Washington Boulevard/Andora Bridge Improvement Project NES

Natural Environment Study

Washington Boulevard, City of Roseville, Placer County
03-PLA-25501
CML 5182 (074)

January 2018

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

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Summary

S.1 Project Description

The City of Roseville (City) is proposing to improve a 0.85-mile section of Washington Boulevard as part of the proposed Washington Boulevard/Andora Bridge Improvement Project (proposed project) (Figure 1). The proposed project involves widening a two-lane section of Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard to four lanes and replacing the existing 100-year-old Union Pacific Railroad (UPRR) bridge (referred to in this document as the Andora Underpass or Andora bridge) on Washington Boulevard. The addition of two new lanes to Washington Boulevard would provide a continuous four-lane thoroughfare between Sawtell Road and Pleasant Grove Boulevard and improve traffic circulation and pedestrian traffic through the area. The proposed project is subject to state and federal environmental review requirements because the use of federal funds from the Federal Highway Administration (FHWA) is proposed. The California Department of Transportation (Caltrans) is the federal lead agency under FHWA assignment of National Environmental Policy Act (NEPA) responsibilities pursuant to 23 U.S. Code (USC) 327 and the City is the lead agency under the California Environmental Quality Act (CEQA).

S.2 Project Purpose and Need

The purpose of the proposed project is to improve existing and future traffic; enhance access and safety for motorists, pedestrians, and cyclists; and meet railroad clearance requirements. The proposed project would also provide better connectivity between the existing two-lane, 0.85-mile segment of Washington Boulevard and the existing four-lane segments of Washington Boulevard, and provide an evacuation route in case of an emergency. The improvements would also offer a better and more continuous route for pedestrians and bicyclists, who are currently forced to detour off Washington Boulevard on to Derek Place.

The project is needed because recurring morning and evening peak-period demand exceeds the current design capacity of Washington Boulevard, creating traffic operation and safety issues for motorists, pedestrians, and cyclists. These issues result in moderate delays and wasted fuel, which are expected to be exacerbated by anticipated increases in traffic from future population and employment growth.

S.3 Summary of Impacts on Natural Communities of Special Concern

Five types of natural communities of special concern were mapped in the biological study area (BSA)—riparian scrub, riparian woodland, seasonal wetland, stream, and wetland stream. Three of these communities (seasonal wetland, stream, and wetland stream) are considered waters of the United States and waters of the State. The temporary and permanent impacts on natural communities of special concern are summarized in Table S-1. Impacts on natural communities of special concern would be the same under the two build alternatives (proposed project/Alternative 1 and Alternative 2). The No Build alternative would not result in any impacts on these natural communities.

Table S-1. Impacts on Natural Communities of Special Concern

	Riparian Scrub (acres)	Riparian Woodland (acres)	Seasonal Wetland (acres)	Wetland Stream (acres)	Stream (acres)
Permanent Impacts	0.33	1.44	0.02	0.04	0.06
Temporary Impacts	0.00	0.00	0.00	0.01	0.17
Total Impacts	***0.33***	***1.44***	***0.02***	***0.05***	***0.23***

S.4 Summary of Impacts on Special-Status Species

S.4.1 Special-Status Plants

No suitable habitat for special-status plants was documented in the BSA during the fall and spring surveys and no special-status plants have been previously documented in the BSA. The evaluation conducted in this NES concludes that the project would not result in direct or indirect effects on special-status plants.

S.4.2 Special-Status Wildlife

The impacts on special-status wildlife would be the same under the two build alternatives (proposed project/Alternative 1 and Alternative 2). The No Build alternative would not result in any impacts on special-status wildlife. The following potential impacts on special-status wildlife species could result from the build alternatives.

- Potential disturbance of western pond turtle (*Actinemys marmorata*) during construction activities within aquatic habitat in the streams.

- Potential disturbance or mortality of pond turtles and nests containing hatchlings or eggs from the movement of construction equipment in upland habitats within approximately 1,500 feet of aquatic sites.

- Loss of 0.08 acre of habitat for vernal pool fairy shrimp, vernal pool tadpole shrimp, and western spadefoot toad that could occur in artificially-created seasonal pools along the UPRR right-of-way.

- Potential injury or mortality of spadefoot toad during ground-disturbing construction activities or entrapment in open trenches and project facilities.

- Removal of mature trees that could provide nesting habitat for white-tailed kite and other migratory birds and raptors.

- Potential disturbance or mortality of structure-nesting birds during construction to extend, abandon, or replace box culverts that occurs in the breeding season.

- Potential disturbance of nesting migratory birds and raptors from construction noise and activity.

- Potential disturbance of actively roosting bats associated with tree removal or disturbance during installation of the shoofly and associated construction activities.

- Potential direct effects on roosting non-special-status bats from the disturbance of culverts during construction.

- Potential indirect effects on an elderberry shrub that provides potential habitat for valley elderberry longhorn beetle during installation of the shoofly and associated construction activities.

Implementation of the proposed avoidance and minimization efforts and compensatory mitigation identified in Chapter 4 would reduce short-term and long-term impacts on special-status wildlife.

S.4.3 Special-Status Fish

No suitable habitat for special-status fish occurs in the BSA; therefore, these species will not be directly or indirectly affected by the proposed project.

S.5 Summary of Impacts on Other Protected and Managed Biological Resources

The impacts on other protected and managed biological resources would be the same under the two build alternatives. The No Build alternative would not result in any impacts on protected or managed biological resources. The following potential impacts on special-status wildlife species could result from the two build alternatives.

S.5.1 Migratory Birds

Migratory birds could nest in grasses, shrubs, and trees within the BSA. The underside of the existing Andora bridge may also support structure-nesting birds (i.e., swallows). The proposed project could result in the potential loss or disturbance of migratory birds from construction noise and activity, if nesting in or near the BSA.

S.5.2 Bats

Tree removal and trimming could result in direct effects on western red bat, pallid bat, silver-haired bat, and hoary bat, including the destruction of active roosts, loss of roosting habitat, loss of individuals, or roost failure.

The proposed project would result in the disturbance of culverts that could result in direct effects on silver-haired bat, California myotis, and yuma myotis, including the destruction of active roosts, loss of roosting habitat, loss of individuals, or roost failure. A potential indirect effect of the proposed project on bats would be the degradation of foraging habitat from the wider road.

Noise and other construction activities could result in indirect effects on bat species including disturbance of active roosts or roost abandonment.

S.5.3 Protected Trees

Several native oak trees (greater than 6-inch diameter at breast height [dbh]) associated with riparian woodlands occur in the BSA. Based on the current design, the proposed project would result in the loss of removal of native oak trees during installation of the temporary shoofly and widening of Washington Boulevard. Implementation of the proposed avoidance and minimization efforts and compensation through the City's tree ordinance, as identified in Chapter 4, would reduce short-term and long-term impacts on protected trees.

S.5.4 Invasive Plants

Invasive plant species were identified in the BSA. The proposed construction activities have the potential to further spread invasive species within and beyond the BSA. The spread of invasive plant species would result in potential long-term degradation of natural communities and would conflict with Executive Order 13112 (*Prevention and Control of Invasive Species*). Implementation of the proposed avoidance and minimization efforts identified in Chapter 4 would minimize the spread of invasive plant species resulting from project construction.

S.6 Permits Required

The City will obtain and implement the conditions of the permits, and will comply with the requirements of the executive orders listed in Table S-2. For more detail, see Chapter 5, *Conclusions and Regulatory Determinations*.

Table S-2. Permits and Approvals Potentially Required for the Proposed Project

Permit/Approval	Approving Agency
Endangered Species Act Section 7: Consultation and Incidental Take Statement	USFWS
Executive Order 11990: Protection of Wetlands	FHWA
Executive Order 13112: Prevention and Control of Invasive Species	FHWA
Executive Order 13186: Migratory Bird Treaty Act	FHWA
Clean Water Act Section 401: Water Quality Certification	Central Valley RWQCB
Clean Water Act Section 402: National Pollutant Discharge Elimination System Permit	Central Valley RWQCB
Clean Water Act Section 404: Nationwide Permit Authorization	USACE
California Fish and Game Code Section 1602: Lake or Streambed Alteration Agreement	CDFW
California Fish and Game Code Sections 3503 and 3503.5: Protection of Birds and Raptors	CDFW
California Fish and Game Code Sections 3511, 3513, 4700, and 5050: Fully Protected Species	CDFW
California Fish and Game Code Sections 3513: Migratory Birds	CDFW
City of Roseville Tree Preservation Ordinance, Roseville Municipal Code, Chapter 1966, Tree Preservation: Compliance with the Ordinance Requirements	City of Roseville

S.7 Mitigation Agreements

As part of the proposed project, the City will implement avoidance and minimization measures and will provide mitigation compensation, as shown in Table S-3 and described in more detail in Chapter 4. These measures have been identified on the basis of natural resources determined to

be present in or having the potential to occur in the BSA, and the potential project-related impacts.

Table S-3. Avoidance and Minimization Efforts and Compensatory Mitigation

Description of Measure
Avoidance and Minimization Efforts
Measure 1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources
Measure 2: Conduct Environmental Awareness Training for Construction Personnel
Measure 3: Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats
Measure 4: Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Non-Wetland Waters
Measure 5: Avoid and Minimize Disturbance of Waters of the United States/Waters of the State
Measure 9: Install a No-Disturbance Buffer around the Elderberry Shrub
Measure 10: Conduct a Preconstruction Survey for Northern Western Pond Turtle and Exclude Turtles from the Work Area
Measure 11: Conduct Vegetation Removal during the Non-Breeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds and Raptors
Measure 12: Conduct Preconstruction Surveys for Roosting Bats and Implement Protection Measures
Measure 13: To the Extent Possible and Where Appropriate, Conduct Culvert Construction and other Structure Work during the Day to Avoid Disturbance of Night-Roosting Bats
Measure 14: Modify Existing Structures during the Non-Breeding Season for Structure-Nesting Migratory Birds or Implement Exclusion Measures to Deter Nesting
Measure 15: Avoid the Introduction and Spread of Invasive Plants
Compensatory Mitigation
Measure 6: Compensate for the Permanent Loss of Waters of the United States/Waters of the State
Measure 7: Compensate for the Loss of Riparian Communities
Measure 8: Compensate for Direct Impacts on Vernal Pool Branchiopod Habitat

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List of Abbreviated Terms

ADT	average daily traffic
AMSL	above mean sea level
BMPs	best management practices
BSA	biological study area
Cal-IPC	California Invasive Plants Council
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CIP	Capital Improvement Program
City	City of Roseville
CMPs	corrugated metal pipes
CMS	changeable message sign
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
CY	cubic yards
dbh	diameter at breast height
EIR	Environmental Impact Report
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESAs	Environmentally Sensitive Areas
FESA	federal Endangered Species Act
FHWA	Federal Highway Administration
FR	Federal Register
HUC	hydrologic unit code
ISAC	Invasive Species Advisory Committee
LOS	level of service
LSAA	Lake or Streambed Alteration Agreement

MBTA	Migratory Bird Treaty Act
MSA	Magnuson-Stevens Fishery Management and Conservation Act
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NISC	National Invasive Species Council
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NPDES	National Pollutant Discharge Elimination System
OHWM	ordinary high water mark
PG&E	Pacific Gas and Electric
Project	Mosquito Road Bridge Replacement Project
proposed project	Washington Boulevard/Andora Bridge Improvement Project
RMC	Roseville Municipal Code
RWQCB	Regional Water Quality Control Board
SBPGC	South Branch Pleasant Grove Creek
SR	State Route
State Water Board	State Water Resources Control Board
SVT	Sierra View Tributary
SWPPP	Storm Water Pollution Prevention Plan
TMP	traffic management plan
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UT	unnamed tributary
WDRs	waste discharge requirements

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Chapter 1 Introduction

This Natural Environment Study (NES) report has been prepared for the Washington Boulevard/Andora Bridge Improvement Project (proposed project), Placer County, California. The City of Roseville (City) is proposing to improve a 0.85-mile section of Washington Boulevard. The proposed project involves widening a two-lane section of Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard to four lanes and replacing the existing 100-year-old undercrossing (Andora Underpass) beneath the Union Pacific Railroad (UPRR) Andora bridge on Washington Boulevard. The addition of two new lanes would provide a continuous four-lane thoroughfare between Sawtell Road and Pleasant Grove Boulevard and improve traffic circulation and pedestrian traffic through the area. The City is the lead agency under the California Environmental Quality Act (CEQA).

The proposed project is subject to state and federal environmental review requirements because the use of federal funds from the Federal Highway Administration (FHWA) is proposed. The California Department of Transportation (Caltrans) is the federal lead agency under FHWA assignment of National Environmental Policy Act (NEPA) responsibilities pursuant to 23 U.S. Code (USC) 327. Accordingly, this NES report has been prepared to support Caltrans' review of the proposed project and NEPA clearance process. This report also supports efforts to obtain agreements, permits, and concurrence needed to construct the proposed project.

1.1 Project Location

The proposed project is in the city of Roseville, Placer County, along an approximately 0.85-mile segment of Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard (Figures 1 and 2).

1.2 Project History

Washington Boulevard generally runs north-south and begins in downtown Roseville at its junction with Oak Street and ends at State Route (SR) 65. The boulevard provides an important local connection between downtown Roseville and North Central Roseville, Northwest Roseville, and North Industrial areas through its connections with other major local thoroughfares, including Foothills Boulevard, Pleasant Grove Boulevard, Roseville Parkway, Industrial Boulevard, and Blue Oaks Boulevard. Washington Boulevard provides a vital economic link from residential areas to shopping and employment centers in downtown Roseville.

Washington Boulevard was constructed as a two-lane road as part of the State Highway System approximately 100 years ago. The City decided to widen Washington Boulevard to improve the level of service (LOS) and other traffic performance measures and to accommodate increasing traffic volumes. The City elected to delay improvements to the 0.85-mile segment of Washington

Boulevard associated with the proposed project because of the extensive coordination necessary with UPRR and the costs associated with widening the Andora Underpass.

The City of Roseville's Transportation System 2035 Capital Improvement Program (CIP) identifies improvements to Washington Boulevard, including the widening of Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard, to improve traffic circulation and pedestrian traffic through the area. Approximately 18,000 vehicles per day presently travel through this segment, and the road improvements would enhance accessibility for motorists, pedestrians, and cyclists along Washington Boulevard and nearby intersections. To enable roadway widening at the narrow Andora Underpass, the existing structure must be removed and replaced. The Andora Underpass would need to remain open and accessible to rail traffic during project construction, because approximately 25 trains travel over it each day.

1.2.1 Project Limits and Surrounding Land Uses

The project limits are shown in Figure 3. At the southern end of the project area, the UPRR line runs along the east side of Washington Boulevard, crosses over the road just south of the South Branch of Pleasant Grove Creek, and continues along the west side of the road toward Pleasant Grove Boulevard. The southern end of the project area is surrounded by commercial development to the east and residential areas to the west. The Diamond Oaks and Kaseberg-Kingswood neighborhoods are adjacent to the central and northern portions of the project area. City Open Space General Fund and Open Space Preserve lands occupy the area immediately west of the Andora Underpass. Residential development is present on both sides of Washington Boulevard between the Andora Underpass and Pleasant Grove Boulevard. An existing Class 1 (i.e., off-street) bike path along the east side of Washington Boulevard connects Diamond Oaks Road to Derek Place.

1.3 Purpose and Need

1.3.1 Purpose

The purpose of the proposed project is to improve existing and future traffic; enhance access and safety for motorists, pedestrians, and cyclists; and meet railroad clearance requirements. The proposed project would also provide better connectivity between the existing two-lane, 0.85-mile segment of Washington Boulevard and the existing four-lane segments of Washington Boulevard, and provide an evacuation route in case of an emergency. The improvements would also offer a better and more continuous route for pedestrians and bicyclists, who are currently forced to detour off Washington Boulevard on to Derek Place.

