

Newtown Road Bridge (25C-0033) at South Fork

Weber Creek Replacement Project

NES



Natural Environment Study

Discussions of Environmental Setting,
Biological Resources, Impacts and Mitigation

El Dorado County, CA

Caltrans District 3

Federal Aid Number: BRLS 5925 (086)

November 2017




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Natural Environment Study

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration,
STATE OF CALIFORNIA
Department of Transportation, and
EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

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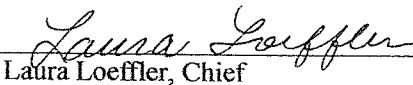
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Summary

The El Dorado County Department of Transportation in conjunction with the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA), intends to replace the existing Newtown Road Bridge at South Fork Weber Creek (25C-0033). The Project is located along Newtown Road, approximately two miles south of the community of Camino in the western Sierra Nevada in unincorporated El Dorado County. The Project is the replacement of the existing 26.9-ft wide, 26.9-ft long, single span bridge. The existing bridge, constructed in 1929, has a span of approximately 26.9 feet. In 1950, the east face of the original structure was removed and the bridge was widened upstream with a 10.7-ft by 7.5-ft corrugated metal pipe arch (CMPA) culvert. The bridge has a sufficiency rating of 80.2, and has been classified as functionally obsolete because the size of the bridge is not considered adequate for the amount of traffic using the bridge. The Biological Study Area (BSA) for the Project occupies 5.752 acres.

Two bridge replacement designs are under consideration: a precast open-bottom arch structure (Alternative 1) or a cast-in-place post-tensioned box girder bridge (Alternative 2). Alternative 1 is the preferred design option due to fewer environmental impacts.

The road approaches on either side of the bridge would be widened to a pavement width of up to 32 feet, which includes two 12-ft lanes and two 4-ft paved shoulders (shoulders would be widened 0 to 4 feet). The horizontal alignment of the road approaches may be raised to accommodate the replacement bridge. Newtown Road would be closed to through traffic during construction. Emergency one-way access would be maintained with a temporary access road north of the existing bridge. Public traffic, except for the existing driveway southeast of the bridge, would use Old Fort Jim Road as a detour.

Construction of the proposed bridge is planned to commence in 2019 or later. Relocation of utilities may require the County, utility provider, or their contractors to trim or remove trees prior to construction. Work within the ordinary high water mark (OHWM) of South Fork Weber Creek would be restricted to the dry season, generally defined as the time period between 15 April and the first qualifying rain event on or after 15 October (more than one half inch of precipitation in a 24-hour period), subject to the Streambed Alteration Agreement, unless CDFW provides approval of work outside that period. Project duration is expected to be one season. It is anticipated that Newtown Road would be closed for approximately 8 months during construction.

The Project is funded with Highway Bridge Program (HBP) funds. Project documentation has been prepared in compliance with the National Environmental Policy Act (NEPA) and the

California Environmental Quality Act (CEQA). El Dorado County is the Project proponent and the lead agency under CEQA.

As part of its NEPA assignment of federal responsibilities by the Federal Highways Administration (FHWA), effective October 1, 2012 and pursuant to 23 USC 326, Caltrans is acting as the lead federal agency for Section 7 of the Federal Endangered Species Act (FESA). Caltrans is responsible to comply with NEPA, Executive Orders, and other federal laws, such as the Federal Endangered Species Act (FESA) and the National Historic Preservation Act (NHPA) prior to the release of federal funds. The Local Assistance Procedures Manual (LAPM; Caltrans 2017) and Caltrans' on-line Standard Environmental Reference (SER) describe the procedures for preparing technical studies and environmental documentation.

The BSA provides habitat for federal-threatened California red-legged frog (CRLF; *Rana draytonii*). The Project is located in the current range and Core Recovery Unit 1 (Sierra Nevada Foothills and Central Valley) for CRLF. The BSA is not located in critical habitat for CRLF. The nearest critical habitat unit is located approximately 1.6 miles northeast of the BSA. The Project may affect, but is not likely to adversely affect, CRLF. Avoidance and minimization measures described in Chapter 4 would be implemented to reduce Project effects to CRLF. The BSA does not provide habitat for federal-listed anadromous salmonids. The BSA does not occur in essential fish habitat (EFH) for Pacific salmon (NMFS 2014).

A Biological Assessment was prepared to support the section 7 FESA consultation with the U.S. Fish and Wildlife Service (USFWS) for CRLF. The BSA does not provide habitat for any other federal-listed or proposed wildlife or plants.

The BSA provides suitable habitat for state candidate foothill yellow-legged frog (*Rana boylei*), and CDFW species of special concern western pond turtle (*Emys marmorata*), California spotted owl (*Strix occidentalis occidentalis*), and other birds of prey and migratory birds. With implementation of the avoidance and minimization measures discussed in Chapter 4, the proposed Project would not adversely impact these species.

The BSA provides habitat for seven special-status plants ranked by the California Native Plant Society (CNPS). No special-status plants were observed during a botanical survey conducted during the evident and identifiable period for special-status plants with potential to occur. No further avoidance measures are necessary for special-status plants.

A preliminary jurisdictional delineation of wetlands and waters of the U.S. (separately bound) was conducted in the BSA. South Fork Weber Creek and a perennial channel in the BSA are potential waters of the U.S. Depending on the alternative chosen, Project construction would

result in 0.005 to 0.012 acre of temporary impacts and 0.119 to 0.139 acre of permanent impacts to South Fork Weber Creek. The Project would temporarily impact 0.006 to 0.007 acre and permanently impact 0.002 to 0.003 acre of perennial channel. Temporarily impacted areas would be revegetated upon completion of the Project.

The Oregon ash groves community along South Fork Weber Creek and native trees in the BSA are habitats and natural communities of special concern protected under the El Dorado County General Plan (2004b). The Project would remove approximately 33 to 34 trees in the Oregon ash groves community.

There are 27 invasive plant species that occur in the BSA (California Invasive Plant Council, Cal-IPC 2006). Four species in the BSA are rated as “High” by Cal-IPC: yellow star-thistle (*Centaurea solstitialis*), Himalayan blackberry (*Rubus armeniacus*), barbed goat grass (*Aegilops triuncialis*), and red brome (*Bromus madritensis* ssp. *rubens*). The spread of invasive species in the BSA would be reduced by revegetating disturbed areas in the BSA with native or sterile nonnative species. The limited scope of this Project precludes effective eradication of these invasive species from the BSA.

Permits and authorizations required for the Project include a Section 404 Permit from the U.S. Army Corps of Engineers (Corps), a Section 401 Water Quality Certification Regional Water Quality Control Board (RWQCB), coverage under the National Pollutant Discharge Elimination System (NPDES) through the State Water Resources Control Board (SWRCB) Construction General Permit, and a 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW).

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Table of Contents

Summary	v
Table of Contents	viii
List of Figures	ix
List of Tables	ix
List of Abbreviated Terms	x
Chapter 1. Introduction.....	13
1.1. Project History	13
1.2. Project Description.....	13
1.2.1. Coordination with Cultural Resource Investigations	14
1.2.2. Alternatives Considered.....	19
1.2.3. New Bridge Designs and Construction Sequence.....	29
1.2.4. Stream Diversion.....	31
1.2.5. Project Schedule.....	33
Chapter 2. Study Methods	35
2.1. Regulatory Requirements.....	35
2.1.1. Federal Regulations.....	35
2.1.2. State Regulations.....	37
2.2. Studies Required	39
2.2.1. Database Searches.....	39
2.2.2. Biological Study Area.....	40
2.2.3. Survey Methods	40
2.3. Personnel and Survey Dates.....	41
2.4. Agency Coordination and Professional Contacts.....	41
2.5. Limitations That May Influence Results.....	42
Chapter 3. Results: Environmental Setting.....	43
3.1. Existing Biological and Physical Conditions.....	43
3.1.1. Biological Study Area.....	43
3.1.2. Physical Conditions.....	43
3.1.3. Biological Conditions in the BSA.....	43
3.1.4. Common Wildlife Species	47
3.1.5. Habitat Connectivity	47
3.2. Regional Species and Habitats of Concern	52
Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation.....	59
4.1. Natural Communities of Special Concern.....	59
4.1.1. Discussion of Oregon Ash Groves.....	61
4.1.2. Discussion of Trees.....	62
4.1.3. Discussion of South Fork Weber Creek.....	67
4.1.4. Discussion of the Perennial Channel.....	70
4.1.5. Discussion of the Seasonal Wetland	71
4.1.6. Discussion of Ephemeral Channels.....	71
4.2. Special-Status Animal Species Occurrences.....	72
4.2.1. Discussion of California Red-Legged Frog (CRLF; <i>Rana draytonii</i>).....	72
4.2.2. Discussion of Foothill Yellow-Legged Frog (FYLF; <i>Rana boylei</i>).....	81
4.2.3. Discussion of Western Pond Turtle (WPT; <i>Emys marmorata</i>).....	83
4.2.4. Discussion of Migratory Birds and Birds of Prey	85
4.2.5. Discussion of California Spotted Owl (CSO; <i>Strix occidentalis occidentalis</i>).....	88
4.3. Special-Status Plant Species	89

4.3.1. Discussion of Nissenan Manzanita (*Arctostaphylos nissenana*).....89

4.3.2. Discussion of Pleasant Valley Mariposa Lily (*Calochortus clavatus* var. *avius*).....90

4.3.3. Discussion of Sierra Arching Sedge (*Carex cyrtostycha*).....91

4.3.4. Discussion of Parry’s Horkelia (*Horkelia parryi*)92

4.3.5. Discussion of Stebbins’ Phacelia (*Phacelia stebbinsii*)93

4.3.6. Discussion of Brownish Beaked-Rush (*Rhynchospora capitellata*).....94

4.3.7. Discussion of Oval-Leaved Viburnum (*Viburnum ellipticum*).....95

Chapter 5. Conclusions and Regulatory Determinations.....97

5.1. Federal Endangered Species Act (FESA) Consultation Summary97

5.2. Summary of Consultation to Date.....98

5.3. Essential Fish Habitat (EFH)98

5.4. California Endangered Species Act (CESA) Consultation Summary.....98

5.5. Wetlands and Other Waters Coordination Summary98

5.6. Invasive Species.....99

Chapter 6. References.....101

Appendix A USFWS Letter

Appendix B NMFS Letter

Appendix C California Natural Diversity Database Summary List

Appendix D California Native Plant Society Plant List

Appendix E Plant and Wildlife Species Observed

Appendix F Photographs

Appendix G Revegetation Planting and Erosion Control Specifications

Appendix H Replanting Plan

List of Figures

Figure 1. Project Location Map15

Figure 2. Aerial Photograph.....17

Figure 3. Proposed Project Maps21

Figure 4. Biological Resources Map.....45

Figure 5. Tree Impact Maps.....63

List of Tables

Table 1. Summary of Biological Fieldwork41

Table 2. Natural Communities in the BSA49

Table 3. Listed, Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area53

Table 4. Project Impacts to Natural Communities (Alternative 1)60

Table 5. Project Impacts to Natural Communities (Alternative 2)60

Table 6. RSP Placement in South Fork Weber Creek, Perennial Channel, and Riparian Habitat (Oregon Ash Groves Community) in the BSA.....68

Table 7. Species Protection Areas.....87

Table 8. Summary of FESA Determinations97

List of Abbreviated Terms

AASHTO	American Association of State Highway and Transportation Officials
BMP	Best Management Practice
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CMPA	Corrugated Metal Pipe Arch
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
CRLF	California red-legged frog
CSO	California spotted owl
dbh	diameter at breast height
DPS	Distinct Population Segment
eDNA	Environmental deoxyribonucleic acid
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EO	Executive Order
ESA	Environmentally Sensitive Area
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
ft	foot/feet
FYLF	Foothill yellow-legged frog
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NWI	National Wetland Inventory
OHWM	ordinary high water mark
PFMC	Pacific Fisheries Management Council
quad	USGS topographic quadrangle
RSP	Rock slope protection
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
SSC	California Species of Special Concern
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WPT	Western pond turtle

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Chapter 1. Introduction

1.1. Project History

The El Dorado County Department of Transportation, in conjunction with the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA), intends to replace the existing Newtown Road Bridge (25C0033) over South Fork Weber Creek. Two bridge designs are under consideration. Alternative 1 is a 186-ft long, 28-ft span, 7-ft rise, precast open-bottom, concrete arch structure (Conspan or equivalent). Alternative 2 is a 90-ft cast-in-place post-tensioned box girder bridge structure. Either alternative provides a longer, wider bridge that would carry two lanes of traffic, each 12-ft wide with 4-ft shoulders. The new bridge and widened approach roadways would improve roadway safety and be consistent with American Association of State Highway and Transportation Officials (AASHTO) guidelines.

The existing Newtown Road bridge, constructed in 1929, consists of a 26.9-ft wide, 26.9-ft long, single span reinforced concrete slab on concrete abutments. The existing bridge has a span of approximately 26.9 feet. In 1950, the east face of the original structure was removed and the bridge was widened upstream with a 10.7-ft by 7.5-ft CMPA culvert. The work included the construction of a headwall on the upstream side of the bridge to secure the CMPA to the bridge structure. The west face of the bridge structure still retains its original concrete railing and wingwalls. There is no concrete railing or metal beam guardrail on the east side of the existing structure. The bridge has a Caltrans sufficiency rating of 80.2. The curb-to-curb width of 26.9 feet is less than the minimum of 40 feet based on the Average Daily Traffic (ADT) of approximately 2,700. In addition, the existing bridge does not provide adequate freeboard to pass 50 and 100 year floods according to AASHTO guidelines. There are five existing tight horizontal curves within the proposed Project limits, from 400 feet south to 400 feet north of the existing bridge. These horizontal curves may be responsible for several accidents observed by local residents and one accident recorded by the California Highway Patrol.

1.2. Project Description

The Biological Study Area (BSA) for the Project is located along Newtown Road, approximately two miles south of the community of Camino in unincorporated El Dorado County, CA. The BSA is located on and adjacent to private property (Assessor's Parcel Numbers: 077-431-14, 077-431-15, 077-431-17, 077-431-18, 077-431-57, and 077-431-62). Temporary construction easements or right-of-way would be required from all adjacent properties. The BSA is located

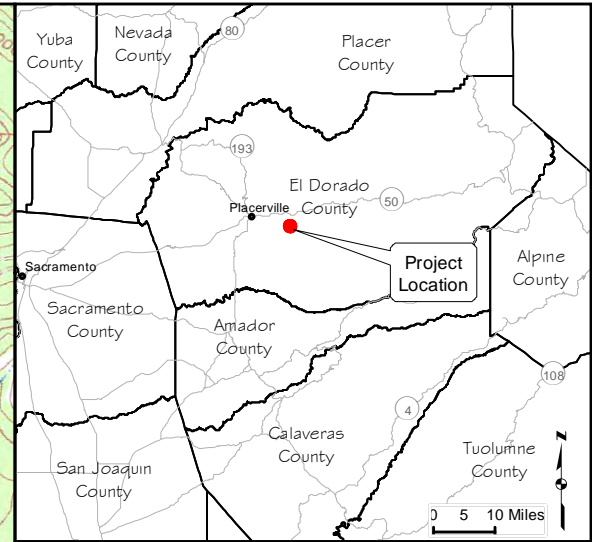
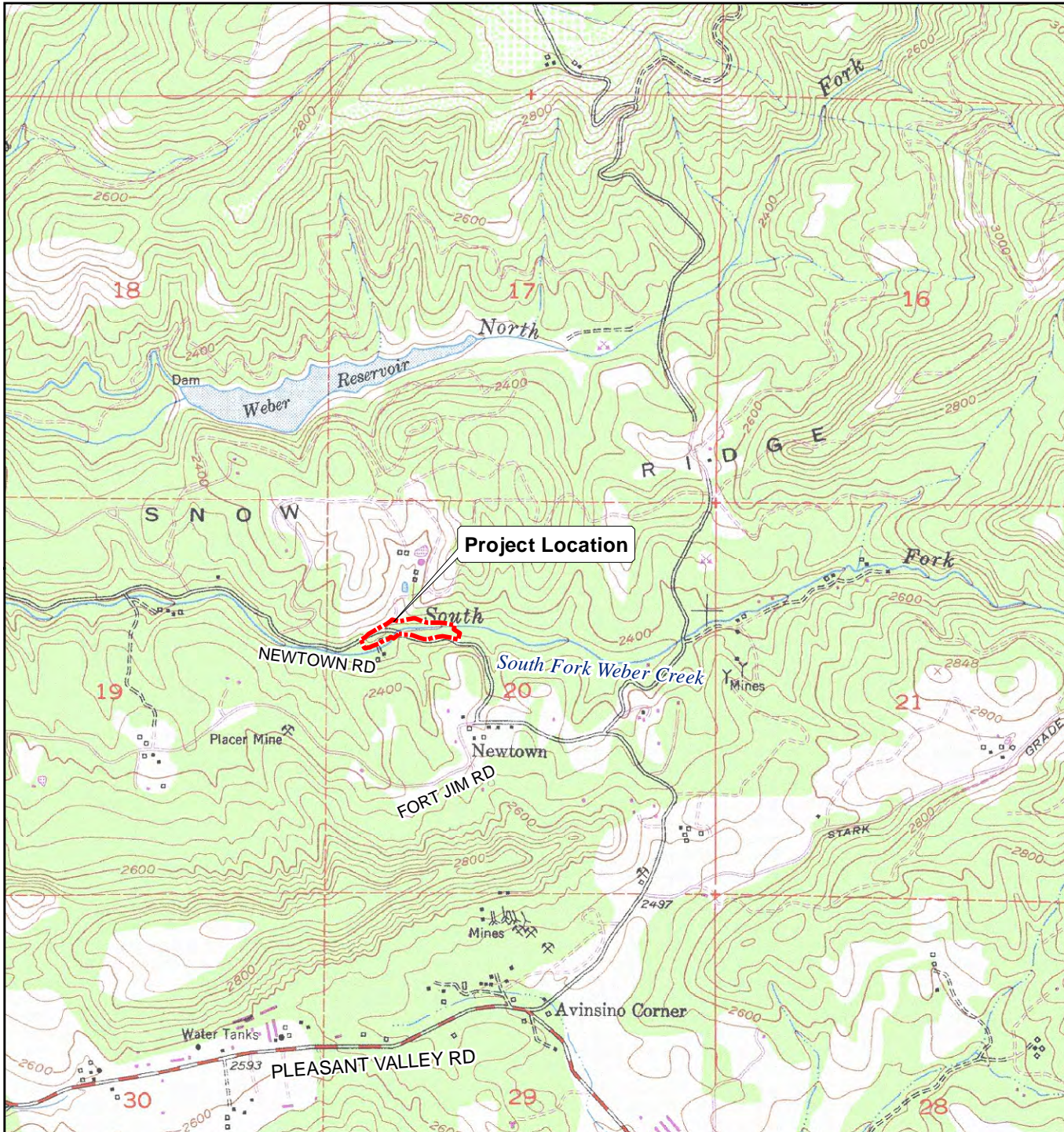
on the Camino USGS topographic quadrangle (quad) (T10N, R12E, Section 20; Figure 1). Photographs of the BSA are in Appendix F. Figure 2 is an aerial photograph of the BSA.

1.2.1. Coordination with Cultural Resource Investigations

Cultural resource investigations at the Project site were conducted along with biological studies beginning in 2012. Below is a description of the preliminary cultural resource investigations completed at the Project site.

Archaeological surveys of the BSA were conducted by an Tremaine and Associates' archaeologist on 10 July 2012 and 7 March 2013. Based on the results of the 2012 survey, Caltrans requested some vegetation clearing to provide access to areas not accessible during the 2012 survey. Pathways approximately 3 feet wide and 20 feet apart were cleared through a 10,000-ft² area of Himalayan blackberry. Vegetation clearing occurred roughly 100 feet northeast of the existing bridge, primarily on the east side of an unnamed perennial creek. Chain saws were used to cut down the blackberries; cut pieces were then removed by hand and with rakes. Vegetation removal activities were conducted by California Conservation Corps. A biologist (Jessica Orsolini, Sycamore Environmental) conducted environmental awareness training and monitored vegetation removal activities.

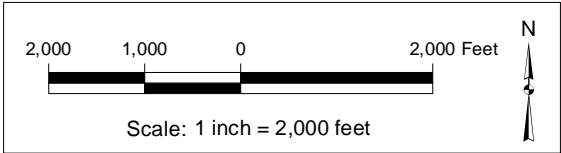
The 2012 and 2013 surveys triggered the need for subsurface testing. Caltrans reviewed and approved an Extended Phase I (XPI) investigation with shovel test pits excavation. In January 2016, vegetation was removed in the same locations as in 2013 to clear the blackberries for the shovel test pits. An approximately 4,100-ft² area of Himalayan blackberry was cleared northeast of the bridge using hand tools. Ten shovel test pits were then delineated by an archeologist; eight test pits were located in the cleared area northeast of the bridge and two pits were located in a yard southwest of the bridge. The archeologist scraped surface duff around each test pit to form a scraped circular area with a 1.6-ft radius. Vegetation removal activities were conducted by a County work crew under the direct supervision of the archaeologist. A biologist (Mike Bower, Sycamore Environmental) was onsite to provide environmental awareness training and monitor vegetation removal activities.



Newtown Road at
 South Fork Weber Creek
 Bridge (25C-0033)
 Replacement Project
 El Dorado County, CA
 29 November 2017

Figure 1. Project Location Map

 Project Location



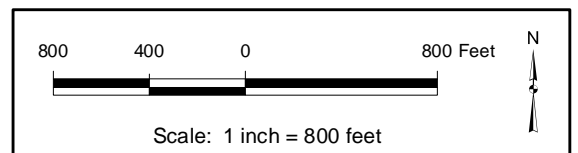
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Newtown Road at
 South Fork Weber Creek
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 Replacement Project
 El Dorado County, CA
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 Project Location



Aerial Photograph: 11 July 2016
 2016 NAIP Imagery, USDA FSA Imagery
 ArcGIS Imagery Basemap Layer

El Dorado County GIS Roads layer

Figure 2. Aerial Photograph

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The shovel-test pits demonstrated the need for deeper trenching north of the existing bridge. Tremaine and Associates used a backhoe to trench this location between 13 and 16 June 2016. Ten trenches approximately 2 feet wide and 4 to 5 feet deep were excavated with a rubber tire backhoe. Trenches were backfilled after the spoils and trenches were examined. This work cleared the excavation limits of Alternative 1. No vegetation clearing occurred during this time.

While the backhoe testing cleared the excavation limits of Alternative 1, some additional deeper trenching was needed to cover the excavation footprint of Alternative 2. Prior to approving the work plan, Caltrans informally consulted with USFWS to ensure that the cultural testing would not result in take of California red-legged frog (CRLF). The avoidance and minimization measures developed jointly by USFWS, Caltrans, and El Dorado County were incorporated into the cultural testing work plan. The final two trenches were excavated with a backhoe on 26 and 27 June 2017. A biologist (Allie Sennett, Sycamore Environmental) was onsite to provide environmental awareness training and monitor vegetation removal activities. No CRLF were observed during any of the biological or cultural surveys between 2012 and 2017. Aquatic features in the BSA (described in Section 4.1) were avoided during these activities.

1.2.2. Alternatives Considered

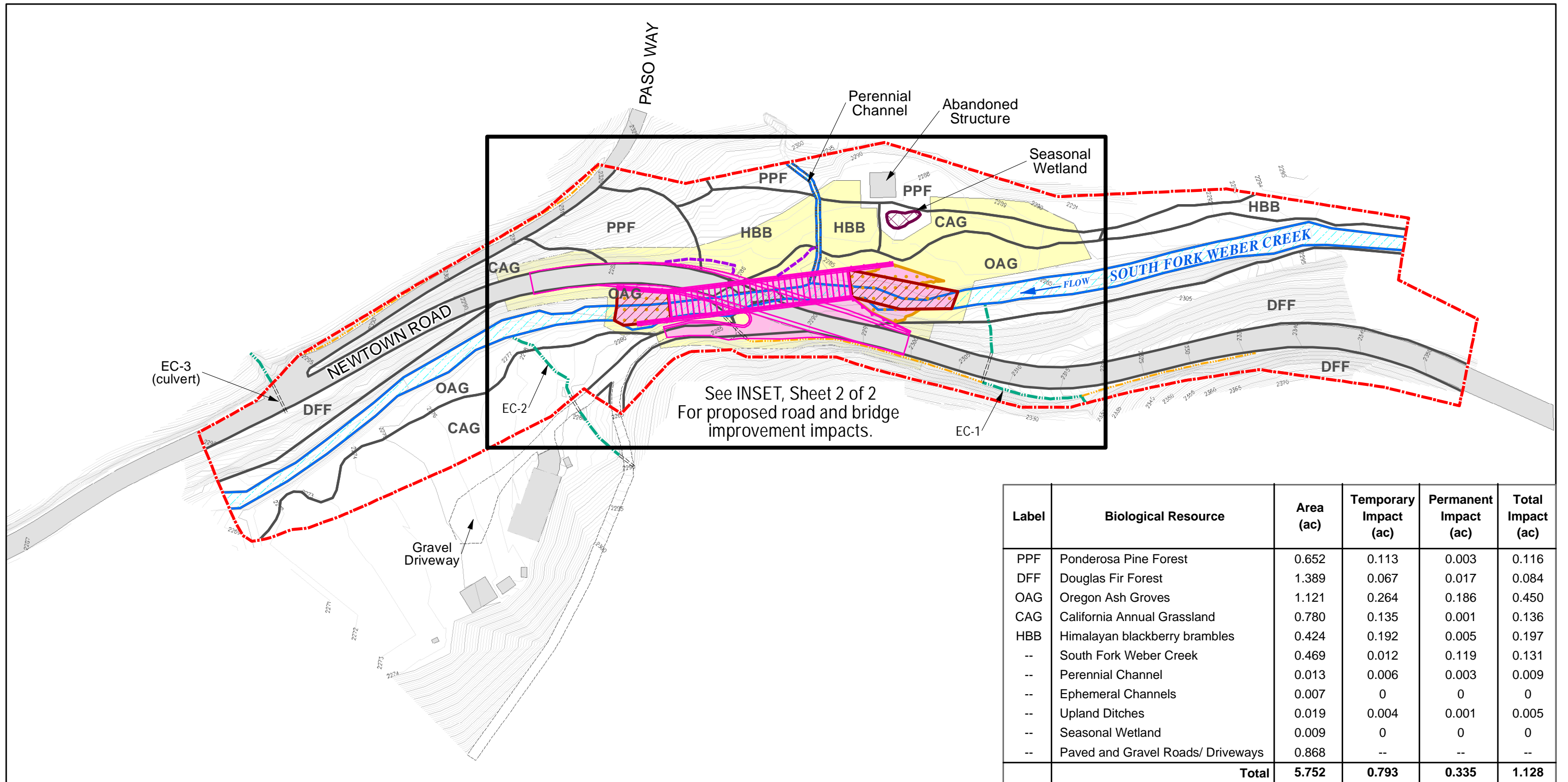
El Dorado County considered several bridge replacement designs that would have varying levels of impacts to South Fork Weber Creek, adjacent parcels, and adjacent biological communities (Figures 3A and 3B).

No Bridge: The County could choose to not replace the existing bridge. The existing bridge would remain untouched and would not comply with current design codes.

Bridge Retrofit: The County evaluated whether a retrofit was feasible from an engineering and cost perspective. A retrofit was determined infeasible because 1) a retrofit would not correct the problematic existing approach geometry and sub-standard bridge width, 2) the hybrid structure of a part slab deck and part corrugated metal pipe is a poor candidate for long-term maintenance, and 3) the existing structure creates upstream backwater conditions above a 10-year flow event. Retrofitting would not correct the inadequate hydraulic conditions at the bridge.

Bridge Replacement: El Dorado County is considering two replacement alternatives. The County will consider the relative environmental impacts and mitigation costs, along with other factors, in its decision to identify a preferred alternative. The County is comparing a pre-cast, open bottom arch culvert on spread footings with a post-tensioned box girder bridge.

The County will retain a road alignment that is similar to the existing alignment while balancing other factors such as bridge length, retaining walls, length of creek realignment, right-of-way acquisition, construction duration, and construction costs. The existing Newtown Road crosses South Fork Weber Creek on a tight skew. The alignment will realign up to a 330 foot length of South Fork Weber Creek.



