

L8. **Features** (Describe construction details, dimensions, and artifacts found with each feature. Provide plans/sections as appropriate.):

The cement-lined canal runs along the down a drainage of medium slope. It is roughly three feet deep and 5 feet wide. There are several areas where erosion has undercut the cement, showing the lining to be roughly 6 inches thick. The canal forms the western boundary of the project area and runs out of a corrugated metal pipe at the north end of the project area. The pipe carries the water under Highway 80. On the other side of the freeway, near Pine Crest Dirve, the overflow canal drops steeply from a hairpin turn in the Lower Boardman Canal and makes a 90 degree turn to flow down a rather steep portion of the drainage. The canal is unlined before the water enters the corrugated pipe that carries it under the freeway.

L9. Natural Setting (Describe natural features, landscape characteristics, slope, etc. as appropriate.):

Mountain terrain of moderate to gentle slope. Drainage is thich with vegetation.

L10. Historical Information:

The portion of the Boardman Canal that this overflow canal stems from was built in the 1890s in response to the irrigation needs of horticulturalists (Lardner and Brock 1924:283-285). It was an extension of the Upper Boardman system which was built in 1865. The Boardman Canal was named after Arthur Flanders Boardman, a prominent Auburn resident and fruit grower.

L11. Resource Attributes (List attributes and codes.): HP-20

L12. Significance: Theme Water System Area Sierra Nevada Foothills
Period of Significance 1890s - present Property Type Canal Applicable Criteria A
(Discuss importance of resource within a historic context as defined by theme, period of significance, and geographic scope when appropriate.)
This resource is an overflow canal of the hisotric Boardman Canal, portions of which are listed on the National Register of Historic Places. The Boardman Canal system has played an important role in irrigation in the area from the early 1890s to the present day. The overflow canal appears to be a contributing element of the Boardman Canal System.

L13. Resource Integrity:
Though it has been improved (cement-lined), it retains its original function and alignment, giving it integrity of location and setting.

L14. Associated Resources Boardman Canal (CA-Pla-670H)

L15. References:
Lardner, W.B. and M.J. Brock. 1924. History of Placer and Nevada Counties, California. Historic Record Company, Los Angeles.

L16. Form Prepared By: S. Ashkar **Date** 3/8/96
Affiliation and address: Jones & Stokes Assoc., Inc. 2600 V Street, Suite 100 Sacramento, CA 95818