1.3.2 Need

The project is needed because recurring morning and evening peak-period demand exceeds the current design capacity of Washington Boulevard, creating traffic operation and safety issues for

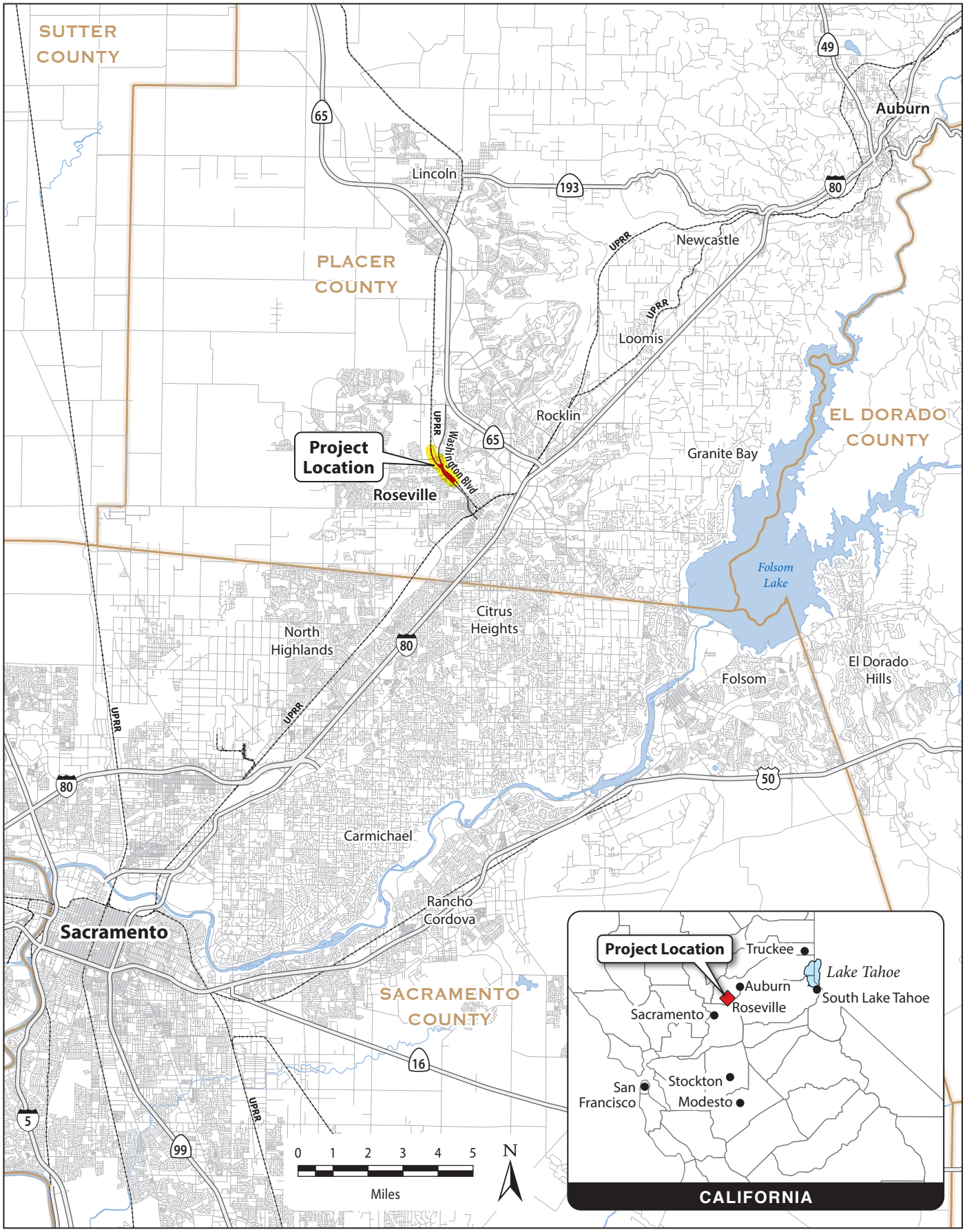

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Figure 1
Regional Location

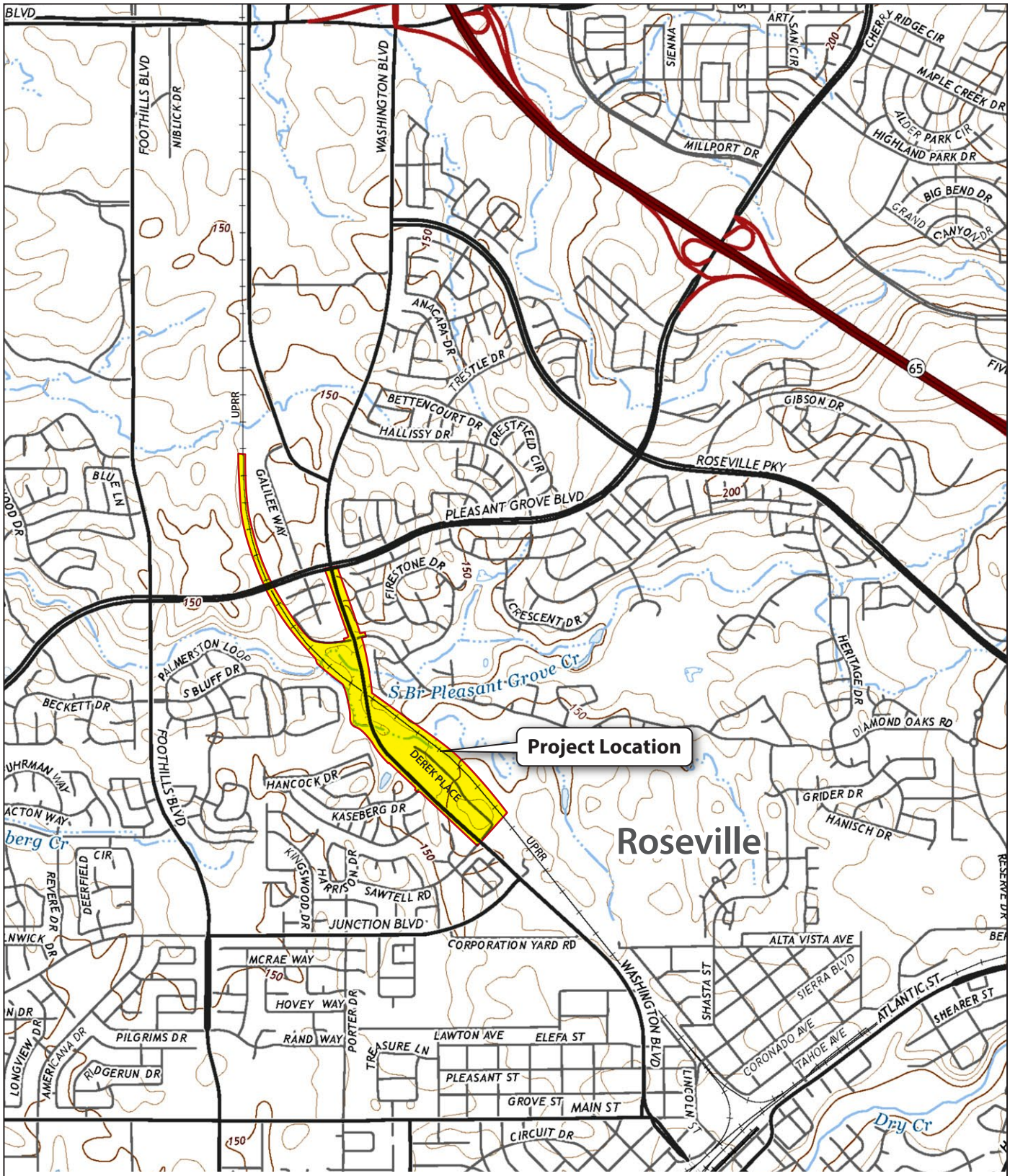

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Figure 2
Project Location

motorists, pedestrians, and cyclists. These issues result in moderate delays and wasted fuel, which are expected to be exacerbated by anticipated increases in traffic from future population and employment growth.

1.4 Project Description

The proposed design and construction of the project are described below. Build Alternatives (Alternative 1 and Alternative 2) and a No Project Alternative are being considered for this project. The project components described below are depicted in Figure 3. The proposed project (Alternative 1) would include the following elements:

- Widening approximately 0.85 mile of Washington Boulevard from two to four lanes with a raised median separating northbound and southbound traffic.
- Widening the Andora Underpass to a two-span bridge with columns located in the roadway median island to accommodate the additional two lanes.
- Adding 8-foot-wide Class 2 (i.e., on-street with appropriate signing and striping) bike lanes along both sides of Washington Boulevard.
- Expanding the existing Class 1 bike path on the east side of Washington Boulevard from Diamond Oaks Road to Derek Place with a 10- to 12-foot-wide path parallel to Washington Boulevard and connecting it to Sawtell Road.
- Removing the existing bicycle/pedestrian crossing under UPRR and providing a new connection between the existing Derek Place bike path and the new Class 1 bike path along Washington Boulevard (described above).
- Adding a new 8- to 12-foot-wide multiuse path on the west side of Washington Boulevard between Emerald Oaks Road and Kaseberg Drive. Portions of the proposed multiuse path could be deferred until additional construction funding is available.
- Providing traffic signal modifications. The existing traffic signal at Diamond Oaks Road would be modified to conform to the new four-lane roadway.
- Conducting floodplain, water quality, and drainage improvements.
- Relocating existing utilities, including sewer, water, telecommunications, and natural gas.
- Potentially installing a sound wall adjacent to residential areas along Washington Boulevard.
- Temporarily restriping Foothills Boulevard at Junction Boulevard to provide two left-turn lanes from southbound Foothills Boulevard to eastbound Junction Boulevard.

The proposed project/Alternative 1 would not alter the existing bus turnout adjacent to southbound Washington Boulevard and south of Pleasant Grove Boulevard. Each of the major proposed project components is described in greater detail below. Figure 3 provides an overview of these components.

1.4.1 Washington Boulevard Widening

The proposed project would consist of widening Washington Boulevard to allow two through lanes in each direction with a raised median separating the northbound and southbound traffic. Concrete curbs would define the new edge of roadway and separate the vehicular traffic from the pedestrians.

1.4.2 Andora Underpass and Bridge Widening

The existing Andora Underpass has substandard vertical clearance. To provide standard vertical clearance, the profile grade of Washington Boulevard would be lowered approximately 3 feet. The lowering of the roadway would also require removal and replacement of two drainage culvert crossings (described below in Section 1.4.5, *Floodplain, Water Quality, and Drainage Improvements*).

Widening the Andora Underpass would involve broadening the existing bridge structure to a two-span bridge with columns located in the roadway median island. The existing 100-year-old roadway crosses beneath the UPRR tracks at a 45-degree angle. Because UPRR now limits bridge skews to a maximum of 30 degrees, the proposed bridge median columns would be slightly skewed by approximately 15 degrees. The existing Andora Underpass can accommodate two railroad tracks, although only one track currently exists at this location. The proposed project design would accommodate two UPRR tracks, although the bridge structure would be constructed with only a single track. The ability to easily add a second track to the structure without needing to widen the concrete abutments is a project requirement. According to UPRR, there are no reasonably foreseeable plans to install a second track.

The Andora Underpass would have concrete abutments and wingwalls. The concrete surface would have some relief to mimic the appearance of an old style Works Progress Administration bridge. There is also the potential for incorporating architectural enhancements, color, and features into the concrete facade to provide additional visual interest and character for the structure. The superstructure would consist of painted steel girders with painted steel hand railings extending above the track level. The bottom of the structure (soffit) would show the individual steel girders and not be smooth like a normal concrete highway bridge.

1.4.3 Railroad Shoofly

During the 6-month construction period, railroad traffic would be maintained except for short time periods allowed by UPRR. During removal of the existing Andora Underpass, the railroad would be detoured to a temporary track, known as a shoofly. An estimated 25 trains would use the track per day. During the transition from the old track to the shoofly and back again, the rail line would be shut down to train traffic for about 4 hours. No trains would be diverted around the project site to other rail lines.

The shoofly would be within UPRR- and City-owned rights of way (as shown in Figure 3). The shoofly would be approximately 6,200 feet long (1.2 miles), would extend up to 0.75 mile north and 0.5 mile south of the Andora Underpass, and could shift up to 65 feet westerly. Temporary culverts and fill would be placed at two locations (east and west of Washington Boulevard)

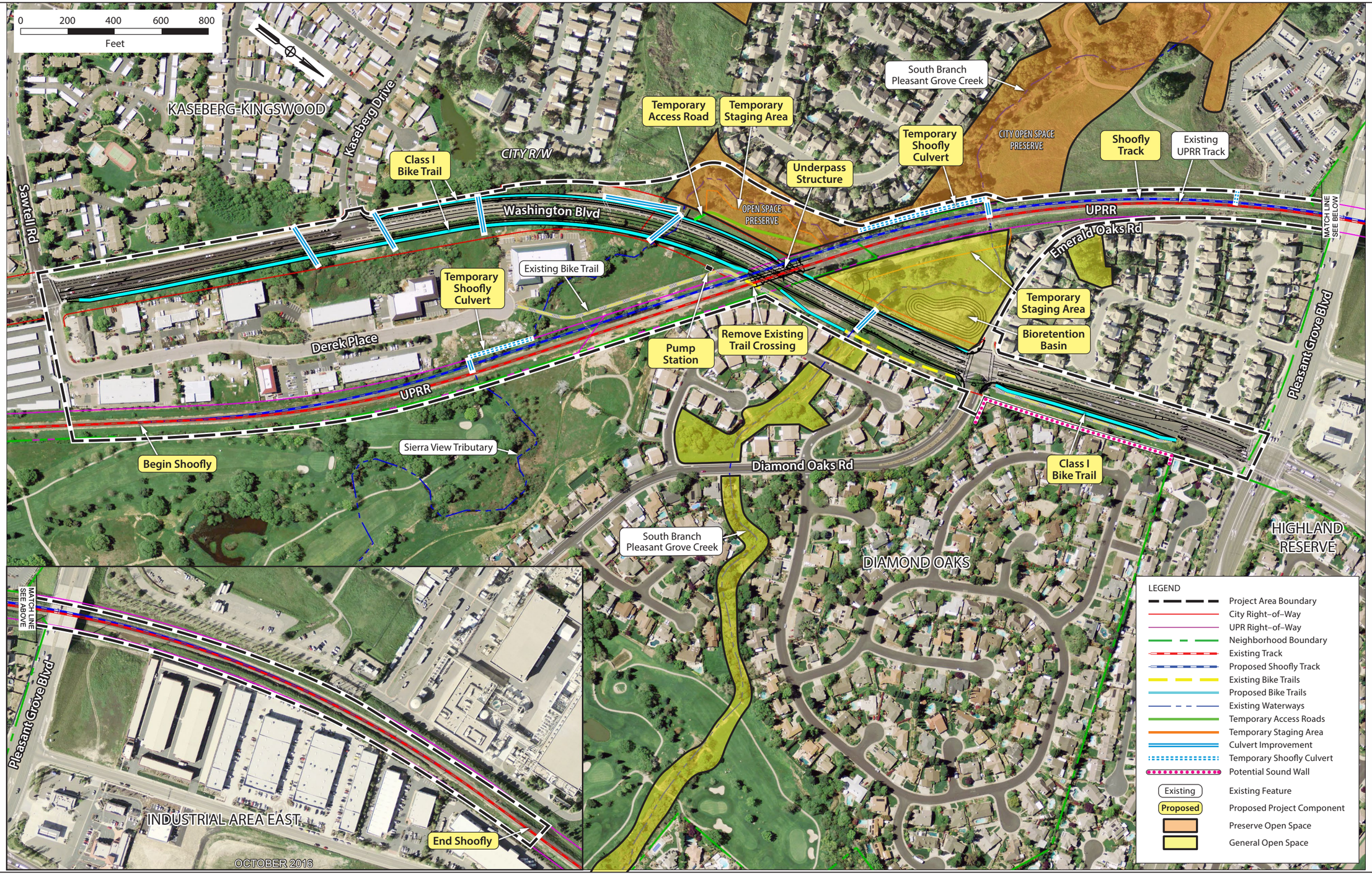

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Figure 3
Project Components

within the portion of the Sierra View Tributary that runs along the tracks to accommodate the temporary shoofly alignment.

The temporary railroad shoofly would be constructed using soil excavated from the project site for the roadway widening and reconstruction of the existing roadway structural section. No imported fill is expected to be needed. Approximately 13,500 cubic yards (CY) of fill would be placed east of Washington Boulevard and 22,500 CY would be placed west of Washington Boulevard to create the shoofly.

The temporary shoofly fill would be removed and disposed at permitted soil disposal sites. Railroad slopes would be restored using the appropriate seed mix and in accordance with the project Storm Water Pollution Prevention Plan (SWPPP) and the drainages would be restored consistent with any permit conditions.

1.4.4 Bike Trail Improvements

Eight-foot-wide Class II bike lanes would be included along both sides of the roadway. The existing Class I bike path on the east side of Washington Boulevard from Diamond Oaks Road to Derek Place would be replaced with a 10-foot-wide Class I bike trail parallel to Washington Boulevard to connect to Sawtell Drive. The existing pedestrian underpass approximately 100 feet east of Washington Boulevard would be abandoned and the Derek Place trail rerouted to connect with the new Class 1 trail. A new 10-foot-wide multiuse path on the west side of Washington Boulevard between Emerald Oaks Road and Kaseberg Drive is also proposed; however, the construction of this path may be deferred until additional construction funding is available.

1.4.5 Floodplain, Water Quality, and Drainage Improvements

The lowering of Washington Boulevard under the Andora Underpass requires a variety of drainage and floodplain improvements because the low point of Washington Boulevard would be below the 100-year flood elevation. These improvements include the following (shown in Figure 3):

- Regrading ditches and adding a drainage pump station to drain the Andora Underpass.
- Constructing a bioretention basin to treat existing stormwater and comply with current stormwater quality requirements (Water Quality Order No. 2013-0001-DWQ). The new bioretention basin would be used to treat stormwater runoff that originates from the northern portion of the project and an area tributary to the intersection of Washington Boulevard and Pleasant Grove Boulevard. The bioretention basin (shown in Figure 3) would be constructed on the City-owned parcel bordered by Emerald Oaks Road, the South Branch of Pleasant Grove Creek, and Washington Boulevard. This parcel currently supports open annual grassland. The basin would be created by excavation, construction of a berm along the east side of the South Branch of Pleasant Grove Creek, and placement of imported drain rock and sand-compost mix to support runoff retention, water quality treatment and specialized planting.
- Replacing and extending corrugated metal pipes (CMPs) in four crossings of unnamed tributaries of Sierra View Tributary to support widening of Washington Boulevard.