Label	Biological Resource	Area (ac)	Temporary Impact (ac)	Permanent Impact (ac)	Total Impact (ac)
PPF	Ponderosa Pine Forest	0.652	0.113	0.003	0.116
DFF	Douglas Fir Forest	1.389	0.067	0.017	0.084
OAG	Oregon Ash Groves	1.121	0.264	0.186	0.450
CAG	California Annual Grassland	0.780	0.135	0.001	0.136
HBB	Himalayan blackberry brambles	0.424	0.192	0.005	0.197
--	South Fork Weber Creek	0.469	0.012	0.119	0.131
--	Perennial Channel	0.013	0.006	0.003	0.009
--	Ephemeral Channels	0.007	0	0	0
--	Upland Ditches	0.019	0.004	0.001	0.005
--	Seasonal Wetland	0.009	0	0	0
--	Paved and Gravel Roads/ Driveways	0.868	--	--	--
Total		5.752	0.793	0.335	1.128

Newtown Road at South Fork Weber Creek Bridge (25C-0033) Replacement Project
El Dorado County, CA
29 November 2017

- Biological Study Area (BSA; 5.75 ac)
- South Fork Weber Creek
- Perennial Channel
- Seasonal Wetland
- Ephemeral Channel (EC)
- Upland Ditches
- Existing Culvert
- Proposed Road and Bridge Improvements
- Limits of Grading
- Proposed Rock Slope Protection (RSP)
- Creek Grading
- Permanent Impact
- Temporary Impact

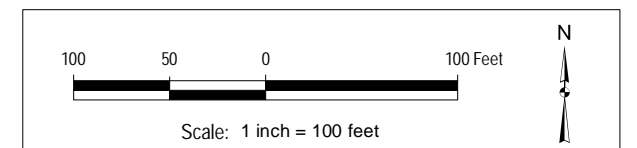
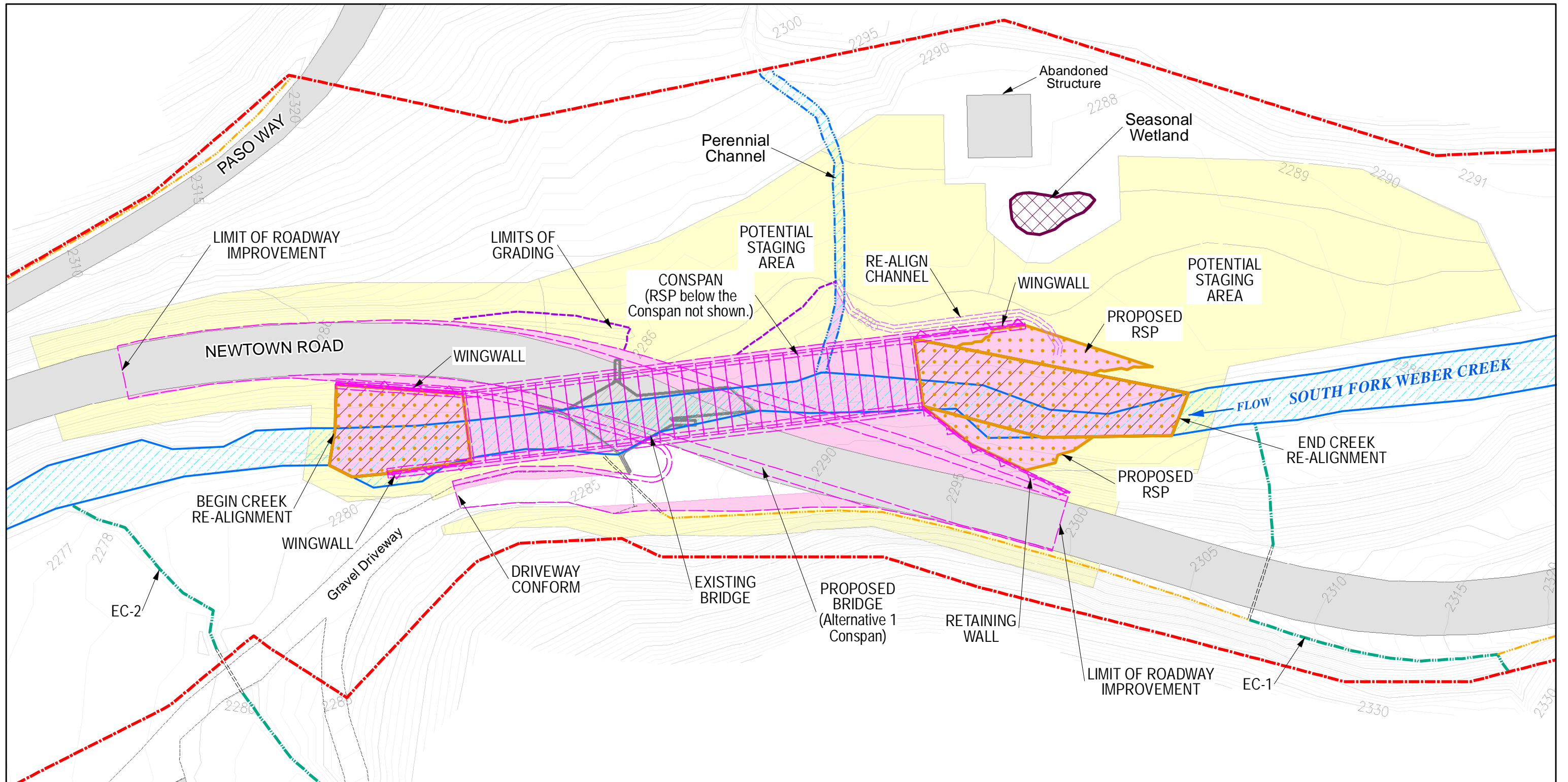


Figure 3A.
Proposed Project Map (Alternative 1)
Sheet 1 of 2

Topographic basemap:
XSurface.dwg (10 Nov 2015) by El Dorado County DOT
Alternatives: VeerkampSmeltzer Alt A.dwg (19 Jan. 2017)
Parcels and Roads: El Dorado County, GIS datasets

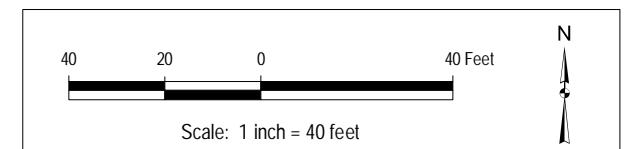
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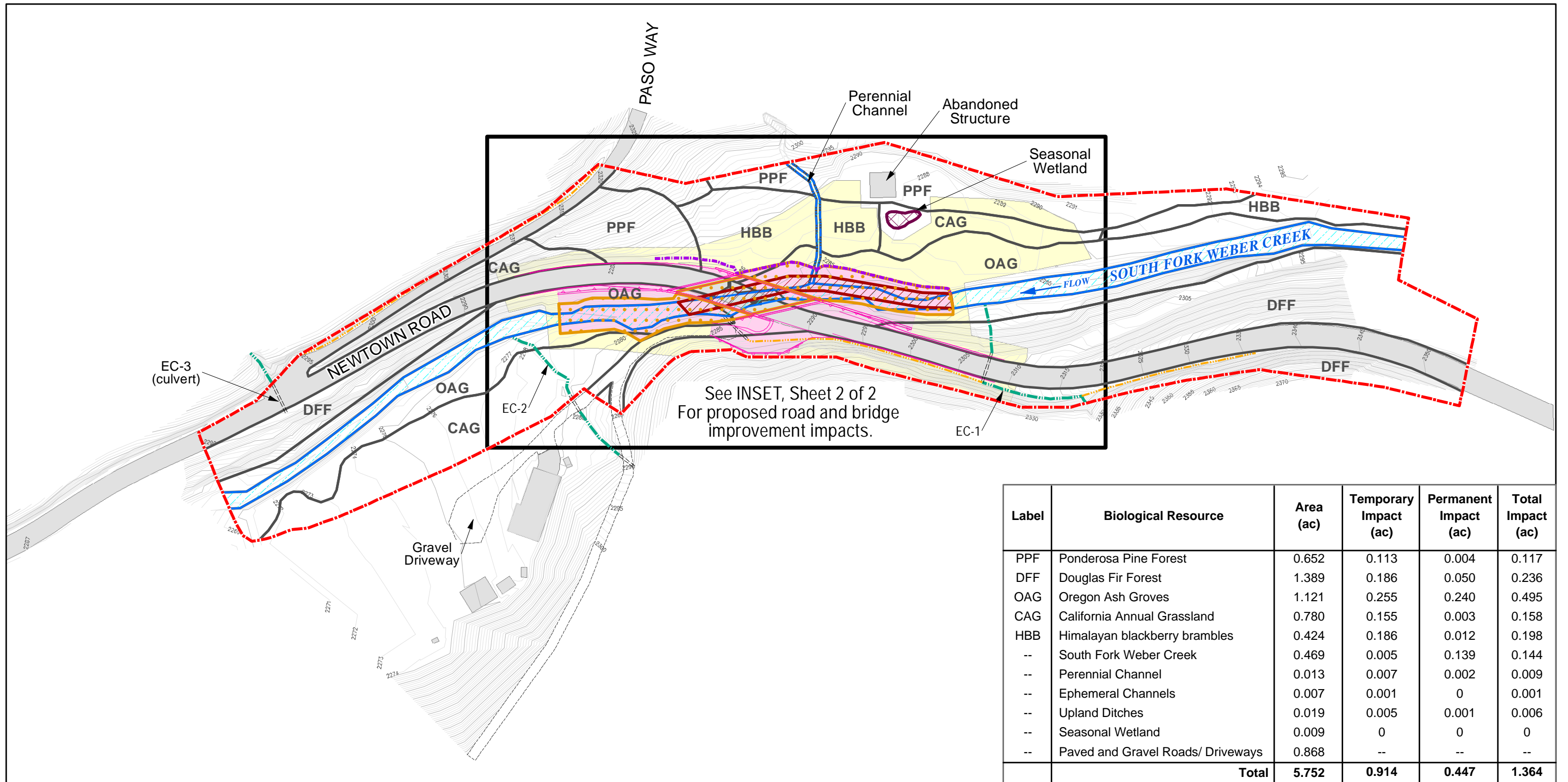
Figure 3A.
Proposed Project Map (Alternative 1)
Sheet 2 of 2, INSET

- Biological Study Area (BSA; 5.75 ac)
- South Fork Weber Creek
- Perennial Channel
- Seasonal Wetland
- Ephemeral Channel (EC)
- Upland Ditches
- Existing Culvert
- Proposed Road and Bridge Improvements
- Limits of Grading
- Realign Channel
- Proposed Rock Slope Protection (RSP)
- Creek Grading
- Permanent Impact
- Temporary Impact



Topographic basemap:
XSurface.dwg (10 Nov 2015) by El Dorado County DOT
Alternatives: VeerkampSmeltzer Alt A.dwg (19 Jan. 2017)
Parcels and Roads: El Dorado County, GIS datasets

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Label	Biological Resource	Area (ac)	Temporary Impact (ac)	Permanent Impact (ac)	Total Impact (ac)
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CAG	California Annual Grassland	0.780	0.155	0.003	0.158
HBB	Himalayan blackberry brambles	0.424	0.186	0.012	0.198
--	South Fork Weber Creek	0.469	0.005	0.139	0.144
--	Perennial Channel	0.013	0.007	0.002	0.009
--	Ephemeral Channels	0.007	0.001	0	0.001
--	Upland Ditches	0.019	0.005	0.001	0.006
--	Seasonal Wetland	0.009	0	0	0
--	Paved and Gravel Roads/ Driveways	0.868	--	--	--
Total		5.752	0.914	0.447	1.364

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El Dorado County, CA
29 November 2017

- Biological Study Area (BSA; 5.75 ac)
- South Fork Weber Creek
- Perennial Channel
- Seasonal Wetland
- Ephemeral Channel (EC)
- Upland Ditches
- Existing Culvert
- Proposed Road and Bridge Improvements
- Limits of Grading
- Proposed Rock Slope Protection (RSP)
- Creek Re-alignment
- Permanent Impact
- Temporary Impact

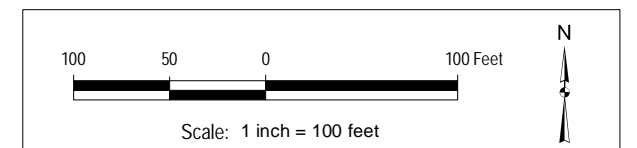
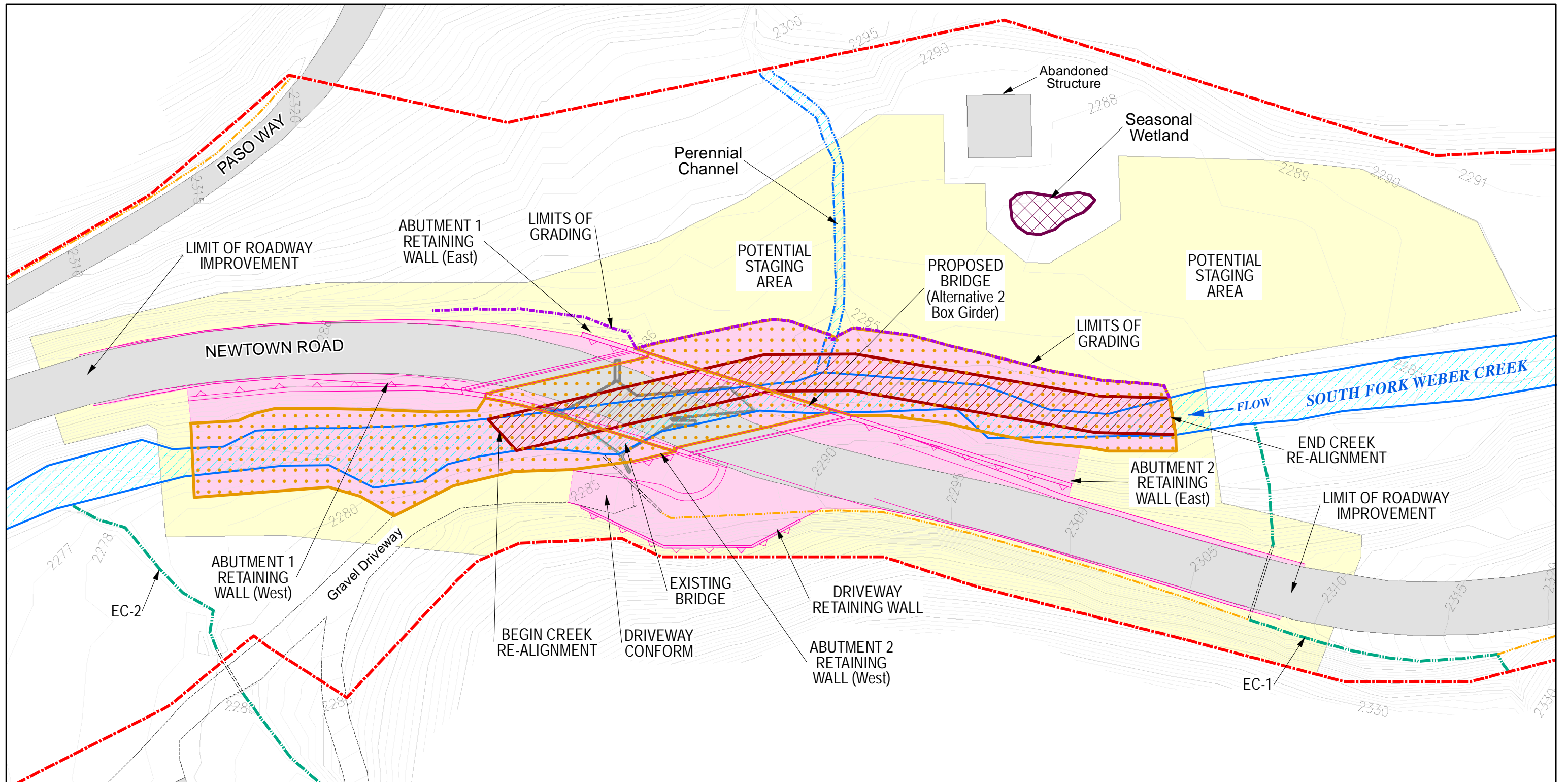


Figure 3B.
Proposed Project Map (Alternative 2)
Sheet 1 of 2

Topographic basemap:
XSurface.dwg (10 Nov 2015) by El Dorado County DOT
Alternatives: CREEKBED-ALTERNATIVE 2.dwg (10 Feb. 2017)
Parcels and Roads: El Dorado County, GIS datasets

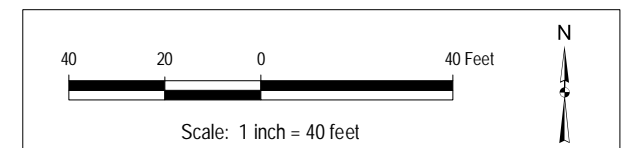
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Newtown Road at
South Fork Weber Creek
Bridge (25C-0033)
Replacement Project
El Dorado County, CA
29 November 2017

Figure 3.
Proposed Project Map (Alternative 2)
Sheet 2 of 2, INSET

- | | |
|--------------------------------------|---------------------------------------|
| Biological Study Area (BSA; 5.75 ac) | Proposed Road and Bridge Improvements |
| South Fork Weber Creek | Limits of Grading |
| Relatively Permanent Water (RPW) | Proposed Rock Slope Protection (RSP) |
| Seasonal Wetland | Creek Re-alignment |
| Ephemeral Channel (EC) | Permanent Impact |
| Upland Ditches | Temporary Impact |
| Existing Culvert | |



Topographic basemap:
XSurface.dwg (10 Nov 2015) by El Dorado County DOT
Alternatives: CREEKBED-ALTERNATIVE 2.dwg (10 Feb. 2017)
Parcels and Roads: El Dorado County, GIS datasets

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1.2.3. New Bridge Designs and Construction Sequence

Alternative 1

Alternative 1 is a Conspan precast arch option. It is the cheapest and simplest option. Alternative 1 would result in fewer impacts to natural communities of special concern, including South Fork Weber Creek and its riparian corridor. Alternative 1 would require less rock slope protection (RSP), including the amount placed below the OHWM of South Fork Weber Creek. In addition, this design would not require falsework; foundation construction is simple and straightforward; it would take less time to construct; it would better facilitate emergency vehicle traffic through staged construction; and it would reduce maintenance following storm events.

Based on preliminary design drawings (dated 11 July 2013), Alternative 1 is a Conspan precast arch bridge supported on spread footings. The structure would be approximately 180 feet long, approximately 7 feet tall, and would have an approximately 28-ft span. The bridge would accommodate two-way traffic consisting of 12-ft wide lanes and 4-ft wide road shoulders with Midwest Guardrail System guardrails. This design would require installation of three wing walls and one retaining wall of varying heights and lengths. Wing walls (approximately 34.6, 46, and 52 feet in length) would extend beyond the southwest, northwest, and northeast edges of the Conspan. A separate retaining wall (approximately 70 feet in length) would be installed along the south side of the east road approach that would terminate at the southeast edge of the Conspan.

Under the Alternative 1 design, road approach improvements on Newtown Road would extend approximately 160 to 170 linear feet east and west of the bridge. The Newtown Road roadway profile grade would be raised approximately 2 to 4 feet to accommodate the top slab and the proposed 1.2-ft deep roadway structural section. The bridge would not impact the existing 100-year flood limits downstream of the bridge nor impact the residence downstream of the bridge. Dimensions of this bridge structure would allow for a 100-year event with 1-ft freeboard to the proposed roadway finished grade and a 3-ft freeboard with a 50-year event.

The Conspan would be installed at approximately the same location as the existing bridge, but at an angle slightly more perpendicular to Newtown Road. The proposed skew of this bridge design would result in a lengthy Conspan structure. The arch culvert would clear span the OHWM of South Fork Weber Creek. Bridge replacement would require realignment of approximately 360 feet of South Fork Weber Creek and 40 feet of a small unnamed perennial channel. RSP would be placed below the OHWM of South Fork Weber Creek in the BSA. The RSP would be placed below the bottomless arch culvert and extend approximately 110 feet east

and 60 feet west of the longitudinal extent of the culvert. RSP would be installed to a depth of 2 feet.

Alternative 2

Alternative 2 requires less permanent ROW acquisition than Alternative 1. Alternative 2 would require falsework, a longer construction timeline, presents constructability challenges, and would be costlier than Alternative 1.

Based on preliminary design drawings (dated 14 January 2015), Alternative 2 is a cast-in-place post-tensioned box girder structure supported on spread footings. This structure would be approximately 90 feet long and have a clear width of approximately 35.6 feet. The bridge would accommodate two-way traffic with 12-ft wide lanes and 4-ft wide road shoulders. Barrier rails would be installed along each side of the new bridge. A total of five retaining walls (approximately 20, 30, 100, 110, and 120 feet in length) would be installed along the north and south sides of both road approaches, and the south side of the gravel driveway entrance located southeast of the existing bridge.

Under the Alternative 2 design, road approach improvements on Newtown Road would extend approximately 220 feet from either side of the bridge. The Newtown Road roadway profile grade would be raised to provide adequate freeboard for 50-year and 100-year events.

Bridge replacement would require realignment of approximately 260 feet of South Fork Weber Creek to match the alignment of the new bridge. RSP would be installed above and below the OWHM of South Fork Weber Creek. RSP would be installed below the new bridge and extend approximately 140 feet west and 160 feet east of the new bridge. The RSP would be keyed into both banks below the bridge up to each abutment and along the banks of South Fork Weber Creek. RSP would be installed to a depth of approximately 2 feet.

General Bridge Construction

Temporary construction easements or right of entry would be required from adjacent properties for either alternative selected. Permanent easements may be required for relocating existing utility poles and raising overhead lines. One utility pole located north of the existing west road approach would likely be relocated, which may require vegetation removal within the vicinity of the pole. At the discretion of the utility provider, additional poles to the east and west may need to be relocated.

Staging would be available to the contractor in the flat area northeast of the existing bridge. It is anticipated that Newtown Road would be closed at the Project site and a detour would be provided for emergency use during construction. Public traffic, except for the existing driveway at the southeast corner of the bridge, would use Old Fort Jim Road as a detour. One-way access (towards Pleasant Valley Road) would be maintained at all times during construction to the existing driveway at the southeast corner of the bridge.

Construction would begin with clearing and grubbing of areas to be excavated, built-up, or recontoured. Excavation depth for roadway improvements and staging area preparation would not exceed 1.5 feet. A water diversion (see Section 1.2.4) would be in place prior to bridge demolition. Bridge demolition would likely involve jack-hammering, ramming (with a mechanical ram mounted on a backhoe), temporary shoring, and crane work. The existing bridge, including abutments, and the concrete and corrugated metal pipe in the bed of South Fork Weber Creek would be removed. Existing abutments may be cut below final stream grade and covered with native river rock. All debris generated by bridge demolition would be removed from the dry streambed and disposed of at a County-approved, or commercially-approved facility.

The existing toe of slope gutters would be enlarged and an underdrain would be installed at the edge of road pavement in areas below the existing cut slopes. Drainage ditches are not expected to be greater than 4 feet deep. Surface water from the roadway, its graded shoulders, and the embankment slopes would be directed away from the bridge.

Best management practices would be implemented during construction to prevent concrete or other materials from entering South Fork Weber Creek and the perennial channel. General bridge construction equipment expected to be used includes, but is not limited to: haul trucks, cranes, excavators, gradalls, backhoes, dump delivery trucks, concrete boom pump, and service vehicles. Use of rock-breaking equipment is anticipated for excavations into rock.

1.2.4. Stream Diversion

Since there is the potential for flow in South Fork Weber Creek and the perennial channel during construction, the Contractor will be required to install a temporary stream crossing and clear water diversions in accordance with Caltrans' California Storm Water Quality Handbooks, Construction Site Best Management Practices Manual (2003). BMP NS-4 "Temporary Stream Crossing" and BMP NS-5 "Clear Water Diversion" will facilitate the work in the creeks while minimizing erosion, sedimentation, and other water quality concerns.

This report is using the term “diversion” for the re-routing of flowing water. Dewatering is the pumping of standing water, either in pools in the creek, behind a water diversion, or in the excavation pits dug for the new abutment foundations.

Diversion materials and design would be selected by the contractor. Diversions may consist of culverts, diversion dams, etc. Typical diversion materials include gravel-filled bags and visqueen plastic sheets, or comparable materials. If pipes are used for South Fork Weber Creek, the pipes would be positioned to allow free passage of fish through the work zone and would be appropriately sized.

South Fork Weber Creek transitions from intermittent to perennial at its confluence with the perennial channel, just upstream of the existing bridge. Flows in South Fork Weber Creek are naturally very low (<1 cfs) during summer months of normal rainfall years. Flow was not sufficient to accommodate fish passage in July and October 2012. Although the perennial channel appears to flow year-round, it transports only a small amount of water and does not contain pools or provide habitat for fish. The bed of South Fork Weber Creek is composed of bedrock and large cobble. The potential for increased erosion and scour due to stream diversion is minimal. Any stream diversion would be erected and maintained until all in-stream work is complete or such time that the high stream flows require disassembly and removal from the stream corridor.

To avoid the bridge construction area, the perennial channel may be diverted using either diversion culverts or diversion dams. Diversion would be either 1) to the east where it would empty into an upstream segment of South Fork Weber Creek, or 2) to the west across Newtown Road where it would empty into South Fork Weber Creek downstream of proposed construction activities. A diversion to downstream of the existing bridge may minimize the amount of water in the construction zone. SF Weber Creek annually dries up upstream of the existing bridge by late spring, so fish passage upstream is not an issue of concern.

Groundwater may be encountered during excavations, most likely at the footings for the bridge or culvert structure, or the retaining walls. Pumps may be used to pump water from within the work area. Appropriate measures would be taken to avoid impacts to aquatic animals. Dewatering would be in accordance with Caltrans’ BMP NS-02 “Dewatering Operations” and may include the use of SC-02 or SC-03, Sedimentation/Desilting Basins or Sediment Traps, respectively. Clean, non-turbid water would be returned to the creek. Turbid water would be detained in a storage basin until it has settled, at which time it would be returned to the creek.

Upon completion of construction activities within the creek bed, the temporary diversion structures would be removed. Portions of the creek banks temporarily impacted would be revegetated for erosion control. Specific revegetation methods are described in the Revegetation Planting and Erosion Control Specifications (Appendix G). A Replanting Plan is in Appendix H.

1.2.5. Project Schedule

Construction of the proposed bridge is planned to commence in 2019 or later. Relocation of utilities may require the County, utility provider, or their contractors to trim or remove trees prior to construction. Work within the OHWM of South Fork Weber Creek would be restricted to the dry season, generally defined as the time period between 15 April and the first qualifying rain event on or after 15 October (more than one half inch of precipitation in a 24-hour period), subject to the Streambed Alteration Agreement, unless CDFW provides approval of work outside that period. Project duration is expected to be one season. It is anticipated that Newtown Road would be closed for approximately 8 months during construction.

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Chapter 2. Study Methods

An evaluation of biological resources was conducted to determine whether any special-status plant or wildlife species or their habitat, or other sensitive habitats occur in the BSA. Data on special-status species and habitats known in the area were obtained from state and federal agencies. Maps and aerial photographs of the BSA and surrounding areas were reviewed. A field survey was conducted to determine the habitats present. The field survey, map review, and a review of the biology of evaluated species and habitats were used to determine the special-status species and sensitive habitats that could occur in the BSA.

Special-status species in this NES are those listed (or candidate or proposed) under the federal or state endangered species acts, under the California Native Plant Protection Act, as a California species of special concern or fully protected by the California Department of Fish and Wildlife (CDFW), or that are California Rare Plant Rank 1 or 2 (CNPS 2017). Special-status natural communities in this NES are waters, wetlands, riparian communities, and any natural community ranked S1, S2, or S3 by CDFW (2010).

2.1. Regulatory Requirements

The purpose of the NES is to document biological studies and perform analyses and evaluations necessary to satisfy the legal requirements of State and federal statutes. These statutes include:

2.1.1. Federal Regulations

National Environmental Policy Act (NEPA)

NEPA [42 U.S.C. 4321 et seq.] was signed into law on January 1, 1970. The Act establishes national environmental policy and goals for the protection, maintenance, and enhancement of the environment and provides a process for implementing these goals within the federal agencies. NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions.

Clean Water Act Section 401 Water Quality Certification - Regional Water Quality Control Board (RWQCB)

Under Section 401 of the Clean Water Act (33 U.S.C. 1341), applications for a federal permit or license for any activity that may result in a discharge to a water body, require a State Water Quality Certification to ensure that the proposed activity complies with state water quality standards.

Section 402 of the Clean Water Act - NPDES - Regional Water Quality Control Board (RWQCB)

Section 402(p) of Clean Water Act establishes a permit under the NPDES program for discharges of storm water resulting from ground disturbing construction activities, such as grading. For ground disturbing activities impacting less than one acre, compliance with the County's grading ordinance satisfies the requirements of NPDES. For ground disturbing construction activities in excess of one acre, a NPDES Phase II permit from the RWQCB is required. The preparation of a Stormwater Pollution Prevention Plan (SWPPP) is a requirement of the NPDES Phase II permit.

Clean Water Act Section 404 Permit - U.S. Army Corps of Engineers (Corps)

The Corps and the U.S. Environmental Protection Agency regulate the discharge of dredge and fill material into "waters of the United States" under Section 404 of the Clean Water Act (33 U.S.C. 1344). The Corps issues permits for certain dredge and fill activities in waters of the U.S. pursuant to the regulations in 33 CFR 320-330.