CALIFORNIA Department of Parks and Recreation
Office of Historic Preservation

Map Sheet

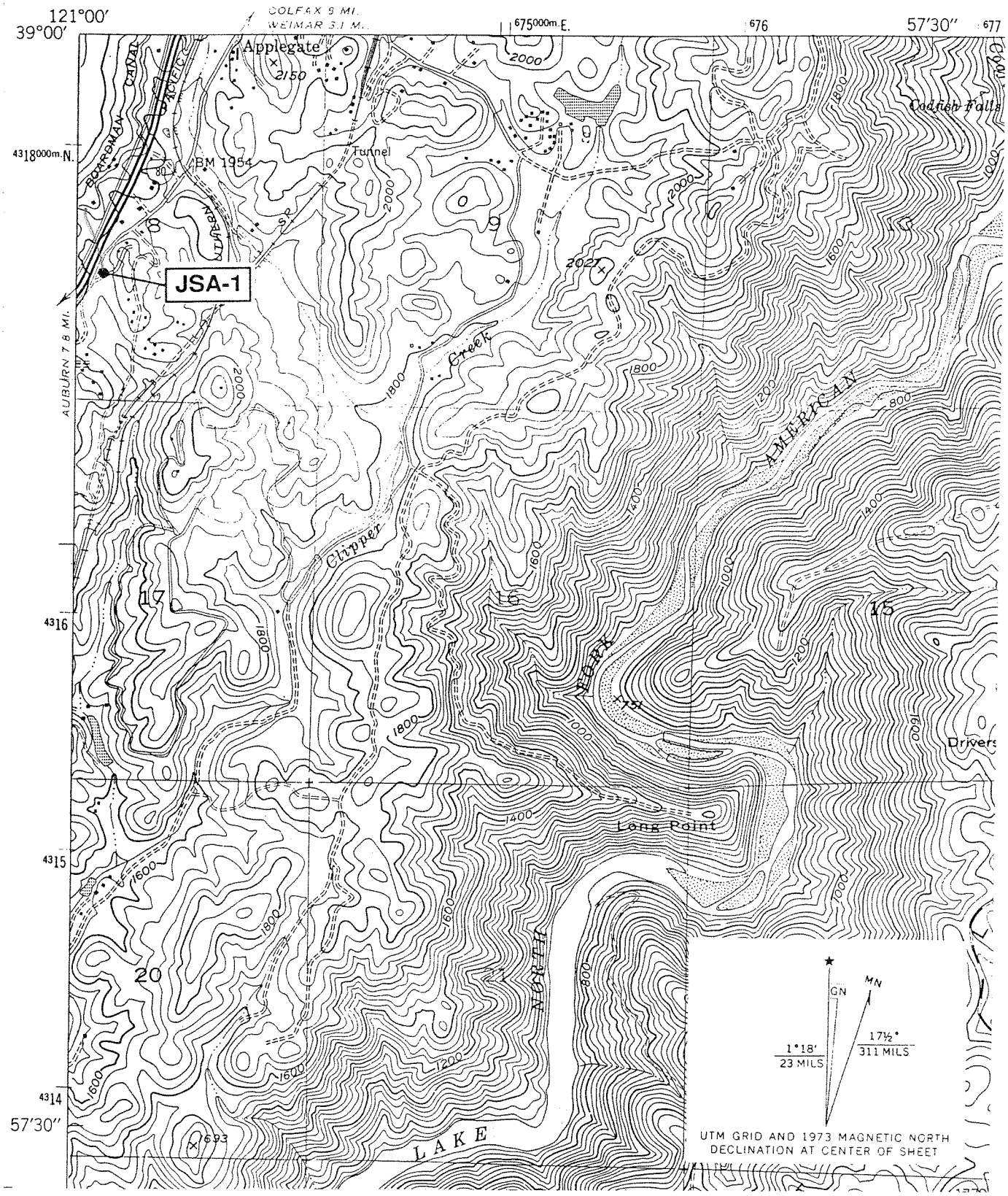
Primary # P-31-2448-H

HRI#/Trinomial

Page 3 of 4

Resource Identifier: JSA-1

Map Name: Cultural Resource Location Map Scale: Date:



USGS Greenwood, California 7.5-minute quadrangle, photorevised 1973.