- Replacing and extending two box culverts (Sierra View Tributary and South Branch Pleasant Grove Creek).

1.4.6 Traffic Signal Improvements

No new traffic signals are proposed as part of the project; however, the existing traffic signal at the Diamond Oaks Road/Washington Boulevard intersection would be modified to conform to the new four-lane roadway and the traffic signal at Pleasant Grove Boulevard/Washington Boulevard intersection would have signal re-timing only.

1.4.7 Utility Relocations

The lowering of the roadway would necessitate relocation of City-owned sewer and water lines, underground telecommunication lines, and potential adjustments to underground Pacific Gas and Electric Company (PG&E) gas lines. These relocations would remain within existing right-of-way and retain essentially the existing alignments.

1.4.8 Sound Wall

Depending on future engineering design, a sound wall could be installed adjacent to one residential area to provide a buffer between the future road noise and the residences. The potential wall would be located on the eastern side of Washington Boulevard between Diamond Oaks Road and an existing concrete masonry wall just south of Pleasant Grove Boulevard.

1.5 Construction Approach

Construction of the proposed project would consist of the activities described below.

1.5.1 Equipment and Material Staging Areas

Potential equipment and material staging areas have been identified for the purpose of this analysis and are shown in Figure 3. The contractor would use City-owned areas within and outside the roadway right-of-way for staging. Open space and undeveloped areas on the west side of Washington Boulevard would be used to support shoofly construction. The bioretention basin area (designated as Open Space General Fund) would be used for staging activities on the east side of the tracks. During the road closure period, staging would also occur in the roadway between Diamond Oaks and the UPRR tracks. The staging areas would be used for fueling and maintaining equipment (except within the City Open Space Preserve lands), as well as designated materials disposal and storage. Section 1.5.7, *Best Management Practices* (BMPs), outlines the BMPs that would be implemented to minimize potential construction-related water quality impacts.

1.5.2 Construction Access and Traffic Control

Construction would temporarily affect traffic on Washington Boulevard and auxiliary streets. As part of the proposed project, Washington Boulevard would be closed to vehicular traffic for up to

6 months. Vehicles would be rerouted on city streets. To accommodate the increased vehicular traffic on the detour route, the Foothills Boulevard/Junction Boulevard intersection would be temporarily restriped to add a second left-turn lane from southbound Foothills Boulevard to eastbound Junction Boulevard. Existing traffic signals would be temporarily modified to provide an adequate LOS during the construction period.

1.5.3 Railroad Shoofly Installation

To support the temporary shoofly, two temporary culverts would be installed within the Sierra View tributaries. One approximately 300 feet in length near Derek Place and one approximately 500 feet in length just prior to the confluence with South Branch Pleasant Grove Creek (shown in Figure 3). In addition, a temporary culvert would be inserted into the South Branch Pleasant Grove Creek concrete box culvert (under the UPRR) to act as a temporary extension. The existing concrete box culvert under the existing pedestrian undercrossing would be permanently extended to maintain drainage and pedestrian access under the shoofly. After the culverts are installed, the shoofly fill material would be placed over the culverts.

Once the remaining earthwork was placed and compacted, imported material that is similar to roadway aggregate base would be placed along the length of the shoofly. Imported railroad rock ballast would be placed along with new track and ties starting approximately 500 feet from the beginning and 2,050 feet from the end of the shoofly. Approximately 500 feet of existing track and ties at the south end of the shoofly and 2,050 feet at the north end of the shoofly would be shifted to the shoofly alignment by UPRR employees. Once the shoofly was removed, the existing underpass would be removed.

Washington Boulevard would be open to traffic during the initial phases of shoofly construction and remain open until all shoofly earthwork was completed outside the limits of the existing roadway. Washington Boulevard would then be closed to all vehicular traffic to complete the shoofly earthwork.

After the new Andora Underpass was completed, UPRR would shift the trains back to the existing track alignment and the shoofly, including rails and ties, would be removed. The earthen material occupying Washington Boulevard would be removed to allow the remaining part of the structure footings and abutment to be installed. The final step in the clean-up phase would involve removing the temporary culverts and shoofly earthwork, restoring the existing ditches, hydroseeding slopes for controlling erosion, removing the temporary extension of the pedestrian undercrossing, and filling the existing pedestrian undercrossing with sand.

1.5.4 Earthwork

1.5.4.1 Grading

Grading would be allowed only as necessary to construct the proposed project within a designated work area. All grading activities would be evaluated for consistency with the City's Flood Damage Prevention Ordinance (City of Roseville Municipal Code Chapter 9.80). Waste soils or other solid debris from project construction would be kept out of wetlands and drainages by implementing construction BMPs specified in the SWPPP.

1.5.4.2 Material Excavation and On-Site Use

Construction of the proposed project would require the excavation of approximately 62,000 CY of soil from the site, including 850 CY of concrete associated with the Andora Underpass concrete abutments. An estimated 29,000 CY of this material would be used to construct the temporary shoofly which would then be removed and disposed of at an approved site.

1.5.5 Stream Dewatering

Dewatering could be necessary in Sierra View Tributary, South Branch Pleasant Grove Creek, and associated tributaries that contain water during the construction period. Most of the streams receive irrigation runoff during the summer construction period and natural rainfall flows during winter months. The construction contractor could choose one of the following dewatering methods, depending on the amount of water present in the stream during installation of the new permanent and temporary culverts:

- Contractor would construct a temporary dam in the stream and place a temporary culvert to allow the water to flow past the work zone. Pumping would not be used. The temporary culvert would be removed after the new culvert is in place and prior to backfilling.
- Contractor would place a pump and pump water into a detention basin that is constructed with permeable rock per standard BMP methods. The pump would be on the upstream side and the discharge on the downstream side. A pump would allow the contractor to locate the discharge pipe and discharge point at a location of his choosing and, therefore, keep the discharge pipe out of the work zone.

1.5.6 Project Schedule, Traffic Staging, and Construction Phasing

Under the current funding assumptions, the proposed project's construction would begin in 2019 and the road would be open by 2020. The proposed project would require approximately 13 months to construct.

The travelling public would observe the following four major traffic stages:

- Stage 1 - Prior to the closure of Washington Boulevard to public traffic. All traffic would remain on the existing roadway with only minor (5 to 10 minutes) travel time delays. (Duration 3 to 4 Months)
- Stage 2 - During the closure of Washington Boulevard to public traffic. All vehicle traffic would be detoured. (Duration 5 to 6 Months)
- Stage 3 - After UPRR returns to the existing track alignment and the new structure is partially complete. Roadway traffic for one lane in each direction on Washington Boulevard is restored. Daytime travel time delays could occur. (Duration 2 to 3 Months)
- Stage 4 - Completion of the remaining roadway, structure and landscaping/erosion control. Remaining two lanes are opened to traffic. No travel time delays would be expected. (Duration 1 to 2 months)

Table 1-1 identifies the major construction phases and associated activities proposed for the project. The phases shown in Table 1-1 are preliminary and may change based on available funding, transportation improvement needs, and other considerations. Construction activities associated with project components generally would occur Monday through Friday between 7:00 a.m. and 7:00 p.m.

Table 1-1. Project Construction Phases and Associated Activities

Phase	Activities
Phase 1 – Preconstruction Activities	Establish and clear staging areas and access road Mobilize equipment and materials. Install environmental sensitive fencing and BMPs.
Phase 2 – Grading and Vegetation Removal	Clear vegetation from work area. Conduct initial grading activities.
Phase 3 – Shoofly Installation (Washington Boulevard open to traffic)	Excavate roadway slopes and build as much of the shoofly as possible. Restripe the Foothills Boulevard/Junction Boulevard intersection.
Phase 4 – Complete Shoofly and Shift UPRR Alignment	Close Washington Boulevard and complete placing earthwork, ties and track. UPRR forces shift trains to shoofly.
Phase 5 – Remove Andora Underpass	Place temporary shoring and remove existing concrete bridge.
Phase 6 – Construct Eastern half of Andora Underpass and Washington Boulevard	Drill foundation piles, place concrete footings and columns, install steel bridge girders and install new track. Place curb, sidewalk, drainage facilities, aggregate base and paving.
Phase 7 – Shift UPRR to new structure, remove shoofly and construct western half of Andora Underpass	UPRR forces shift trains to new structure. Remove shoofly and temporary shoring, drill foundation piles and place concrete footings. Place remaining curb, sidewalk, drainage facilities, aggregate base and paving.
Phase 8 – Open Washington to one lane of traffic in each direction and close existing pedestrian underpass	Complete structure abutments, roadway grading and paving. Restore striping at Foothills Boulevard/Junction Boulevard intersection.
Phase 9 – Finish Roadway	Complete sidewalks.

1.5.7 Best Management Practices

Water quality measures (stormwater management measures and BMPs) would be implemented as part of the project to minimize potential water quality impacts during construction, operation, and maintenance of the project. Key management measures consist of the following.

- Protect areas that provide important water quality benefits or are particularly susceptible to erosion or sediment loss.
- Minimize the potential for erosion by limiting land disturbances such as clearing, grading, and cut and fill.
- Limit disturbance of natural drainage features and vegetation.
- Prepare and implement an approved SWPPP.
- Ensure proper storage and disposal of toxic material.
- Incorporate pollution prevention into operation and maintenance procedures to reduce pollutant loadings to surface runoff.

1.5.7.1 Construction BMPs

The City and its contractor will implement construction BMPs to avoid and minimize impacts on sensitive biological, cultural, and water resources. Implementation of the SWPPP, the Erosion Control Plan, the National Pollutant Discharge Elimination System (NPDES) permit, and the BMPs will minimize the potential for construction-related surface water pollution and will ensure that water quality in waterways will not be compromised by erosion and sedimentation during construction. Any water diversion structures will be installed in accordance with the provisions outlined in Caltrans' *Construction Site Best Management Practices for Clear Water Diversion* (Fact Sheet NS-5).

Temporary Fencing. The City's contractor will install construction barrier fencing (including sediment fencing and straw wattles) to prevent contaminants and debris from entering waterways. Before construction begins, the City or its contractor will identify the locations for the barrier fencing and mark those locations with stakes or flagging.

SWPPP. A SWPPP will be implemented as part of the NPDES Permit and a General Construction Activity Storm Water Permit to minimize the potential for sediments or contaminants to enter waterways.

Equipment. The City will comply with applicable stormwater ordinances, stormwater management plans, and BMPs to prevent or minimize the potential release of equipment-related petroleum contaminants into surface waters and groundwater. Implementation of standard construction procedures and precautions for working with petroleum and construction chemicals will further ensure that the impacts related to chemical handling during project construction will be minor.

Hazardous Materials. The City will implement appropriate hazardous material management practices and other good housekeeping measures to reduce the potential for chemical spills or releases of contaminants, including any non-stormwater discharge to drainage channels. Implementation of these measures will minimize the potential for surface and groundwater contamination.

Erosion Control. The project design will incorporate permanent erosion control elements to ensure that stormwater runoff will not cause soil erosion. Erosion and sediment control plans will be prepared under the City's Grading Ordinance, which requires reducing erosion and retaining sediment onsite.

Toxic Materials Control and Spill Response Plan. The following measures will be incorporated into the plan and implemented to avoid or minimize the risk of spills or discharges of toxic materials into waterways.

- Establish a hazardous material spill prevention, control, and countermeasure plan (SPCC) before construction.
- Prevent raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life from contaminating the soil or entering waterways.

- Prevent discharge of drilling mud and/or fluids into the waterways by using appropriate containment, disposal, and storage methods.
- Prevent discharge of turbid water or sediment-laden runoff to the waterways by using sediment filters, diverting the water to a settling tank, and/or implementing other erosion and water quality control BMPs to ensure compliance with water quality requirements prior to discharging water back to the waterways.
- Clean up all spills immediately according to the SPCC.
- Provide areas located outside the ordinary high water mark (OHWM) for staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants.
- Remove vehicles from the normal high-water area before refueling and lubricating to prevent contaminants from being discharged to the waterways during storm runoff. Contaminated water will be pumped to a holding tank for proper disposal.
- Prevent hazardous materials from entering waters. The construction contractor will notify the City Fire Department if evidence of soil or groundwater contamination is encountered during construction activities.

Traffic Management Plan

The City will require the construction contractor to implement a traffic management plan (TMP), including a construction schedule and plan to meet the City's notice procedures, before construction activities are initiated. This plan will identify general methods by which construction activities will be managed to minimize substantial delays to traffic. The plan will incorporate the following guidance and components provided in the *Final Transportation Study for the Washington/Andora Widening Project* (Fehr & Peers 2017).

Communication: Develop and implement a public information campaign that describes the duration of the street closure and recommends alternative routes. Particular attention should be placed on special events (e.g., school graduations or Placer County Fairgrounds) that may attract unfamiliar users to the City's roadway system. The City is currently doing public outreach and will continue the outreach program throughout the various phases of the project.

Demolition and Construction: Describe and analyze the number of employees and their site parking areas, and the number of trucks, their routing/staging, and operating hours.

Wayfinding: Position and operate changeable message sign (CMS) trailers at strategic locations to advise motorists of the street closure and suggest alternate routes.

Traffic Operations: To offset the adverse LOS and delay effects, modify impacted intersections as follows:

- Foothills Boulevard/Pleasant Grove Boulevard – Modify signal timing in response to changing travel demand.
- Foothills Boulevard/Junction Boulevard – Modify intersection to add a second southbound left-turn lane.

Bicycle/Pedestrian Travel: Close the multiuse path to all travelers during periods in which construction activity could pose safety concerns to those users. Advertise multiuse path closures in advance and suggest alternate routes.

Emergency Vehicle Response: The City Police and Fire Departments will coordinate with the Public Works Department to ensure that all potential effects of the closure have been addressed, including emergency vehicle routing, temporary changes in fire station servicing areas, and emergency vehicle pre-emption at signalized intersections.

Monitoring: The construction TMP will include a monitoring program of daily traffic volumes and speeds on Diamond Oaks Road east of Washington Boulevard. The TMP will describe the frequency of monitoring and establish maximum acceptable thresholds for changes in operations, above which a series of temporary traffic calming measures, such as temporary speed humps, enhanced enforcement, and other measures, may be considered.

The following performance standards will be met at all times during construction:

- Diamond Oaks Road east of Washington Boulevard experiences no more than a 2,000 average daily traffic (ADT) increase over existing volumes.
- The median vehicular travel speed on Diamond Oaks Road east of Washington Boulevard increases by no more than 10% over existing conditions.
- Traffic signal timings at the Washington Boulevard/Pleasant Grove Boulevard and Washington Boulevard/Junction Boulevard intersections are adjusted in response to the change in travel demand.
- Construction-related trucks access the work site via Washington Boulevard, and not adjacent neighborhood streets.
- The combination of public outreach and CMS trailers enables the general public to be aware of construction-related street closures and select alternate routes.
- Public transit and emergency provider service times are not adversely affected, based on the performance standards used by those entities.
- The multiuse path remains open and free of debris during periods in which construction operation does not pose any safety hazards to the facility.

Noise Control Measures

The following measures would be incorporated into the construction specifications for the proposed project to reduce and control noise generated by construction-related activities, consistent with City ordinances and standards:

- Noise-generating construction activities from the City's construction contractor would be restricted to Monday through Friday from 7:00 a.m. to 7:00 p.m., and Saturday and Sunday from 8:00 a.m. to 8:00 p.m., to comply with the City noise ordinance.
- All construction equipment would have sound-control devices no less effective than those provided on the original equipment. No equipment would have an unmuffled exhaust.

- Appropriate additional noise-reducing measures would be implemented, including the following: stationary construction equipment would be located as far as possible from sensitive uses; sensitive uses would be identified on construction drawings; and excessive equipment idling would be prohibited when the equipment is not in use.

Hazards and Hazardous Materials Measures

The construction documents would identify materials that are considered hazardous. The project contractor would be required to develop a Health and Safety Plan (prepared by a registered industrial hygienist) that addresses release prevention measures; employee training, notification, and evacuation procedures; and adequate emergency response protocols and cleanup procedures.

The contractor would comply with the California Occupational Safety and Health Administration (Cal-OSHA) standards for the storage and handling of fuels, flammable materials, and common construction-related hazardous materials and for fire prevention (California Labor Code, Division 5, Chapter 2.5).

1.5.7.2 City Of Roseville Mitigating Ordinances, Guidelines, and Standards

As part of the proposed project, the City will implement the following regulations and ordinances to reduce potential environmental impacts associated with the project.

- Noise Regulation (Roseville Municipal Code [RMC] Ch.9.24).
- Urban Stormwater Quality Management and Discharge Control Ordinance (RMC Ch.14.20).
- Stormwater Quality Design Manual (Resolution 07-432).
- City of Roseville Design and Construction Standards (Resolution 07-137).
- Community Design Guidelines (Resolution 95-347).
- Tree Ordinance (RMC Ch. 19.66).

1.6 Project Alternatives

After extensive engineering and traffic analysis efforts, and review and screening of design concepts, two Build Alternatives that would meet the project's purpose and need and objectives surfaced for consideration and analysis. Alternatives 1 and 2 would involve the same project components described previously. The primary differences between the Build Alternatives are the construction access and traffic diversion options and the associated staging and duration of construction. Alternative 1 would involve complete road closure and rerouting of traffic for a period of 5 months and an estimated construction duration of 13 months; Alternative 2 would leave one lane open during construction and would require an estimated 20 months of construction.