Federal Endangered Species Act (FESA)

FESA defines take (Section 9) and prohibits taking of a federal-listed endangered or threatened animal without an Incidental Take Permit (16 U.S.C. 1532, 50 CFR 17.3). If a federal-listed animal could be harmed, harassed, injured, or killed by a project, a Section 7 consultation is initiated by a federal agency or a Section 10 consultation is initiated by a local agency or private applicant. Formal consultations culminate with a Biological Opinion and may result in the issuance of an Incidental Take Permit.

Federal Migratory Bird Treaty Act (MBTA)

All migratory birds are protected under the federal MBTA of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10 including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR Part 21). Any construction-related disturbance that causes direct injury, death, nest abandonment, or forced fledging of migratory birds, is restricted under the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of nestlings is considered a 'take' of the species under federal law.

Federal Magnuson-Stevens Fishery Conservation and Management Act

Under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), Essential Fish Habitat (EFH) for the Pacific coast salmon fishery includes waters and substrates necessary for salmon production to support a long-term sustainable salmon fishery and

salmon contributions to a healthy ecosystem. The geographic extent of freshwater EFH is specifically defined as all currently viable waters and most of the habitat historically accessible to salmon within a USGS hydrologic unit (PFMC 1999). Consultation with NOAA Fisheries is required by federal agencies undertaking, permitting, or funding activities that may adversely affect EFH.

Executive Order 13112 - Invasive Species

Executive Order 13112, issued 3 February 1999, is a directive aimed at preventing the introduction and spread of invasive species as a result of federal agency actions. EO 13112 directs federal agencies to use relevant programs and authorities to prevent the introduction of invasive plants and animals, control existing populations of such species, monitor populations of such species, and provide for the restoration of native species. The Federal Highway Administration (FHWA) is ordered to not authorize, fund, or carry out projects that are likely to cause or promote the introduction or spread of invasive species. Invasive species in the study area are evaluated in Section 5.6.

2.1.2. State Regulations

California Environmental Quality Act (CEQA)

The California Environmental Quality Act is a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. CEQA applies to all discretionary projects proposed to be conducted or approved by a California public agency, including private projects requiring discretionary government approval.

CA Endangered Species Act (CESA)

CESA prohibits take of wildlife and plants listed as threatened or endangered by the California Fish and Game Commission. “Take” is defined under California Fish and Game Code § 86 as any action or attempt to “hunt, pursue, catch, capture, or kill.” CESA allows exceptions for take that occurs during otherwise lawful activities. Fish and Game Code § 2081 describes the requirements for incidental take applications under CESA. Incidental take of state-listed species may be authorized if an applicant submits a plan that minimizes and mitigates the impacts of take, and makes financial assurance for the mitigation. Incidental take applications require a fee.

Lake and Streambed Alteration Agreement (CA Fish and Game Code § 1600)

Fish and Game Code § 1600 requires any person, government agency, or public utility proposing any activity that will divert or obstruct the natural flow or change the bed, channel or bank of any

river, stream, or lake, or proposing to use any material from a streambed, to first notify CDFW of such proposed activity.

Native Plant Protection Act (NPPA; CA Fish and Game Code § 1900-1913)

The NPPA prohibits the taking, possessing, or sale within the state, of any plants with a state designation of rare, threatened, or endangered. An exception to this prohibition in the Act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFW and give that state agency at least 10 days to come and retrieve the plants before they are disturbed or destroyed. Fish and Game Code § 1913 exempts from take prohibition “the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way.”

Nesting Birds and Birds-of-Prey (CA Fish and Game Code § 3503, 3503.5)

Fish and Game Code § 3503 protects all nesting native birds. Fish and Game Code § 3503.5 protects all birds in the orders Falconiformes and Strigiformes (collectively known as birds-of-prey). Birds-of-prey include raptors, falcons, and owls. It is unlawful to take, possess, or needlessly destroy the nest or eggs of any native bird or bird-of-prey, except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto.

Fully Protected Species (CA Fish and Game Code § 3511, 4700, 5050)

CDFW’s classification of “fully protected” species was the State’s initial effort in the 1960s to identify and protect animals that were rare or faced possible extinction. Lists of fully protected species were created for birds (§ 3511) mammals (§ 4700) reptiles and amphibians (§ 5050), and fish (§ 5515). The Fish and Game Code states that fully protected species, “... may not be taken or possessed at any time. No provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species.”

Take Prohibition (CA Fish and Game Code § 86, 2080)

Fish and Game Code § 86 defines ‘take’ and § 2080 prohibits ‘taking’ of a species listed as threatened or endangered under CESA (CA Fish and Game Code § 2080) or otherwise fully protected, as defined in CA Fish and Game Code § 3511, 4700, and 5050.

Senate Bill 1334 (SB 1334) - The Oak Woodlands Conservation Act.

SB 1334 is an act to add § 21083.4 to the Public Resources Code (PRC), relating to oak woodlands conservation. California PRC § 21083.4 requires each county in California to implement an oak woodland protection policy to mitigate for the loss of oak woodlands resultant from approved projects within their jurisdiction. In this policy, oak trees are defined as all native

species of oaks larger than five inches dbh (diameter at breast height, or 4.5 feet above grade). At least one of four mitigation alternatives for significant conversions of oak woodlands are required in this regulation: 1) conserve oak woodlands through the use of a conservation easement, 2) plant an appropriate number of trees, including maintaining plantings and replacing dead or diseased trees (planting maintenance must last for seven years, and mitigation plantings shall not fulfill more than one-half the mitigation requirement for the project; this alternative may also be used to restore former oak woodlands), 3) contribute funds to the Oak Woodlands Conservation Fund, as established under § 1363 (a) of the Fish and Game Code, and 4) other mitigation measures developed by the County.

2.2. Studies Required

2.2.1. Database Searches

An official letter and list was obtained from the USFWS, Sacramento Field Office on 18 September 2011, and from National Marine Fisheries Service (NMFS) on 24 February 2017 (Appendix B). The USFWS list was updated on 14 November 2017 (Appendix A). The lists identify federal-listed, candidate, or proposed species that potentially occur in, or could be affected by, the Project.

The California Natural Diversity Database (CNDDDB) was queried for known occurrences of special-status species in or near the BSA (Camino Quad and the eight surrounding quads; data dated 31 July 2017; Appendix C).

The California Native Plant Society (CNPS) inventory of rare and endangered plants was queried for known occurrences of special-status plants in or near the BSA (Camino Quad and the eight surrounding quads; data dated 31 July 2017; Appendix D).

Data received from USFWS, NMFS, CNDDDB, and CNPS records were used to compile a table of regional species and habitats of concern (Table 3). The CNDDDB tracks other species that have not been designated by CDFW as a California species of special concern; these species were not evaluated as special-status species in this NES. California Rare Plant Rank 3 and 4 plant species are either more common or more information is needed. The El Dorado County General Plan only considers California Rare Plant Rank 1 and 2 plants of concern. As such, California Rare Plant Rank 3 and 4 species were not evaluated as special-status species in this NES.

2.2.2. Biological Study Area

The BSA is located along Newtown Road approximately two miles south of the community of Camino in unincorporated El Dorado County. The BSA boundary is based on preliminary designs included in the 2015 Technical Memorandum prepared by Drake Haglan and Associates. The BSA is defined as all areas that could potentially be impacted by the Project, including temporary and permanent impacts. The BSA includes the direct Project footprint plus a buffer to allow for equipment access, staging, and any minor design changes that may occur as the Project design is finalized.

2.2.3. Survey Methods

Biological surveys consisted of walking through the BSA to determine if any special-status species or their habitat were present. Natural communities, wildlife species, and plant species were identified and recorded. Potential habitat for special-status species was evaluated. Appendix E is a list of species observed during surveys. Photographs of the BSA are in Appendix F.

A jurisdictional delineation of wetlands and waters was conducted according to U.S. Army Corps of Engineers standards (Corps 1987; Corps 2010). The jurisdictional delineation report is separately bound. The results of the jurisdictional delineation are incorporated into this NES.

Botanical surveys were conducted in accordance with CDFW protocols (CDFW 2009). Surveys were conducted in June and July to coincide with the evident and identifiable period of special-status plants with potential habitat in the BSA. Approximately 11 person-hours were spent specifically surveying the site for plants. Surveys consisted of walking through the BSA systematically to look for all vascular plants present. Areas where a different microhabitat was present, such as a wetland, were inspected. Additional time was spent surveying on-site during the general biological survey and jurisdictional delineation. Approximately 30 person-hours were spent keying specimens that were collected in the field to verify or determine the identification. All vascular plants observed on-site are in Appendix E.

2.3. Personnel and Survey Dates

Table 1 contains the date, personnel, and purpose of field surveys that were conducted in support of the Project.

Table 1. Summary of Biological Fieldwork

Date	Personnel	Purpose
4 May 2011	Jeff Little, Vice President/ Project Manager	Reconnaissance survey
12 June 2012	Mike Bower, M.S. Biologist/ Botanist Jessica Orsolini, B.S., Wildlife Biologist	Biological survey, wetland delineation, botanical survey
27 July 2012	Chuck Hughes, M.S., Botanist Mike Bower, M.S. Biologist/ Botanist	Wetland delineation, botanical survey
8 October 2012	Chuck Hughes, M.S., Botanist	Channel hydrology verification
7 March 2013	Jessica Orsolini, B.S., Wildlife Biologist	Environmental awareness training and monitoring
25 January 2016	Mike Bower, M.S. Biologist/ Botanist	Environmental awareness training and monitoring
26 June 2016	Allie Sennett, M.S., Biologist	Environmental awareness training and monitoring
27 June 2016	Allie Sennett, M.S., Biologist	Monitoring

This NES was prepared by Jessica Orsolini and Allie Sennett. Jeffery Little (Principal-in-Charge) conducted the QA/QC review. Aramis Respall prepared the figures.

2.4. Agency Coordination and Professional Contacts

Coordination occurred with Monika Pedigo, Associate Civil Engineer, Jennifer Maxwell, P.E., Senior Civil Engineer, and Chandra Ghimire, P.E., Senior Civil Engineer, El Dorado County Department of Transportation, on an ongoing basis.

Between December 2016 and mid-February 2017, the County and Sycamore Environmental provided Jennifer Osmondson, a biologist with Caltrans, information regarding past and proposed cultural investigations for the Project.

On 12 January 2017, Jennifer Osmondson, notified Richard Kuyper, Sierra/Cascades Division Chief, USFWS, of past and proposed cultural investigations for the Project. Richard Kuyper assigned technical assistance responsibilities to Rebecca Kirby, Biologist, USFWS.

Rebecca Kirby provided technical assistance to Jennifer Osmondson on 26 and 30 January 2017 and 15 and 21 February 2017. On 15 February 2017, Rebecca Kirby informed Jennifer Osmondson that proposed cultural investigations may proceed without initiating consultation. On 21 February 2017, Rebecca Kirby provided Caltrans notice to proceed with cultural investigations, provided that Caltrans commit to selected avoidance and minimization measures for CRLF during the cultural investigations.

On 23 August 2017, Ian Vogel, USFWS Biologist, Jessica Orsolini, Sycamore Environmental Biologist, and Jeff Little, Sycamore Environmental Vice President, conducted field visits to multiple storm damage projects throughout El Dorado County, including a brief visit to the Project BSA. CRLF habitat and potential project-related impacts to CRLF were discussed.

In September 2017, Ian Vogel, USFWS biologist, and representatives from the Corps of Engineers and El Dorado County briefly stopped at the Newtown Bridge site after conducting a field review at the Fort Jim Rd Sinkhole Repair Project. The Fort Jim Sinkhole Repair Project is located on South Fork Weber Creek, approximately 2 miles downstream of the Action Area. On 7 and 21 September, Ian Vogel provided information related to environmental deoxyribonucleic acid (eDNA) surveys conducted along Weber Creek and North Fork Weber Creek in 2017. The Fort Jim Rd culvert is immediately upstream of the confluence of the North and South Forks.

2.5. Limitations That May Influence Results

No problems or limitations were encountered that may have influenced the results.

Chapter 3. Results: Environmental Setting

The BSA is located along Newtown Road in the western Sierra Nevada Mountains, roughly two miles south of the community of Camino in unincorporated El Dorado County. Land use surrounding the BSA consists of low density residential.

3.1. Existing Biological and Physical Conditions

3.1.1. Biological Study Area

The approximately 5.752 acre BSA includes approximately 0.25 mile of Newtown Road east and west of the bridge over South Fork Weber Creek, the road shoulders, and portions of adjacent private parcel numbers (APN) 077-431-14, 077-431-15, 077-431-17, 077-431-18, 077-431-57, and 077-431-62. South Fork Weber Creek flows west through the center of the BSA. The BSA includes South Fork Weber Creek, its floodplain, and moderately to steeply sloped hillsides. The BSA is located in a rural residential area bound by a residence to the southwest, and undeveloped portions of private parcels to the north and southeast. An additional residence occurs adjacent to the southeast corner of the BSA.

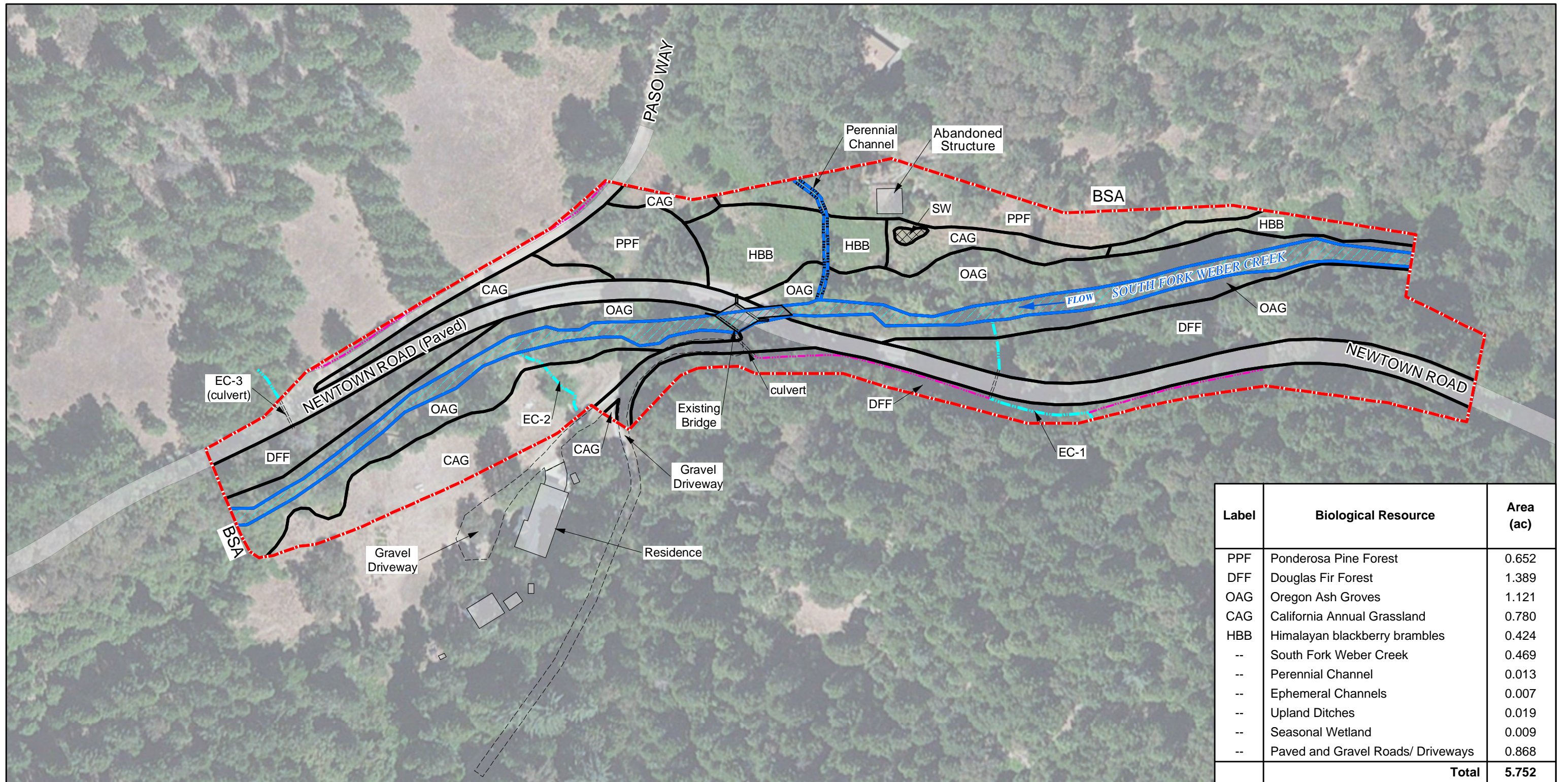
3.1.2. Physical Conditions

The BSA is on the Camino quad (T10N, R12E, Section 20), and is in the South Fork American Hydrologic Unit (Hydrologic Unit Code 18020129). The centroid of the BSA is 38.759468° north, 120.492233° west (WGS 84), and its UTM coordinates are 717,900 m East; 4,293,070 m North (Zone 10 North, WGS84, Mt. Diablo Base and Meridian). Elevation in the BSA ranges from approximately 2,270 to 2,355 feet above sea level. Soils in the BSA are Placer Diggings, derived from a mixture of rocks which have been placer mined; Mariposa-Josephine very rocky loams, derived from schist, slate, and contact metamorphic rock; and Sites loam, derived from metasedimentary and metabasic rock. More detailed soil information is in the Jurisdictional Delineation Report (separately bound).

3.1.3. Biological Conditions in the BSA

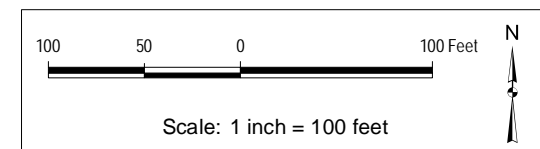
Biological communities are defined by species composition and relative abundance. Biological communities in the BSA are listed in Table 2, shown on Figure 4, and described below. These communities correlate where applicable with the list of California terrestrial natural communities recognized by CDFW (2010). Biological community descriptions include plant species identified during the field surveys. Natural communities of special concern are discussed in Section 4.1.

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Newtown Road at
South Fork Weber Creek
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- Biological Study Area (BSA; 5.75 ac)
- Biological Boundary
- South Fork Weber Creek
- Seasonal Wetland (SW)
- Perennial Channel
- Ephemeral Channel (EC)
- Upland Ditches
- Existing Culvert
- Existing Bridge Location



Topographic basemap:
XSurface.dwg (10 Nov 2015)
by El Dorado County DOT

Aerial Photograph:
13 July 2014
NAIP 2014, USDA FSA Imagery
ESRI ArcGIS Basemap Service layer

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

Figure 4.
Biological Resources Map

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3.1.4. Common Wildlife Species

Wildlife species observed in the BSA are listed in Appendix G. Numerous other common wildlife species have potential to occur in the BSA. Common amphibian and reptile species with potential to occur include, but are not limited to: California mountain kingsnake (*Lampropeltis zonata*), gopher snake (*Pituophis catenifer*), valley garter snake (*Thamnophis sirtalis fitchi*), mountain garter snake (*Thamnophis elegans elegans*), Sierra garter snake (*Thamnophis couchii*), northern pacific rattlesnake (*Crotalus oreganus oreganus*), southern alligator lizard (*Elgaria multicarinata*), western fence lizard (*Sceloporus occidentalis*), Sierran treefrog (*Pseudacris sierra*), and western toad (*Anaxyrus boreas*).

Common bird species with potential to occur include, but are not limited to: wild turkey (*Meleagris gallopavo*), American robin (*Turdus migratorius*), Anna's hummingbird (*Calypte anna*), black-headed grosbeak (*Pheucticus melanocephalus*), American dipper (*Cinclus mexicanus*), downy woodpecker (*Picoides pubescens*), great horned owl (*Bubo virginianus*), bushtit (*Psaltriparus minimus*), California quail (*Callipepla californica*), California towhee (*Melospiza crissalis*), house finch (*Carpodacus mexicanus*), northern flicker (*Colaptes auratus*), Nuttall's woodpecker (*Picoides nuttallii*), spotted towhee (*Pipilo maculatus*), white-breasted nuthatch (*Sitta carolinensis*), American crow (*Corvus brachyrhynchos*), and common raven (*Corvus corax*).

Common mammal species with potential to occur include, but are not limited to: mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), western gray squirrel (*Sciurus griseus*) North American deermouse (*Peromyscus maniculatus*), raccoon (*Procyon lotor*), and Virginia opossum (*Didelphis virginiana*).

3.1.5. Habitat Connectivity

The BSA is located in a rural residential area and the scope and footprint of the Project are small compared to the surrounding available habitat. The Project does not substantially increase the footprint of Newtown Road or significantly change existing wildlife movement corridors.

Policy 7.4.2.9 of the El Dorado County General Plan identifies and protects areas designated as an Important Biological Corridor (IBC). The IBC overlay applies to lands identified as having high wildlife habitat values because of extent, habitat function, connectivity, and other factors. Applicable provisions in the policy include no hindrances to wildlife movement (El Dorado County 2004a). The BSA is not located in a designated IBC overlay.

Mule deer habitat of the Western United States (WAFWA 2017) was reviewed for mule deer migration corridors. The Project is located within the winter range of mule deer habitat. The winter range includes areas that provide habitat for 90 percent of the individuals during the average five out of ten winters from the first heavy snowfall to spring green-up, or during a site-specific period of winter. The range of mule deer extends throughout much of California. Mule deer range includes the North Coast, Sacramento Valley, Cascade Ranges, Modoc Plateau, San Francisco Bay Area, Sierra Nevada, Transverse Range and most of the Central Coast and Peninsular Ranges. Mule deer typically do not occur in much of the San Joaquin Valley, Mojave Desert, South Coast, and sections of the Sonoran Desert.

Important Bird Areas (IBAs) identify sites that provide essential habitat for birds. The National Audubon Society IBAs were reviewed to determine if the Project is located in a Global IBA, Continental IBA, or ISB (NAS 2017). The Project is not located in any IBAs.

South Fork Weber Creek is tributary to Weber Creek. Weber Creek flows into Folsom Lake. The Nimbus Dam on Folsom Lake is a complete barrier to anadromous fish passage. The BSA is not accessible to anadromous fish.

Table 2. Natural Communities in the BSA

Natural Community	Vegetation Alliance ¹ and CDFW Alliance Code ²	Rarity Rank ³	Acreage
Ponderosa Pine Forest	<i>Pinus ponderosa</i> Forest Alliance (87.010.00)	G5 S4	0.652
Douglas Fir Forest	<i>Pseudotsuga menziesii</i> Forest Alliance (82.200.00)	G5 S4	1.389
Oregon Ash Groves	<i>Fraxinus latifolia</i> Forest Alliance (61.960.00)	G4 S3	1.121
California Annual Grassland	--	--	0.780
Himalayan Blackberry Brambles	<i>Rubus armeniacus</i> Semi-Natural Shrubland Stand	--	0.424
South Fork Weber Creek	--	--	0.469
Perennial Channel	--	--	0.013
Ephemeral Channels	--	--	0.007
Upland Ditches	--	--	0.019
Seasonal Wetland	<i>Poa pratensis</i> Semi-Natural Herbaceous Stand or Annual Brome Semi-Natural Stand	--	0.009
Paved and Gravel Roads/ Driveways	--	--	0.868
Total:			5.752

¹ Vegetation alliances based on descriptions and classification methods in Sawyer et al. (2009).

² Alliance codes from CDFW (2010).

³ Rarity ranking follows NatureServe's Heritage Methodology and is based on degree of imperilment as measured by rarity, trends, and threats. State (S) ranks of 1-3 are considered highly imperiled (CDFW 2010). Global (G) ranks are as follows: GX – eliminated; GH – presumed eliminated; G1 – critically imperiled; G2 – imperiled; G3 – vulnerable; G4 – apparently secure; G5 – secure.

Ponderosa Pine Forest: Ponderosa pine forest occurs in the upland areas of the BSA north of Newtown Road. This community occurs primarily on south-facing slopes in the BSA. This community is dominated by Ponderosa pine (*Pinus ponderosa*) in the tree canopy. Black oaks (*Quercus kelloggii*) and valley oaks (*Quercus lobata*) occur in lesser abundance in the tree canopy. The understory in this community is sparsely vegetated with nonnative herbaceous grasses and forbs such as tall sock-destroyer (*Torilis arvensis*), Klamathweed (*Hypericum perforatum* ssp. *perforatum*), goose grass (*Galium aparine*), and bristly dogtail grass (*Cynosurus echinatus*).

Douglas Fir Forest: Douglas fir forest occurs in the upland areas of the BSA south of Newtown Road. This community occurs primarily on north-facing slopes in the BSA. The overstory is

dominated by Douglas fir (*Pseudotsuga menziesii*). Black oaks, Ponderosa pines, and incense cedars (*Calocedrus decurrens*) occur in lesser abundance in the tree canopy. Big-leaf maples (*Acer macrophyllum*) occur along the road cutbank. The understory is dominated by western poison oak (*Toxicodendron diversilobum*), snowberry (*Symphoricarpos* sp.), gooseberry (*Ribes* sp.), and bracken (*Pteridium aquilinum* var. *pubescens*).

Oregon ash groves: Oregon ash groves occur along the margins of South Fork Weber Creek. The overstory is dominated by Oregon ash (*Fraxinus latifolia*), white alder (*Alnus rhombifolia*), and big-leaf maple (*Acer macrophyllum*). Arroyo willow (*Salix lasiolepis*), and cherry (*Prunus* sp.) occur in lesser abundance. The understory is dominated by Himalayan blackberry (*Rubus armeniacus*), seep monkeyflower (*Mimulus guttatus*), sedge (*Carex feta*, *C. leptopoda*, and *C. praegracilis*), Pacific rush (*Juncus effusus* ssp. *pacificus*), orchard grass (*Dactylis glomerata*), spearmint (*Mentha spicata*), and giant chain fern (*Woodwardia fimbriata*).

California Annual Grassland: California annual grassland occurs adjacent to a private residence southwest of the bridge and around Paso Way northwest of the bridge. This community is dominated by nonnative weedy, herbaceous species. The grassland community adjacent to the private residence is dominated by skeleton weed (*Chondrilla juncea*), smooth cat's ear (*Hypochaeris glabra*), tall fescue (*Festuca arundinacea*), and rose clover (*Trifolium hirtum*). Along Paso Way, this community is dominated by yellow-star thistle (*Centaurea solstitialis*), barbed goat grass (*Aegilops triuncialis*), orchard grass (*Dactylis glomerata*), wild oat (*Avena* sp.), and nonnative bromes (*Bromus diandrus*, *B. hordeaceus*, *B. madritensis* ssp. *rubens*, and *B. sterilis*). One seasonal wetland occurs in the California annual grassland community.

Himalayan Blackberry Brambles: Himalayan blackberry brambles occur on the north side of South Fork Weber Creek and along the perennial channel. This community is dominated by Himalayan blackberry (>90% cover; *Rubus armeniacus*) with occasional cutleaf blackberry (*Rubus laciniatus*) and common scouring rush (*Equisetum hyemale* ssp. *affine*). Himalayan blackberry is an invasive plant rated 'high' in terms of its ecological impact in California by the California Invasive Plant Council (Cal-IPC 2006).

South Fork Weber Creek: South Fork Weber Creek flows east to west through the BSA and is mapped as a perennial stream on the USGS Camino quad map and the NWI map. South Fork Weber Creek transitions from intermittent to perennial within the BSA. Water was flowing in South Fork Weber Creek in the BSA during the 4 May 2011 and 12 June 2012 surveys. During the 27 July 2012 survey, South Fork Weber Creek was flowing only downstream (west) of the confluence of the perennial channel, located north and east of the existing bridge. Upstream (east) of the confluence with the perennial channel, South Fork Weber Creek was dry with a few shallow puddles. A very small amount of water from the perennial channel contributes to

perennial flow in South Fork Weber Creek downstream (west of) the existing bridge during the dry season. South Fork Weber Creek in the BSA has an average width of approximately 59.7 feet.

A riparian corridor (Oregon ash groves, discussed above) borders South Fork Weber Creek in the BSA. The bed of South Fork Weber Creek is dominated by large cobble and bedrock. The banks of South Fork Weber Creek are generally vegetated, but are occasionally composed of bare rock. South Fork Weber Creek originates approximately 5 miles east of the BSA, south of the community of Pollock Pines. South Fork Weber Creek converges with North Fork Weber Creek to form Weber Creek approximately 2 miles west of the BSA. Weber Creek drains to the South Fork American River upstream of Folsom Lake.