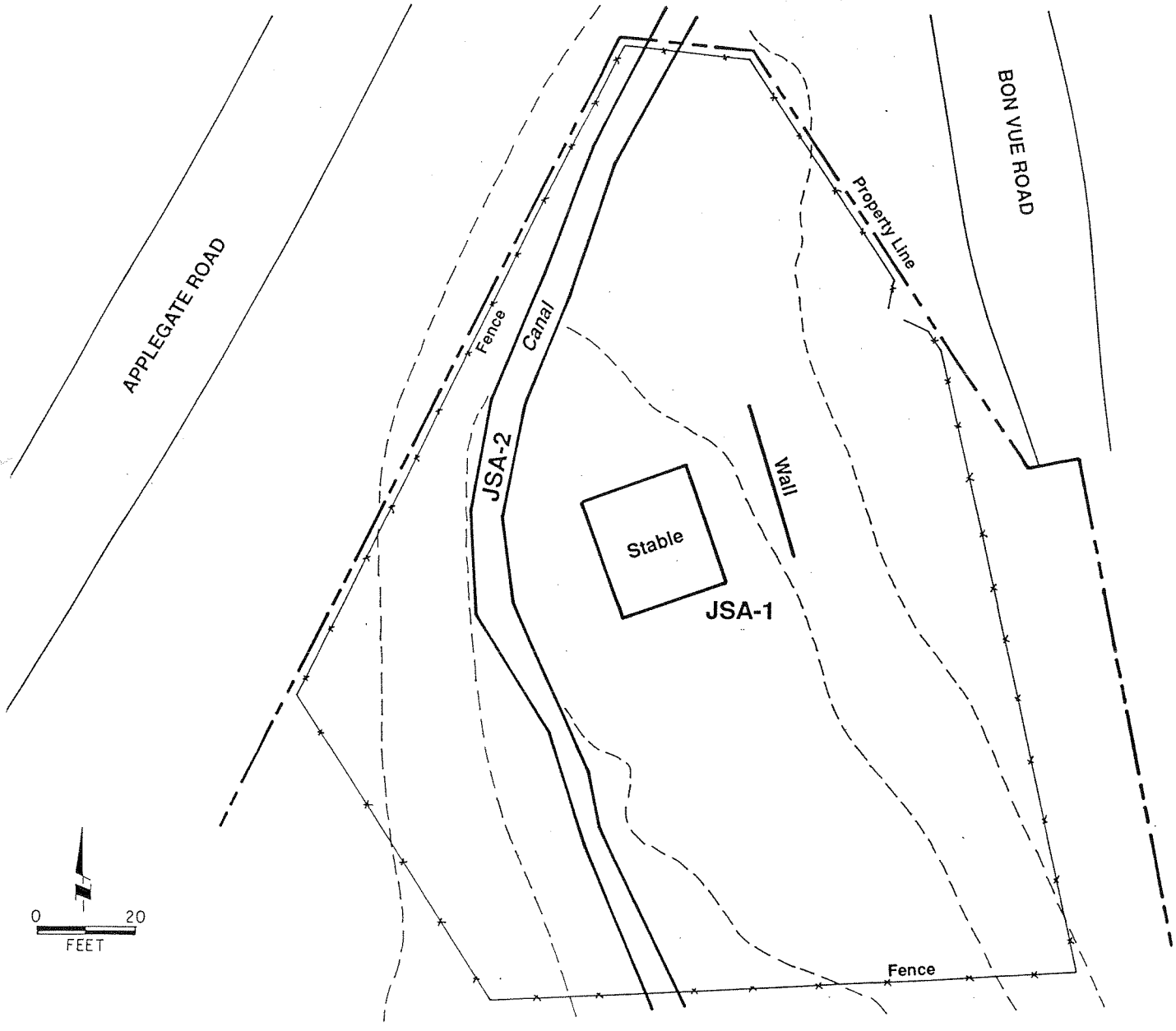
CALIFORNIA Department of Parks and Recreation
Office of Historic Preservation

Map Sheet

Primary # P-31-24468-H

HRI#/Trinomial

Page 4 of 4
Resource Identifier: JSA-2
Map Name: Site Map Scale: Date:



State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z

Other Listings _____
Review Code _____ Reviewer _____ Date _____

***Resource Name or #** (Assigned by recorder) Southern Pacific RR Bridge

P1. Other Identifier: Map Reference #4

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Placer

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Greenwood **Date** 1949 PR1973 **T**13N; **R** 9E; __ ¼ **of Sec** __8__; _____ **B.M.**

c. Address N/A City _____ Zip_____

d. UTM: (give more than one for large and/or linear resources) Zone _10S_; ___0673545_mE/ __4318088__mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Southern Pacific (SP) railroad bridge is a deck plate girder bridge that carries the Union Pacific Railroad (UPRR) over Applegate Road in Placer County, (**Photograph 1**). The bridge is supported on two concrete seat abutments located at each approach which are on either side (northwest and southeast) of Applegate Road. The bridge is topped by a concrete deck with girders, wood beams and metal rails and ties.

***P3b. Resource Attributes:** (List attributes and codes) HP19-Bridge

***P4. Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) SPRR Bridge, camera facing north, September 23, 2010.

***P6. Date Constructed/Age and Sources:**
☐ Historic ☐ Prehistoric ☐ Both
1927, Southern Pacific Railroad Company

***P7. Owner and Address:**
Union Pacific Railroad Company

***P8. Recorded by:** (Name, affiliation, address)
Kathryn Haley
ICF International
630 K Street, Suite 400
Sacramento, CA 95814

***P9. Date Recorded:** September 23, 2010

***P10. Survey Type:** (Describe)

Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") ICF. 2011. Cultural Resources Inventory Report. *Applegate Wastewater Treatment Plant Closure and Pipeline Project. Placer County, California*. April. (ICF 00201.08) Sacramento, CA. Prepared for Placer County Department of Facilities Services, Placer County, CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