1.6.1 Alternative 2 (One Lane Closure during Construction)

Alternative 2 is designed to satisfy the project objectives while avoiding or minimizing environmental impacts associated with the project. The alignment and associated project components for Alternative 2 are the same as described for Alternative 1 and involve the same improvements to Washington Boulevard; however, it differs in its construction approach, including traffic diversion and schedule. The main difference is that Alternative 2 would leave one lane open during construction and would require an estimated 20 to 24 months to construct because a temporary railroad bridge is required over Washington Boulevard to maintain train traffic. Under Alternative 2, Washington Boulevard vehicular traffic would be allowed to pass through the project site under the control of one-way flagging operations during some of the construction phases. However, the travelling public would still be significantly delayed during construction under Alternative 2 because it would not be possible to maintain two lanes of traffic flow during most of the construction period; therefore, more than half of the normal traffic would use an alternative route.

1.6.2 No Project Alternative

The No Project alternative would not involve any improvements to Washington Boulevard. The existing roadway and Andora Underpass would remain in their current state.

Chapter 2 Study Methods

This chapter describes the regulatory requirements that are relevant to biological resources and the methods used to identify special-status species and their habitats, sensitive natural communities, and waters of the United States/waters of the State (including wetlands) in the biological study area (BSA) for the proposed project.

2.1 Regulatory Requirements

This section summarizes the federal and state regulations that protect special-status species; waters of the United States (which also are considered waters of the State), including wetlands; and sensitive habitats. This section also discusses pertinent local general plan policies and ordinances related to the protection and preservation of biological resources.

2.1.1 Federal Regulations

2.1.1.1 Federal Endangered Species Act

The FESA of 1973, and subsequent amendments, provides regulations for the conservation of endangered and threatened species and the ecosystems on which they depend. USFWS (with jurisdiction over plants, wildlife, and resident fish) and the National Marine Fisheries Service (NMFS) (with jurisdiction over anadromous fish and marine fish and mammals) oversee the FESA. Section 7 of the FESA mandates all federal agencies to consult with USFWS and NMFS if they determine that a proposed project may affect a listed species or destroy or adversely modify designated critical habitat. Section 7 requirements do not apply to nonfederal actions. A CWA Section 404 permit from the U.S. Army Corps of Engineers (USACE) will be required for project construction. Consequently, consultation under Section 7 for effects to federally listed species will be required. Under Section 7, the federal lead agency must obtain incidental take authorization or a letter of concurrence stating that the proposed project is not likely to adversely affect federally listed species.

Section 9 of the FESA prohibits the take of any fish or wildlife species listed as endangered, including the destruction of habitat that prevents the species' recovery. *Take* is defined as any action or attempt to hunt, harm, harass, pursue, shoot, wound, capture, kill, trap, or collect a species. Section 9 prohibitions also apply to threatened species unless a special rule has been defined with regard to take at the time of listing. Under Section 9 of the FESA, the take prohibition applies only to wildlife and fish species. However, Section 9 does prohibit the unlawful removal and possession, or malicious damage or destruction, of any endangered plant from federal land. Section 9 prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in nonfederal areas in knowing violation of any state law or in the course of criminal trespass. Candidate species and species proposed for or under petition for listing receive no protection under Section 9.

Federally listed species identified as having the potential to occur in the BSA for the proposed project include vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). These species are discussed in Chapter 4. The BSA contains no designated critical habitat.

2.1.1.1 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Management and Conservation Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires federal agencies to consult with NMFS on activities that may adversely affect essential fish habitat (EFH). The purpose of the MSA is to conserve and manage the fishery resources of the United States and to promote protection of EFH. *EFH* is the aquatic habitat necessary for fish to spawn, breed, feed, or grow to maturity that will allow a level of production needed to support a long-term, sustainable commercial fishery and contribute to a healthy ecosystem (Pacific Fishery Management Council 2003). Important components of EFH include substrate, water quality, water quantity, depth, velocity, channel gradient and stability, food, cover, habitat complexity, space, access and passage, and habitat connectivity. The MSA requires the following.

- Federal agencies undertaking, permitting, or funding an activity that may adversely affect EFH are required to consult with NMFS.
- NMFS is required to provide conservation recommendations for any federal or state activity that may adversely affect EFH.
- Within 30 days of receiving conservation recommendations from NMFS, federal agencies must provide a detailed response in writing to NMFS regarding the conservation recommendations. (The response must include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH, or reasons for not following the recommendations).

No EFH is identified within the BSA, therefore the proposed project would have no effect on EFH. Species identified on the NMFS list as having the potential to occur within the project region are presented in Chapter 3 (Table 3-3) but are not discussed further in Chapter 4.

2.1.1.3 Executive Order 11990: Protection of Wetlands

Executive Order (EO) 11990, signed May 24, 1977, directs all federal agencies to refrain from assisting in or providing financial support to projects that encroach on publicly or privately owned wetlands. EO 11990 further requires that federal agencies support a policy to minimize the destruction, loss, or degradation of wetlands. A project that encroaches on wetlands may not be undertaken unless the agency has determined that (1) there are no practicable alternatives to such construction, (2) the project includes all practicable measures to minimize harm to wetlands that would be affected by the project, and (3) the impact will be minor.

Because the proposed project would affect wetlands, federal agencies are required to consider this EO prior to issuing permits. Chapter 4 includes a discussion about potential project effects on wetlands within the BSA.

2.1.1.4 Executive Order 13112: Prevention and Control of Invasive Species

EO 13112, signed February 3, 1999, directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. This EO established the National Invasive Species Council (NISC), which is composed of federal agencies and departments, and a supporting Invasive Species Advisory Committee (ISAC) composed of state, local, and private entities. In 2008, NISC released an updated *National Invasive Species Management Plan* (National Invasive Species Council 2008) that recommends objectives and measures to implement EO 13112 and to prevent the introduction and spread of invasive species. EO 13112 requires consideration of invasive species in NEPA analyses, including species identification and distribution, potential impacts, and prevention and eradication measures.

Because the proposed project may introduce or spread invasive species into the BSA, federal agencies are required to consider EO 13112 prior to issuing permits. The City will avoid violation of EO 13112 by implementing measures identified in Chapter 4 for invasive plants.

2.1.1.5 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) (16 United States Code [USC] 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703, 50 CFR 21, 50 CFR 10). Most actions that result in taking or in permanent or temporary possession of a protected species constitute violations of the MBTA. Examples of permitted actions that do not violate the MBTA are the possession of a hunting license to pursue specific gamebirds, legitimate research activities, display in zoological gardens, banding, and other similar activities. The USFWS is responsible for overseeing compliance with the MBTA, and the U.S. Department of Agriculture's Animal Damage Control Officer makes recommendations on related animal protection issues.

Executive Order (EO) 13186 (January 10, 2001) directs each federal agency taking actions having or likely to have a negative impact on migratory bird populations to work with USFWS to develop a memorandum of understanding to promote the conservation of migratory bird populations. Protocols developed under the memorandum of understanding must include the following agency responsibilities:

- Avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions
- Restore and enhance habitat of migratory birds, as practicable
- Prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable

EO 13186 is designed to assist federal agencies in their efforts to comply with the MBTA, and does not constitute any legal authorization to take migratory birds. Migratory birds could nest in

the BSA. The discussion of nesting migratory birds in Chapter 4 describes potential project impacts on migratory birds and measures to avoid or minimize impacts on those species.

2.1.1.6 Clean Water Act

The CWA was passed by Congress in 1972 with a broad mandate "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The chief purpose of the CWA is to establish the basic structure for regulating discharges of pollutants into waters of the United States. The CWA authorizes the U.S. Environmental Protection Agency (EPA) to set national water quality standards and effluent limitations, and includes programs addressing both point-source and nonpoint-source pollution. *Point-source pollution* is pollution that originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. *Nonpoint-source pollution* originates over a broader area and includes urban contaminants in storm water runoff and sediment loading from upstream areas. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool. Aquatic resources (i.e., wetlands) are present in the BSA and may be regulated under CWA Section 404 (described below).

Section 401: Water Quality Certification

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must apply for water quality certification from the State. Therefore, all projects with a federal component that may affect state water quality (including projects that require federal agency approval, such as a Section 404 permit) must comply with CWA Section 401. Aquatic resources that meet the definition of waters of the United States are present in the BSA.

Under the current proposed design, the proposed project would have the potential to result in a discharge of pollutants into waters of the United States/waters of the State; therefore, the City will obtain a Section 401 water quality certification from the Central Valley RWQCB for the proposed project.

Section 402: Permits for Stormwater Discharge

CWA Section 402 regulates construction-related storm water discharges to surface waters through the NPDES program, administered by EPA. In California, the State Water Resources Control Board (State Water Board) is authorized by EPA to oversee the NPDES program through Regional Water Quality Control Boards (RWQCBs).

NPDES permits are required for projects that disturb more than 1 acre of land. The NPDES permitting process requires the applicant to file a public notice of intent to discharge storm water and to prepare and implement a SWPPP. The SWPPP must include a site map, a description of proposed construction activities, and the BMPs that will be implemented to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, and cement) that could contaminate nearby water resources.

Permittees are required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of storm water-related pollutants. Because the proposed project would disturb more than 1 acre of land, the City (or its contractor) would prepare a SWPPP and apply for an NPDES Construction General Permit.

Section 404: Permits for Fill Placement in Waters of the United States (Including Wetlands)

Waters of the United States (including wetlands) are protected under Section 404 of the CWA. Any activity that involves a discharge of dredged or fill material into waters of the United States, including wetlands, is subject to regulation by USACE. *Waters of the United States* encompasses navigable waters of the United States; interstate waters; all other waters where their use, degradation, or destruction could affect interstate or foreign commerce; tributaries of any of these waters; and wetlands that meet any of these criteria or are adjacent to any of these waters or their tributaries. *Wetlands* are defined under Section 404 as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Jurisdictional wetlands must meet three wetland criteria.

- They support hydrophytic vegetation (i.e., plants that grow in saturated soil).
- They have hydric soil types (i.e., soils that are wet or moist enough to develop anaerobic conditions).
- They have wetland hydrology.

Under the current proposed design, construction associated with the proposed project would result in a discharge of fill material into potential waters of the United States; therefore, a Section 404 CWA permit will be required for the proposed project. An aquatic resources delineation has been completed for the project and will be submitted to USACE to support a preliminary jurisdictional determination for the project and to support the Section 404 permit application.

For each of the above sections of the CWA, the City will obtain and comply with the applicable federal and state permits, and all conditions that are attached to those permits would be implemented as part of the proposed project. The permit conditions will be clearly identified in the construction plans and specifications and monitored during and after construction to ensure compliance.

2.1.2 State Regulations

2.1.2.1 California Environmental Quality Act

CEQA is the regulatory framework by which California public agencies identify and mitigate significant environmental impacts. A project normally is considered to cause a significant environmental impact on biological resources if it would substantially affect a rare or endangered species or the habitat of that species; substantially interfere with the movement of resident or migratory fish or wildlife; or substantially diminish habitat for fish, wildlife, or plants. The State

CEQA Guidelines define *rare, threatened, and endangered species* as those listed under the ESA and CESA and any other species that meets the criteria of the resource agencies or local agencies (e.g., species designated by California Department of Fish and Wildlife [CDFW] as species of special concern). The State CEQA Guidelines state that the lead agency preparing an Environmental Impact Report (EIR) must consult with and receive written findings from CDFW concerning project impacts on species listed as endangered or threatened. The impacts of a proposed project on these resources are important in determining whether the project would result in significant environmental impacts under CEQA. An Environmental Impact Report will be prepared to comply with the State CEQA Guidelines.

2.1.2.2 Porter-Cologne Water Quality Control Act

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

2.1.2.3 California Fish and Game Code

Several sections of the California Fish and Game Code (CFGC) apply to the proposed project and are described below: 1602, 3503, 3503.5, 3511, and 3513.

Section 1602: Lake or Streambed Alteration Agreements

Under CFGC Section 1602, public agencies are required to notify CDFW before undertaking any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resources. These modifications are formalized in a Lake or Streambed Alteration Agreement (LSAA) that becomes part of the plans, specifications, and bid documents for the project. Because the proposed project will require modification to the bed and bank of streams that are regulated under Section 1602, the City will obtain a LSAA.

Sections 3503 and 3503.5: Birds and Raptors

Section 3503 of the CFGC prohibits killing of birds and destruction of bird nests. Section 3503.5 prohibits killing of raptor species and destruction of raptor nests. Typical violations include

destruction of active bird and raptor nests as a result of tree removal, and failure of nesting attempts (loss of eggs or young) as a result of disturbance of nesting pairs caused by nearby human activity.

The proposed project has the potential to adversely affect birds and raptors protected under Sections 3503 and 3503.5 of the CFGC. The City will avoid violation of CFGC Sections 3503 and 3503.5 by implementing measures identified for nesting birds in Chapter 4.

Section 3511: Fully Protected Birds

CFGC Sections 3511, 3513, 4700, and 5050 pertain to fully protected wildlife species (birds in Sections 3511 and 3513, mammals in Section 4700, and reptiles and amphibians in Section 5050) and strictly prohibit take of these species. CDFW cannot issue a take permit for fully protected species, except under narrow conditions for scientific research or the protection of livestock, or if a Natural Community Conservation Plan has been adopted. Specifically, Section 3513 prohibits any take or possession of birds designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations pursuant to the MBTA.

One fully protected bird species, white-tailed kite (*Elanus leucurus*), has the potential to nest in the BSA and to be affected by the proposed project. The City will avoid take of white-tailed kite by implementing measures identified for nesting birds in Chapter 4.

Section 3513: Migratory Birds

CFGC Section 3513 prohibits the take or possession of any migratory non-game bird as designated in the MBTA or any part of such migratory non-game bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA. The City will avoid violation of CFGC Section 3513 by implementing measures identified in Chapter 4 for migratory birds.

2.1.3 Local Regulations

2.1.3.1 City of Roseville General Plan

The Vegetation and Wildlife Section of the Open Space and Conservation Element in the City's General Plan 2035 provides the following goals and policies that are applicable to the proposed project (City of Roseville 2016).

> **Goal 1:** Establish a comprehensive system of public and private open space, including interconnected open space corridors that should include oak woodlands, riparian areas, grasslands, wetlands, and other open space resources.
>
> > **Policy 1:** Provide an interconnecting system of open space corridors that, where feasible, incorporate bikeways and pedestrian paths.

Policy 2: Provide interconnected open space corridors between open space and habitat resources, recreation area, schools, employment, commercial service and residential areas.

Policy 3: Work with adjacent jurisdictions to connect the City with regional open space and trail systems, providing a network of open space and habitat resources, pathways and, where reasonable, equestrian trails through the City to link nearby communities.

Policy 4: Require all new development to provide linkages to existing and planned open space systems. Where such access cannot be provided through the creation of open space connections, identify alternative linkages.

Policy 9: Where feasible, entryways into Roseville shall incorporate the preservation of natural resource areas, such as oak woodland, riparian, and grassland areas as a way of defining the City's boundaries and identity.

Goal 3: Integrate, where feasible, passive recreational and educational opportunities with the protection of wildlife and vegetation habitat areas.

Policy 6: Take into account consideration of natural habitat areas in developing linkages and in preserving open space areas. Identify alternative sites for linkages where sensitive habitat areas have the potential to be adversely impacted.

2.1.3.2 City of Roseville Tree Preservation Ordinance

Chapter 19.66 (Tree Preservation) of the City Municipal Code contains regulations controlling the removal and preservation of trees within the City. A tree permit is required to conduct specific work or regulated activities within the protected zone of a protected tree or to remove a protected tree. A *protected tree* is defined in the Roseville Municipal Code as a native oak tree equal to or greater than 6 inches diameter at breast height, measured as a total of a single trunk or multiple trunks. The *protected zone* is demarcated as the largest radius of the circle formed by the protected tree's dripline plus 1 foot; the radius is measured as the distance from the base of the tree trunk to the greatest extent of the tree's dripline.

Under the ordinance, native oaks are defined as valley oaks, blue oaks, interior live oaks, and their hybrids. Tree permit conditions include compensation for work conducted within the protected zone of protected trees. Compensation may consist of a combination of planting replacement trees, relocating trees that would be removed, implementing a revegetation plan, or paying an in-lieu mitigation fee. The BSA contains several native oak trees that meet the City's definition of protected trees. An arborist survey will be conducted and impacts to native oak trees will be quantified as part of the arborist report.

2.2 Studies Required

Potential biological resource issues associated with the proposed project were identified through review of existing information and field surveys. The following studies and surveys were required to document natural resources in the BSA.

- General habitat evaluation to determine whether suitable habitat exists for special-status plant and animal species.
- Botanical field surveys to map land cover types, including natural communities, and determine if suitable habitat is present for special-status plant species.
- Delineation of waters of the United States and waters of the State.

An arborist survey would be conducted to identify the species, location, and health of native trees in the BSA. This information would be used to 1) support preparation of the permit applications (e.g., LSAA); and 2) determine the compensation requirement for the loss of protected trees that are subject to the City's tree ordinances. The arborist survey and associated report would be prepared after the 65% engineering plans are available.