Perennial Channel: Approximately 0.013 acre of an unnamed perennial channel occurs north of South Fork Weber Creek in the BSA. It flows south through the Himalayan blackberry brambles and joins South Fork Weber Creek just east of the Newtown Road Bridge. There is no contiguous riparian corridor associated with the perennial channel, which was flowing during all field surveys. The hydrology of the perennial channel is altered due to impoundments upstream, north of the BSA. Without the artificial impoundments, the perennial channel would likely be intermittent or ephemeral.

Ephemeral Channels: Three ephemeral channels occupy a total of 0.007 acre in the BSA. Each ephemeral channel drains to South Fork Weber Creek. None of the ephemeral channels contained flowing water during fieldwork. None of the ephemeral channels have riparian corridors.

Ephemeral Channel 1 occurs on the south side of South Fork Weber Creek, east of the bridge. The channel originates in a well-defined natural drainage on the hillside south of Newtown Road. Ephemeral Channel 1 is diverted into the roadside ditch south of Newtown Road, and flows west to a culvert that delivers water north under Newtown Road. The culvert outfalls onto the south bank above South Fork Weber Creek.

Ephemeral Channel 2 occurs on the south side of South Fork Weber Creek, west of the bridge. Ephemeral Channel 2 originates on the hillside in the Douglas fir forest south of a private driveway. Ephemeral Channel 2 flows north through a culvert under the private driveway just southeast of the BSA, through the California annual grassland, and into South Fork Weber Creek. Ephemeral Channel 2 drains through the remnants of a small, dry, human-made pond between the private driveway and South Fork Weber Creek. The earthen banks of the pond have eroded. The pond was originally constructed for flood

control as a requirement for a building permit and does not hold water (pers. comm., W. Nagel 2012).

Ephemeral Channel 3 occurs on the north side of South Fork Weber Creek. The only portion of this drainage that occurs in the BSA flows through a culvert under Newtown Road at the intersection of Paso Way. The remainder of Ephemeral Channel 3 occurs north of and outside the BSA. There is no defined channel from the culvert outfall to South Fork Weber Creek.

Upland Ditches: There are three upland ditches in the BSA. All three upland ditches are roadside ditches excavated in uplands for the purpose of draining runoff from Newtown Road and Paso Way. Each upland ditch empties into South Fork Weber Creek. None of the ditches contained water during the field surveys.

Seasonal Wetland: A 0.009-acre isolated wetland occurs on the topographically level plain north of South Fork Weber Creek, east of the existing bridge. Vegetation in the seasonal wetland is similar to the California annual grassland in the BSA, but is dominated by soft chess (*Bromus hordeaceus*), Kentucky blue grass (*Poa pratensis* spp. *pratensis*), and freeway sedge (*Carex praeegracilis*). Blue wild rye (*Elymus glaucus*), short sock-destroyer (*Torilis nodosa*), common scouring rush, and bull thistle (*Cirsium vulgare*) are also present.

Paved and Gravel Roads/ Driveways: Newtown Road is a paved two-lane road that travels east-west through the BSA. Paso Way is a gravel single-lane road that travels northeast from the intersection of Newtown Road. A gravel private residence driveway occurs just east of the bridge on the south side of Newtown Road.

3.2. Regional Species and Habitats of Concern

Data received from USFWS, NMFS, CNDDDB, and CNPS records were used to compile a table of regional species and habitats of concern. Table 3 provides a general habitat description for each species and a rationale as to why habitat is either present or absent from the BSA.

Table 3. Listed, Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Scientific Name	Common Name	Federal Status ^a	State Status ^a	General Habitat Description	Habitat Present/Absent ^c	Rationale
Fish						
<i>Hypomesus transpacificus</i>	Delta smelt	T, CH	E	Euryhaline (tolerant of a wide salinity range) species confined to the San Francisco Estuary, principally in Delta and Suisun Bay. Currently found only from San Pablo Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo cos. Can wash into San Pablo Bay during high-outflow periods, but do not establish permanent populations there (Moyle 2002).	A	The BSA is outside the geographic range of this species. There is no habitat for this species in the BSA. Critical habitat for this species does not occur in the BSA (USFWS 2017a).
<i>Oncorhynchus mykiss</i>	Northern California steelhead distinct population segment (DPS)	T, CH	--	Fish that exhibits both anadromy and freshwater residency. Capable of spawning more than once. Typically spawn between December and June (NMFS 2000). This DPS includes all naturally spawned populations of steelhead in California coastal river basins from Redwood Creek southward to, but not including, the Russian River, and two artificial propagation programs: the Yager Creek Hatchery and North Fork Gualala River Hatchery (NMFS 2006). In contrast to other steelhead, summer-run enter their natal rivers in spring or summer while immature, mature over the summer in deep pools, and then spawn the following winter or spring. Summer run steelhead have been recorded in the Mattole River (Moyle 2002).	A	The BSA is outside the range of this species. Critical habitat for this species does not occur in the BSA (USFWS 2017a).
Amphibians						
<i>Rana draytonii</i>	California red-legged frog	T, CH	SSC	Occurs in and along the Coast Ranges from Mendocino Co. south and in portions of the Sierra Nevada and Cascade ranges, usually below 3,936 ft. Sierra Nevada distribution is restricted and consists of small numbers of individuals. Inhabits ponds and quiet pools in streams and marshes. Prefers densely vegetated shorelines. Requires permanent or nearly permanent pools for larval development which takes 11 to 20 weeks (CWHR 2017).	HP	See discussion.
<i>Rana boylei</i>	Foothill yellow-legged frog	--	SSC	Occurs in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types from near sea level to 6,370 ft in the Sierra. This species is rarely encountered (even on rainy nights) far from permanent water (CWHR 2017).	HP	See discussion.

Scientific Name	Common Name	Federal Status ^a	State Status ^a	General Habitat Description	Habitat Present/Absent ^c	Rationale
<i>Rana sierrae</i>	Sierra Nevada yellow-legged frog	E, CH	T, SSC	Occurs in the Sierra Nevada from Plumas Co. to Fresno Co, north of the ridge dividing the middle and south forks of the Kings River and east of the Sierra Nevada crest from 4,500 ft to over 11,980 ft. Associated with streams, lakes, and ponds in montane riparian, lodgepole pine, sub-alpine conifer, and wet meadow habitat types. They are rarely found more than 3.3 feet from water (USFWS 2016b). Aquatic non-breeding habitat should contain stream, stream reaches, or wet meadows that are hydrologically connected to breeding and foraging sites (USFWS 2016a).	A	The BSA is below the elevation range of this species. There is no habitat for this species in the BSA. Critical habitat for this species does not occur in the BSA (USFWS 2017).
Reptiles						
<i>Emys marmorata</i>	Western pond turtle	--	SSC	Prefers aquatic habitats with abundant vegetative cover and exposed basking sites such as logs. Associated with permanent or nearly permanent water in a wide variety of habitat types, normally in ponds, lakes, streams, irrigation ditches, or permanent pools along intermittent streams (CWHR 2017).	HP	See discussion.
Birds						
<i>Accipiter gentilis</i>	Northern goshawk	--	SSC	Breeds in the North Coast Ranges, Sierra Nevada, Klamath, Cascade, and Warner Piños, San Jacinto, San Bernardino, and White Mtns. Remains in breeding areas year round. Prefers dense, mature conifer and deciduous forest, interspersed with meadows, other openings, and riparian areas. Usually nests near water on north-facing slopes in dense vegetation near openings (CWHR 2017). In the westside Ponderosa pine zone, northern goshawks nest as low as 2,500 ft. Stands with nests consistently have larger trees, greater canopy cover, and more open understories than stands lacking nests (Shuford and Gardali 2008). Goshawks generally do not nest near areas of human habitation or paved roads (Bosakowski and Smith 1997). Nesting sites are of concern to CDFW (2017).	A	The BSA is below the elevation range of this species and occurs along a paved road with numerous nearby residences.
<i>Agelaius tricolor</i>	Tricolored blackbird	--	SSC	Forages on ground in cropland, grassland, and on pond edges. Nests near freshwater, preferably in emergent marsh densely vegetated with cattails or tules, but also in thickets of willow, blackberry, and wild rose. Highly colonial; nesting area must be large enough to support a minimum colony of about 50 pairs (CWHR 2017). Range of this species includes the Sacramento and San Joaquin valleys, the foothills of the Sierra Nevada south to Kern County, the coastal slope from Sonoma County south to the Mexican border, and sporadically, the Modoc Plateau (Shuford and Gardali 2008). Nesting colonies are of concern to CDFW (2017).	A	The BSA is outside the geographic range of this species.

Scientific Name	Common Name	Federal Status ^a	State Status ^a	General Habitat Description	Habitat Present/Absent ^c	Rationale
<i>Riparia riparia</i>	Bank swallow	--	T	Restricted to riparian areas with vertical cliffs and banks with fine-textured or sandy soil. The bank swallow digs nest holes into the banks, usually in colonies. The majority of the breeding population in CA nests along Central Valley streams and the Sacramento River where meanders and vegetation are relatively undisturbed (CWHR 2017). Nesting sites are of concern to CDFW (2017).	A	There are no cliffs or banks suitable for nesting in the BSA. Habitat for this species does not occur in the BSA.
<i>Strix nebulosa</i>	Great gray owl	--	E	Occurs between 4,500 and 7,500 ft in the Sierra Nevada from the vicinity of Quincy in Plumas Co. south to the Yosemite Region. Occasionally reported in Northwestern CA in winter and in the Warner Mts. in the summer. Breeds in old-growth red fir, mixed conifer, or lodgepole pine habitats, always in the vicinity of wet meadows. This species uses trees in dense forest stands for roosting cover and small trees and snags in, or on edge of, meadows for hunting perches. Nests in large, broken-topped snags 25 to 72 ft above the ground. Often uses old hawk or eagle nests (CWHR 2017). Nesting sites are of concern to CDFW (2017).	A	The BSA is below the elevation range of this species.
<i>Strix occidentalis occidentalis</i>	California spotted owl	--	SSC	The range of California spotted owl occurs from the southern Cascade Range of northern California south along the west slope of the Sierra Nevada and in mountains of central and southern California nearly to the Mexican border. As a breeder in the Sierra Nevada, this species occurs at elevations ranging from about 1,000 ft in Fresno Co. to 7,923 ft in Tulare Co. This owl breeds and roosts in forests and woodlands with large old trees and snags, dense canopies ($\geq 70\%$ canopy closure), multiple canopy layers, and downed woody debris. Large, old trees are the key component. Predominant habitats occupied in the Sierra Nevada are Sierran mixed-conifer, white fir, montane hardwood-conifer, and montane hardwood forests. Less often found in red fir forest, Ponderosa pine forest, blue oak-gray pine woodland, and valley foothill riparian forests (Shuford and Gardali 2008).	HP	See discussion.
Mammals						
<i>Aplodontia rufa californica</i>	Sierra Nevada mountain beaver	--	SSC	Occurs in dense riparian-deciduous and open brushy stages of most forest types. Typical habitat in the Sierra Nevada is montane riparian. They frequent open and intermediate-canopy coverage with a dense understory near water. Deep, friable soils and a cool, moist microclimate are required for burrowing. Vegetation is stored near a burrow entrance, or in underground chambers. Burrows are located in deep soils in dense thickets, preferably near a stream or spring (CWHR 2017).	A	Habitat for this species does not occur in the BSA.

Scientific Name	Common Name	Federal Status ^a	State Status ^a	General Habitat Description	Habitat Present/Absent ^c	Rationale
<i>Pekania pennanti</i>	(Pacific) fisher, west coast DPS/ Northern California ESA	--	SSC	Permanent resident of Sierra Nevada, Cascades, Klamath Mountains, and the North Coast Range. Occurs above 3,200 ft in the Sierra Nevada and Cascades (Jameson and Peeters 2004). Prefers coniferous or deciduous riparian habitats with intermediate to large trees and closed canopies. Dens in tree/ log cavities and brush piles. Mostly nocturnal (CWHR 2017).	A	The BSA is below the elevation range of this species.
Plants		/CNPS ^b				
<i>Arctostaphylos nissenana</i>	Nissenan manzanita	--	--/ 1B.2	Perennial evergreen shrub found on highly acidic rocky (slate and shale) soils and is often associated with closed-cone conifer forest and chaparral from about 1,476 to 3,608 ft (USFS 2009; CNPS 2017). Known from approximately 13 occurrences in El Dorado and Tuolumne cos. Blooms February through March (CNPS 2017).	HP	See discussion.
<i>Calochortus clavatus</i> var. <i>avius</i>	Pleasant Valley mariposa-lily	--	--/ 1B.2	Perennial bulbiferous herb found in openings in mixed conifer and ponderosa pine forest, usually on ridge tops and south-facing slopes on Josephine silt loam and volcanic from 1,000 to 5,904 ft (USFS 2009 and CNPS 2017). Known from Amador, Calaveras, El Dorado, Mariposa, and Placer cos. Presumed extirpated from Mariposa Co. Blooms May through July (CNPS 2017).	HP	See discussion.
<i>Calystegia vanzoukiae</i>	Van Zuuk's morning glory	--	--/ 1B.3	A perennial rhizomatous herb found in gabbro or serpentine soils in chaparral or cismontane woodland from 1,640 ft. to 3,870 ft. Known from El Dorado and Placer cos. Blooms from May through August (CNPS 2017).	A	There are no serpentine or gabbroic soils in the BSA.
<i>Carex cyrtostachya</i>	Sierra arching sedge	--	--/ 1B.2	Perennial herb found in mesic lower montane coniferous forest, meadows and seeps, marshes and swamps, and riparian forest margins from 2,000 to 4,460 ft. Known from Butte, El Dorado, and Yuba cos. Blooms May through August (CNPS 2017).	HP	See discussion.
<i>Chlorogalum grandiflorum</i>	Red Hills soaproot	--	--/ 1B.2	Perennial bulbiferous herb found on serpentine, gabbroic, or other soils in chaparral, cismontane woodland, and lower montane coniferous forest from 803 to 5,543 ft (CNPS 2017). Known from Amador, Butte, Calaveras, El Dorado, Placer, and Tuolumne cos. Blooms May through June (CNPS 2017).	A	There are no serpentine or gabbroic soils in the BSA.
<i>Horkelia parryi</i>	Parry's horkelia	--	--/ 1B.2	Perennial herb found on stony, disturbed, slightly acidic soils in open chaparral and cismontane woodland from 262 to 3,509 ft (USFS 2009 and CNPS 2017). Known from Amador, Calaveras, El Dorado, Mariposa, and Tuolumne cos. Blooms April through September (CNPS 2017).	HP	See discussion.
<i>Lewisia serrata</i>	Saw-toothed lewisia	--	--/ 1B.1	Perennial herb restricted to steep, nearly vertical cliffs in inner gorges of perennial streams and rarely near seeps and intermittent streams. Occurs between 2,800 and 4,800 ft in American River and Rubicon River watersheds (USFS 2009). Known from 11 occurrences in El Dorado and Placer cos. Blooms May through June (CNPS 2017).	A	Habitat for this species does not occur in the BSA.

Scientific Name	Common Name	Federal Status ^a	State Status ^a	General Habitat Description	Habitat Present/Absent ^c	Rationale
<i>Phacelia stebbinsii</i>	Stebbins' phacelia	--	--/ 1B.2	Annual herb found in cismontane woodland, lower montane coniferous forest, and meadows and seeps from 2,000 to 6,593 ft (CNPS 2017). Found on dry, open, rocky sites (bedrock outcrops, rubble or talus) on ledges or moderate to steep slopes and on damp, mossy inner gorges (USFS 2009). Known from El Dorado, Nevada, and Placer cos. Blooms May through July (CNPS 2017).	HP	See discussion.
<i>Rhynchospora capitellata</i>	Brownish beaked-rush	--	--/ 2B.2	Perennial herb found on mesic soils of upper and lower montane coniferous forest, meadows and seeps, and marshes and swamps from 147 to 6,560 ft. Known from Butte, El Dorado, Mariposa, Nevada, Plumas, Tehama, Trinity, and Yuba cos. Presumed extirpated from Sonoma Co. Blooms July through August (CNPS 2017).	HP	See discussion.
<i>Viburnum ellipticum</i>	Oval-leaved viburnum	--	--/ 2B.3	Perennial deciduous shrub found in chaparral, cismontane woodland, and lower montane coniferous forest from 705 to 4,592 ft. Known from Alameda, Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Lake, Mendocino, Napa, Placer, Shasta, Solano, Sonoma, and Tehama cos. Blooms May through June (CNPS 2017).	HP	See discussion.
Natural Communities						
Central Valley Drainage Hardhead/ Squawfish Stream		--	--/ --	Hardhead occur in low- to mid-elevation streams in the main Sacramento-San Joaquin drainage and in the Russian River. Their range extends from the Kern River in Kern County, in the south, to the Pit River in Modoc County in the north. In the San Joaquin drainage, the species is scattered in tributary streams and absent from valley reaches of the San Joaquin River. In the Sacramento drainage, the hardhead is present in most large tributary streams as well as in the Sacramento River. Hardhead are typically found in undisturbed areas of larger low- to mid-elevation streams, although they are also found in the mainstem Sacramento River at low elevations and in its tributaries to about 4,920 ft. They prefer clear, deep (>32 in) pools, runs with sand-gravel-boulder substrates, and slow velocities. Hardhead are always found in association with Sacramento pikeminnow (squawfish) and usually with Sacramento sucker. They tend to be absent from streams where introduced species, especially centrarchids (sunfish), predominate. Sacramento pikeminnow occur in clear rivers and creeks of central California and occur in small numbers in the Sacramento-San Joaquin Delta. They are most abundant in lightly disturbed, tree lined reaches that also contain other native fish (Moyle 2002).	A	South Fork Weber Creek and the unnamed channels in the BSA do not contain adequate water.
Central Valley Drainage Resident Rainbow Trout Stream		--	--/ --	Rainbow trout occur in low order (high elevation) cold streams with a high gradient. These streams are dominated by rainbow trout and often riffle sculpin (Moyle and Ellison 1991).	HP	See discussion.

Scientific Name	Common Name	Federal Status ^a	State Status ^a	General Habitat Description	Habitat Present/Absent ^c	Rationale
	Sacramento-San Joaquin Foothill/ Valley Ephemeral Stream	--	--/ --	Low elevation streams that flow primarily in response to winter and spring rainfall. Found in oak woodland/ valley grassland areas. Some water may be present in semi-permanent bedrock pools. Streams have a distinct succession of invertebrates and may be important spawning areas for Pacific treefrogs (<i>Hyla regilla</i>) and newts (<i>Taricha</i> spp.; Moyle and Ellison 1991).	A	This community type does not occur in the BSA.
	Sphagnum Bog	--	--/ --	Low-growing herbaceous perennials and low shrubs are the dominant vegetation types. The growing season extends from spring through fall at lower elevations and along the coast. Fens occur in cold, highly acidic, permanently waterlogged soils that are low in available nutrients. Incomplete decomposition of peat is common. Found scattered in the North Coast Ranges and Klamath Ranges from Sonoma Co. to OR. Elevations range from 1,000 to 6,000 ft in the northern extent and 5,000 to 9,000 ft in the southern extent (Holland 1986).	A	This community type does not occur in the BSA.

^a **Status:** Endangered (E); Threatened (T); Proposed (P); Candidate (C), Delisted (D), Fully Protected (FP); Rare (R); State Species of Special Concern (SSC); Proposed Critical Habitat (PCH); Critical Habitat (CH) – Critical habitat has been designated for this species.

^b **CNPS Rare Plant Rank:** 1A = Presumed Extinct in CA; 1B = Rare or Endangered in CA and elsewhere; 2 = R/E in CA and more common elsewhere; 3 = More information is needed about this plant species (review list); 4 = Limited distribution (watch list).

CNPS Decimal Extensions: .1 = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); .2 = Fairly endangered in California (20-80% occurrences threatened); .3 = Not very endangered in California (<20% of occurrences threatened or no current threats known).

^c Absent [A] = No habitat present and no further work needed. Habitat Present [HP] = Habitat is, or may be present. The species may be present. Present [P] = The species is present. Critical Habitat [CH] = The project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation

Species of concern identified in Table 3 as having habitat present in the BSA are further discussed in this chapter. Wetlands and waters potentially subject to Clean Water Act (CWA) jurisdiction, birds listed under the Federal Migratory Bird Treaty Act, birds listed under CA Fish and Game Code 3503.5, and impacts to sensitive natural communities are also discussed. Tables 3 and 4 estimate the acreage of each natural community that would be affected by the Project alternatives based on preliminary engineering.

The BSA provides suitable habitat for the following **federal-listed species**:

- California red-legged frog (*Rana draytonii*; federally threatened)

The BSA provides suitable habitat for the following **special-status species**:

- Foothill yellow-legged frog (*Rana boylei*; state species of special concern)
- Western pond turtle (*Emys marmorata*; state species of special concern)
- Migratory birds and birds-of-prey (MBTA and Fish and Game Code)
- California spotted owl (*Strix occidentalis occidentalis*; state species of special concern)
- Nissenan manzanita (*Arctostaphylos nissenana*; California Rare Plant Rank 1)
- Pleasant Valley mariposa lily (*Calochortus clavatus* var. *avius*; California Rare Plant Rank 1)
- Sierra arching sedge (*Carex cyrtostachya*; California Rare Plant Rank 1)
- Parry's horkelia (*Horkelia parryi*; California Rare Plant Rank 1)
- Stebbins' phacelia (*Phacelia stebbinsii*; California Rare Plant Rank 1)
- Brownish beaked-rush (*Rhynchospora capitellata*; California Rare Plant Rank 2)
- Oval-leaved viburnum (*Viburnum ellipticum*; California Rare Plant Rank 2)

4.1. Natural Communities of Special Concern

Special-status natural communities in this NES are waters, riparian communities, and any natural community ranked S1, S2, or S3 by CDFW (2010). The Oregon ash groves community, South Fork Weber Creek, the perennial channel, and the seasonal wetland are special-status natural communities in the BSA. Impacts to trees are also discussed. Tables 3 and 4 summarize the habitat types and other features in the BSA and provide habitat acreages and impact acreages for each alternative. Impacts to non-special-status communities are not discussed further.

Table 4. Project Impacts to Natural Communities (Alternative 1)

Natural Community	Acreage	Temporary Impact (ac)	Permanent Impact (ac)	Total Impact (ac)
Ponderosa Pine Forest	0.652	0.113	0.003	0.116
Douglas Fir Forest	1.389	0.067	0.017	0.084
Oregon Ash Groves	1.121	0.264	0.186	0.450
California Annual Grassland	0.780	0.135	0.001	0.136
Himalayan Blackberry Brambles	0.424	0.192	0.005	0.197
South Fork Weber Creek	0.469	0.012	0.119	0.131
Perennial Channel	0.013	0.006	0.003	0.009
Ephemeral Channels	0.007	0	0	0
Upland Ditches	0.019	0.004	0.001	0.005
Seasonal Wetland	0.009	0	0	0
Paved and Gravel Roads/ Driveways ¹	0.868	--	--	--
Total:	5.752	0.793	0.335	1.128

¹ Previously disturbed community, thus no impacts are calculated.

Table 5. Project Impacts to Natural Communities (Alternative 2)

Natural Community	Acreage	Temporary Impact (ac)	Permanent Impact (ac)	Total Impact (ac)
Ponderosa Pine Forest	0.652	0.113	0.004	0.117
Douglas Fir Forest	1.389	0.186	0.050	0.236
Oregon Ash Groves	1.121	0.255	0.240	0.495
California Annual Grassland	0.780	0.155	0.003	0.158
Himalayan Blackberry Brambles	0.424	0.186	0.012	0.198
South Fork Weber Creek	0.469	0.005	0.139	0.144
Perennial Channel	0.013	0.007	0.002	0.009
Ephemeral Channels	0.007	0.001	0	0.001
Upland Ditches	0.019	0.005	0.001	0.006
Seasonal Wetland	0.009	0	0	0
Paved and Gravel Roads/ Driveways ¹	0.868	--	--	--
Total:	5.752	0.914	0.447	1.364

¹ Previously disturbed community, thus no impacts are calculated.

4.1.1. Discussion of Oregon Ash Groves

4.1.1.1. SURVEY RESULTS

Approximately 1.121 acre of riparian Oregon ash groves occurs along South Fork Weber Creek in the BSA (Appendix F, Photos 1-3, 6, and 12). Trees in the BSA were surveyed by the Project engineer. There are 39 trees with a dbh of at least 4 inches in the Oregon ash groves community in the BSA. Trees are shown on Figures 5A and 5B. Vegetation in this community is classified as montane riparian under the El Dorado County General Plan Environmental Impact Report (EIR; El Dorado County 2004a). Montane riparian is considered a sensitive natural community in the El Dorado County General Plan EIR (2004a). The Oregon ash groves community in the BSA would be classified as *Fraxinus latifolia* Forest Alliance by Sawyer et al. (2009). This community has a rarity ranking of G5 S3 and is of high inventory priority to CDFW (2010). The Oregon ash groves community in the BSA is part of the stream zone protected by Fish and Game Code Section 1600.

4.1.1.2. PROJECT IMPACTS

Tree data was provided as a CAD file, which was aligned with the proposed Project maps (Figures 3A and 3B) to determine the number of trees proposed for removal. The final tree removal determination would be made by El Dorado County Department of Transportation.

Alternative 1: Construction of Alternative 1 would result in 0.264 acre of temporary impacts and 0.186 acre of permanent impacts to the Oregon ash groves community in the BSA (Figure 3A). Temporary impacts would result from vegetation clearing and grubbing for construction access, bridge demolition, and construction of the new bridge. Permanent impacts would result from road approach widening, installation of RSP, and construction of the new bridge abutments, wing walls, and retaining wall. Approximately 34 trees would be removed in the Oregon ash groves community.

Alternative 2: Construction of Alternative 2 would result in 0.255 acre of temporary impacts and 0.240 acre of permanent impacts to the Oregon ash groves community in the BSA (Figure 3B). Temporary impacts would result from vegetation clearing and grubbing for construction access, bridge demolition, and construction of the new bridge, including placement of falsework. Permanent impacts would result from road approach widening, installation of RSP, and construction of the new bridge abutments, retaining walls, and wing walls. Approximately 33 trees would be removed in the Oregon ash groves community.

4.1.1.3. AVOIDANCE AND MINIMIZATION EFFORTS

Tree removal will be minimized to the extent possible. Environmentally sensitive area (ESA) fencing will be placed along the limits of construction adjacent to the riparian community and

the seasonal wetland to exclude construction activities from avoided habitat. The fencing can be installed after initial clearing of vegetation, but shall be installed prior to any further work on the Project. Trucks and other vehicles will not be allowed to park beyond, nor shall equipment be stored beyond the fencing. No vegetation removal or ground disturbing activities will be permitted beyond the fencing. Temporarily impacted areas will be revegetated and reseeded in accordance with the Revegetation Planting and Erosion Control Specifications in Appendix G. Implementation of the Replanting Plan (Appendix H) will revegetate the Oregon ash groves community.

4.1.1.4. COMPENSATORY MITIGATION

County General Plan Policy 7.3.3.4, and its implementing zoning code (§130.30.030(G)), identifies standards for setbacks to creeks and wetlands. Road and bridge repair and construction are exempted from Policy 7.3.3.4 and its implementing zoning ordinance where avoidance and mitigation measures for potential impacts are identified (El Dorado County 2004b). No compensatory mitigation for this biological community is required.