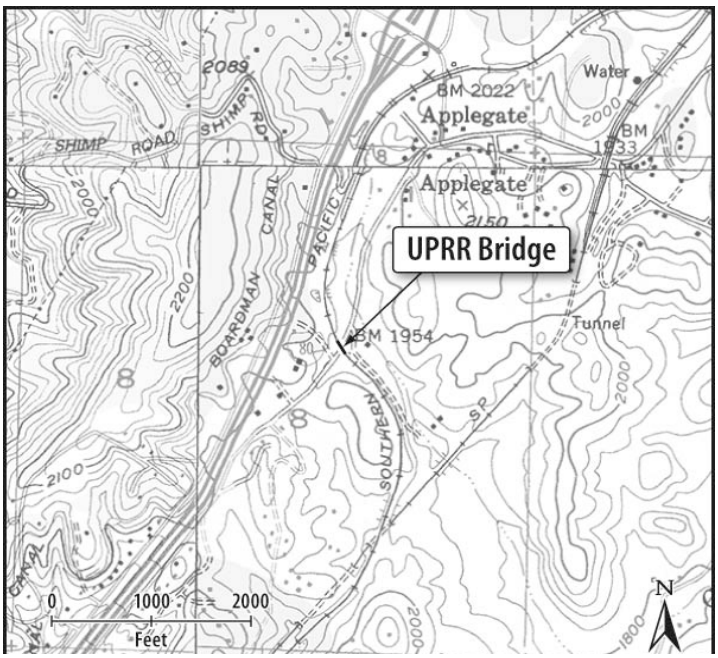
B1. Historic Name: SPRR Bridge
B2. Common Name: UPRR Bridge
B3. Original Use: Railroad Bridge B4. Present Use: Railroad Bridge
***B5. Architectural Style:** Deck and girder
***B6. Construction History:** (Construction date, alteration, and date of alterations) 1927

***B7. Moved?** ☒ **No** ☐ **Yes** ☐ **Unknown** **Date:** _____ **Original Location:** _____
***B8. Related Features:** N/A

B9. Architect: Unknown b. Builder: Southern Pacific Railroad
***B10. Significance: Theme** Transportation development **Area** Applegate
Period of Significance 1927 **Property Type** Bridge **Applicable Criteria** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The subject SPRR bridge does not appear to meet the criteria for listing in the NRHP. The period of significance for the bridge is 1927; the year it was constructed. SPRR records indicate that the existing bridge replaced the original I-beam deck trestle structure which was built in 1909 in conjunction with State roadway improvements along what is now Applegate Road (formally part of the Lincoln Highway and Highway 40) (Caltrans 2010: Historic Bridge Inventory; Southern Pacific Company, No Date: Photographs of Bridges, 6-34-F; USGS 1950: map). The bridge is currently owned and operated by the Union Pacific Railroad (UPRR).
(See continuation sheet).

(Sketch Map with north arrow required.)



B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:** For full citations see Cultural Resources Inventory Report.

B13. Remarks:

***B14. Evaluator:** K. Haley

***Date of Evaluation:** April 2011

(This space reserved for official comments.)

***B10. Significance (cont'd):**

Although the subject bridge is located along the original western alignment of the transcontinental railroad it cannot be directly associated with the historical railroad construction endeavor. Built in 1927 the bridge is a 20th century addition to the rail alignment. As such it cannot be directly linked to the construction of the transcontinental railroad and therefore does not appear eligible for the NRHP under Criterion A. Under Criterion C, the structure is simple deck plate girder type of bridge. It was likely constructed based upon Southern Pacific standard plans for the type of bridge needed to provide an underpass for a roadway (Applegate Road). As one of many bridges of its type throughout the state, the bridge does not embody distinctive characteristics of a type, period or method of construction and does not appear to meet NRHP Criterion C. Furthermore, historic era photos of the bridge reveal contemporary changes to the structure's original deck thus affecting its integrity (Southern Pacific Company: Photographs of Bridges, 6-34-F). Overall, the subject bridge does not appear to meet the criteria for listing in the NRHP.

Additionally, the property was evaluated in accordance with Section 15064.5(a) (2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and determined not to be a historical resource for the purposes of CEQA.