2.2.1 Biological Study Area

The BSA generally comprises the limits of disturbance (including areas to accommodate temporary construction activities and staging) and an additional 250 feet in areas that contain undeveloped lands (Figure 3). The BSA is in an urban setting and is bounded by UPRR tracks, residential, and commercial uses. Therefore, this BSA was determined to be appropriate given the developed nature of the area.

2.2.2 Prefield Investigation

To prepare for the field surveys, biologists reviewed existing resource information related to the proposed project to evaluate whether sensitive species or other sensitive biological resources (e.g., wetlands) could occur in the BSA and vicinity. These resources were reviewed prior to conducting field surveys. The sources listed below were reviewed:

- A list of sensitive species from the California Natural Diversity Database (CNDDB) records search for the U.S. Geological Survey (USGS) 7.5-minute Roseville, Sheridan, Lincoln, Gold Hill, Pleasant Grove, Rocklin, Rio Linda, Citrus Heights and Folsom quadrangles (California Department of Fish and Wildlife 2017a) (Appendix A)
- California Native Plant Society's (CNPS's) Inventory of Rare and Endangered Plants of California for the same USGS quadrangles listed above (California Native Plant Society 2017) (Appendix A)
- A list of endangered and threatened species that may occur in or be affected by projects within the USGS Roseville 7.5-minute quadrangle (National Marine Fisheries Service 2017; U.S. Fish and Wildlife Service 2017) (Appendix A).
- Lists of plants identified as noxious weeds or invasive plants (California Invasive Plant Council 2017; Natural Resources Conservation Service 2003, 2017).
- The soil map unit descriptions for the BSA (Natural Resources Conservation Service 2016).

This information was used to develop lists of sensitive species and vegetation communities of special concern that could be present in the project vicinity, and determine the potential for wetlands to occur in the BSA. Species from the lists were considered if they were known to occur within an approximately 10-mile radius of the project site.

2.3 Personnel and Survey Dates

Methods for documenting wetland, botanical, and wildlife resources are described below. Biological surveys were conducted in the BSA in 2016 and 2017 (Table 2-1). Methods and personnel involved in documenting waters of the United States and conducting botanical and wildlife habitat surveys are described below. Representative photographs taken during field surveys are provided in Appendix B.

Table 2-1. Biological Survey Personnel and Dates

Type of Survey	Survey Date	Surveyors
Natural community mapping, botanical surveys, and special-status plant habitat assessment and survey	November 17, December 6 and 13, 2016, and May 2, 2017	Lisa Webber, ICF Botanist/Wetland Ecologist, 26 years of experience Renee Richardson, ICF, Botanist/Wetland Ecologist, 8 years of experience Bonnie Peterson, ICF, Botanist/Wetland Ecologist 15 years of experience
Aquatic resources delineation (waters of the United States and waters of the State)	November 17, December 6 and 13, 2016	Lisa Webber, Renee Richardson
Wildlife habitat assessment	November 17 and December 6, 2016	Aundrea Asbell, ICF Wildlife Biologist, 10 years of experience
Vernal pool branchiopod habitat assessment	February 1, and March 27, 2017	Aundrea Asbell Pete Balfour, ECORP Consulting, Inc. Senior Invertebrate Ecologist, 30 years of experience (March 27 only)

2.4 Survey Methods

Methods for the natural community (land cover type) mapping, botanical surveys, habitat-based assessment for special-status species, and aquatic resources delineation are described below.

2.4.1 Natural Community Mapping and Botanical Surveys

ICF botanist/wetland ecologist Lisa Webber conducted a reconnaissance-level field survey of the BSA on November 17, December 6, and December 13, 2016, to evaluate and document the vegetation community types, and evaluate the potential habitat for special-status plants. ICF botanist Bonnie Peterson conducted special-status plant surveys on May 2, 2017, which was during the blooming periods of species identified as having the highest potential for occurrence

in the BSA. A list of plant species observed during the field survey is included in Appendix C, and the survey results are also presented in Chapters 3 and 4.

2.4.2 Habitat-Based Assessment for Special-Status Animal Species

ICF wildlife biologist Aundrea Asbell conducted reconnaissance-level field surveys of the BSA on November 17 and December 6, 2016. The surveys focused on evaluating biological communities in the BSA and determining their suitability for sensitive wildlife species. Ms. Asbell revisited the BSA on February 1 and March 27, 2017, to assess habitat suitability for listed large branchiopods after substantial winter rains had inundated previously identified habitats. During habitat-based field assessments, Ms. Asbell took notes and photos on habitats within and topography of the BSA, documented the amount of human activity and disturbance, and recorded any wildlife (or wildlife sign) observed during the site visits. A list of wildlife species observed during the field surveys is included in Appendix C and the results of the surveys are presented in Chapters 3 and 4.

2.4.3 Fisheries Resources

Because no suitable fish habitat is present within the action area, no fish surveys or assessments were conducted.

2.4.4 Delineation of Aquatic Resources (Waters of the United States/Water of the State)

ICF botanists/wetland ecologists Lisa Webber and Renee Richardson conducted a delineation of aquatic resources in the BSA on November 17, December 6, and December 13, 2016. The delineation was conducted using the routine onsite determination method described in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the supplemental procedures and wetland indicators provided in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (U.S. Army Corps of Engineers 2008). The aquatic resources delineation report (ICF 2017) contains detailed delineation methods and is provided separately from this NES.

Other waters of the United States were mapped and delineated in the field in accordance with indicators and guidance in USACE Regulatory Guidance Letter No. 05-05, dated December 7, 2005 (U.S. Army Corps of Engineers 2005), and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region* (Lichvar and McColley 2008). Methods and standards conform to the USACE Sacramento District's *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (U.S. Army Corps of Engineers 2016a) and *Revised Map and Drawing Standards for the Pacific Division Regulatory Program Delineations* (U.S. Army Corps of Engineers 2016b).

2.5 Agency Coordination and Professional Contacts

On March 27, 2017, a field visit was conducted with Pete Balfour (senior invertebrate biologist from ECORP Consulting). Mr. Balfour conducted a habitat assessment for large listed branchiopods within the BSA. He also provided history of the biological context for the surrounding developed area (results of past survey and monitoring efforts).

Other than general coordination with Jennifer Osmondson, the Caltrans District 3 biologist assigned to the project, no other agency coordination or professional contacts have been made.

2.6 Limitations That May Influence Results

The November and December 2016 field surveys were conducted outside of the breeding season (generally between February 1 and August 30) for migratory birds. Several snags potentially providing cavity nesting habitat were observed during the field surveys; one small stick nest was observed during the December survey but a focused nest survey was not conducted. A focused nest survey within and adjacent to the BSA will be conducted as part of the preconstruction surveys (see Chapter 4).

The November and December 2016 field surveys were conducted during the day and without the use of acoustic equipment to survey for bat activity. Trees and structures potentially providing roosting habitat for bats were observed during the field surveys. No concentrations of guano or culled insect parts were observed. The existing Andora bridge could not be accessed, as pedestrian access is prohibited along Washington Boulevard at the Andora bridge. An assessment for bat activity and potential roost habitat within and adjacent to the project area will be conducted as part of the preconstruction surveys described in the avoidance and minimization measures for bats in Chapter 4.

The February 1 and March 27, 2017, field visits were conducted as focused habitat assessments for large listed branchiopods. Surveys for nesting migratory birds and roosting bats were not conducted during the field visits on these dates.

No other limitations would influence the results discussed in this document.

Chapter 3 Results: Environmental Setting

3.1 Existing Biological and Physical Conditions

3.1.1 Biological Study Area

The BSA includes all permanent and temporary project impact areas (including staging) and is shown in Figure 3. The BSA consists of the section of Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard, the UPRR right-of-way between the south end of Derek Place and slightly north of Pleasant Grove Boulevard, and the area between Washington Boulevard and the UPRR track south of Emerald Oak Road. An additional area up to 200 feet west of Washington Boulevard is also included in the BSA to account for potential indirect impact areas and proposed staging areas.

3.1.2 Physical Conditions

The BSA is in the transition zone between the Sacramento Valley and northern Sierra Nevada Foothill subregions of the California Floristic Province (Baldwin et al. 2012:42, 43). The topography in the BSA is relatively level, and elevations range from approximately 125 to 150 feet above mean sea level. Two City Open Space General Fund and an Open Space Preserve occur in the area (see Figure 3).

According to soil data from the Natural Resources Conservation Service Web Soil Survey (Natural Resources Conservation Service 2016), the BSA contains 3 mapped soil units—Cometa-Fiddyment complex, 1–5% slopes; Cometa-Ramona sandy loams, 1–5% slopes; and Xerofluvents, frequently flooded (Natural Resources Conservation Service 2016). In many places, the soil profile has been disturbed by the construction of existing roads and grading for development. Information on soils mapped within the BSA is provided in more detail in the aquatic resources delineation report (ICF 2017).

The BSA is within the Lower Sacramento watershed hydrologic unit (hydrologic unit code [HUC] 18020109) (U.S. Environmental Protection Agency 2016). The primary stream in the BSA is South Branch Pleasant Grove Creek (SBPGC), which ultimately drains into the Sacramento River, a traditional navigable water. Two tributaries to SBPGC, the Sierra View Tributary (SVT) and an unnamed tributary (UT), also cross the delineation area. SBPGC and its two tributaries qualify as non-wetland waters of the United States (which also are considered waters of the State). The specific characteristics of waters of the United States, including wetlands, in the BSA are further described in the aquatic resources delineation report (ICF 2017).

3.1.3 Biological Conditions

3.1.3.1 Natural Communities

The natural communities in the BSA are interspersed with roadways, commercial, and light industrial areas. The term *land cover types* is used in this NES to refer to natural communities and developed or disturbed areas. Land cover types mapped during field surveys are described below and shown in Figure 4. Representative photographs of land cover types within the BSA are provided in Appendix B.

The BSA supports both common natural communities and natural communities of special concern. *Common natural communities* are habitats with low species diversity that are widespread, re-establish naturally after disturbance, or support primarily nonnative species. These communities generally are not protected by agencies unless the specific site is habitat for or supports special-status species (e.g., raptor foraging or nesting habitat, upland habitat in a wetland watershed). The only common natural community in the BSA is nonnative annual grassland.

Natural communities of special concern are habitats considered sensitive because of their high species diversity, high productivity, unusual nature, limited distribution, or declining status. Local, state, and federal agencies consider these habitats important. The CNDDB contains a current list of rare natural communities throughout the state. USFWS considers certain habitats, such as wetlands and riparian communities, important to wildlife. USACE and EPA consider wetland habitats important for water quality and wildlife. The habitats in the BSA that meet the criteria for natural communities of special concern are riparian woodland, riparian scrub, stream, wetland stream, seasonal wetland, and artificially-created seasonal pool. The distribution and representative species for land cover types within the BSA are described in the following sections. Lists of plant and wildlife species observed in the BSA are provided in Appendix C.

3.1.3.2 Developed Areas

Approximately 27 acres of the BSA contained developed areas. Developed areas consist mostly of commercial and light industrial areas, as well as roadways. The vegetation in developed areas typically is composed of ornamental species planted for decorative or landscaping purposes, including species such as rosemary (*Rosmarinus officinalis*), cherry plum (*Prunus cersifera*), and ornamental pine (*Pinus* sp.).

3.1.3.3 Disturbed/Graded Areas

Disturbed/graded areas occupy approximately 3 acres of the BSA and include areas adjacent to roadways that were graded during construction of the roadways or adjacent development. The vegetative composition of these areas typically consists of nonnative species, particularly annual grasses and weedy forbs, with scattered trees and shrubs. The density of vegetation is variable and ranges from relatively high in areas along roadways to more sparse in areas that recently have been graded. Disturbed and graded areas along Washington Boulevard and the UPRR track are depicted in Photos 1 and 2 in Appendix B.

City of Roseville
Washington Blvd/ Andora Bridge Improvement
November 2017
Sheet 1 of 3

Legend

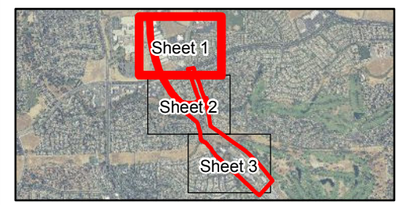
Biological Study Area

Land Cover Types

- Artificial Created Seasonal Pool
- Developed
- Disturbed/Graded
- Ditch
- Nonnative Annual Grassland
- Riparian Scrub
- Riparian Woodland
- Seasonal Wetland
- Stream
- Wetland Stream

Special-Status Wildlife Habitat

- Elderberry Shrub (VELB Habitat)
- Vernal Pool Branchiopod Habitat



1 inch = 200 feet

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Imagery Source: NAIP 2016

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Figure 4
Biological Resources

City of Roseville
Washington Blvd/ Andora Bridge Improvement
November 2017
Sheet 2 of 3

Legend

- Biological Study Area

Land Cover Types

- Artificial Created Seasonal Pool
- Developed
- Disturbed/Graded
- Ditch
- Nonnative Annual Grassland
- Riparian Scrub
- Riparian Woodland
- Seasonal Wetland
- Stream
- Wetland Stream

Special-Status Wildlife Habitat

- Elderberry Shrub (VELB Habitat)
- Vernal Pool Branchiopod Habitat

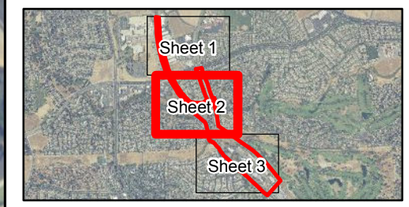

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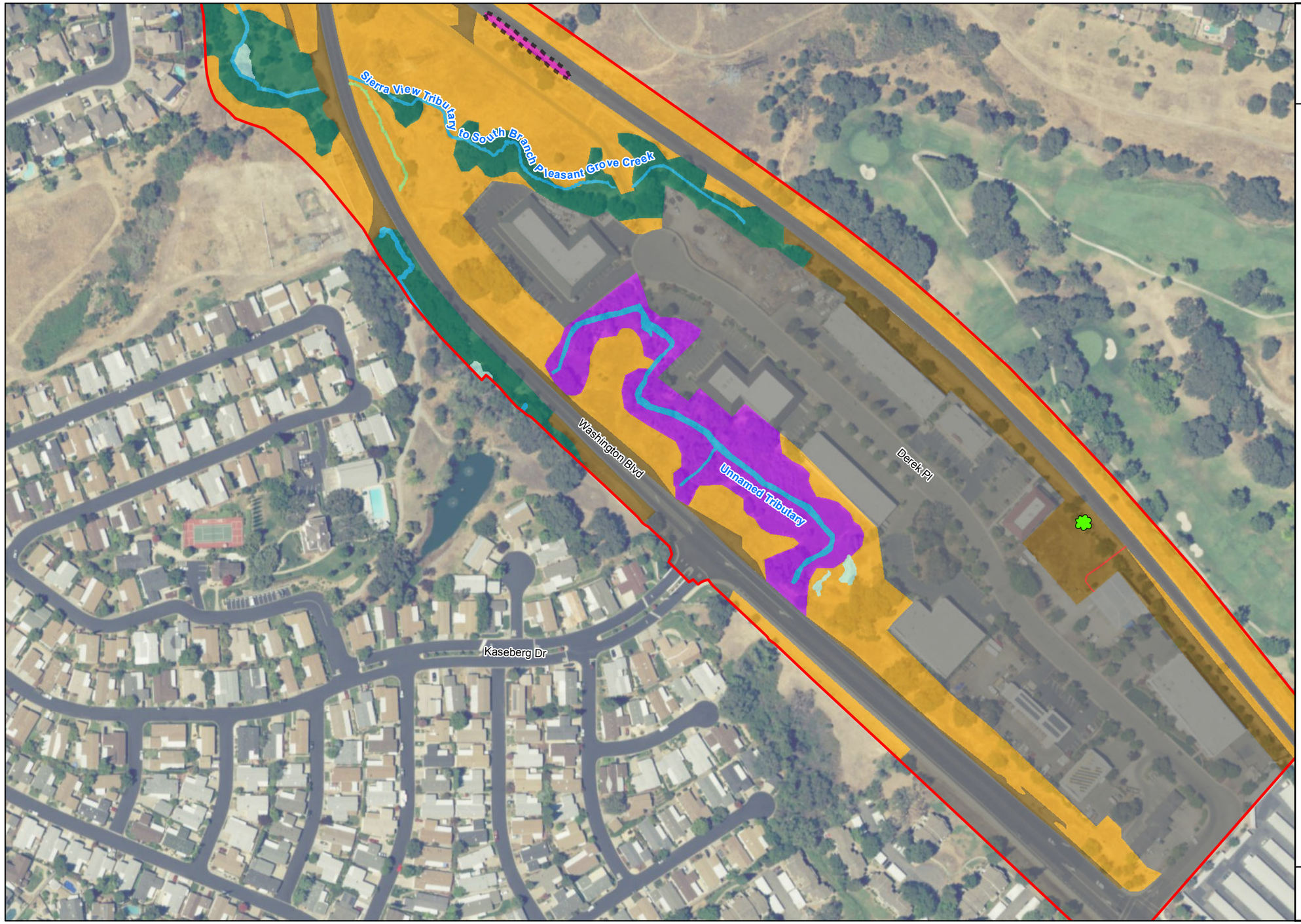
Figure 4
Biological Resources



City of Roseville
Washington Blvd/ Andora Bridge Improvement
November 2017
Sheet 3 of 3

Legend

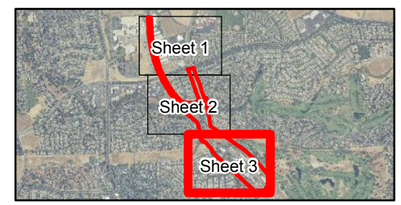
- Biological Study Area

Land Cover Types

- Artificial Created Seasonal Pool
- Developed
- Disturbed/Graded
- Ditch
- Nonnative Annual Grassland
- Riparian Scrub
- Riparian Woodland
- Seasonal Wetland
- Stream
- Wetland Stream

Special-Status Wildlife Habitat

- Elderberry Shrub (VELB Habitat)
- Vernal Pool Branchiopod Habitat



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Notes:

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Imagery Source: NAIP 2016

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Figure 4
Biological Resources

3.1.3.4 Riparian Woodland

Approximately 5.56 acres of riparian woodland occurs along the streams in the BSA. Dominant tree species in the riparian woodland include blue oak (*Quercus douglasii*), valley oak (*Q. lobata*), and interior live oak (*Q. wislizeni*), with black willow (*Salix gooddingii*) and arroyo willow (*S. lasiolepis*) along some channels. A representative photograph of riparian woodland in the BSA is provided as Photo 3 in Appendix B.