4.1.1.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.1.2. Discussion of Trees

4.1.2.1. SURVEY RESULTS

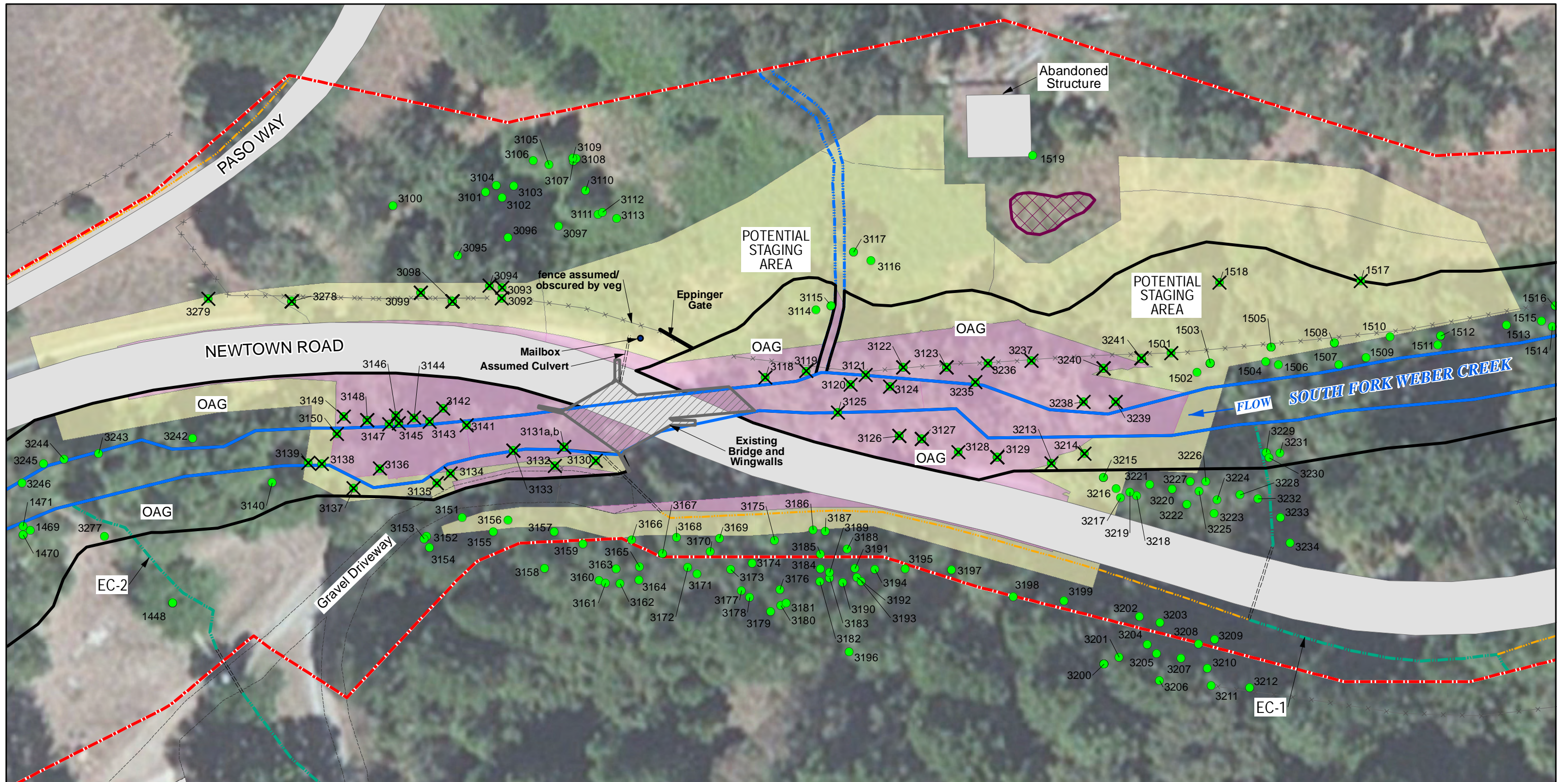
There is a total of 267 trees with a dbh of at least 4 inches in the BSA. El Dorado County General Plan Policy 7.4.4.4 regulates oak canopy, including oak trees occurring outside of oak woodlands. The Ponderosa pine forest community in the BSA includes black oaks and valley oaks. The Douglas fir forest community in the BSA includes black oaks.

4.1.2.2. PROJECT IMPACTS

The Project may remove an estimated 56 to 57 trees in the BSA as a result of bridge construction, road widening, site access, RSP installation, and creek realignment. Figures 5A and 5B show the locations of trees in the BSA and identify which ones are proposed for removal by each alternative. Final tree removal determinations would be made by El Dorado County.

4.1.2.3. AVOIDANCE AND MINIMIZATION EFFORTS

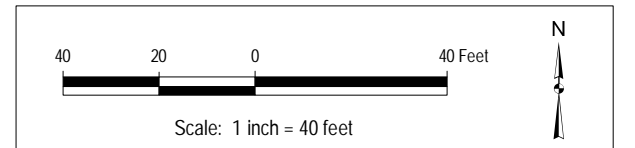
Avoidance and minimization efforts implemented for the Oregon ash groves community would also protect native trees.



Newtown Road at
South Fork Weber Creek
Bridge (25C-0033)
Replacement Project
El Dorado County, CA
29 November 2017

Figure 5A.
Tree Impact Map (Alternative 1)

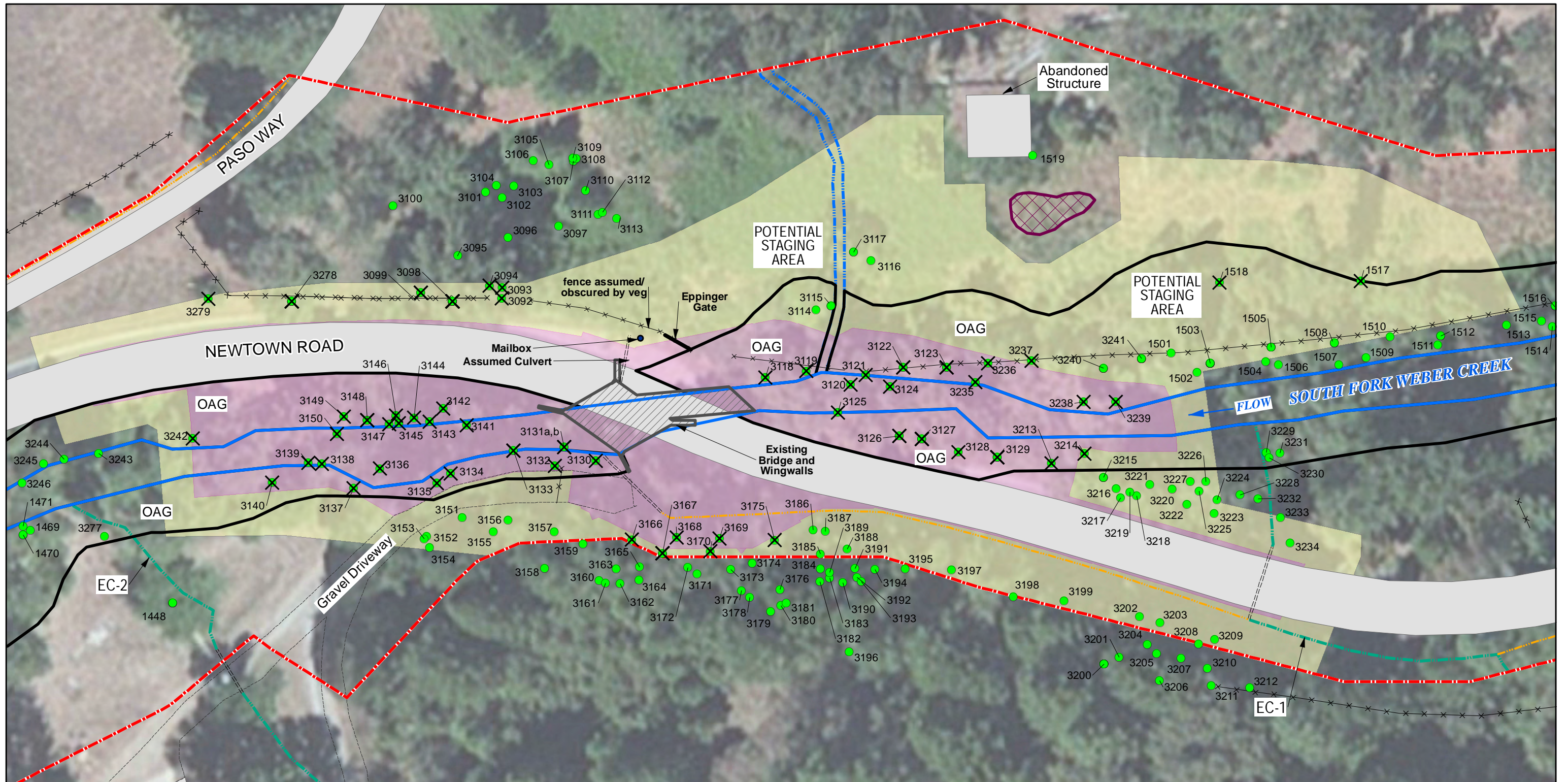
- | | |
|--------------------------------------|------------------------------|
| Biological Study Area (BSA; 5.75 ac) | Oregon Ash Groves (OAG) |
| South Fork Weber Creek | Tree Location and Tag Number |
| Perennial Channel | Tree to be Removed |
| Seasonal Wetland | Permanent Impact |
| Ephemeral Channel (EC) | Temporary Impact |
| Upland Ditches | |
| Existing Culvert | |



Topographic basemap:
XSurface.dwg (10 Nov 2015) by El Dorado County DOT
Alternatives: VeerkampSmeltzer Alt A.dwg (19 Jan. 2017)
Parcels and Roads: El Dorado County, GIS datasets













Aerial Photograph: 11 July 2016
NAIP 2016, USDA FSA Imagery
ESRI ArcGIS Basemap Service layer

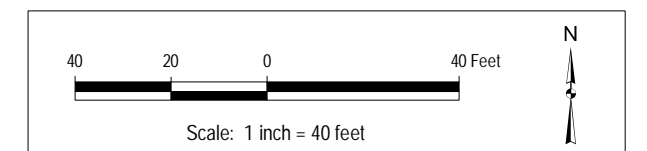
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Newtown Road at
South Fork Weber Creek
Bridge (25C-0033)
Replacement Project
El Dorado County, CA
29 November 2017

Figure 5B.
Tree Impact Map (Alternative 2)

- | | |
|--|--|
|  Biological Study Area (BSA; 5.75 ac) |  Oregon Ash Groves (OAG) |
|  South Fork Weber Creek |  Tree Location and Tag Number |
|  Perennial Channel |  Tree to be Removed |
|  Seasonal Wetland |  Permanent Impact |
|  Ephemeral Channel (EC) |  Temporary Impact |
|  Upland Ditches | |
|  Existing Culvert | |



Alternatives: CREEKBED-ALTERNATIVE 2.dwg (10 Feb. 2017)
Parcels and Roads: El Dorado County, GIS datasets

Aerial Photograph: 11 July 2016
NAIP 2016, USDA FSA Imagery
ESRI ArcGIS Basemap Service layer

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4.1.2.1. COMPENSATORY MITIGATION

County General Plan Policy 7.4.4.4 applies to new development projects. In 2008, the County adopted the El Dorado County Oak Woodland Management Plan (OWMP) to implement the County General Plan oak woodland protection policies. The OWMP included a section that acknowledged the importance of County road projects that provide safety improvements by including an exemption from retention and replacement requirements (El Dorado County 2008). The OWMP was later rescinded through litigation. The OWMP has been updated and is now referred to as the Oak Resources Management Plan (ORMP). The County expects to adopt the ORMP in 2017. The ORMP retains the exemption of County road projects from mitigation. Until the ORMP is adopted, the existing Superior Court direction stands. The Superior Court recognized, and the petitioners accepted, the exemption from the oak canopy retention policies for public safety road projects. No compensatory mitigation is required for native trees removed by the Project.

4.1.2.2. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.1.3. Discussion of South Fork Weber Creek

4.1.3.1. SURVEY RESULTS

South Fork Weber Creek is a natural community of special concern because it is a potential waters of the U.S. (Appendix F, Photos 10-12). Within the BSA, South Fork Weber Creek flows east to west and is approximately 1,100 feet long, 59.7 feet wide on average, and occupies 0.469 acre. South Fork Weber Creek is identified on the National Wetlands Inventory (NWI) map as riverine, upper perennial, unconsolidated bottom, permanently flooded (R3UBH) (USFWS 2017b). Based on observed field conditions, South Fork Weber Creek transitions from intermittent to perennial in the BSA. South Fork Weber Creek is intermittent upstream of the confluence with the perennial channel in the BSA, and perennial downstream of this point. South Fork Weber Creek is not listed as an impaired water under Section 303(d) of the Clean Water Act (SWRCB 2012).

4.1.3.2. PROJECT IMPACTS

Alternative 1: Approximately 320 feet of South Fork Weber Creek in the BSA would be realigned (Figure 3A). Alternative 1 would temporarily impact 0.012 acre and permanently impact 0.119 acre of South Fork Weber Creek below the OHWM. Temporary impacts would result from temporary creek diversion, demolition of the existing bridge and abutments, construction of the new bridge, and bank recontouring. Permanent impacts would result from

creek realignment and installation of RSP (Table 6). Alternative 1 would install a total of 0.119 acre of RSP below the OHWM of South Fork Weber Creek. The RSP would be placed below the bottomless arch culvert and extend approximately 110 feet east and 60 feet west of the longitudinal extent of the culvert. RSP would be installed to a depth of 2 feet.

Alternative 2: Approximately 260 feet of South Fork Weber Creek in the BSA would be realigned (Figure 3B). Alternative 2 would temporarily impact 0.005 acre and permanently impact 0.139 acre of South Fork Weber Creek below the OHWM. Temporary impacts would result from temporary diversion, placement of falsework, demolition of the existing bridge and abutments, construction of the new abutments, and bank recontouring. Permanent impacts would result from creek realignment and installation of RSP (Table 6). Alternative 2 would install a total of 0.139 acre of RSP below the OHWM of South Fork Weber Creek. RSP would be installed below the new bridge and extend approximately 140 feet west and 160 feet east of the new bridge. The RSP would be keyed into both banks below the bridge up to each abutment and along the banks of South Fork Weber Creek. RSP would be installed to a depth of approximately 2 feet.

Table 6. RSP Placement in South Fork Weber Creek, Perennial Channel, and Riparian Habitat (Oregon Ash Groves Community) in the BSA.

Alternative	Total RSP (acre)	RSP Below OHWM (acre)	
		South Fork Weber Creek	Perennial Channel
Alternative 1	Riparian – 0.031	0.119 (350 linear feet)	0
	Creek (inside Conspan) – 0.063		
	Creek (outside Conspan) – 0.056		
	0.150 (total)		
Alternative 2	Riparian – 0.186	0.139 (405 linear feet)	0.002 (20 linear feet)
	Weber Creek – 0.139		
	0.325 (total)		

4.1.3.3. AVOIDANCE AND MINIMIZATION EFFORTS

The following measures would be implemented to avoid and minimize impacts to South Fork Weber Creek:

- During construction, water quality will be protected by implementation of BMPs consistent with the Caltrans Stormwater Quality Handbooks (Caltrans 2011) to minimize the potential for siltation and downstream sedimentation of aquatic habitats.
- In-water construction activities will be restricted to the period between 15 April and the first qualifying rain event on or after 15 October (more than one half inch of precipitation in a 24-hour period), subject to the Streambed Alteration Agreement, unless CDFW provides approval of work outside that period.
- Water diversion in South Fork Weber Creek will be conducted in accordance with the County of El Dorado Stormwater Management Plan (SWMP; 2004c) and the El Dorado County grading, erosion, and sediment control ordinance (El Dorado County 2010). Minimization efforts will include marking the limits of construction with temporary fencing.
- Areas temporarily disturbed on the banks of South Fork Weber Creek will be revegetated and native riparian trees will be replanted in the BSA in accordance with the Revegetation Planting and Erosion Control Specifications (Appendix G) and the Replanting Plan (Appendix H).
- Reseeded areas will be covered with a biodegradable erosion control fabric to prevent erosion and downstream sedimentation. Plastic fabric materials will not be used in the erosion control; acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. The Project engineer will determine the specifications needed for erosion control fabric (e.g., shear strength) based on anticipated maximum flow velocities and soil types. The seed type will consist of commercially available native grass and herbaceous species as described in Appendix G. No seed of nonnative species will be used unless certified to be sterile.

4.1.3.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.1.3.1. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.1.4. Discussion of the Perennial Channel

4.1.4.1. SURVEY RESULTS

The perennial channel is a natural community of special concern because it is a potential waters of the U.S. Within the BSA, the perennial channel flows south through the Himalayan blackberry brambles to South Fork Weber Creek just east of the Newtown Road Bridge. It is approximately 140 feet long, 4 feet wide on average, and occupies 0.013 acre. Within the BSA, the perennial channel is not identified on the NWI map. Just north of the BSA, the perennial channel is mapped as riverine, intermittent, streambed, seasonally flooded (R4SBC) (USFWS 2017b). The hydrology of the perennial channel is altered due to impoundments upstream (north) of the BSA. Without the artificial impoundments, the channel would likely be intermittent or ephemeral.

4.1.4.2. PROJECT IMPACTS

Alternative 1: Alternative 1 would result in approximately 0.006 acre of temporary impacts and 0.003 acre of permanent impacts to the perennial channel. Temporary impacts would result from vehicle and equipment access during construction. Permanent impacts would result from channel realignment. Approximately 40 feet of the perennial channel would be permanently filled. The perennial channel would be reconstructed along a new alignment approximately 110 feet long. The new channel would reconnect to South Fork Weber Creek on the east side of the proposed northeast wing wall.

Alternative 2: Alternative 2 would result in 0.007 acre of temporary impacts and 0.002 acre of permanent impacts to the perennial channel. Temporary impacts would result from vehicle and equipment access during construction. Permanent impacts would result from realignment of South Fork Weber Creek in the vicinity of its confluence with the perennial channel and installation of RSP (Table 6).

4.1.4.3. AVOIDANCE AND MINIMIZATION EFFORTS

The following measures would be implemented to avoid and minimize impacts to the perennial channel:

- ESA fencing will be placed at the limits of construction adjacent to the seasonal wetland and the perennial channel to exclude construction activities from avoided habitat or portions of the habitat. The ESA fencing will be in place prior to commencement of construction. Trucks and other vehicles will not be allowed to park beyond, nor shall equipment be stored beyond the fencing. No vegetation removal or ground disturbing activities will be permitted beyond the fencing.

- A temporary crossing will be constructed over the perennial channel to facilitate vehicle and equipment travel over the creek channel and banks. Steel plates, crane mats, or similar may be used to construct the crossing. Immediately following Project completion, the crossing will be removed.

4.1.4.4. COMPENSATORY MITIGATION

4.1.4.5. NO COMPENSATORY MITIGATION IS PROPOSED. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.1.5. Discussion of the Seasonal Wetland

4.1.5.1. SURVEY RESULTS

The 0.009-acre seasonal wetland (Appendix F, Photo 9) is a small, isolated wetland located on the topographically level plain north of South Fork Weber Creek, east of the existing bridge. The isolated seasonal wetland may not be jurisdictional under the Clean Water Act (see delineation report). The seasonal wetland is a natural community of special concern because it is a Waters of the State.

4.1.5.2. PROJECT IMPACTS

The seasonal wetland would be avoided during construction. With implementation of avoidance and minimization efforts, the Project would not impact the seasonal wetland.

4.1.5.3. AVOIDANCE AND MINIMIZATION EFFORTS

Avoidance and minimization efforts implemented for the perennial channel would also protect the seasonal wetland.

4.1.5.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.1.5.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.1.6. Discussion of Ephemeral Channels

4.1.6.1. SURVEY RESULTS

Three ephemeral channels occupy a total of 0.007 acre in the BSA. Each ephemeral channel drains to South Fork Weber Creek. None of the ephemeral channels contained flowing water

during fieldwork. None of the ephemeral channels have riparian corridors. The ephemeral channels are non-relatively permanent flowing waters and lack a significant nexus to waters of the U.S. The ephemeral channels are natural communities of special concern because they are Waters of the State.

4.1.6.2. PROJECT IMPACTS

Alternative 1: Construction of Alternative 1 would result in no temporary or permanent impacts to the ephemeral channels in the BSA.

Alternative 2: An estimated 0.001 acre of temporary impacts to Ephemeral Channel 1 would occur as a result of road approach improvements. Ephemeral Channel 1 would not be permanently impacted by Alternative 2. No impacts to Ephemeral Channels 2 and 3 are anticipated.

4.1.6.3. AVOIDANCE AND MINIMIZATION EFFORTS

Avoidance and minimization efforts implemented for the perennial channel would also protect the ephemeral channels.

4.1.6.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.1.6.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.2. Special-Status Animal Species Occurrences

4.2.1. Discussion of California Red-Legged Frog (CRLF; *Rana draytonii*)

The CRLF was listed as a federal-threatened species on 23 May 1996 (FR 61:25813-25833). Critical habitat was designated for CRLF in April 2006 (FR 71:19244-19346) and revised in March 2010 (FR 51:12816-12959). The CRLF inhabits ponds and quiet pools of streams and marshes (CWHR 2017). Adults typically require dense, shrubby, or emergent riparian vegetation closely associated with deep (greater than 2 feet), still, or slowly moving water. Deep-water pools with dense stands of overhanging willows intermixed with cattails support the highest densities of CRLF. Well-vegetated terrestrial areas within a riparian corridor may provide important sheltering habitat during the winter (USFWS 1996). Frogs spend considerable time resting and feeding in riparian vegetation when it is present (USFWS 2002).

CRLF require water to breed. Breeding sites may hold water only seasonally, but sufficient water must persist into the summer for tadpoles to reach a size for metamorphosis. CRLF typically breed from mid-December through early April, earlier than other ranids within its range (Barry and Fellers 2013). Timing of breeding is likely influenced by local precipitation and ambient temperature. CRLF typically breed after significant rainfall and after the cold periods of winter have passed (Cook 1997).

Female CRLF deposit egg masses on emergent vegetation so that the masses float on the surface of the water. Embryos hatch in 1-4 weeks depending on water temperature. The tadpoles metamorphose within 3-5 months, usually from July through September (Cook 1997), although there are records of them overwintering (Fellers et al. 2001). Breeding habitats for CRLF vary from deep, still, or slow moving water and dense riparian or emergent vegetation to shallow sections of streams that are not covered with riparian vegetation. While frogs successfully breed in streams, high flows and cold temperatures in streams during the spring often make these sites risky environments for eggs and tadpoles. Barry and Fellers (2013) hypothesized that, given the absence of natural ponds in the Sierra Nevada foothills, it is likely that permanent or near-permanent, quiet pools and backwaters of streams comprise the principal natural breeding and non-breeding CRLF habitat through much of the Sierra Nevada population. Artificial impoundments, such as stock ponds, that have a vegetative cover and few nonnative predators may also be used by CRLF for breeding (USFWS 2002).

During the summer, adult frogs frequently move from breeding areas to quiet, shaded pools along streams where they use undercut banks, dense thickets, or root masses for shelter. Some frogs spend most of the year in non-breeding habitats. Other adult frogs remain in breeding pools all year (Barry and Fellers 2013).

Aestivation habitat is essential for the survival of CRLF within a watershed when water is not available year-round in breeding habitats. During dry periods, CRLF are rarely encountered far from water (USFWS 1996). Although CRLF can breed in temporary or permanent streams or ponds, populations probably cannot be maintained in temporary water bodies unless the surrounding area contains suitable aestivation habitat as well as migration corridors linking the breeding habitat to the aestivation habitat. CRLF have been observed using migration corridors that consist of undisturbed habitats, such as grasslands and riparian areas, as well as relatively disturbed habitats, such as closely grazed fields, plowed agricultural land, areas with maturing crops, and pastureland. Aestivation habitat must provide sufficient moisture for survival during the nonbreeding season, sufficient cover to moderate temperature extremes, and protection from predators. Logs, downed large branches, exposed tree roots, rodent burrows, and low-lying vegetation are among the habitat elements that provide foraging, aestivation and cover for CRLF

(Dodd 2013). Ephemeral channels, which flow only in response to storm events and contain surface water for a few hours or days continuously, are not breeding or aestivation habitat.

Most CRLF do not disperse farther than the nearest suitable non-breeding habitat, but of the CRLF that do move further, the distance traveled is highly site-dependent and influenced by the local landscape (Fellers and Kleeman 2007). In rare instances, CRLF have been documented to travel up to a mile from their breeding areas (Fellers and Kleeman 2007).

Barry and Fellers (2013) conducted an exhaustive study of CRLF in the Sierra Nevada and eastern California. They examined museum collections and historical records, and conducted 213 field surveys at 151 sites over 21 years to evaluate the status of CRLF in the Sierra Nevada. They documented only 20 Sierra Nevada localities and one Cascades Mountain locality where CRLF occurred between 1916 and 1975, extending from Tehama County to Madera County. They surveyed directly or within 3.1 miles of 20 of the 21 historical Sierra Nevada/ Cascades localities. Those surveys resulted in confirming seven recent populations and three recent single-specimen occurrences extending from Butte County southeast to Mariposa County. In El Dorado County, a single adult female was found along Little Silver Creek, a single adult male was found along a Bear Creek tributary, a population was found at a privately-owned pond approximately 1,000 feet downstream of the Bear Creek tributary frog location, and the Spivey Pond population was confirmed. All individual observations of CRLF were located in aquatic habitat. No CRLF were documented in adjacent uplands. Due to limited resources for CRLF in the Sierra Nevada, historical population sizes and numbers have likely always been scarce (Barry and Fellers 2013).

Nonnative aquatic vertebrate and invertebrate predators have been a significant factor in the decline of CRLF. Bullfrogs (*Lithobates catesbeiana*), crayfish (*Procambarus* sp.), and various fish species, especially bass, catfish (*Ictalurus* spp.), sunfish (*Lepomis* spp.), and mosquitofish (*Gambusia affinis*), are predators on one or more life stages of CRLF (USFWS 2002). An experimental study showed that bullfrog tadpoles reduced the survival of red-legged frog tadpoles to less than 5% and suggested that competition was the reason. The study also showed that mosquitofish injured and reduced the growth of tadpoles, but did not affect their survival rate (Cook 1997). The combined effects of both nonnative frogs and nonnative fish often lead to extirpation of CRLF (USFWS 2002). In the Sierra Nevada, chemical pollutants, such as pesticides, may be a major factor in the decline of CRLF (Cook 1997).

Habitat alteration, such as damming of intermittent streams, creating a permanent, warm-water habitat, favors the establishment of bullfrogs and fish to the detriment of CRLF (Cook 1997). Most remaining CRLF populations occur in non-perennial habitats without bullfrogs (Hayes and Jennings 1988). Some of the largest remaining populations of CRLF, however, appear to co-

occur with the bullfrog. The areas include several marshes and ponds in coastal habitats. The ability of these two species to co-occur at these locations is likely due to the local climatic conditions, the non-perennial nature of the water bodies, and the rate of predation by one species on the other. The lack of permanent water eliminates the presence of fish and reduces the reproductive success of the bullfrog, which generally requires permanent, warm-water habitat for tadpoles to metamorphose. In several permanent coastal ponds where CRLF and bullfrog co-occur, the year-round cool temperatures may be a key factor in reducing bullfrog reproductive success (Cook 1997).

Range: CRLF are endemic to California and Baja California, Mexico. Its elevation range extends from near sea level to approximately 5,200 feet. Nearly all sightings have occurred below 3,500 feet (USFWS 2002). CRLF historically occurred through Pacific slope drainages from the vicinity of Redding (Shasta County) inland and to Point Reyes (Marin County) southward to the Santo Domingo River drainage in Baja California, Mexico (Jennings and Hayes 1994). CRLF is now known only from isolated localities in the Sierra Nevada, northern Coast, and northern Transverse Ranges (USFWS 2002).

Critical Habitat: Critical habitat has been designated for CRLF in El Dorado County from Camino to Pollock Pines. The western edge of the critical habitat unit is located approximately 1.7 miles northeast of the BSA (USFWS 2010). The critical habitat designation identifies the physical and/or biological features essential to the conservation of CRLF that may require special management consideration or protection. The features are known as the primary constituent elements, and are as follows:

- 1) aquatic breeding habitat consisting of standing bodies of fresh water (with salinities less than 4.5 ppt), including natural and manmade ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years;
- 2) aquatic non-breeding habitat that includes freshwater pond and stream habitats, as described above, that may not hold water long enough for the species to complete its aquatic life cycle but which provide for shelter, foraging, predator avoidance and aquatic dispersal of juvenile and adult CRLF;
- 3) upland habitat adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to a distance of one mile in most cases (i.e., depending on surrounding landscape and dispersal barriers) including various vegetation types such as grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator

avoidance for the CRLF. Upland features are also essential in that they are needed to maintain the hydrologic, geographic, topographic, ecological, and edaphic features that support and surround the aquatic, wetland, riparian habitat; and

4) dispersal habitat that includes accessible upland or riparian habitat within and between occupied or previously occupied sites that are located within one mile of each other, and that support movement between such sites (USFWS 2010).

Recovery Plan: USFWS prepared a Recovery Plan for CRLF to protect existing populations within 8 recovery units throughout California. The BSA is located in CRLF Recovery Unit 1, which is defined as Sierra Nevada Foothills and Central Valley. Within recovery units are core areas representing 35 focused areas that would allow for long-term viability and reestablishment of CRLF populations. The BSA is located in Core Area 4, which is defined as Cosumnes River-South Fork American River (USFWS 2002).

Known Records: There are two CNDDDB records for CRLF in the 9-quad area surrounding the BSA. The closest CNDDDB record for CRLF occurs approximately 5 miles northeast of the BSA at Spivey Pond on North Fork Weber Creek. Adults and tadpoles were observed in July 1997; adults were observed in September 2002; adults and juveniles were observed in September 2007; and adults and juveniles were observed in April 2008.

4.2.1.1. SURVEY RESULTS

No CRLF were observed during the general biological fieldwork conducted in June, July, and October 2012 or during biological monitoring of archaeological surveys in March 2013, January 2016, and June 2017. Nonnative bullfrogs (CRLF predator) were observed in South Fork Weber Creek during fieldwork.