3.1.3.5 Riparian Scrub

Riparian scrub (approximately 2.26 acres) occurs within the stream floodplains east of Washington Boulevard in the BSA. Vegetation in this land cover type is predominantly Himalayan blackberry (*Rubus armeniacus*), with some riparian trees in the overstory. A representative photograph of riparian scrub in the BSA is provided as Photo 4 in Appendix B.

3.1.3.6 Nonnative Annual Grassland

Most of the 22.7 acres of nonnative annual grassland in the BSA occurs in the Open Space or Open Space Preserve areas along the UPRR track and Washington Boulevard. This land cover type is dominated by nonnative grasses and forbs. Common grass species are Italian ryegrass (*Festuca perennis*), medusahead (*Elymus caput-medusae*), slender wild oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), and soft chess (*B. hordeaceus*). Typical forb species are yellow star-thistle (*Centaurea solstitialis*), dove's foot geranium (*Geranium molle*), rose clover (*Trifolium hirtum*), hairy vetch (*Vicia villosa*), and broadleaf filaree (*Erodium botrys*). A representative photograph of nonnative annual grassland in the Open Space area adjacent to the BSA is provided as Photo 5 in Appendix B.

3.1.3.7 Stream

Approximately 1.08 acre of streams was mapped in the BSA and includes perennial and seasonal features. Before the surrounding region was developed, most of these streams would have been seasonal, but now they are supported by significant amounts of irrigation runoff from nearby recreational (golf course), residential, and industrial/commercial developments within their watersheds.

The SBPGC, which is north of the UPRR underpass, flows generally from east to west and crosses under both Washington Boulevard and the UPRR track. The SVT also flows generally from east to west, crossing under the UPRR track, the bicycle trail, and Washington Boulevard to its confluence with the SBPGC. The UT originates on the west side of Washington Boulevard at the southern end of the BSA, then crosses back and forth under Washington Boulevard, and finally back to the east side, where it joins the SVT.

Where abutting wetlands were absent, the boundaries of streams were mapped at the OHWM, which was identified in the field by observed indicators as described in the aquatic resources delineation report. Most of these stream features are characterized by a shallow gradient with mostly open water and sparse wetland vegetation growing intermittently along their margins. Stream segments with abutting wetlands dominating most of the stream were mapped as wetland

stream (described below). Representative photographs of the streams in the BSA are provided as Photos 6, 7, 8, and 9 in Appendix B.

3.1.3.8 Wetland Stream

Within the BSA, approximately 0.06 acre of wetland streams occur within segments of streams that are supported throughout the dry season by irrigation and landscape runoff. Surface water or a high water table was present in most of these features during the November and December 2016 fieldwork, and boundaries of wetland streams were mapped at the OHWM. Typical species were wetland plants such as narrowleaf cattail (*Typha angustifolia*), false waterpepper (*Persicaria hydropiperoides*), and Fremont's cottonwood (*Populus fremontii*) in the overstory. A representative photograph of wetland stream in the BSA is provided as Photo 10 in Appendix B.

3.1.3.9 Seasonal Wetland

Approximately 0.24 acre of seasonal wetlands are located in the BSA adjacent to the UT. Seasonal wetlands occur in shallow depressions, are dependent on cool-season rains, and are dry during most of the year. One of the seasonal wetlands is in the riparian woodland above the OHWM of the UT, and two seasonal wetlands are in nonnative annual grassland on a terrace above the UT. The dominant plant species observed in seasonal wetlands are water starwort (*Callitriche heteropylla*), curly dock (*Rumex crispus*) and nutsedge (*Cyperus eragrostis*). A representative photograph of seasonal wetland in the BSA is provided as Photo 11 in Appendix B.

3.1.3.10 Artificially-Created Seasonal Pool

Two artificially-created seasonal pools (totaling 0.08 acre) were mapped in the BSA in the UPRR right-of-way (see Sheets 2 and 3 of Figure 4). Artificially-created seasonal pools in the BSA support wetland hydrology but do not have a permanent water source and support nonnative annual grassland vegetation. The pools occur in small, shallow depressions (i.e., tire ruts and scraped areas at the base of the UPRR berm) that receive surface and landscape irrigation runoff during the rainy season and dry completely during the summer months. Vegetation observed in artificially-created seasonal pools in the BSA was predominantly nonnative annual grassland species. See Photo 12 in Appendix B.

3.1.3.11 Ditch

Several drainage ditches are present in the BSA. The approximately 0.02 acre of ditches in the BSA were constructed to convey runoff from Washington Boulevard or from adjacent developed areas. Ditches were mapped if they lacked hydrophytic vegetation and had a distinct bed and bank. One ditch with hydrophytic vegetation was mapped as wetland stream (Section 3.1.3.8). See Photo 13 in Appendix B.

3.1.3.12 Common Animal Species

The BSA provides habitat for an assemblage of wildlife species typical of natural communities and habitats in the region. Numerous mammal species or indicators of use (i.e., scat, burrows)

were observed in or near the BSA during the winter 2016 reconnaissance surveys, including black-tailed hare (*Lepus californicus*), Botta's pocket gopher (*Thomomys bottae*), fox squirrel (*Sciurus niger*), and coyote (*Canis latrans*). Stream habitats in the BSA also provide habitat for common amphibians and reptiles such as western toad (*Anaxyrus boreas*), Sierran tree frog (*Pseudacris sierra*), and western fence lizard (*Sceloporus occidentalis*). Seasonally-inundated features provide habitat for aquatic invertebrates, that, in turn, provide food for other wildlife species including great blue heron, killdeer (*Charadrius vociferus*), American avocet (*Recurvirostra americana*), black-necked stilt (*Himantopus mexicanus*) and greater yellowlegs (*Tringa melanoleuca*) (Zeiner et al. 1990a:32, 192, 200, 202). In addition, amphibians such as Sierran treefrog and California toad (*Anaxyrus boreas halophilus*) use seasonal wetlands and pools for breeding and feeding (Zeiner et al. 1988:56, 64, 78). Common bird species observed throughout the BSA included black phoebe (*Sayornis nigricans*), mourning dove (*Zenaida macroura*), western scrub jay (*Aphelocoma californica*), Anna's hummingbird (*Calypte anna*), spotted towhee (*Pipilo maculatus*), acorn woodpecker (*Melanerpes formicivorus*), bushtit (*Psaltriparus minimus*), northern flicker (*Colaptes auratus*), wild turkey (*Meleagris gallopavo*), American crow (*Corvus brachyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), and turkey vulture (*Cathartes aura*).

3.1.3.13 Wildlife Migration Corridors

The BSA consists of natural, disturbed, and developed areas along Washington Boulevard and the UPRR track. These routes generally do not provide wildlife migration corridors; however, resident wildlife and native fish species may traverse the BSA along streams that culvert under or parallel these routes. These features may be used as movement corridors to access larger undeveloped areas outside the BSA. Therefore, streams and associated uplands in the BSA provide important wildlife dispersal and movement corridors between established undeveloped and Open Space lands. Native fish may disperse through the SBPGC in the BSA.

3.1.3.14 Fish

Pleasant Grove Creek in the BSA falls within the Sacramento-San Joaquin Province (Central Valley Subprovince), one of six aquatic zoogeographic provinces in California, as defined by Moyle (2002). The Sacramento-San Joaquin Province is drained by the Sacramento and San Joaquin Rivers. Generally, four native fish assemblages can be recognized in Central Valley streams: rainbow trout assemblage, California roach assemblage, pikeminnow-hardhead-sucker assemblage, and deep-bodied fish assemblage (Moyle 2002). Based on its geographic location, Pleasant Grove Creek in the BSA lies in the zone characterized by the deep-bodied fish assemblage.

Fish species that could occur in this zone include Sacramento sucker (*Catostomus occidentalis*), California roach (*Lavinia symmetricus*), hardhead (*Mylopharodon conocephalus*), Sacramento pikeminnow (*Ptychocheilus grandis*), speckled dace (*Rhinichthys osculus*), riffle sculpin (*Cottus gulosus*), steelhead and resident rainbow trout (*Oncorhynchus mykiss*), and Chinook salmon (*O. tshawytscha)* (Moyle 2002). Non-native sunfish (*Lepomis* spp.), blackbass (*Micropterus* spp.), and western mosquitofish (*Gambusia affinis*) also may occur in this zone.

Information on the current distribution and abundance of fish species in Pleasant Grove Creek, and in the BSA in particular, is lacking. Based on a literature review and field investigation of Western Placer County streams, Bailey (2003) described Pleasant Grove Creek as having "numerous diversions, a multitude of beaver dams, and man-made small earthen dams upstream of Highway 65" and concluded that the potential was low for Pleasant Grove Creek to be an anadromous fish stream.

3.1.3.15 Invasive Plant Species

Invasive plant species include species designated as federal noxious weeds by USDA, species listed by CDFA, and invasive plants identified by Cal-IPC. Invasive plants displace native species, change ecosystem processes, alter plant community structure, and lower wildlife habitat quality (National Invasive Species Council 2016:*iii*). Road, highway, and related construction projects are some of the principal dispersal pathways for invasive plants and their propagules. Table 3-1 lists the invasive plant species identified by CDFA and Cal-IPC that are known to occur in the BSA (Natural Resources Conservation Service 2003; California Invasive Plant Council 2017). No plant species designated as federal noxious weeds have been identified in the BSA (Natural Resources Conservation Service 2017). Most of the invasive plant species occur in nonnative annual grassland and along Washington Boulevard and the UPRR track.

Table 3-1. Invasive Plant Species Identified in the Biological Study Area

Species	CDFA	Cal-IPC
tree-of-heaven (*Ailanthus altissima*)		
slender wild oat (*Avena barbata*)	–	Moderate
wild oat (*Avena fatua*)	–	Moderate
black mustard (*Brassica nigra*)	–	Moderate
ripgut brome (*Bromus diandrus*)	–	Moderate
soft chess (*Bromus hordeaceus*)	–	Limited
yellow star-thistle (*Centaurea solstitialis*)	C	High
bull thistle (*Cirsium vulgare*)	C	Moderate
hedgehog dogtail grass (*Cynosurus echinatus*)	–	Moderate
stinkwort (*Dittrichia graveolens*)	–	Moderate, Alert
Medusahead (*Elymus caput-medusae*)	C	High
Italian ryegrass (*Festuca perennis*)	–	Moderate
cutleaf geranium (*Geranium dissectum*)	–	Limited
bristly ox-tongue (*Helminthotheca echioides*)	–	Limited
field mustard (*Hirschfeldia incana*)	–	Moderate
white horehound (*Marrubium vulgare*)	–	Limited
bur-clover (*Medicago polymorpha*)	–	Limited
Himalayan blackberry (*Rubus armeniacus*)	–	High
curly dock (*Rumex crispus*)	–	Limited

Species	CDFA	Cal-IPC
milk thistle (*Silybum marianum*)	–	Limited
rose clover (*Trifolium hirtum*)	–	Moderate

Note: The CDFA and Cal-IPC lists assign ratings that reflect the CDFA and Cal-IPC views of the statewide importance of the pest, likelihood that eradication or control efforts would be successful, and present distribution of the pest in the state. These ratings are guidelines that indicate the most appropriate action to take against a pest under general circumstances.

The **CDFA categories** indicated in the table are defined as follows:

C: State-endorsed holding action and eradication only when found in a nursery; action to retard spread outside nurseries at the discretion of the county agricultural commissioner.

The **Cal-IPC categories** indicated in the table are defined as follows:

High: Species with severe ecological impacts, high rates of dispersal and establishment, and usually widely distributed.

Moderate: Species with substantial and apparent ecological impacts, moderate to high rates of dispersal, establishment dependent on disturbance, and limited to widespread distribution.

Limited: Species with minor ecological impacts, low to moderate rates of invasion, limited distribution, and locally persistent and problematic.

CDFA = California Department of Food and Agriculture

Cal-IPC = California Invasive Plant Council

3.1.4 Regional Special-Status Species

Tables 3-2 and 3-3 list special-status plant and animal species that are known to occur or have the potential to occur in the geographic region. These species were identified based on the CNDDB records search (California Department of Fish and Wildlife 2017), the CNPS *Inventory of Rare and Endangered Plants* (California Native Plant Society 2017), a species list obtained from the USFWS (U.S. Fish and Wildlife Service 2017) (Appendix A), and species distribution and habitat requirements data. CNDDB records within 10 miles of the BSA are shown on Figure 5.

For the purposes of this NES, special-status species are plants and animals that are legally protected under ESA and CESA, or other regulations, and species that are considered sufficiently rare by the scientific community to qualify for such listing. Special-status plants and animals are those species in any of the categories listed below.

- Species listed or proposed for listing as threatened or endangered under FESA (50 CFR17.11 [listed animals], 50 CFR 17.12 [listed plants], and various notices in the Federal Register [FR] [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under ESA (81 FR 87246; December 2, 2016).
- Species listed or proposed for listing by the State of California as threatened or endangered under CESA (14 CCR 670.5).
- Species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines Section 15380).
- Plants listed as rare under the California Native Plant Protection Act (CFGC 1900 et seq.).
- Plants with a California Rare Plant Rank (CRPR) of 1 or 2 (California Department of Fish and Wildlife 2017b).
- Animal species of special concern to CDFW (California Department of Fish and Wildlife 2017c).

- Animals fully protected in California (CFGC Section 3511 [birds], 4700 [mammals], 5050 [amphibians and reptiles], and 5515 [fish]).

3.1.4.1 Special-Status Plant Species

Based on searches of the CNDDB, the CNPS rare plant inventory, and USFWS's website, 13 special-status plant species were identified as occurring in the vicinity of the BSA (Table 3-2). The natural communities in the BSA contain potential habitat for 3 of these 13 species. Of the remaining species, either soil type requirements (i.e., alkaline soils) or suitable habitats are not present in the BSA (i.e., vernal pools, chaparral, cismontane woodland, and coniferous forest). The relatively high level of historical and ongoing disturbance that is present in most of the BSA reduces the quality of potential habitat for special-status plant species.

According to the CNDDB, no special-status species have been recorded in the BSA, although one occurrence of California balsamroot that was last observed in 1958 (EO #9) is recorded 0.5 mile north of the BSA along the UPRR track (California Department of Fish and Wildlife 2017a), and the BSA supports similar habitat to this location. Sanford's arrowhead could occur in streams and wetland streams in the BSA. No special-status plants were observed during 2016 and 2017 surveys.

3.1.4.2 Special-Status Wildlife Species

Based on a review of the CNDDB search results; the USFWS list of endangered, threatened, and proposed species within the project region; and species' distribution and habitat data, 22 special-status wildlife species (not including fish) were determined to have the potential to occur in the project region (Table 3-3, below). After completion of the field surveys, the biologist determined that 14 of the 22 species would not occur in the BSA because the area lacks suitable habitat, is outside the species' known range, or has a low likelihood of occurrence. An explanation for the absence of each of these species from the BSA is provided in Table 3-3 (below). Suitable habitat is present in the BSA for the remaining eight species listed below. These species are discussed in Chapter 4.

- Vernal pool fairy shrimp (*Branchinecta lynchi*)
- Vernal pool tadpole shrimp (*Lepidurus packardi*)
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)
- Western spadefoot (*Spea hammondii*)
- Northern western pond turtle (*Actinemys marmorata*)
- White-tailed kite (*Elanus leucurus*)
- Pallid bat (*Antrozous pallidus*)
- Western red bat (*Lasiurus blossevillii*)

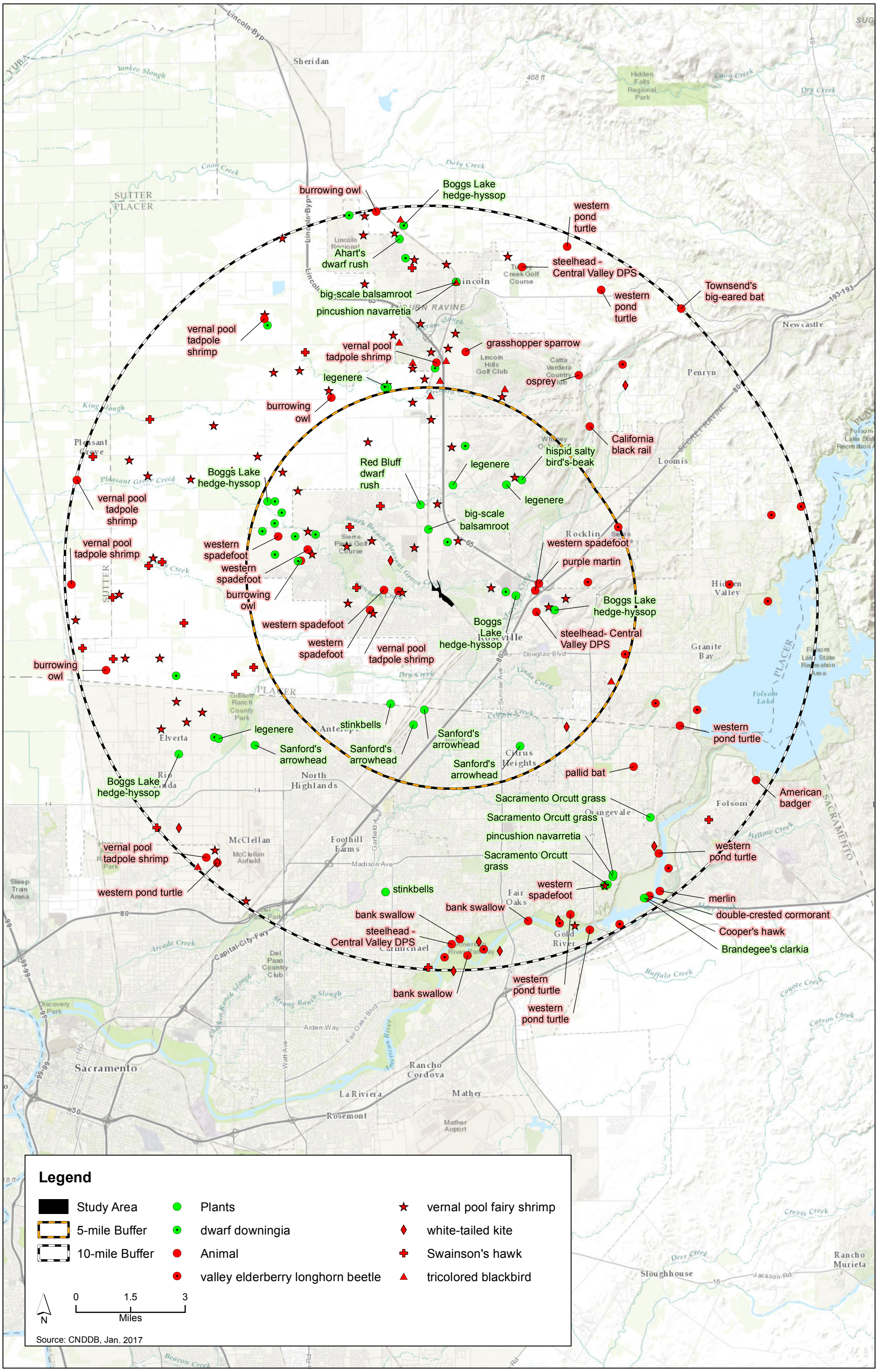

Figure 5
Recorded Occurrences of Special-Status Species in the Project Vicinity

3.1.5 Special-Status Fish Species

Based on the CNDDB search results and the USFWS and NMFS lists of endangered, threatened, and proposed species within the project region, and general information on species' distribution in the Central Valley, three special-status fish species–delta smelt, California Central Valley steelhead, Central Valley spring-run Chinook salmon–were identified as having the potential to occur in the project region (Moyle 2002; California Department of Fish and Wildlife 2017; U.S. Fish and Wildlife Service 2017). However, these species do not occur in the BSA. Delta smelt (*Hypomesus transpacificus*) does not occur in the BSA because the BSA is outside the species' historical and existing range. California Central Valley steelhead and Central Valley spring-run Chinook salmon would not occur in the BSA because the BSA lacks suitable riverine habitat. Additional information for the absence of these species from the BSA is provided in Table 3-3. The SBPGC is not designated critical habitat for CCV steelhead, nor is it considered EFH for Chinook salmon within the BSA.

3.1.6 Other Protected and Managed Biological Resources

3.1.6.1 Migratory Birds and Raptors

Non-special-status migratory birds and raptors have the potential to nest in trees, shrubs, grassland and structures in the BSA. Although these species are not considered special-status wildlife species, their occupied nests and eggs are protected by CFGC Sections 3503 and 3503.5 and the MBTA.

3.1.6.2 Colonies of Roosting Non-Special-Status Bats

Colonies of roosting non-special-status bats have the potential to occur in structures and trees, including snags, throughout the BSA. CDFW requires that substantial roost colonies of non-special-status bats (such as Mexican free-tailed bat [*Tadarida brasiliensis*]) be protected from disturbance, especially during the breeding and hibernation seasons.

3.1.6.3 Protected Trees

The riparian woodland in the BSA contains numerous native oaks (i.e., interior live oaks, blue oaks, and valley oaks) that would qualify for protection under the City's tree ordinance.

Table 3-2. Special-Status Plant Species Identified as Having the Potential to Occur in the Project Region

Common Name *Scientific Name*	Status[a] Federal/State/ CRPR	General Habitat Description	Blooming Period	Habitat Present/ Absent	Rationale
California balsamroot (*Balsamorhiza macrolepis*)	–/–/1B.2	Sometimes on serpentine soils in chaparral, cismontane woodland, valley and foothill grassland; 295–5,101 feet	March–June	Present	No serpentine soils present, but small amount of marginally suitable habitat present. Nearest known occurrence is 0.5 mile north of BSA in the same soil map unit as occurs in the BSA. Not observed during May 2017 survey.
Hispid bird's-beak (*Chloropyron molle* ssp. *hispidum*)	–/–/1B.1	Meadow and seeps, valley and foothill grassland, playa, on alkaline soils; 3–508 feet	June–September	Absent	Microhabitat requirements (i.e., alkaline soils) not present in BSA. Nearest known occurrence is 3.6 miles northeast of BSA.
Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeeae*)	–/–/4.2	Chaparral, cismontane woodland, lower coniferous forest, often on roadcuts; 246–3,001 feet	May–July	Absent	No suitable habitat present. Nearest known occurrence is 8.6 miles southeast of BSA.
Dwarf downingia (*Downingia pusilla*)	–/–/2B.2	Vernal pools and mesic valley and foothill grasslands; below 1,459 feet	March–May	Absent	Nearest known occurrence is an extirpated occurrence 0.9 mile north of BSA.
Stinkbells (*Fritillaria agrestis*)	–/–/4.2	Chaparral, cismontane woodland, pinyon-juniper woodland, valley and foothill grassland, on clay, sometimes serpentinite substrate; 33–5,101 feet	March–June	Present	Small amount of marginally suitable habitat present (minor amount of Alamo series clay soils could be present within two of the soil map units). Nearest known occurrence is a possibly extirpated occurrence 3.1 miles southwest of BSA. Not observed during May 2017 survey.
Boggs Lake hedge-hyssop (*Gratiola heterosepala*)	–/E/1B.2	Clay soils in areas of shallow water, lake margins of swamps and marshes, vernal pool margins; 33–7,791 feet	April–August	Absent	Nearest known occurrences are two extirpated occurrences 1.5 miles east of BSA.
Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*)	–/–/1B.2	Wet areas in valley and foothill grassland, vernal pool margins; 98–751 feet	March–May	Absent	Nearest known occurrence is 9.3 miles north of BSA.

Common Name *Scientific Name*	Status[a] Federal/State/ CRPR	General Habitat Description	Blooming Period	Habitat Present/ Absent	Rationale
Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*)	–/–/1B.1	Seasonally wet areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; 115–4,101 feet	March–May	Absent	Nearest known occurrence is 1.9 miles north of BSA.
Legenere (*Legenere limosa*)	–/–/1B.1	Deep, seasonally wet habitats such as vernal pools, ditches, marsh edges, and river banks; below 2,887 feet	April–June	Absent	Nearest known occurrence is 2.4 miles north of BSA.
Pincushion navarretia (*Navarretia myersii* ssp. *myersii*)	–/–/1B.1	Edges of vernal pools; 66–1,083 feet	April–May	Absent	Nearest known occurrence is 7.1 miles north of the BSA.
Adobe navarretia (*Navarretia nigelliformis* ssp. *nigelliformis*)	–/–/4.2	Clay soils in vernal pools and vernally mesic annual grassland, sometimes serpentine; 330–3,300 feet	April–July	Absent	BSA is below known elevation range of this plant and no serpentine soils occur in the BSA. Nearest known occurrence is more than 10 miles from BSA.
Sacramento Orcutt grass (*Orcuttia viscida*)	E/E/1B.1	Large, deep vernal pools; 98–328 feet	April–July	Absent	Nearest known occurrence is 7.8 miles southeast of BSA.
Sanford's arrowhead (*Sagittaria sanfordii*)	–/–/1B.2	Freshwater marshes, sloughs, canals, and other slow-moving water habitats; below 2,132 feet	May–October	Present	Potential habitat present. Nearest known occurrence is 2.9 miles southwest of BSA. Not observed during May 2017 survey.

Sources: California Department of Fish and Wildlife 2017a; California Native Plant Society 2017.

[a] Status explanations:

Federal

E = Listed as endangered under the federal ESA.
— = No listing status.

State

E = Listed as endangered under CESA.
— = No listing status.

California Rare Plant Rank (CRPR)

1B = rare, threatened, or endangered in California and elsewhere.
2B = rare, threatened, or endangered in California but more common elsewhere.
4 = limited distribution; species on a watch list (note: List 4 may not meet the definition of special status but may warrant consideration on the basis of local significance or recent biological information)
.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).

Table 3-3. Special-Status Animal Species Identified as Having the Potential to Occur in the Project Region

Common Name *Scientific Name*	Legal Status[a] (Federal/State)	General Habitat Description	Habitat Present/ Absent [b]	Rationale
Invertebrates				
Conservancy fairy shrimp *Branchinecta conservatio*	E/--	Disjunct occurrences in Solano, Merced, Tehama, Ventura, Butte, Placer, and Glenn Counties; Central Valley. Large, deep vernal pools in annual grasslands.	Absent	No intact large, deep vernal pools in annual grasslands are present in the BSA. The nearest CNDDB occurrence is more than 10 miles from the BSA. *No effect.*
Vernal pool fairy shrimp *Branchinecta lynchi*	T/--	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County Common in vernal pools and swales; also found in sandstone rock outcrop pools.	Habitat Present	Two artificially-created seasonal pools in the BSA represent suitable habitat and will be affected by construction of the shoofly. A seasonal wetland at the north end of BSA also provides suitable habitat; however, project activities will not occur in this area and no impacts to this feature are anticipated. The closest CNDDB occurrence is 0.5 mile from the BSA. *May affect, likely to adversely affect.*
Vernal pool tadpole shrimp *Lepidurus packardi*	E/--	Shasta County south to Merced County, also found in San Francisco Bay National Wildlife Refuge. Vernal pools, swales, and ephemeral stock ponds containing highly turbid waters; also drainages, reservoirs, ditches, backhoe pits and ruts.	Habitat Present	Two artificially-created seasonal pools in the BSA represent suitable habitat and will be impacted by construction of the shoofly. A seasonal wetland at the north end of BSA also provides suitable habitat; however project activities will not occur in this area and no impacts to this feature are anticipated. The closest CNDDB occurrence is 0.7 mile from the BSA. *May affect, likely to adversely affect.*
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/--	Stream side habitats below 3,000 feet throughout the Central Valley, along American River, Putah Creek, and the Merced River; also found in the San Joaquin Valley. Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant.	Habitat Present	One elderberry shrub (host plant) is present in the BSA and within 15 feet of the project limits. Project activities will avoid impacts to this shrub. The closest CNDDB occurrence is 3.1 miles from the BSA. *May affect, not likely to adversely affect.*

Common Name *Scientific Name*	Legal Status[a] (Federal/State)	General Habitat Description	Habitat Present/ Absent [b]	Rationale
Fish				
Delta smelt *Hypomesus transpacificus*	T/E	Found primarily in the Sacramento–San Joaquin Estuary, but has been found as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River; range extends downstream to San Pablo Bay. Occurs in estuary habitat in the Delta where fresh and brackish water mix in the salinity range of 2–7 parts per thousand (Moyle 2002).	Absent	The BSA is not located within the historical or current distribution of this species, and suitable habitat does not occur in the BSA. The nearest CNDDB occurrence is more than 10 miles from the BSA. *No effect.*
Central Valley steelhead *Oncorhynchus mykiss*	T/–	Sacramento River and tributary Central Valley rivers downstream of physical barriers, including dams. Resident, non-listed forms (rainbow trout) occur upstream and downstream of physical barriers. Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 8–18°C (Moyle 2002). Habitat types are riffles, runs, and pools.	Absent	South Branch Pleasant Grove Creek in the BSA does not provide suitable riverine habitat. This species is not expected to be present in the BSA because of excessively warm water temperatures and low or no flow. The closest CNDDB occurrence is 1.1 miles from the BSA in Dry Creek and its tributaries in Secret and Miners Ravine. *No effect.*
Amphibians				
California red-legged frog *Rana draytonii*	T/SSC	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County. Occur in permanent and semipermanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods.	Habitat Present	Suitable perennial aquatic habitat is present within the BSA, however, the species is believed by USFWS to be extirpated from the floor of the Central Valley (USFWS 2002) and the BSA would be considered part of the Sacramento Valley. The nearest CNDDB occurrence is more than 35 miles from the BSA. This species is not expected to be present within the BSA. *No effect*.

Common Name *Scientific Name*	Legal Status[a] (Federal/State)	General Habitat Description	Habitat Present/ Absent [b]	Rationale
Western spadefoot *Spea hammondii*	--/SSC	Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in southern California; west of Sierran-desert range axis. Shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands, also temporary rainpools.	Habitat Present	Suitable aquatic habitat (artificially-created seasonal pools) and upland habitat are present within the BSA. Stream habitat is not expected to provide suitable breeding habitat because it is likely to be subject to pulse flows and scour, which would not provide conditions suitable for developing eggs and larvae. The closest CNDDB occurrence is 0.9 mile from the BSA.
Reptiles				
Giant garter snake *Thamnophis gigas*	T/T	Central Valley from the vicinity of Burrel in Fresno County north to near Chico in Butte County; has been extirpated from areas south of Fresno; found at elevations from near sea level to 400 feet. Sloughs, canals, low gradient streams and freshwater marsh habitats where there is a prey base of small fish and amphibians; also found in irrigation ditches and rice fields; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter.	Absent	Stream habitat within the BSA does not provide suitable habitat for giant garter snake because summer flows rely on irrigation runoff and do not provide consistent deep water areas required for foraging and refuge. No giant garter snakes have been reported from Placer County and the closest known occurrence is approximately 10 miles west of the BSA in rice field habitat along Steelhead Creek. No rice field habitat is present within or near the BSA. *No effect.*
Northern western pond turtle *Actinemys marmorata*	–/SSC	Occurs throughout California west of the Sierra-Cascade crest. Found from sea level to 6,000 feet. Does not occur in desert regions except for along the Mojave River and its tributaries. Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests.	Habitat Present	Suitable aquatic and upland habitat is present within and along South Branch Pleasant Grove Creek and its tributaries in the BSA. Species may be present in the BSA. The closest CNDDB occurrence is 6.9 miles from the BSA.

Common Name *Scientific Name*	Legal Status[a] (Federal/State)	General Habitat Description	Habitat Present/ Absent [b]	Rationale
Birds				
Swainson's hawk *Buteo swainsoni*	--/T	Requires large, open grasslands with suitable nest trees; nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, lightly grazed pastures/crops, irrigated pastures, and grain fields Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County.	Habitat Present	Nesting habitat and limited foraging habitat are present in the BSA. However, because habitat in the BSA is surrounded by residential areas, and subject to disturbance from human activity and by proximity to the railroad, this species is not expected to nest in the BSA. The closest CNDDB occurrence is 1.9 miles from the BSA.
Black rail *Laterallus jamaicensis*	–/T, FP	Permanent resident in the San Francisco Bay and eastward through the Delta into Sacramento and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties. Tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations.	Absent	Wetland vegetation in the BSA does not provide suitable nesting substrate for the species. Because the project is surrounded by developed areas, subject to disturbance from human activity and because domestic animals are present, this species is not expected to occur in the BSA. The closest CNDDB occurrence is 5.8 miles from the BSA.
Western burrowing owl *Athene cunicularia*	--/SSC	Lowlands throughout south, central, and east California, including the Central Valley, northeastern plateau, southeastern deserts, and some coastal areas. Rare along the south coast. Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows; also found in coastal terrace prairies and sagebrush habitats.	Habitat Present	Limited foraging habitat is present within the BSA; because the project is surrounded by developed areas, subject to disturbance from human activity and because domestic animals are present, this species is not expected to occur in the BSA. No suitable burrows were detected in the BSA during the winter 2016 and 2017 field surveys. The closest CNDDB occurrence is 3.3 miles from the BSA.
White-tailed kite *Elanus leucurus*	--/FP	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border. Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands or cropland for foraging.	Habitat Present	Nesting habitat and limited foraging habitat are present in the BSA. The closest CNDDB occurrence is1 mile from the BSA. Because habitat in the BSA is surrounded by developed areas, and subject to disturbance from human activity and by proximity to the railroad, this species may forage or migrate through but is not expected to nest in the BSA.