National Park Service biologist, Robert Grasso, conducted environmental deoxyribonucleic acid (eDNA) surveys for CRLF at three locations on North Fork Weber Creek and two locations on Weber Creek, approximately 5 and 8 miles downstream of the BSA. Each site, considered suitable nonbreeding habitat for CRLF (with limited breeding habitat), was surveyed along a 0.1 mile segment of the creek. The only positive detection for CRLF was recorded in North Fork Weber Creek, approximately 0.1 mile downstream of the breeding population of CRLF in Spivey Pond (Pers. comm. Ian Vogel 2017).

The USFWS issued a *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (Guidance) in August 2005. The Guidance provides information to assess the likelihood of CRLF presence in the vicinity of a project site. The Guidance

recommends that the following questions be answered when assessing habitat for CRLF in the vicinity of a project site:

1. Is the project site within the current or historic range of CRLF?

The BSA is located in the historic range of CRLF as shown on Figure 3 in the *Recovery Plan for the California Red-legged Frog* (USFWS 2002).

The BSA is located in the current range of CRLF as shown on Figure 4 in the *Recovery Plan for the California Red-legged Frog* (USFWS 2002).

The BSA is located within the range of CRLF as illustrated in CDFW's California Wildlife Habitat Relationships System (CWHR 2017).

CRLF appears on the USFWS list that identifies federal-listed species that could potentially occur in or could be affected by projects in the BSA (Appendix A).

The BSA is located within Recovery Unit #1, Sierra Nevada Foothills and Central Valley (USFWS 2002). The BSA is located in a Core Recovery Area 4, Cosumnes River (USFWS 2002).

There are eight records for CRLF in El Dorado County on the CRLF distribution map in *California Amphibian and Reptile Species of Special Concern* (Thomson et al. 2016).

There are no CNDDDB records for CRLF on the Camino quad.

The BSA does not occur within CRLF designated critical habitat. One critical habitat unit has been designated for CRLF in El Dorado County (USFWS 2010). The unit is located approximately 1.6 miles northeast of the BSA.

2. Are there known records of CRLF at the site or within a one mile radius of the site?

There are no known occurrences of CRLF in the BSA or within one mile of the BSA.

The closest CNDDDB record for CRLF occurs approximately 5 miles northeast of the BSA. Information about the closest CNDDDB record is described above.

The California Academy of Sciences, Department of Herpetology, has no collections of CRLF from El Dorado County (California Academy of Sciences 2017).

The University of California, Berkeley Museum of Vertebrate Zoology has five specimens of CRLF from El Dorado County. Four of the specimens were collected in 1935 from a location one mile southeast of Placerville. The fifth specimen was collected in 1961 from a location two miles south of the town of El Dorado (Museum of Vertebrate Zoology 2017).

3. What are the habitats in the project site and within one mile of the project boundary?

Upland communities in the BSA are mixed conifer forests, grassland, Himalayan blackberry brambles, and paved and dirt roads. Aquatic and riparian communities in the BSA are South Fork Weber Creek, a perennial channel, several ephemeral channels, a seasonal wetland, and Oregon ash groves. Deep pools in South Fork Weber Creek located downstream of the existing bridge could provide breeding habitat for CRLF. Community types in the BSA are discussed in Section 3.1.3 and 4.1.1.

Upland areas within one mile of the BSA primarily consist of mixed coniferous forest, grassland, rural residential development, and paved and gravel roads.

Aerial images from various dates were examined in Google Earth, and the quad map and USFWS online NWI were examined to determine aquatic habitats within one mile of the BSA. A total of 7 ponds, South Fork Weber Creek, and Weber Reservoir occur within one mile of the BSA.

South Fork Weber Creek runs east to west through the one mile radius around the BSA. Ponds identified in the aerial images, quad map, and NWI map are located 0.12 and 0.22 mile north of the BSA; 0.8 mile east-northeast of the BSA, 0.9 mile east of the BSA, 0.6 mile southeast of the BSA, 0.7 mile southwest of the BSA, and 1 mile west-southwest of the BSA. The two ponds located north of the BSA are the result of impoundments along the perennial channel. Weber Reservoir occurs approximately 0.6 mile north of the BSA on the North Fork of Weber Creek. Freshwater emergent wetlands occur along the perennial channel between the two ponds north of the BSA, and 0.9 mile southeast of the BSA.

There are pools within South Fork Weber Creek, downstream (west of) the existing bridge in the BSA that are of sufficient depth to provide potential breeding habitat for CRLF, though emergent vegetation is minimal. High flows in South Fork Weber Creek in winter and early spring are likely not compatible with CRLF breeding and would wash out egg masses. Aquatic habitats within one mile of the BSA provide potential breeding habitat for CRLF.

4.2.1.2. PROJECT IMPACTS

Depending on the alternative selected, approximately 260 to 320 feet of South Fork Weber Creek in the vicinity of the bridge would be realigned. Realignment of the creek and placement of RSP would result in approximately 0.122 to 0.141 acre of permanent impacts to South Fork Weber Creek and the perennial channel (aquatic habitat) in the BSA. Alternative 1 would install a total of 0.150 acre of RSP (0.119 acre installed below the OHWM of South Fork Weber Creek). Alternative 2 would install a total of 0.325 acre of RSP (0.139 acre and 0.002 acre installed below the OHWM of South Fork Weber Creek and the perennial channel, respectively). The

approximate limits of RSP for each alternative are shown on Figure 3. CRLF use of RSP is not well known.

Approximately 0.012 to 0.018 acre of temporary impacts to aquatic habitat would result from temporary creek diversion, demolition of the existing bridge and abutments, construction of the new bridge, and bank recontouring. Vegetation clearing for construction access and bridge construction may temporarily impact up to 0.264 acre and permanently impact up to 0.240 acre of the Oregon ash groves riparian community depending on the alternative selected.

Based on the marginal breeding habitat in the BSA, the sparsity of CRLF in the Sierra Nevada, the lack of records within the typical dispersal distance of CRLF, and the results of the eDNA surveys, the Project may affect, but is not likely to adversely affect, CRLF. The Project would have no effect on CRLF critical habitat.

4.2.1.3. AVOIDANCE AND MINIMIZATION EFFORTS

Implementation of the following avoidance and minimization measures would minimize Project effects to CRLF:

- A Service-approved biologist shall conduct a preconstruction survey for CRLF within 48 hours prior to the onset of vegetation removal in the riparian habitat and South Fork Weber Creek. If any CRLF are found, construction activities will stop in the riparian and aquatic habitats, and the USFWS will be contacted immediately for further guidance.
- Environmental awareness training will be conducted by a qualified biologist prior to the onset of Project work for construction personnel to brief them on how to recognize CRLF, the importance of avoiding impacts to this species, and what to do if they are found. Education programs will be conducted for appropriate new personnel as they are brought on the job during the construction period. Upon completion of training, employees will sign a form stating that they attended the training and understand all the conservation and protection measures.
- All vegetation scheduled for removal along South Fork Weber Creek will be removed by hand or with hand-held power tools, including chainsaws. To minimize the potential of crushing a CRLF, mechanized vehicles will not be driven through the riparian corridor to clear the vegetation. After the vegetation has been removed, and the biologist confirms the absence of CRLF, stumps and roots may be removed using mechanized vehicles and equipment. Mechanized vehicles will be operated from the top of the bank to the extent feasible.

- A qualified biologist will be present during grubbing and clearing activities in the riparian habitat to monitor for CRLF.
- ESA fencing will be established along the limits of construction adjacent to the riparian community and aquatic habitats to exclude construction activities from avoided habitat. The fencing can be installed after initial clearing of vegetation, but shall be installed prior to any further work on the Project. Vehicles will not be allowed to park in, nor will equipment be stored in the ESA. No storage of oil, gasoline, or other substances will be permitted in the ESA. No vegetation removal or ground disturbing activities will be permitted in the ESA.
- The contractor will prepare a creek diversion plan that complies with any applicable permit conditions. A qualified biologist will conduct a survey of the area to be diverted prior to diversion installation. The qualified biologist will be present during installation and removal of the diversion structure and dewatering activities.
- If a work site is to be temporarily dewatered by pumping, the intake will be screened with wire mesh not larger than 0.2 inch to prevent any CRLF not initially detected from entering the pump system.
- Plastic mono-filament netting (erosion control matting) or similar material containing netting shall not be used at the Project site because the CRLF or other animals may become entangled or trapped in it. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.
- All refueling, maintenance; and staging of equipment and vehicles will occur in accordance with Caltrans Best Management Practices (BMPs) NS-8, 9 and 10 (Caltrans 2017) to prevent spills from draining directly toward aquatic habitat.
- To prevent inadvertent entrapment of CRLF during construction, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the end of each working day with plywood or similar material. If it is not possible to cover the trench at the end of the work day, Permittee shall either 1) Install an exclusion fence surrounding and enclosing the open end(s) of the trench, or 2) shall place an escape ramp at each end of open trench. The ramp may be constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees.
- If CRLF are found at any time during Project work, construction will stop in the riparian and aquatic habitats, and the USFWS will be contacted immediately for further guidance.

- To ensure compliance with the Project's avoidance and minimization measures, a County inspector will be on-site whenever in-water work occurs. The County construction inspector will make recommendations to the construction personnel, as needed, to comply with all Project implementation restrictions and guidelines. The County construction inspector will be responsible for ensuring that the contractor maintains the staked and flagged perimeters of the construction area and staging areas adjacent to sensitive biological resources. A qualified biologist will be available during the construction period to assist the County construction inspector if CRLF are found and to answer questions and make recommendations regarding implementation of CRLF avoidance and minimization measures.
- Upon completion of construction activities, any barriers to flow shall be removed to allow flow to resume with the least disturbance to the substrate.
- To ensure that diseases are not conveyed between work sites by the Service-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times:
<https://www.fws.gov/ventura/docs/species/protocols/DAFTA.pdf>

4.2.1.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.2.1.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.2.2. Discussion of Foothill Yellow-Legged Frog (FYLF; *Rana boylei*)

Foothill yellow-legged frog (FYLF) is a state candidate species (CDFW 2017). FYLF are found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types (CWHR 2017). FYLF require shallow, flowing water, preferably in small to moderate sized streams with at least some cobble-sized substrate (Jennings and Hayes 1994). Adults bask on exposed rock surfaces near streams, diving into the water for refuge when disturbed. During periods of inactivity, especially during cold weather, FYLF seek cover under rocks in the streams or on shore within a few meters of water. This species is rarely encountered far from permanent water, even on rainy nights (CWHR 2017).

In California, breeding and egg-laying occur at the end of spring flooding, from late March to early June depending on local water conditions, and lasts about two weeks. Females deposit

eggs in clusters of 200 to 300 (range 100 to 1,200) attached to gravel or rocks in moving water near stream margins. Eggs hatch in about five days, and metamorphose between July and September (CWHR 2017; Jennings and Hayes 1994). Reproduction and rearing rely on low flows to avoid egg mass and tadpole mortality caused by high flow events or unseasonal dam releases (USFS 2016).

Introduced predators, such as smallmouth bass, green sunfish, mosquitofish, trout, and bullfrogs present a significant risk to existing populations of FYLF. These species are known to prey on FYLF and may outcompete FYLF for food resources (USFS 2016).

Range: Historically, this species was known from most Pacific drainages from the Santiam River system (Marion County, OR) to the San Gabriel River system (Los Angeles County, CA). This species has not been observed south of the Transverse Ranges since 1970 (Jennings and Hayes 1994). Its elevation range extends from sea level to 6,000 feet in the Sierra (CWHR 2017).

Known Records: There are nine CNDDDB records for FYLF in the 9-quad area surrounding the BSA. The closest CNDDDB record for FYLF is located approximately 4.6 miles southeast of the BSA on the North Fork of the Cosumnes River at the Sweeney Road Bridge crossing. Habitat consists of slow-moving, shallow water flowing over a silty substrate under an overstory dominated by alder and maple. Tadpoles were found under the bridge in August 1994.

4.2.2.1. SURVEY RESULTS

FYLF were not observed during the general biological fieldwork. Nonnative bullfrogs were observed in South Fork Weber Creek during fieldwork. South Fork Weber Creek in the BSA provides potential habitat for FYLF.

4.2.2.2. PROJECT IMPACTS

With implementation of avoidance and minimization efforts, the Project would not impact FYLF.

4.2.2.3. AVOIDANCE AND MINIMIZATION EFFORTS

On 27 June 2017, FYLF was listed as a State candidate threatened species. From the date of listing, CDFW has 12 months to prepare and submit a Status Report to the Fish and Game Commission. The Commission then has up to 90 days to review the report and make a finding of whether or not the petition action is warranted. Until a determination is made, handling of FYLF may not occur without a CDFW 2081(b) California Endangered Species Act (CESA)

Incidental Take Permit (ITP). Additionally, if FYLF is listed as State-threatened following the review period, handling of FYLF may not occur without a CDFW 2081(b) permit.

Avoidance and minimization efforts described for South Fork Weber Creek and CRLF would protect FYLF. In addition, the following avoidance and minimization measures would be implemented:

- Prior to construction activities, the County will coordinate with CDFW to determine if a 2081(b) CESA ITP is needed.
- A preconstruction survey for FYLF shall be conducted within 48 hours prior to the start of construction activities within the riparian and aquatic habitat in the BSA. The survey methodology will be based on Peek et al. (2017) *Visual Encounter Survey Protocol for Rana Boylii in Lotic Environments*.
- A qualified biologist will be present during grubbing and clearing activities in the riparian and aquatic habitat in the BSA to monitor for FYLF.
- During construction, if a FYLF is observed in the active construction zone, construction will cease and a qualified biologist will be notified. Construction may resume when the biologist has either relocated the FYLF to nearby suitable habitat outside the construction zone, or, after thorough inspection, determined that the FYLF has moved away from the construction zone. Until FYLF is either listed or removed as a Candidate for listed, CDFW will be contacted for guidance before construction resumes.

4.2.2.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.2.2.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.2.3. Discussion of Western Pond Turtle (WPT; *Emys marmorata*)

Western pond turtle (WPT) is a CDFW species of special concern (CDFW 2017). WPT prefer aquatic habitats with abundant vegetative cover and exposed basking sites such as logs. WPT are associated with permanent or nearly permanent water in a wide variety of habitat types, normally in ponds, lakes, streams, irrigation ditches, or permanent pools along intermittent streams (CWHR 2017). They are omnivorous generalists and opportunistic predators that prey

upon small insects, aquatic invertebrates, fish, frogs, snakes, and small mammals. They also eat aquatic plant material and carrion (Stebbins 2003).

Two distinct habitats may be used for oviposition. Along large, slow-moving streams, eggs are deposited in nests constructed in sandy banks. Along foothill streams, females may climb hillsides, sometimes traveling over 330 feet to find a suitable nest site. Soil must usually be at least 4 inches deep for nesting. Generally, 3 to 11 eggs are laid from March to August depending on local conditions and are incubated for approximately 73 to 80 days (CWHR 2017).

Range: WPT occur throughout northern CA west of the Sierra Nevada (Stebbins 2003) from sea level to 6,000 feet (CWHR 2017).

Known Records: There are eight CNDDDB records for WPT in the 9-quad area surrounding the BSA. The closest CNDDDB record for WPT occurs approximately 3.5 miles southeast of the BSA at Camp Creek above the confluence with North Fork Cosumnes River. Habitat around Camp Creek consists of mixed conifer. Two juveniles were observed in June 1993.

4.2.3.1. SURVEY RESULTS

WPT were not observed in the BSA during the general biological fieldwork. South Fork Weber Creek in the BSA provides potential habitat for WPT.

4.2.3.2. PROJECT IMPACTS

With implementation of avoidance and minimization efforts, the Project would not impact WPT.

4.2.3.3. AVOIDANCE AND MINIMIZATION EFFORTS

Avoidance and minimization efforts described for CRLF and South Fork Weber Creek would protect WPT. In addition, the following avoidance and minimization measures would be implemented:

- A preconstruction survey for WPT shall occur within 48 hours prior to the start of construction activities within the riparian and aquatic habitat in the BSA.
- A qualified biologist will be present during grubbing and clearing activities in the riparian and aquatic habitat in the BSA to monitor for WPT.
- During construction, if a WPT is observed in the active construction zone, construction will cease and a qualified biologist will be notified. Construction may resume when the biologist has either relocated the WPT to nearby suitable habitat outside the construction zone, or, after thorough inspection, determined that the WPT has moved away from the

construction zone.

4.2.3.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.2.3.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.2.4. Discussion of Migratory Birds and Birds of Prey

Fish and Game Code 3503.5 protects all birds in the orders Falconiformes and Strigiformes (collectively known as birds of prey). Birds of prey include raptors, falcons, and owls. Migratory birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, or barter any migratory bird listed in 50 CFR Part 10 including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). All migratory bird species are protected by the MBTA. Any disturbance that causes direct injury, death, nest abandonment, or forced fledging of migratory birds, is restricted under the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of nestlings is considered a 'take' of the species under federal law.

4.2.4.1. SURVEY RESULTS

The BSA provides potential nesting habitat for birds of prey and birds listed by the MBTA. The remains of a black phoebe (*Sayornis nigricans*) nest were observed under the Newtown Road Bridge in the BSA.

4.2.4.2. PROJECT IMPACTS

With implementation of the avoidance and minimization measures, the Project would not impact birds of prey or MBTA birds.

4.2.4.3. AVOIDANCE AND MINIMIZATION EFFORTS

Under the MBTA, nests that contain eggs or unfledged young are not to be disturbed during the breeding season. Nesting or attempted nesting by migratory birds and birds of prey is anticipated from 15 February to 1 September.

Bridge-Nesting Birds

In California, bridge-nesting swallows typically arrive in mid-February, increase in numbers until late March, and remain until October. Nesting begins in April, peaks in June, and continues

into August. Black phoebes also occur in the area and have nested on the Newtown Road Bridge in the past. Black phoebes nest from March to August with peak activity in May. Measures should be taken to prevent establishment of nests prior to construction. Techniques to prevent nest establishment include using exclusion devices, removing and disposing of partially constructed and unoccupied nests of migratory or nongame birds on a regular basis to prevent their occupation, or performing any combination of these. This can be done by implementing the following measures:

- The contractor can visit the site weekly and remove partially completed nests using either hand tools or high-pressure water; and/or
- Hang netting from the bridge before nesting begins. If this technique is used, netting should be in place from late February until Project construction begins.

Birds of Prey and Birds Protected by the Migratory Bird Treaty Act

- If construction begins outside the 15 February to 1 September breeding season, there will be no need to conduct a preconstruction survey for active nests.
- Trees scheduled for removal should be removed during the non-breeding season from 2 September to 14 February. Vegetation removal includes trees and vegetation within the stream zone. Vegetation may be removed using hand tools, including chain saws and mowers, and may be trimmed several inches above the ground with the roots left intact to prevent erosion.
- If construction or vegetation removal begins between 15 February and 1 September, a biologist shall conduct a survey for active bird of prey nests within 500 feet and active nests of all other MBTA-protected birds within 100 feet of the BSA from publicly accessible areas within two weeks prior to construction. The measures listed below shall be implemented based on the survey results.

No Active Nests Found:

- If no active nest of a bird of prey, MBTA bird, or other CDFW protected bird is found, then no further avoidance and minimization measures are necessary.

Active Nests Found:

- If an active nest of a bird of prey, MBTA bird, or other CDFW protected bird is discovered that may be adversely affected by construction activities or an injured or killed bird is found, immediately:
 1. Stop all work within a 100-ft radius of the discovery.

2. Notify the Engineer.
 3. Do not resume work within the specified radius of the discovery until authorized.
- The biologist shall establish a minimum 500-ft Environmentally Sensitive Area (ESA) around the nest if the nest is of a bird of prey, and a minimum 100-ft ESA around the nest if the nest is of an MBTA bird other than a bird of prey.

Table 7. Species Protection Areas

Protected Bird Type	Size of Protection Area (ESA)
Bird of prey	500-ft no-disturbance buffer
MBTA protected bird (not bird of prey)	100-ft no-disturbance buffer

- Activity in the ESA will be restricted as follows:
 1. Do not enter the ESA unless authorized.
 2. If the ESA is breached, immediately:
 - a. Secure the area and stop all operations within 100 feet of the ESA boundary.
 - b. Notify the Engineer.
 3. If the ESA is damaged, the County determines what efforts are necessary to remedy the damage and who performs the remedy.
- No construction activity will be allowed in the ESA until the biologist determines that the nest is no longer active, or unless monitoring determines that a smaller ESA will protect the active nest.
- The size of an ESA may be reduced if the biologist monitors the construction activities and determines that no disturbance to the active nest is occurring. Reduction of ESA size depends on the species of bird, the location of the nest relative to the Project, Project activities during the time the nest is active, and other Project-specific factors.
- Between 15 February and 1 September, if additional trees or shrubs need to be trimmed and/or removed after construction has started, a survey will be conducted for active nests in the area to be affected. If an active nest is found, the above measures will be implemented.
- If an active nest is identified in or adjacent to the construction zone after construction has started, the above measures will be implemented to ensure construction is not causing

disturbance to the nest.

4.2.4.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.2.4.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.2.5. Discussion of California Spotted Owl (CSO; *Strix occidentalis occidentalis*)

California spotted owl (CSO) is a CDFW species of special concern (CDFW 2017). CSO breed and roost in forests and woodlands with large old trees and snags, high basal areas of trees with snags, dense canopies (greater than or equal to 70% canopy closure), multiple canopy layers, and downed woody debris. Large, old trees are the key component; they provide nest sites and cover from inclement weather and add structure to the forest canopy and woody debris to the forest floor. CSO do not build their own nests, but instead depend on finding suitable, naturally occurring sites in trees. In Sierra Nevada conifer forests, nests are often in tree cavities or on broken-topped trees or snags. Less often, they are on abandoned raptor or common raven nests, squirrel nests, dwarf mistletoe, brooms, or debris accumulations in trees. Nests trees in conifer forests are typically large, with a mean diameter at breast height (dbh) of 46.7 inches. CSO breed from mid-February through mid-September or early October (Shuford and Gardali 2008).

In the Sierra Nevada, CSO predominantly use Sierran mixed-conifer forest, white fir, montane hardwood-conifer, and montane hardwood forests at mid-elevations. To a lesser extent, it inhabits California red fir forests at high elevations and ponderosa pine forest, blue oak – gray pine woodlands, and valley foothill riparian forests at low elevations. A study in the Lassen National Forest found that site occupancy was positively associated with the amount of nest area (500-acre circle around the nest) dominated by large trees (greater than 24 in dbh) and high canopy cover, and negatively associated with areas dominated by medium-sized trees (12-24 in dbh) with high canopy cover (Shuford and Gardali 2008).

Foraging habitats are similar to breeding and roosting habitats, but also include more open stands with less than 40% canopy closure. Downed woody debris in higher-elevation forests of the Sierra Nevada is strongly associated with underground fungi, which are an important food for spotted owl prey species (Shuford and Gardali 2008).

Range: The CSO is a year-round resident within most of its range. CSO occurs from the southern Cascade Range of northern California south along the west slope of the Sierra Nevada

and in mountains of central and southern California nearly to the Mexican border. As a breeder in the Sierra Nevada, this species occurs at elevations ranging from about 1,000 feet in Fresno County to 7,923 feet in Tulare County (Shuford and Gardali 2008).

Known Records: The closest CNDDDB record for CSO is approximately 3.8 miles east-northeast of the BSA. A pair of CSO were observed in June and August 2001. No nest or young were observed.

4.2.5.1. SURVEY RESULTS

CSO were not observed in the BSA during the general biological fieldwork. Large trees adjacent to the BSA may provide potential nesting habitat for CSO. Trees in the BSA provide only marginal nesting habitat for CSO due to small size and the proximity of roads and residences. Of the 267 trees in the BSA, only 31 trees have a dbh greater than 24 inches, and of those, only one tree has a dbh greater than 46 inches. A property owner in the southwest portion of the BSA stated that an injured CSO was rescued from her property (pers. comm., W. Nagel 2012).

4.2.5.2. PROJECT IMPACTS

With implementation of the avoidance and minimization efforts, the Project would not impact CSO.

4.2.5.3. AVOIDANCE AND MINIMIZATION EFFORTS

Avoidance and minimization efforts described for MBTA birds and birds of prey would protect CSO.

4.2.5.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.2.5.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.3. Special-Status Plant Species

4.3.1. Discussion of Nissenan Manzanita (*Arctostaphylos nissenana*)

Nissenan manzanita is a perennial evergreen shrub found on highly acidic (slate and shale) soils and is often associated with closed-cone conifer forest and chaparral from about 1,476 to 3,608 feet (USFS 2009 and CNPS 2017). It typically occurs on open, rocky shale ridges (Baldwin et al. 2012). It blooms February through March (CNPS 2017).

Range: Known from 13 occurrences in El Dorado and Tuolumne counties (CNPS 2017).

Known Records: There are 10 CNDDDB records for Nissenan manzanita in the 9-quad area surrounding the BSA. The closest CNDDDB record for Nissenan manzanita is approximately 2.8 miles northwest of the BSA. One plant was found in 1945 in a dense stand of *Arctostaphylos viscida*.

4.3.1.1. SURVEY RESULTS

Upland areas north of Newtown Road provide marginal potential habitat for Nissenan manzanita in the BSA. Soils in the BSA are not very rocky or highly acidic (although there may be elevated levels of subsurface acidity; NRCS 1974).

Nissenan manzanita was not observed during the botanical survey conducted during June and July 2012. Although these dates were outside the blooming period for this species, Nissenan manzanita is evergreen and possesses distinctive morphology making it evident and identifiable year-round.

4.3.1.2. PROJECT IMPACTS

The Project would not impact Nissenan manzanita.

4.3.1.3. AVOIDANCE AND MINIMIZATION EFFORTS

No avoidance or minimization efforts are proposed.

4.3.1.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.3.1.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.3.2. Discussion of Pleasant Valley Mariposa Lily (*Calochortus clavatus* var. *avius*)

Pleasant Valley mariposa lily is perennial bulbiferous herb found in openings in mixed conifer and ponderosa pine forest, usually on ridge tops and south-facing slopes on Josephine silt loam and volcanic from 1,000 to 5,904 feet (USFS 2009 and CNPS 2017). It blooms May through July (CNPS 2017).

Range: Known from Amador, Calaveras, El Dorado, Mariposa, and Placer counties. Pleasant Valley mariposa lily is presumed extirpated from Mariposa County (CNPS 2017).

Known Records: There are 34 CNDDDB records for Pleasant Valley mariposa lily in the 9-quadrant area surrounding the BSA. The closest CNDDDB record for Pleasant Valley mariposa lily is approximately 0.6 mile south-southeast of the BSA on a ridge top vegetated with chaparral species on Valley Springs formation soil with rhyolitic tuff rocks. Approximately 350 plants were observed in 1992.

4.3.2.1. SURVEY RESULTS

The BSA provides potential habitat for Pleasant Valley mariposa lily. Pleasant Valley mariposa lily was not observed during the botanical survey conducted during the evident and identifiable period.

4.3.2.2. PROJECT IMPACTS

The Project would not impact Pleasant Valley mariposa lily.

4.3.2.3. AVOIDANCE AND MINIMIZATION EFFORTS

No avoidance or minimization efforts are proposed.

4.3.2.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.3.2.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.3.3. Discussion of Sierra Arching Sedge (*Carex cyrtostachya*)

Sierra arching sedge is a perennial herb found in mesic lower montane coniferous forest, meadows and seeps, marshes and swamps, and riparian forest margins from 2,000 to 4,460 feet. It blooms May through August (CNPS 2017).

Range: Known from Butte, El Dorado, and Yuba counties (CNPS 2017).

Known Records: There are three CNDDDB records for Sierra arching sedge in the 9-quadrant area surrounding the BSA. The closest CNDDDB record for Sierra arching sedge is approximately 11.8 miles northeast of the BSA along Slab Creek. Habitat consisted of open bog in mixed coniferous forest on metamorphic rock formation. The record is based on a 1968 collection.

4.3.3.1. SURVEY RESULTS

The BSA provides potential habitat for Sierra arching sedge. Sierra arching sedge was not observed during the botanical survey conducted during the evident and identifiable period.

4.3.3.2. PROJECT IMPACTS

The Project would not impact Sierra arching sedge.

4.3.3.3. AVOIDANCE AND MINIMIZATION EFFORTS

No avoidance or minimization efforts are proposed.

4.3.3.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.3.3.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.3.4. Discussion of Parry's Horkelia (*Horkelia parryi*)

Parry's horkelia is a perennial herb found on stony, disturbed, slightly acidic soils in open chaparral and cismontane woodland from 262 to 3,509 feet (USFS 2009; CNPS 2017). It blooms April through September (CNPS 2017).

Range: Known from Amador, Calaveras, El Dorado, Mariposa, and Tuolumne counties (CNPS 2017).

Known Records: There are 14 CNDDDB records for Parry's horkelia in the 9-quadrant area surrounding the BSA. The closest CNDDDB record for Parry's horkelia is approximately 0.8 mile southeast of the BSA at the top of a road bank. Habitat consists of grassy sites at the edge of chaparral and oak woodland.

4.3.4.1. SURVEY RESULTS

The BSA provides potential habitat for Parry's horkelia. Parry's horkelia was not observed during the botanical survey conducted during the evident and identifiable period.

4.3.4.2. PROJECT IMPACTS

The Project would not impact Parry's horkelia.

4.3.4.3. AVOIDANCE AND MINIMIZATION EFFORTS

No avoidance or minimization efforts are proposed.

4.3.4.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.3.4.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.3.5. Discussion of Stebbins' Phacelia (*Phacelia stebbinsi*)

Stebbins' phacelia is an annual herb found on mesic soils of cismontane woodland, lower montane coniferous forest, and meadows and seeps from 2,000 to 6,593 feet (CNPS 2017). It occurs on dry, open, rocky sites (bedrock outcrops, rubble or talus) on ledges or moderate to steep slopes and on damp, mossy inner gorges (USFS 2009). It blooms May through July (CNPS 2017).

Range: Known from El Dorado, Nevada, and Placer counties (CNPS 2017).

Known Records: There are two CNDDDB records for Stebbins' phacelia in the 9-quad area surrounding the BSA. The closest CNDDDB record for Stebbins' phacelia is approximately 11.5 miles northeast of the BSA. In 2002, plants were observed growing on a steep, southwest facing roadcut in pockets of oak litter on metamorphic rock.

4.3.5.1. SURVEY RESULTS

The BSA provides potential habitat for Stebbins' phacelia. Stebbins' phacelia was not observed in the BSA during the botanical survey conducted during the evident and identifiable period.

4.3.5.2. PROJECT IMPACTS

The Project would not impact Stebbins' phacelia.

4.3.5.3. AVOIDANCE AND MINIMIZATION EFFORTS

No avoidance or minimization efforts are proposed.

4.3.5.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.3.5.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.3.6. Discussion of Brownish Beaked-Rush (*Rhynchospora capitellata*)

Brownish beaked-rush is a perennial herb found on mesic soils of lower and upper montane coniferous forest, meadows and seeps, and marshes and swamps from 147 to 6,560 feet. It blooms July through August (CNPS 2017).

Range: In California, known from Butte, El Dorado, Mariposa, Nevada, Plumas, Tehama, Trinity, and Yuba counties. Brownish beaked-rush is presumed extirpated from Sonoma County (CNPS 2017).

Known Records: There is one CNDDDB record for brownish beaked-rush in the 9-quad area surrounding the BSA. This record is located approximately 12 miles northeast of the BSA at Kings Meadow, near the headwaters of Slab Creek. Habitat consists of open, flat, soggy meadow surrounded by mixed conifer forest of lodgepole pine, white fir, Douglas-fir, and incense cedar. A large number of plants were observed in 2006.

4.3.6.1. SURVEY RESULTS

The seasonal wetland in the BSA provides potential habitat for brownish beaked-rush. Brownish beaked-rush was not observed in the BSA during the botanical survey conducted during the evident and identifiable period.

4.3.6.2. PROJECT IMPACTS

The Project would not impact brownish beaked-rush.

4.3.6.3. AVOIDANCE AND MINIMIZATION EFFORTS

No avoidance or minimization efforts are proposed.

4.3.6.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.3.6.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

4.3.7. Discussion of Oval-Leaved Viburnum (*Viburnum ellipticum*)

Oval-leaved viburnum is a perennial deciduous shrub found in chaparral, cismontane woodland, and lower montane coniferous forest from 705 to 4,592 feet. It blooms May through June (CNPS 2017).

Range: In California, known from Alameda, Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Lake, Mendocino, Napa, Placer, Shasta, Solano, Sonoma, and Tehama counties (CNPS 2017).

Known Records: There is one CNDDDB record for oval-leaved viburnum in the 9-quadrant area surrounding the BSA. This record is located approximately 6 miles west-northwest of the BSA. The record is based on a 1900 and 1901 collection and mapped as a best guess by CNDDDB in the vicinity of Placerville.

4.3.7.1. SURVEY RESULTS

The BSA provides potential habitat for oval-leaved viburnum. Oval-leaved viburnum was not observed in the BSA during the botanical survey conducted during the evident and identifiable period.

4.3.7.1. PROJECT IMPACTS

The Project would not impact oval-leaved viburnum.

4.3.7.2. AVOIDANCE AND MINIMIZATION EFFORTS

No avoidance or minimization efforts are proposed.

4.3.7.3. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

4.3.7.4. CUMULATIVE IMPACTS

No cumulative impacts were identified.

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Chapter 5. Conclusions and Regulatory Determinations

5.1. Federal Endangered Species Act (FESA) Consultation Summary

The BSA is located in the current range of CRLF. The BSA is not located in final designated critical habitat for CRLF. South Fork Weber Creek in the BSA provides marginal breeding habitat for CRLF. Based on the marginal breeding habitat in the BSA, the sparsity of CRLF in the Sierra Nevada, the lack of records within the typical dispersal distance of CRLF, and the results of the eDNA surveys, the Project may affect, but is not likely to adversely affect, CRLF. The Project would have no effect on critical habitat. Critical habitat for CRLF does not occur in the BSA.

FHWA has delegated authority to Caltrans to initiate formal and informal consultation with USFWS and NMFS under FESA. For projects that have no effect on federal-listed species or critical habitat, no consultation is required. Table 8 summarizes potential Project effects on federal-listed species and critical habitat.

Table 8. Summary of FESA Determinations

Scientific Name	Common Name	Federal Status ¹	No Effect	May affect, is not likely to adversely affect	May affect, is likely to adversely affect
Fish					
<i>Hypomesus transpacificus</i>	Delta smelt	T	X		
<i>Hypomesus transpacificus</i>	Delta smelt	CH	X		
<i>Oncorhynchus mykiss</i>	Northern California steelhead DPS	T	X		
<i>Oncorhynchus mykiss</i>	Northern California steelhead DPS	CH	X		
Amphibians					
<i>Rana draytonii</i>	California red-legged frog	T		X	
<i>Rana draytonii</i>	California red-legged frog	CH	X		
<i>Rana sierra</i>	Sierra Nevada yellow-legged frog	E	X		
<i>Rana sierra</i>	Sierra Nevada yellow-legged frog	CH	X		

¹ E = Federal Endangered; T = Federal Threatened; C = Federal Candidate, CH = Critical Habitat

5.2. Summary of Consultation to Date

No FESA consultation has occurred to date. As the designated federal lead agency, Caltrans will initiate the Section 7 consultation.

An official letter and list was obtained from the USFWS, Sacramento Field Office on 14 November 2017 (Appendix A), and from National Marine Fisheries Service (NMFS) on 24 February 2017 (Appendix B). The NMFS database lists EFH for Pacific Salmon for the Camino USGS quadrangle. One species under NMFS jurisdiction was included on the USFWS species list – Northern California steelhead Distinct Population Segment (DPS; *Oncorhynchus mykiss irideus*). The BSA does not occur in EFH. The BSA is upstream of the Nimbus Dam, a complete barrier to anadromous fish passage (NMFS 2014).

5.3. Essential Fish Habitat (EFH)

The BSA is located in the South Fork American hydrologic unit (18020129) which is not designated as EFH for Pacific salmon. South Fork Weber Creek is tributary to the American River upstream of the Nimbus Dam. The Nimbus Dam is an impassable dam that represents the upstream limit of EFH for Pacific salmon on the American River (NMFS 2014).

5.4. California Endangered Species Act (CESA) Consultation Summary

No take of California state-listed species is anticipated as a result of the Project.

5.5. Wetlands and Other Waters Coordination Summary

A jurisdictional delineation was prepared for the BSA (separately bound). South Fork Weber Creek and the perennial channel in the BSA are potential waters of the U.S. Depending on the alternative selected, Project construction would permanently impact 0.119 to 0.139 acre of South Fork Weber Creek and 0.002 to 0.003 acre of the perennial channel. The Project would temporarily impact 0.005 to 0.012 acre of South Fork Weber Creek and 0.006 to 0.007 acre of the perennial channel. The Project would require a Section 404 Permit from Corps, a Section 401 Water Quality Certification from the RWQCB, a NPDES Permit from the RWQCB, and a 1600 Streambed Alteration Agreement from CDFW. All permit conditions would be implemented.

5.6. Invasive Species

5.6.1.1. SURVEY RESULTS

Invasive plants are a subset of nonnative plants that spread into undisturbed ecosystems and generally negatively impact native plants and alter ecosystem processes (Cal-IPC 2006). There are 27 invasive plant species that occur in the BSA (California Invasive Plant Council, Cal-IPC 2006). Four species in the BSA are rated as “High” by Cal-IPC relative to their ecological impact, invasive potential, and ecological distribution: yellow star-thistle (*Centaurea solstitialis*), Himalayan blackberry (*Rubus armeniacus*), barbed goat grass (*Aegilops triuncialis*), and red brome (*Bromus madritensis* ssp. *rubens*). Invasive plant species in the BSA categorized by Cal-IPC (2006) as moderate or limited are noted in Appendix E.

Yellow star-thistle is a deep-taprooted winter annual or short-lived perennial that spreads by seed. Human activities are the primary mechanisms for the long-distance movement of yellow-star thistle seed. Once at a new location, seed is transported in lesser amounts and over short to medium distances by animals and humans. Seed heads readily adhere to clothing, hair, and fur (Bossard et al. 2000). Plants are highly competitive and typically develop dense, impenetrable stands that displace desirable vegetation in natural areas, rangelands, roadsides, and other places. Yellow star-thistle is considered one of the most serious rangeland weeds in the western United States (DiTomaso and Healy 2007a). Yellow star-thistle interferes with grazing and lowers yield and forage quality of rangelands. It also reduces land value and limits access to recreational areas (Bossard et al. 2000). Within the BSA, yellow star-thistle primarily occurs in the grassland community.

Himalayan blackberry typically occurs on disturbed moist open sites, roadsides, fencerows, fields, canal and ditch banks, and riparian areas in many plant communities. It tolerates periodic flooding and brackish water. Himalayan blackberry is common throughout California, except in deserts, to 5,250 feet. It forms impenetrable thickets and rapidly displaces native plant species (Bossard et al. 2000). It reproduces by seed, root sprouting, and stem tip rooting. Seeds may be transported long distances by wildlife, especially birds. Germination occurs mainly in spring. Small populations may be controlled effectively by manual removal (DiTomaso and Healy 2007b). In the BSA, Himalayan blackberry is abundant on the north side of South Fork Weber Creek, east of the existing bridge. Himalayan blackberry occurs in lesser abundance along the bed and banks of South Fork Weber Creek.

Barbed goat grass is a winter annual that occurs in dry, disturbed sites, fields, pastures, and roadsides. Barbed goat grass invades undisturbed grasslands and oak woodlands, but usually not chaparral. This species spreads long distances with human activities, vehicle tires, water, wind,

and by ingestion by or clinging to livestock, especially sheep (DiTomaso and Healy 2007b). Barbed goat grass occurs in low abundance in the grassland community in the BSA.

Red brome is a cool-season annual that occurs in open disturbed areas, roadsides, fields, rangelands, agronomic crops, orchards, forestry sites, and many natural plant communities. Red brome spreads by seed through wind and food caching by rodents. This species spreads greater distances with water and soils movements, by clinging to animals and to the shoes and clothing of humans, and through recreational, agricultural, and construction activities. It is among the numerous European annual grasses that have displaced much of the native grassland vegetation throughout California. It is highly flammable when dry, increasing the frequency and spread of wildfire in certain communities (DiTomaso and Healy 2007b). Red brome occurs in low abundance in the California annual grassland community in the BSA.

5.6.1.2. PROJECT IMPACTS

The invasive plant species rated “High” found in the BSA are common in El Dorado County. The limited scope of this Project precludes effective eradication of these invasive species from the BSA and the County. By revegetating disturbed areas with native species, the Project would reduce the spread of these species in the BSA.

5.6.1.3. AVOIDANCE AND MINIMIZATION EFFORTS

To reduce the spread of invasive plant species, all mud and debris will be washed off construction equipment prior to entering the site. Areas disturbed during construction will be revegetated with native species or sterile non-native species to reduce the spread of invasive plants in the BSA.

5.6.1.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

5.6.1.5. CUMULATIVE IMPACTS

No cumulative impacts were identified.

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United States Department of the Interior



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In Reply Refer To:

February 26, 2018

Consultation Code: 08ESMF00-2017-SLI-0777

Event Code: 08ESMF00-2018-E-03843

Project Name: Newtown Road at South Fork Weber Creek Bridge Replacement Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2017-SLI-0777

Event Code: 08ESMF00-2018-E-03843

Project Name: Newtown Road at South Fork Weber Creek Bridge Replacement Project

Project Type: TRANSPORTATION

Project Description: The Project will include (but not be limited to): bridge removal and construction, earthwork, road approach improvements, stream diversion/dewatering, and vegetation clearing.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.7073479137597N120.68184109122168W>



Counties: El Dorado, CA

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

From: Allie Sennett
To: nmfswcrca.specieslist@noaa.gov
Bcc: [10066 Newtown Rd @ S Fork Weber Crk](#)
Subject: FHWA-Caltrans - Newtown Road Bridge at South Fork Weber Creek Replacement Project
Date: Friday, February 24, 2017 4:40:00 PM

NMFS Species List

Federal Agency: Federal Highway Administration – California Division

Federal Agency Address: 650 Capitol Mall, Suite 4-100, Sacramento, CA 95814-4708

Non-Federal Agency Representative: California Department of Transportation

Non-Federal Agency Address: 703 B Street, Marysville, CA 95901

Project Name: El Dorado County's Newtown Road Bridge at South Fork Weber Creek Replacement Project (BRLO-5925 (086))

Point-of-Contact: Jennifer Osmondson, Jennifer_Osmondson@dot.ca.gov, (530) 740-4807

Quad Name **Camino**

Quad Number **38120-F6**

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH - **X**

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

Allie Sennett

Biologist

allie.sennett@sycamoreenv.com

Sycamore Environmental Consultants, Inc.

6355 Riverside Blvd., Suite C.

Sacramento, CA 95831

(916) 427-0703

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Garden Valley (3812077) OR Slate Mtn. (3812076) OR Pollock Pines (3812075) OR Placerville (3812067) OR Camino (3812066) OR Sly Park (3812065) OR Fiddletown (3812057) OR Aukum (3812056) OR Omo Ranch (3812055))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter gentilis</i> northern goshawk	ABNKC12060	None	None	G5	S3	SSC
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
<i>Apodontia rufa californica</i> Sierra Nevada mountain beaver	AMAF01013	None	None	G5T3T4	S2S3	SSC
<i>Arctostaphylos nissenana</i> Nissenan manzanita	PDERI040V0	None	None	G1	S1	1B.2
<i>Ardea alba</i> great egret	ABNGA04040	None	None	G5	S4	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	None	G2G3	S1	
<i>Calochortus clavatus var. avius</i> Pleasant Valley mariposa-lily	PMLIL0D095	None	None	G4T2	S2	1B.2
<i>Calystegia vanzuukiae</i> Van Zuur's morning-glory	PDCON040Q0	None	None	G2Q	S2	1B.3
<i>Carex cyrtostachya</i> Sierra arching sedge	PMCYP03M00	None	None	G2	S2	1B.2
<i>Central Valley Drainage Hardhead/Squawfish Stream</i> Central Valley Drainage Hardhead/Squawfish Stream	CARA2443CA	None	None	GNR	SNR	
<i>Central Valley Drainage Resident Rainbow Trout Stream</i> Central Valley Drainage Resident Rainbow Trout Stream	CARA2421CA	None	None	GNR	SNR	
<i>Chlorogalum grandiflorum</i> Red Hills soaproot	PMLIL0G020	None	None	G3	S3	1B.2
<i>Clarkia biloba ssp. brandegeae</i> Brandegee's clarkia	PDONA05053	None	None	G4G5T4	S4	4.2
<i>Cosumnoperla hypocrena</i> Cosumnes stripetail	IIPLE23020	None	None	G2	S2	
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Erethizon dorsatum</i> North American porcupine	AMAFJ01010	None	None	G5	S3	
<i>Horkelia parryi</i> Parry's horkelia	PDROS0W0C0	None	None	G2	S2	1B.2
<i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010	None	None	G5	S3S4	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Lewisia serrata</i> saw-toothed lewisia	PDPOR040E0	None	None	G2	S2	1B.1
<i>Myotis thysanodes</i> fringed myotis	AMACC01090	None	None	G4	S3	
<i>Myotis volans</i> long-legged myotis	AMACC01110	None	None	G5	S3	
<i>Myotis yumanensis</i> Yuma myotis	AMACC01020	None	None	G5	S4	
<i>Packera layneae</i> Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
<i>Pekania pennanti</i> fisher - West Coast DPS	AMAJF01021	None	Candidate Threatened	G5T2T3Q	S2S3	SSC
<i>Phacelia stebbinsii</i> Stebbins' phacelia	PDHYD0C4D0	None	None	G3	S3	1B.2
<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Rana sierrae</i> Sierra Nevada yellow-legged frog	AAABH01340	Endangered	Threatened	G1	S1	WL
<i>Rhynchospora capitellata</i> brownish beaked-rush	PMCYP0N080	None	None	G5	S1	2B.2
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sacramento-San Joaquin Foothill/Valley Ephemeral Stream Sacramento-San Joaquin Foothill/Valley Ephemeral Stream	CARA2130CA	None	None	GNR	SNR	
<i>Sphagnum Bog</i> Sphagnum Bog	CTT51110CA	None	None	G3	S1.2	
<i>Strix nebulosa</i> great gray owl	ABNSB12040	None	Endangered	G5	S1	
<i>Viburnum ellipticum</i> oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3

Record Count: 34

Plant List

Inventory of Rare and Endangered Plants

20 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3812077, 3812076, 3812075, 3812067, 3812066, 3812065, 3812057 3812056 and 3812055;

[Modify Search Criteria](#)
[Export to Excel](#)
[Modify Columns](#)
[Modify Sort](#)
[Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Allium sanbornii var. congdonii	Congdon's onion	Alliaceae	perennial bulbiferous herb	Apr-Jul	4.3	S3	G4T3
Arctostaphylos mewukka ssp. truei	True's manzanita	Ericaceae	perennial evergreen shrub	Feb-Jul	4.2	S3	G4?T3
Arctostaphylos nissenana	Nissenan manzanita	Ericaceae	perennial evergreen shrub	Feb-Mar	1B.2	S1	G1
Bolandra californica	Sierra bolandra	Saxifragaceae	perennial herb	Jun-Jul	4.3	S4	G4
Calochortus clavatus var. avius	Pleasant Valley mariposa lily	Liliaceae	perennial bulbiferous herb	May-Jul	1B.2	S2	G4T2
Calystegia vanzuukiae	Van Zujuk's morning-glory	Convolvulaceae	perennial rhizomatous herb	May-Aug	1B.3	S2	G2Q
Carex cyrtostachya	Sierra arching sedge	Cyperaceae	perennial herb	May-Aug	1B.2	S2	G2
Chlorogalum grandiflorum	Red Hills soaproot	Agavaceae	perennial bulbiferous herb	May-Jun	1B.2	S3	G3
Clarkia biloba ssp. brandegeae	Brandegee's clarkia	Onagraceae	annual herb	May-Jul	4.2	S4	G4G5T4
Clarkia virgata	Sierra clarkia	Onagraceae	annual herb	May-Aug	4.3	S3	G3
Claytonia parviflora ssp. grandiflora	streambank spring beauty	Montiaceae	annual herb	Feb-May	4.2	S3	G5T3
Delphinium hansenii ssp. ewaniamum	Ewan's larkspur	Ranunculaceae	perennial herb	Mar-May	4.2	S3	G4T3
Horkelia parryi	Parry's horkelia	Rosaceae	perennial herb	Apr-Sep	1B.2	S2	G2
Lewisia serrata	saw-toothed lewisia	Montiaceae	perennial herb	May-Jun	1B.1	S2	G2
Lilium humboldtii ssp. humboldtii	Humboldt lily	Liliaceae	perennial bulbiferous herb	May-Jul(Aug)	4.2	S3	G4T3
Navarretia prolifera ssp. lutea	yellow bur navarretia	Polemoniaceae	annual herb	May-Jul	4.3	S3	G4T3
Packera layneae	Layne's ragwort	Asteraceae	perennial herb	Apr-Aug	1B.2	S2	G2
Phacelia stebbinsii	Stebbins' phacelia	Hydrophyllaceae	annual herb	May-Jul	1B.2	S3	G3
Rhynchospora capitellata	brownish beaked-rush	Cyperaceae	perennial herb	Jul-Aug	2B.2	S1	G5
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

Suggested Citation

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Appendix E Plant and Wildlife Species Observed

Plant Species Observed

FAMILY	SCIENTIFIC NAME	COMMON NAME	N/I ¹	CAL-IPC RATING ²	
FERNS					
Blechnaceae	<i>Woodwardia fimbriata</i>	Giant chain fern	N		
Dennstaedtiaceae	<i>Pteridium aquilinum</i> var. <i>pubescens</i>	Bracken	N		
Equisetaceae	<i>Equisetum arvense</i>	Common horsetail	N		
	<i>Equisetum hyemale</i> ssp. <i>affine</i>	Common scouring rush	N		
Pteridaceae	<i>Pentagramma triangularis</i>	Goldback fern	N		
Woodsiaceae	<i>Athyrium filix-femina</i> var. <i>cyclosorum</i>	Lady fern	N		
	<i>Cystopteris fragilis</i>	Fragile fern	N		
GYMNOSPERMS					
Cupressaceae	<i>Calocedrus decurrens</i>	Incense cedar	N		
Pinaceae	<i>Pinus ponderosa</i>	Ponderosa pine	N		
	<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>	Douglas-fir	N		
EUDICOTS					
Amaranthaceae	<i>Amaranthus albus</i>	Tumbleweed	I		
Anacardiaceae	<i>Toxicodendron diversilobum</i>	Western poison oak	N		
Apiaceae	<i>Osmorhiza berteroi</i>	Sweet-Cicely	N		
	<i>Osmorhiza brachypoda</i>	Sweet-Cicely	N		
	<i>Sanicula crassicaulis</i>	Sanicle	N		
	<i>Tauschia hartwegii</i>	Tauschia	N		
	<i>Torilis arvensis</i>	Tall sock-destroyer	I	Moderate	
	<i>Torilis nodosa</i>	Short sock-destroyer	I		
	Apocynaceae	<i>Vinca major</i>	Greater periwinkle	I	Moderate
	Asteraceae	<i>Agoseris</i> sp.		N	
	<i>Centaurea solstitialis</i>	Yellow star-thistle	I	High	
	<i>Chondrilla juncea</i>	Skeleton weed	I	Moderate	
	<i>Cirsium vulgare</i>	Bull thistle	I	Moderate	
	<i>Eriophyllum lanatum</i> var. <i>grandiflorum</i>	Common woolly sunflower	N		
	<i>Hieracium</i>	Hawkweed	N		
	<i>Hieracium albiflorum</i>	White hawkweed	N		
	<i>Hypochaeris glabra</i>	Smooth cat's-ear	I	Limited	
	<i>Lactuca serriola</i>	Prickly lettuce	I		
	<i>Leontodon saxatilis</i>	Hairy hawkbit	I		
	<i>Leucanthemum vulgare</i>	Ox-eye daisy	I	Moderate	
	<i>Madia gracilis</i>	Gumweed	N		
	<i>Madia subspicata</i>		N		
	<i>Pseudognaphalium beneolens</i>		N		
	<i>Sonchus oleraceus</i>	Common sow thistle	I		
	<i>Taraxacum officinale</i>	Common dandelion	I		
	<i>Tragopogon</i> sp.	Salsify	I		
Berberidaceae	<i>Berberis</i> sp. ³		--		
Betulaceae	<i>Alnus rhombifolia</i>	White alder	N		
	<i>Corylus cornuta</i> ssp. <i>californica</i>	California hazel	N		
Boraginaceae	<i>Cynoglossum grande</i>	Grand hound's tongue	N		
	<i>Hydrophyllum occidentale</i>		N		

	<i>Nemophila pulchella</i>		N	
Boraginaceae	<i>Phacelia cf. hastata/mutabilis</i>		N	
Brassicaceae	<i>Barbarea verna</i>	Early winter cress	I	
	<i>Cardamine oligosperma</i>		N	
	<i>Lunaria annua</i>	Money plant	I	
	<i>Nasturtium officinale</i>	Water cress	N	
Caprifoliaceae	<i>Lonicera interrupta</i>	Honeysuckle	N	
	<i>Lonicera hispidula</i>	Honeysuckle	N	
	<i>Symphoricarpos sp.</i>	Snowberry	N	
Caryophyllaceae	<i>Lychnis coronaria</i>	Rose campion	I	
	<i>Stellaria media</i>	Common chickweed	I	
Chenopodiaceae	<i>Dysphania botrys</i>	Jerusalem oak	I	
Convolvulaceae	<i>Convolvulus arvensis</i>	Bindweed, orchard morning-glory	I	
Cornaceae	<i>Cornus sericea</i>	American dogwood	N	
Cucurbitaceae	<i>Marah sp.</i>	Man-root	N	
Datisceae	<i>Datisca glomerata</i>	Durango root	N	
Ericaceae	<i>Arbutus menziesii</i>	Pacific madrone	N	
	<i>Arctostaphylos viscida</i>	Manzanita	N	
Euphorbiaceae	<i>Chamaesyce maculata</i>	Spotted spurge	I	
	<i>Croton setigerus</i>	Turkey-mullein	N	
Fabaceae	<i>Acmispon americanus</i> var. <i>americanus</i>		N	
	<i>Lathyrus sulphureus</i>		N	
	<i>Lathyrus latifolius</i>	Perennial sweet pea	I	
	<i>Medicago lupulina</i>	Black medick	I	
	<i>Melilotus indicus</i>	Sourclover	I	
	<i>Trifolium ciliolatum</i>	Foothill clover	N	
	<i>Trifolium dubium</i>	Little hop clover	I	
	<i>Trifolium hirtum</i>	Rose clover	I	Moderate
	<i>Trifolium sp.</i>	Clover	--	
	<i>Trifolium subterraneum</i>	Subterranean clover	I	
	<i>Vicia villosa</i> ssp. <i>villosa</i>	Vetch	I	
Fagaceae	<i>Quercus chrysolepis</i>	Maul oak, canyon live oak	N	
	<i>Quercus kelloggii</i>	California black oak	N	
	<i>Quercus lobata</i>	Valley oak, roble	N	
	<i>Quercus wislizeni</i> var. <i>wislizeni</i>	Interior live oak	N	
Geraniaceae	<i>Erodium cicutarium</i>	Redstem filaree	I	Limited
	<i>Geranium molle</i>		I	
Grossulariaceae	<i>Ribes sp.</i>	Gooseberry	N	
Hydrangeaceae	<i>Philadelphus lewisii</i>	Wild mock orange	N	
Hypericaceae	<i>Hypericum perforatum</i> ssp. <i>perforatum</i>	Klamathweed	I	Moderate
Juglandaceae	<i>Juglans hindsii</i> ⁴	Northern California black walnut	N	
Lamiaceae	<i>Lavandula sp.</i> ³	Lavender	I	
	<i>Melissa officinalis</i>	Lemon balm	I	
	<i>Mentha spicata</i>	Spearmint	I	
	<i>Prunella vulgaris</i>		--	
	<i>Stachys sp.</i>	Hedge nettle	N	
	<i>Trichostema sp.</i>	Blue curls	N	
Montiaceae	<i>Claytonia parviflora</i>		N	
Moraceae	<i>Ficus carica</i>	Edible fig	I	Moderate
Myrsinaceae	<i>Anagallis arvensis</i>	Scarlet pimpernel	I	

	<i>Trientalis latifolia</i>		N	
Oleaceae	<i>Fraxinus latifolia</i>	Oregon ash	N	
Onagraceae	<i>Circaea alpina</i> ssp. <i>pacifica</i>	Enchanter's nightshade	N	
	<i>Clarkia biloba</i> ssp. <i>biloba</i>		N	
	<i>Epilobium ciliatum</i> ssp. <i>ciliatum</i>	Willowherb	N	
	<i>Epilobium</i> sp.	Willowherb	N	
Papaveraceae	<i>Eschscholzia californica</i>	California poppy	N	
Phrymaceae	<i>Mimulus cardinalis</i>		N	
	<i>Mimulus guttatus</i>		N	
Plantaginaceae	<i>Kickxia</i> sp.		I	
	<i>Plantago lanceolata</i>	English plantain	I	Limited
	<i>Veronica americana</i>	American brooklime	N	
	<i>Veronica anagallis-aquatica</i>	Water speedwell	I	
Polemoniaceae	<i>Collomia heterophylla</i>	Variable-leaf collomia	N	
Polygonaceae	<i>Eriogonum nudum</i> var. <i>nudum</i>	Naked wild buckwheat	N	
	<i>Polygonum aviculare</i> ssp. <i>depressum</i>		I	
	<i>Rumex acetosella</i>	Sheep sorrel	I	Moderate
	<i>Rumex crispus</i>	Curly dock	I	Limited
	<i>Rumex obtusifolius</i>	Bitter dock	I	
Ranunculaceae	<i>Aquilegia formosa</i>		N	
	<i>Clematis ligusticifolia</i>	Western virgin's bower	N	
	<i>Delphinium gracilentum</i>	Slender or Greene's larkspur	N	
Rhamnaceae	<i>Ceanothus cuneatus</i> var. <i>cuneatus</i>	Buckbrush	N	
Rosaceae	<i>Holodiscus discolor</i> var. <i>discolor</i>	Oceanspray	N	
	<i>Malus pumila</i> ³	Apple	I	
	<i>Oemleria cerasiformis</i>		N	
	<i>Potentilla</i> sp.		N	
	<i>Prunus</i> sp.	Cherry	--	
	<i>Pyrus communis</i>	Common pear	I	
	<i>Rosa</i> sp.	Rose	N	
	<i>Rubus armeniacus</i>	Himalayan blackberry	I	High
	<i>Rubus glaucifolius</i>	Waxleaf raspberry	N	
	<i>Rubus laciniatus</i>	Cutleaf blackberry	I	
	<i>Rubus leucodermis</i>	Whitebark raspberry	N	
Rubiaceae	<i>Galium aparine</i>	Goose grass	N	
	<i>Galium porrigens</i> var. <i>tenu</i>		N	
	<i>Galium triflorum</i>	Sweet-scented bedstraw	N	
Salicaceae	<i>Salix exigua</i>	Narrow-leaved willow	N	
	<i>Salix laevigata</i>	Red willow	N	
	<i>Salix lasiolepis</i>	Arroyo willow	N	
Sapindaceae	<i>Acer macrophyllum</i>	Big-leaf maple	N	
Saxifragaceae	<i>Heuchera micrantha</i>		N	
Scrophulariaceae	<i>Scrophularia</i> sp.	California figwort	N	
	<i>Verbascum blattaria</i>	Moth mullein	I	
	<i>Verbascum thapsus</i>	Woolly mullein	I	Limited
Vitaceae	<i>Vitis californica</i>	California wild grape	N	
Zygophyllaceae	<i>Tribulus terrestris</i>	Puncture vine	I	
MONOCOTS				
Agavaceae	<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	Soap plant	N	
Cyperaceae	<i>Carex feta</i>	Green-sheathed sedge	N	
	<i>Carex leptopoda</i>	Slender-footed sedge	N	
	<i>Carex praegracilis</i>	Black creeper or freeway sedge	N	

	<i>Cyperus</i> sp.	Nutsedge	N	
	<i>Eleocharis pachycarpa</i>		I	
	<i>Scirpus microcarpus</i>		N	
Iridaceae	<i>Iris</i> sp. ³	Bearded iris	I	
Juncaceae	<i>Juncus effusus</i> ssp. <i>pacificus</i>	Pacific rush	N	
	<i>Luzula comosa</i> var. <i>laxa</i>		N	
Liliaceae	<i>Lilium</i> sp. ⁵	Lily	N	
Melanthiaceae	<i>Trillium</i> sp.		N	
Orchidaceae	<i>Piperia transversa</i>	Flat spurred piperia	N	
Poaceae	<i>Aegilops triuncialis</i>	Barbed goat grass	I	High
	<i>Agrostis idahoensis</i>	Idaho redtop	N	
	<i>Aira caryophyllea</i>	Silver hair grass	I	
	<i>Avena</i> sp.	Wild oat	I	Moderate
	<i>Bromus diandrus</i>	Ripgut grass	I	Moderate
	<i>Bromus hordeaceus</i>	Soft chess	I	Moderate
	<i>Bromus madritensis</i> ssp. <i>rubens</i>	Red brome	I	High
	<i>Bromus sterilis</i>	Poverty brome	I	
	<i>Cynosurus echinatus</i>	Bristly dogtail grass	I	Moderate
	<i>Dactylis glomerata</i>	Orchard grass	I	Limited
	<i>Deschampsia elongata</i>	Slender hair grass	N	
	<i>Elymus glaucus</i>	Blue or western wild-rye	N	
	<i>Elymus triticoides</i>	Beardless wild rye	N	
	<i>Festuca arundinacea</i>	Tall fescue	I	Moderate
	<i>Festuca occidentalis</i>	Western fescue	N	
	<i>Festuca perennis</i>	Rye grass	I	Moderate
	<i>Holcus lanatus</i>	Common velvet grass	I	Moderate
	<i>Melica subulata</i>	Alaskan oniongrass	N	
	<i>Muhlenbergia rigens</i>	Deer grass	N	
	<i>Poa bulbosa</i>		I	
	<i>Poa pratensis</i> ssp. <i>pratensis</i>	Kentucky blue grass	I	Limited
	<i>Polypogon australis</i>	Chilean beard grass	I	
	<i>Setaria viridis</i>	Green bristle grass	I	
Ruscaceae	<i>Maianthemum racemosum</i>		N	
Themidaceae	<i>Brodiaea elegans</i> ssp. <i>elegans</i>	Harvest brodiaea	N	
	<i>Brodiaea minor</i>	Small brodiaea	N	

¹ N = Native to CA; I = Introduced.

² Negative ecological impact according to the California Invasive Plant Council (Cal-IPC 2006).

³ Observed only as horticultural escape or planting.

⁴ Only large, relict native stands of Northern California black walnut are considered special-status by CNPS (2017). Individual trees outside of these relict native stands are not protected. The walnut trees in the BSA have no special status.

⁵ Plants were in early bud on 12 June and past flower on 27 July 2012. Plants could not be identified to species. Approximately 5-10 individuals occur in the PSA.

Wildlife Species Observed

COMMON NAME	SCIENTIFIC NAME
REPTILES	
Western fence lizard	<i>Sceloporus occidentalis</i>
AMPHIBIANS	
Bullfrog	<i>Rana catesbeiana</i>
Pacific treefrog	<i>Pseudacris regilla</i>
BIRDS	
American crow	<i>Corvus brachyrhynchos</i>
American robin	<i>Turdus migratorius</i>
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>
Black phoebe	<i>Sayornis nigricans</i>
Bushtit	<i>Psaltiriparus minimus</i>
California towhee	<i>Pipilo crissalis</i>
California quail	<i>Callipepla californica</i>
Common raven	<i>Corvus corax</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Hairy woodpecker	<i>Picoides villosus</i>
House wren	<i>Troglodytes aedon</i>
Mallard	<i>Anas platyrhynchos</i>
Mourning dove	<i>Zenaida macroura</i>
Pileated woodpecker	<i>Dryocopus pileatus</i>
Red-breasted sapsucker	<i>Sphyrapicus ruber</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Rock dove	<i>Columbia livia</i>
Spotted towhee	<i>Pipilo maculatus</i>
Stellar's jay	<i>Cyanocitta stelleri</i>
Turkey vulture	<i>Cathartes aura</i>
Western bluebird	<i>Sialia mexicana</i>
Western scrub jay	<i>Aphelocoma californica</i>
Western tanager	<i>Piranga ludoviciana</i>
Western wood pewee	<i>Contopus sordidulus</i>
White-breasted nuthatch	<i>Sitta carolinensis</i>
Wild turkey	<i>Meleagris gallopavo</i>
MAMMALS	
Mule deer	<i>Odocoileus hemionus</i>

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Photo 1. View east along Newtown Road from the intersection of Paso Way. Oregon ash grove on right. 27 July 2012.



Photo 2. View west along Newtown Road from the eastern end of the BSA. Douglas fir forest on left; Oregon ash grove on right. 12 June 2012.



Photo 3. View east along Newtown road near eastern end of BSA. Oregon ash grove on left; Douglas fir forest on right. 12 June 2012.



Photo 4. View southeast Ephemeral Channel 1 (dotted white line) confluence with UD-1 (dotted black line). Newtown Road on left. 12 June 2012.



Photo 5. View northwest (looking downstream) toward Ephemeral Channel 2. South Fork Weber Creek in background. 12 June 2012.



Photo 6. View east in the southwest portion of BSA. California annual grassland in foreground. South Fork Weber Creek (out of view) and Oregon ash grove on left. 12 June 2012.



Photo 7. View east toward California annual grassland between Newtown Road (shown) and Paso Way (out of view on left). 12 June 2012.



Photo 8. View north from the northeast corner of the bridge. Blackberry brambles shown. 12 June 2012.



Photo 9. View west toward the seasonal wetland. Blackberry brambles in background. 12 June 2012.



Photo 10. View west toward Newtown Road Bridge over South Fork Weber Creek. 12 June 2012.

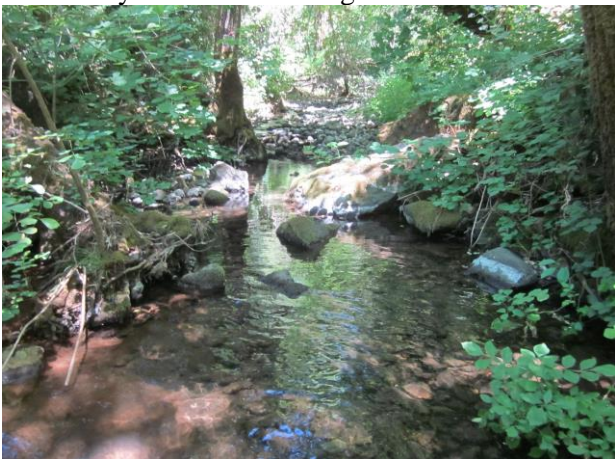


Photo 11. View looking east along South Fork Weber Creek, upstream of the Newtown Bridge. 12 June 2012.



Photo 12. View east along South Fork Weber Creek near western end of the BSA. Oregon ash grove occurs along the creek. 12 June 2012.

Appendix G Revegetation Planting and Erosion Control Specifications

The Newtown Road Bridge over South Fork Weber Creek (25C-0033) Replacement Project (Project) is a federally funded project through the Federal Highway Administration (FHWA). The proposed Project involves replacing the existing bridge over South Fork Weber Creek and widening the road approaches on either side of the replacement bridge. Erosion control measures will be appropriate for the level of impact that will result from construction of the Project. The Project Engineer shall determine the appropriate erosion control measures to be implemented. The Revegetation Planting and Erosion Control Specifications included in this Appendix incorporate by reference Sections 13, 20, and 21 of the Caltrans 2015 Standard Specifications.

I. Highway Planting

A. General

The work performed in connection with highway planting shall conform to the provisions in Section 21, “Erosion Control” of the Caltrans 2015 Standard Specifications.

B. Highway Planting Materials - General

Disturbed soils in the Project area will be hydroseeded with native species.

C. Plant Establishment Work

The plant establishment period shall conform to the provisions in Section 20-4, “Landscape, Plant Establishment Work” of the Caltrans 2015 Standard Specifications, shall be Type 2, and shall be not less than 30 working days from completion of construction.

Weed control, as specified in Section 20-4.03 “Landscape, Plant Establishment Work, Construction, Weed Control” of the Caltrans 2015 Standard Specifications shall be performed as required. Weeds removed shall be disposed of in conformance with provisions in Sections 13-4 “Water Pollution Control, Job Site Management,” 17-2.03 “Clearing and Grubbing, Construction, Disposal of Materials,” and 20-4.03 “Landscape, Plant Establishment, Construction, Weed Control” of the Caltrans 2015 Standard Specifications.

D. Environmentally Sensitive Areas

El Dorado County will establish Environmentally Sensitive Areas (ESAs) along the limits of construction adjacent to the riparian community, the ephemeral and perennial channels, and the seasonal wetland in the BSA to exclude construction activities from avoided habitat. Trucks and

other vehicles shall not be allowed to park in, nor shall equipment be stored in, an ESA. No storage or dumping of oil, gasoline, or other substances shall be permitted within an ESA. All ESAs shall be clearly delimited with yellow caution tape or temporary fencing prior to commencement of construction activities. Environmentally Sensitive Areas will be protected as specified in Section 13-4 “Water Pollution Control, Job Site Management” and in Section 14 “Environmental Stewardship” and specifically in Section 16-2.03 “Temporary Facilities, Miscellaneous Temporary Facilities, High Visibility Fences” of the Caltrans 2015 Standard Specifications and the contract Special Provisions.

II. Erosion Control (Type D)

Erosion control (Type D) shall conform to the provisions in Sections 13 “Water Pollution Control” and 21 “Erosion Control,” of the Caltrans 2015 Standard Specifications and the contract Special Provisions.

Erosion control work shall consist of applying one application of erosion control materials to embankment slopes, excavation slopes, and other areas designated by the Engineer. Hydroseed shall be a mix of fiber, tackifier, fertilizer, seed, and other erosion control materials specified. The Project engineer will determine the specifications needed for erosion control fabric based on anticipated maximum flow velocities and soil types (e.g., shear strength). Fertilizer will not be used in the seed mixture that will be applied to the banks of South Fork Weber Creek or the perennial channel.

A. Materials

Materials shall conform to Sections 13-5.02 “Water Pollution Control, Temporary Soil Stabilization, Materials” and 21-2.02 “Erosion Control, Erosion Control Work, Materials,” of the Caltrans 2015 Standard Specifications and the following:

1. Seed

Seed shall conform to the provisions in Section 21-2.02 “Erosion Control, Erosion Control Work, Materials, Seed” of the Caltrans 2015 Standard Specifications and as specified in the contract Special Provisions and as shown on the plans.

Purity and germination shall be tested and documented according to Sections 21-2.01C “Erosion Control, Erosion Control Work, General, Seed” and 21-2.01D “Erosion Control, Erosion Control Work, General, Quality Assurance, Seed” of the Caltrans 2015 Standard Specifications. Results from testing or retesting seed for purity and germination shall be furnished to the Engineer prior to applying seed.

The seed mixture shall consist of at least two species from Category A (grasses) and at least four species from Category B (legumes), and one from Category C (wildflowers). Seeds should be obtained from inland foothill stock to avoid genetic differences between coastal and foothill species of the same genus. These species shall be selected from the following seed mixture table.

Category	Scientific Name	Common Name	Type	Percentage Purity /& Germination (Minimum)	Pounds per acre
A	<i>Bromus carinatus</i>	California brome	Perennial grass	95/85	15
A	<i>Elymus glaucus</i>	Blue wild rye	Perennial grass	90/70	15
A	<i>Hordeum brachyantherum</i> ssp. <i>californicum</i>	California barley	Perennial grass	90/70	15
A	<i>Nassella pulchra</i>	Valley needlegrass	Perennial grass	90/70	15
A	<i>Poa secunda</i>	Pine bluegrass	Perennial grass	90/70	15
B	<i>Lupinus bicolor</i>	Miniature lupine	Flowering annual	90/70	10
B	<i>Lupinus succulentus</i>	Arroyo lupine	Flowering annual	90/70	10
B	<i>Trifolium albopurpureum</i> (any subspecies)	Rancheria clover	Flowering annual	90/90	10
B	<i>Trifolium microcephalum</i>	Small-head clover	Flowering annual	90/90	10
B	<i>Trifolium willdenovii</i>	Tomcat clover	Flowering annual	90/90	10
C	<i>Clarkia purpurea</i> (any subspecies)	Clarkia	Flowering annual	90/70	5
C	<i>Eschscholzia californica</i>	California poppy	Flowering annual	90/80	5

2. Commercial Fertilizer

Commercial fertilizer shall conform to the provisions in Sections 20 “Landscape” and 21 “Erosion Control” of the Caltrans 2015 Standard Specifications. When required by site specific conditions, modification of the type, amount, and application method of fertilizer application may occur at the engineer’s discretion and as indicated in the contract special provisions.

3. Fiber

Fiber used shall conform to the provisions in Section 21-2.02 “Erosion Control, Erosion Control Work, Materials, Fiber” of the Caltrans 2015 Standard Specifications.

B. Application

Hydromulch and hydroseed application shall conform to the provisions in Section 21-2.03 “Erosion Control, Erosion Control Work, Construction, Hydromulch and Hydroseed” of the Caltrans 2015 Standard Specifications.

When premixed seed from containers is added to hydro-seeding equipment, the entire contents of the containers shall be used in preparing the hydro-seeding mixture. Partial use of a container of premixed seed will not be permitted in a hydro-seeding mixture.

Once erosion control work is started in an area, all applications shall be completed in that area on the same working day. The proportions of erosion control materials may be changed by the Engineer to meet field items in the Engineer’s Estimate.

III. Water Quality Protection

A. Water Quality and Erosion Control Goals

The goal of water quality and erosion control is to prevent the loss of soil, to prevent siltation, and to prevent adverse impacts on waterways.

B. Water Quality and Erosion Control Specifications

The proposed Project will adhere to erosion control specifications of the appropriate regulatory and resource agencies including Caltrans and CDFW.

El Dorado County will implement soil erosion control measures identified in the Best Management Practices of the Stormwater Quality Handbooks (Caltrans 2011a) and shall conform to Sections 13 “Water Pollution Control” and Section 21 “Erosion Control” of the Caltrans 2015 Standard Specifications and the contract Special Provisions. The BMPs used during the construction include revegetating the work zone at the conclusion of construction, establishing temporary water bars where necessary to reduce the potential for sheet erosion, and minimizing construction impacts in the BSA.

IV. Summary

Erosion control materials will be applied to the area affected by the Project. Specifications of the appropriate regulatory and resource agencies will be followed.

Appendix H Replanting Plan

I. Introduction

A. Purpose of this Plan

The purpose of this Plan is to describe the approach for restoring disturbed areas along South Fork Weber Creek to mitigate for impacts to riparian woodland. This Plan describes goals, methods of implementation, success criteria, and monitoring requirements. This Plan incorporates as background information the NES, the NES appendices, and the jurisdictional delineation report for the Project.

B. Responsible Parties

1. Applicant:

El Dorado County Department of Transportation

2441 Headington Road

Placerville, CA 95667

Phone: 530/ 621-5998

Contact: Chandra Ghimire, P.E.

2. Preparer of Replanting Plan:

Sycamore Environmental Consultants, Inc.

6355 Riverside Boulevard, Suite C

Sacramento, CA 95831

Phone: 916/ 427-0703

Contact: Jeff Little

3. Parties having financial responsibility for the attainment of the success criteria required by the proposed replanting plan:

El Dorado County Department of Transportation (see contact information above).

4. Present owner and expected long-term owner of the proposed restoration site:

El Dorado County Department of Transportation (see contact information above).

5. Parties responsible for long-term maintenance of restoration site:

El Dorado County Department of Transportation (see contact information above).

II. Project Requiring Restoration

More specific location information concerning the Project location, Project description, and the site characteristics are in the NES and jurisdictional delineation report.

A. Location

The Biological Study Area (BSA) is located in the western Sierra Nevada along Newtown Road, roughly 2 miles south of the community of Camino, California in unincorporated El Dorado County. The Project includes the Newtown Road Bridge at South Fork Weber Creek (25C-0033) and the road approaches on each side. The County will obtain and/or retain permanent right-of-way along the new road and bridge alignment.

B. Brief Summary of Overall Project

The El Dorado County Department of Transportation, in conjunction with the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) intend to replace the existing Newtown Road Bridge at South Fork Weber Creek (25C-0033). The wider, longer bridge will improve driver safety and be consistent with American Association of State Highway and Transportation Officials (AASHTO) guidelines.

C. Site Characteristics

Vegetation in the BSA consists of Oregon ash groves, Ponderosa pine forest, Douglas fir forest, California annual grassland, and Himalayan blackberry brambles. Oregon ash groves occurs along the margins of South Fork Weber Creek. The Oregon ash groves community is dominated by Oregon ash (*Fraxinus latifolia*), white alder (*Alnus rhombifolia*), and big-leaf maple (*Acer macrophyllum*). The understory is dominated by Himalayan blackberry (*Rubus armeniacus*) and a variety of herbaceous grasses and forbs.

The Ponderosa pine forest occurs in the upland areas north of Newtown Road in the BSA. The understory in this community is sparsely vegetated with nonnative herbaceous grasses and forbs. The Douglas fir forest occurs in the uplands south of Newtown Road in the BSA. This community contains an understory dominated by western poison oak (*Toxicodendron diversilobum*), snowberry (*Symphoricarpos* sp.), gooseberry (*Ribes* sp.), and bracken (*Pteridium aquilinum* var. *pubescens*).

California annual grassland occurs adjacent to a private residence southwest of the bridge and around Paso Way northwest of the bridge. This community is dominated by nonnative weedy, herbaceous species. Himalayan blackberry brambles occur on the north side of South Fork Weber Creek and along the unnamed perennial channel.

South Fork Weber Creek is an intermittent to perennial channel flowing east to west through the BSA. The Oregon ash groves community occurs along the margins of the creek. An unnamed perennial channel, originating north of the BSA, flows south through Himalayan blackberry brambles to South Fork Weber Creek just east of the Newtown Road Bridge. There is no riparian corridor associated with the perennial channel, although it does pass through the Oregon ash groves community associated with South Fork Weber Creek. Three ephemeral channels and one seasonal wetland also occur in the BSA.

The primary feature in the BSA consists of two-lane, paved Newtown Road which travels roughly east-west through the BSA. Paso Way is a gravel single-lane road that travels northeast from the intersection of Newtown Road. A gravel private residence driveway occurs just east of the bridge on the south side of Newtown Road.

III. Restoration Design

A. Location and Basis for Design

Based on the alternative selected, the Project anticipates removing 33 to 34 native trees in the Oregon ash groves community along South Fork Weber Creek and near its confluence with the unnamed perennial channel. Figures 5A and 5B of the NES show the native trees in the BSA proposed for removal by each Project alternative.

Native trees removed in the Oregon ash groves community will be replaced at a 2:1 ratio. The restoration site will be located within the road right-of-way. Trees may be replanted in the temporarily disturbed areas, in the RSP, and in openings within the undisturbed areas of the Oregon ash groves community. Bare soil slopes will be hydroseeded with native grasses and forbs in accordance with the *Revegetation Planting and Erosion Control Specifications* in Appendix G. Tree planting locations are subject to revisions based on the requirements of the Final Engineering Plans.

B. Proposed Restoration Site

The proposed restoration areas will occur within temporarily disturbed areas, in RSP, and in openings within the undisturbed areas of the Oregon ash groves community.

C. Restored Habitats

To mitigate for impacts to the Oregon ash groves community as a result of the bridge replacement, the Project will replant native trees in the Oregon ash groves community. The long-term goal is for the restored habitats to approximate the adjacent undisturbed habitats within the BSA.

IV. Success Criteria and Monitoring

A. Success Criteria

Depending on the alternative selected, the proposed success criteria (60% survival rate) is 40 (Alternative 2) or 41 (Alternative 1) native trees surviving within the revegetated portions of South Fork Weber Creek and the Oregon ash groves community for two years from the time of planting. Naturally recruited native trees in the temporarily disturbed areas and RSP will also count toward the success criteria.

B. Monitoring

The proposed restoration site will be monitored twice each year, once in spring and once in autumn, for two years after planting, or until success criteria have been met. During each of the four monitoring events, the condition and number of surviving restoration plantings will be recorded. The diameter at breast height and estimated height of each tree will be recorded. Health and vigor of all trees will be assessed qualitatively. Natural recruitment of native species will also be recorded. The functioning of any erosion control materials, and any occurrences of nonnative or invasive plants will be noted. A general assessment of the condition of the mitigation site will be made.

V. Implementation Plan

A. Site Preparation

Immediately after construction has been completed, appropriate sturdy erosion control materials shall be placed on top of the temporarily impacted areas containing erosion-prone soils. The erosion control material will be securely anchored so as to prevent erosion of soil during precipitation events and high flows in South Fork Weber Creek. Erosion control material should be biodegradable if possible. Himalayan blackberry is a highly invasive plant that occurs in the riparian zone of South Fork Weber Creek in the BSA. At the time of planting, Himalayan blackberry will be removed or controlled in a way that facilitates planting. Removal and control of Himalayan blackberry will be conducted by a qualified person with an appropriate method given site characteristics

B. Planting

Planting shall be conducted with species appropriate for the Oregon ash groves community. The quantities of native trees removed, the quantity to be planted, and recommended replacement species are presented in Tables 1 and 2. Replacement species in Tables 1 and 2 are native and commercially available. Trees may be planted from cuttings up to container grown stock of one-gallon size. Each plant will be tagged and numbered after planting to facilitate annual

monitoring and to track the performance of individual plants. The replacement requirements shown in Tables 1 and 2 are the goals for minimum number alive after two years. The Project may choose to plant more than the required plantings to ensure that a sufficient proportion survive two years after planting.

Table 1. Alternative 1 Tree Plantings

Number of Trees Removed	Required Replacement Plantings	Recommended Replacement Species
34	41	Arroyo willow (<i>Salix lasiolepis</i>) Oregon ash (<i>Fraxinus latifolia</i>) White alder (<i>Alnus rhombifolia</i>) Big-leaf maple (<i>Acer macrophyllum</i>)

Table 2. Alternative 2 Tree Plantings

Number of Trees Removed	Required Replacement Plantings	Recommended Replacement Species
33	40	Arroyo willow (<i>Salix lasiolepis</i>) Oregon ash (<i>Fraxinus latifolia</i>) White alder (<i>Alnus rhombifolia</i>) Big-leaf maple (<i>Acer macrophyllum</i>)

The proposed bridge abutments and banks of South Fork Weber Creek will be covered with RSP. RSP presents special challenges for planting because there is little exposed soil and the rock may increase daily maximum temperatures to a level not tolerated by some native species. Willows can grow in this type of situation. If replacement trees need to be planted in the RSP, pole cuttings of willows can be planted in these areas.

Restoration planting may also occur in temporarily disturbed areas of the Oregon ash groves community not covered by RSP. For Alternative 1, these areas occur along either bank of South Fork Weber Creek and are located within approximately 140 feet west or 220 feet east of the new bridge (centerline). For Alternative 2, these areas occur along either bank of South Fork Weber Creek and are located within approximately 180 feet west or 210 feet east of the new bridge (centerline).

Restoration planting may occur along the edge of the bridge, but should not occur far underneath where it is dark and precipitation may be limited. No trees occur naturally underneath the existing bridge; it is not expected that plants will survive if planted underneath the new bridge. Replacement plantings should not be planted below the ordinary high water mark (OHWM) of South Fork Weber Creek to protect plantings from seasonal scouring flows.

Where the soil has been compacted, planting holes will need to be dug with power machinery or picks. Planting holes will be excavated to the depth of planting containers and three times the width. Plant to the depth of the root ball and no deeper. The trunk flare should be visible after planting. Shrubs cleared for construction will be chipped and used as mulch around plantings. A 2 to 4-inch layer of mulch should be placed over the root system. Mulch should not be placed against the trunk as it promotes fungal growth. Keep a 2-inch wide mulch-free buffer around the trunk.

C. Planting Schedule

Site preparation and planting should occur in the fall. Planting at the beginning of the wet season will increase the probability of plant survival. If planting needs to occur in the summer, the revegetation contractor (or County) will need to ensure that the trees are adequately watered.

VI. Maintenance During Monitoring Period

Maintenance during the monitoring period may include upkeep of erosion control materials, additional plantings, control of invasive species, addition of protective devices for plantings, and watering during the warmer months for at least 2 years. Maintenance activities will be undertaken based on the results and suggestions of the bi-annual monitoring events and shall be the responsibility of the County.

VII. Monitoring Reports

A. As-Built Report

The as-built report shall be prepared at the completion of planting. The as-built report shall include a map of the plantings, a description of the methods and materials used, and establishment of photo-documentation points. A copy of the as-built report shall be due by 31 December of the year of planting.

B. Annual Reports

The first monitoring event shall occur in the spring following planting. The annual report shall be prepared by 31 December each year. Each annual report shall include the results of the two monitoring events for that year, and a comparison of the results to the success criteria.

VIII. Potential Contingency Measures

If the monitoring report determines that the restoration site is not meeting or is unlikely to meet the success criteria, then contingency measures shall be recommended by the monitoring report.

Contingency measures could include additional plantings, different species, different methods, invasive species control, or other measures designed towards the goal of meeting the success criteria. It is the responsibility of the El Dorado County Department of Transportation, to meet the success criteria, including implementation of any contingency measures towards that end.

IX. Completion of Restoration Responsibilities

Restoration is complete if the success criteria are met after the second year of monitoring. If the success criteria are not met after the second year of monitoring, then monitoring shall continue with the same methods and frequency until the success criteria are met.

X. Long-Term Management Plan

The restoration site will be in the road right-of-way. The restoration site will be managed the same as the surrounding land after the completion of restoration responsibilities.