Common Name *Scientific Name*	Legal Status[a] (Federal/State)	General Habitat Description	Habitat Present/ Absent [b]	Rationale
Purple martin *Progne subis*	--/SSC	Coastal mountains of Humboldt County south to San Luis Obispo County, west slope of the Sierra Nevada, and northern Sierra and Cascade ranges. Absent from the Central Valley except in Sacramento. Isolated, local populations in southern California Nests in abandoned woodpecker holes in oaks, cottonwoods, and other deciduous trees in a variety of wooded and riparian habitats. Also nests in vertical drainage holes under elevated freeways and highway bridges or lapsed lava tubes; distributed in (redwood) forest and woodland areas at low to intermediate elevations.	Habitat Present	Purple martins have been documented to nest in the drain holes within the SR 65 overcrossing at Taylor Road approximately 2.3 miles to the east of the BSA. Weep holes in the Pleasant Grove overcrossing provide suitable nesting habitat, however nesting purple martins have not been detected in Roseville since 2012 (Airola & Kopp 2012 and 2015). This species is not expected to occur in the BSA.
Bank swallow *Riparia riparia*	–/T	Occurs along the Sacramento River from Tehama County to Sacramento County, along the Feather and lower American Rivers, in the Owens Valley; and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou Counties. Small populations near the coast from San Francisco County to Monterey County. Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam, along streams, coastal bluffs, and sand/gravel pits.	Absent	No suitable banks or bluff habitats are present for nesting in the BSA. The closest CNDDB occurrence is 8.8 miles from the BSA.
Tricolored blackbird *Agelaius tricolor*	–/C	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties. Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony.	Absent	The wetland vegetation in the BSA is not contiguous enough to support nesting because the species typically forms large colonies. The closest CNDDB occurrence is 4.7 miles from the BSA.

Common Name *Scientific Name*	Legal Status[a] (Federal/State)	General Habitat Description	Habitat Present/ Absent [b]	Rationale
Modesto song sparrow *Melospiza melodia*	--/SSC	Found in the north-central portion of the Central Valley, from Butte Sink, Perkins and Eddy Lakes and Little Butte Creek in Butte County, Colusa and Delevan NWR, along the Sacramento River in Colusa and Sutter Counties, west of Tisdale in Sutter County, northern San Joaquin Valley in the Delta, and sparsely along the Mokelumne River riparian corridor. Breeds in emergent freshwater wetlands (tules and cattails) and early successional riparian thickets (willows). May also use sparsely vegetated irrigation canals and levees, and valley oak riparian forests with blackberry understory for breeding. Can be found singing or foraging along roadside irrigation ditches. Requires moderately dense vegetation for nest site cover, semi-open canopies, and open ground or leaf litter for foraging.	Habitat present	Limited suitable foraging and nesting habitat (seasonal wetland) is present in the BSA. The nearest CNDDB occurrence is more than 10 miles from the BSA.
Grasshopper sparrow *Ammodramus savannarum*	--/SSC	Sierra foothills, Central Valley floor, Coast Ranges, and coastal areas from Mendocino County south to San Diego County and across to Riverside County; range also extends from Humboldt and Del Norte Counties into the Shasta Valley, Siskiyou County. Dry grasslands with scattered shrubs for song perches; found in humid north coast, prairies/pastures scattered in largely forested landscape, and on hillsides and mesas along the south coast.	Habitat Present	Suitable nesting habitat (grassland) is present in the BSA. The closest CNDDB occurrence is 6.0 miles from the BSA.
Western yellow-billed cuckoo *Coccyzus americanus*	T/E/–	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers. Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley-oak riparian habitats where scrub jays are abundant.	Absent	No suitable habitat (dense riverine riparian) is present in the BSA. The nearest CNDDB occurrence is more than 10 miles from the BSA. *No effect.*

Common Name *Scientific Name*	Legal Status[a] (Federal/State)	General Habitat Description	Habitat Present/ Absent [b]	Rationale
Mammals				
Pallid bat *Antrozous pallidus*	–/SSC	Occurs throughout California except the high Sierra from Shasta to Kern County and the northwest coast, primarily at lower and mid elevations. Occurs in a variety of habitats from desert to coniferous forest. Most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland, and desert scrub in southern California. Relies heavily on trees for roosts but also uses caves, mines, bridges, and buildings.	Habitat Present	Numerous mature trees that provide suitable roosting habitat are present in the BSA. The closest CNDDB occurrence is 6.0 miles from the BSA.
Townsend's big-eared bat *Corynorhinus townsendii*	–/SSC	Widespread throughout California, from low desert to mid-elevation montane habitats. Roosts in caves, tunnels, mines, buildings, and other cave-like spaces. Will night roost in more open settings, including under bridges.	Absent	The pedestrian tunnel under the railroad does not provide suitable day roost habitat, and no other suitable day roost habitat was detected in the BSA during the winter 2016 survey. The pedestrian bridge over South Branch Pleasant Grove Creek, bike path/tunnel under the railroad, and the Pleasant Grove Blvd overcrossing may provide suitable night roost habitat, however no signs of bat occupancy were detected during the winter 2016 surveys. This species is not expected to occur in the BSA because suitable day roosting habitat is absent. The closest CNDDB occurrence is 10 miles from the BSA.
Western red bat *Lasiurus blossevillii*	–/SSC	Occurs throughout much of California at lower elevations. Found primarily in riparian and wooded habitats. Occurs at least seasonally in urban areas. Day roosts in trees within the foliage. Found in fruit orchards and sycamore riparian habitats in the Central Valley.	Habitat Present	Numerous large mature oak trees providing dense foliage for roosting are present in the BSA. This species may be present in the BSA. The nearest CNDDB occurrence is more than 10 miles from the BSA.

Common Name *Scientific Name*	Legal Status[a] (Federal/State)	General Habitat Description	Habitat Present/ Absent [b]	Rationale
American badger *Taxidea taxus*	--/SSC	Throughout California, except for the humid coastal forests of northwestern California in Del Norte and the northwestern Humboldt Counties Occurs in a wide variety of open, arid habitats but are most commonly associated with grasslands, savannas, and mountain meadows near timberline; they require sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground.	Absent	Grassland habitat in the BSA is not sufficiently large or open to support this species. The closest CNDDB occurrence is 9.6 miles from the BSA.

Sources: California Department of Fish and Wildlife 2017; Central Valley Bird Club Bulletin 2011

[a] Status explanations:

Federal

E = listed as endangered under the federal ESA.
T = listed as threatened under the federal ESA.
– = no listing.

State

E = listed as endangered under CESA.
T = listed as threatened under CESA.
CT = candidate for listing as threatened under CESA.
FP = fully protected under CFGC.
SSC = species of special concern in California.
– = no listing.

[b] Habitat designations:

Absent = no habitat present and no further work needed.
Habitat Present = habitat is, or may be present. The species may be present.

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

The impact analysis for biological resources was conducted by evaluating the potential changes to existing biological communities based on the anticipated project construction activities listed below that could cause direct and indirect impacts of varying degrees on sensitive biological resources present in the BSA:

- Vegetation removal.
- Grading, excavating, compacting, and fill placement during construction.
- In-water work during construction of box culverts (new and temporary culverts, extensions, and replacements) at existing stream crossings.
- Temporary dewatering of streams during construction.
- Temporary stockpiling and side-casting of soil, construction materials, or other construction wastes.
- Introduction or spread of invasive plant species into adjacent natural habitats.
- Runoff of herbicides, fertilizers, diesel fuel, gasoline, oil, raw concrete, or other toxic materials used for project construction and maintenance into sensitive biological resource areas (e.g., wetlands and streams).

The following assumptions were used in assessing the magnitude of possible impacts on biological resources:

- The two build alternatives (Alternatives 1 and 2) have the same permanent and temporary impact footprint; therefore, impacts on biological resources are assumed to be the same for both build alternatives (as shown in Figure 6).
- Protected native trees that would be removed as part of the proposed project occur within riparian woodlands and impacts are included within the riparian woodland and scrub discussions.
- Impacts on land cover types and associated wildlife habitat were determined by overlaying preliminary footprints for permanent project features and temporary work areas (e.g., access roads, equipment staging) on to an aerial photograph base map with mapped habitats (Figure 6). Impact acreages presented in this chapter are intended to provide worst-case scenarios; actual impacts are expected to be less based on avoidance of trees and other vegetation within temporary work areas.
- Activities to construct the shoofly track, including fill placement and grading to construct and maintain a temporary access road for construction vehicles (except where temporary staging areas are already proposed for location within open space preserve), would occur within the existing UPRR right-of-way.

- Loss of annual grassland vegetation in the BSA is not considered a significant impact from a botanical standpoint because this habitat is common and is not considered a sensitive natural community. Annual grassland vegetation also reestablishes more easily after disturbance than riparian or wetland communities. However, the loss of annual grassland habitat could result in impacts on special-status wildlife species habitat, and these habitat impacts are discussed in this analysis.
- Construction BMPs will be implemented to ensure that indirect effects on habitats within the designated Open Space areas are avoided or minimized.
- The proposed project would not result in impacts on special-status plants or fish because none occur in the BSA. Therefore, a discussion on these species is not included in this chapter.

4.1 Natural Communities of Special Concern

Natural communities of special concern within the BSA are primarily restricted to stream corridors and open space within a mostly developed and urban setting. Land cover types mapped within the BSA that would qualify as natural communities of special concern include seasonal wetland, wetland stream, riparian woodland, and riparian scrub. For the purposes of this NES, communities that are considered wetlands (seasonal wetland and wetland stream) and non-wetland waters (stream and ditch) in the BSA is presented together under Section 4.1.1. Although stream and ditch features are not typically considered natural communities of special concern, they are discussed in this section because they are subject to federal (CWA) and state (Porter-Cologne Act and California Fish and Game Code Section 1602) regulations.

4.1.1 Waters of the United States/Waters of the State

4.1.1.1 Survey Results

Wetlands and non-wetland waters occur throughout the BSA. Descriptions and acreages of each wetland and non-wetland waters type are provided in Chapter 3. Appendix D contains the aquatic resources delineation map that shows the locations and acreages of waters of the United States within the BSA as well as a tabulation of impacts by wetland (found in Table D-1 in Appendix D). Waters of the United States that were delineated in the BSA are also considered waters of the State.

4.1.1.2 Project Impacts

Construction of the proposed project would result in direct temporary and permanent impacts on waters of the United States, including seasonal wetland, wetland stream, and non-wetland stream (Table 4-1). Impacts were considered to be permanent if they would result in the placement of permanent fill in these wetland and non-wetland waters. Impacts were considered to be temporary if fill would be removed following completion of construction and temporarily disturbed portions of wetlands and non-wetland waters would be restored.

Indirect impacts on water quality, such as increased turbidity and chemical runoff, may also result from project construction within the downstream portions of streams that are outside the project footprint. The extents of potential indirect impacts on water quality are based on conditions of the habitat and water flows at the time of the discharge and therefore were not quantified for this analysis.

Table 4-1. Impacts on Waters of the United States/Waters of the State

Wetland Type	Temporary (acres)	Permanent (acres)
Seasonal Wetland	0.00	0.02
Wetland Stream	0.01	0.04
Stream (Other Waters)	0.17	0.06
Total	**0.18**	**0.12**

4.1.1.3 Avoidance and Minimization Efforts

Implementation of the following measures will ensure that the proposed project minimizes effects on waters of the United States within and adjacent to the construction area. Additional avoidance and minimization measures may be identified during the project permitting process.

Measure 1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources

Prior to construction, the City's contractor will install high-visibility orange construction fencing and/or flagging, as appropriate, along the perimeter of the work area adjacent to Environmentally Sensitive Areas (ESAs) (e.g., riparian vegetation, wetlands, streams, special-status species habitat, elderberry shrub, and active bird nests). The City will ensure that the final construction plans show the locations where fencing will be installed. The plans also will define the fencing installation procedure. The City or contractor (at the discretion of the City) will ensure that the fencing is maintained throughout the duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities will cease until the fencing is repaired or replaced. The project's special provisions package will provide clear language regarding acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs. All temporary fencing will be removed upon completion of construction.

Measure 2: Conduct Environmental Awareness Training for Construction Personnel

Before any work occurs within the project limits, including equipment staging, grading, and tree and/or vegetation removal (clear and grub), the City will retain a qualified biologist (familiar with the resources in the area) to conduct a mandatory contractor/worker environmental awareness training for construction personnel. The awareness training will be provided to all construction personnel (contractors and subcontractors) prior to beginning construction to brief them on the need to avoid effects

on sensitive biological resources adjacent to construction areas and the penalties for not complying with applicable state and federal laws and permit requirements. The biologist will inform all construction personnel about the life history and habitat requirements of special-status species with potential for occurrence onsite, the importance of maintaining habitat, and the terms and conditions of the Biological Opinion or other authorizing document (e.g. letter of concurrence). The environmental training will also cover general restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on sensitive biological resources during project construction.

Measure 3: Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats

The City will retain a qualified biologist to conduct periodic site visits during construction activities that involve ground disturbance (e.g., vegetation removal, grading, excavation, shoofly track construction) within or adjacent to ESAs. The timing and frequency of this monitoring will be determined through coordination with the City or as determined by the project permits. The purpose of the monitoring is to ensure that measures identified in this report are properly implemented to avoid and minimize effects on sensitive biological resources and to ensure that the project complies with all applicable permit requirements and agency conditions of approval. The biologist will ensure that fencing around ESAs remains in place during construction and that no construction personnel, equipment, or runoff/sediment from the construction area enters ESAs.

Measure 4: Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Non-Wetland Waters

The City will comply with all construction site BMPs specified in the Storm Water Pollution Prevention Plan, and any other permit conditions to minimize the introduction of construction-related contaminants and mobilization of sediment in wetlands and non-wetland waters in and adjacent to the project area. These BMPs will address soil stabilization, sediment control, wind erosion control, vehicle tracking control, non-stormwater management, and waste management practices. The BMPs will be based on the best conventional and best available technology.

The City will obtain a Section 401 Water Quality Certification from the Central Valley RWQCB and a Lake or Streambed Alteration Agreement from CDFW, which will contain BMPs and water quality measures to ensure the protection of water quality. These permit condition and /BMPs will be implemented as part of the project.

Measure 5: Avoid and Minimize Disturbance of Waters of the United States/Waters of the State

To the extent possible, the City will avoid and minimize impacts on waters of the United States and waters of the State by implementing the following measures. These measures will be incorporated into contract specifications and implemented by the construction contractor.

- Construction activities will be avoided in saturated or ponded natural wetlands and drainages during the wet season (spring and winter) to the maximum extent possible.
- Streams/drainages will be stabilized immediately upon completion of construction activities. Other waters of the United States will be restored in a manner that encourages vegetation to re-establish to its pre-project condition and reduces the effects of erosion on the drainage system.
- Any trees, shrubs, debris, or soils that are inadvertently deposited below the OHWM of streams/drainages will be removed in a manner that minimizes disturbance of the bed and bank.
- All activities will be completed promptly to minimize their duration and resultant impacts.

4.1.1.4 Compensatory Mitigation

Measure 6: Compensate for the Permanent Loss of Waters of the United States/Waters of the State

To compensate for permanent loss of 0.12 acre of waters of the United States and waters of the State, the City will purchase credits at an approved mitigation bank to ensure no net loss of wetland functions and values. Mitigation banks with service areas for Placer County that sell credits that satisfy USACE wetland and USFWS requirements include Sacramento River Ranch Mitigation Bank, Locust Road Mitigation Bank, and Toad Hill Ranch Mitigation Bank. The wetland compensation ratio will be a minimum of 1:1 (1 acre of wetland habitat credit for every 1 acre of impact) to ensure no net loss of wetland habitat functions and values.

The City will also implement the conditions and requirements of state and federal permits that will be obtained for the proposed project.

4.1.1.5 Cumulative Impacts

Cumulative impacts on waters of the United States would result from construction of other general development projects in Placer County. Construction of the proposed project would add to the cumulative loss of waters of the United States. However, with implementation of the measures prescribed for avoiding or minimizing impacts and compensating for the remaining impacts, the proposed project's incremental contribution to cumulative impacts on waters of the United States is not cumulatively considerable.

4.1.2 Riparian Communities

4.1.2.1 Survey Results

Approximately 7.82 acres of riparian communities occur in the BSA, including 5.56 acres of riparian woodland and 2.26 acres of riparian scrub. These streamside communities occur above the creek OHWM and is therefore not considered a waters of the United States.

Riparian communities are considered sensitive locally, regionally, and statewide because of their habitat value and declining distribution. The CDFW has adopted a no-net-loss policy for riparian habitat values, and the LSAA will include mitigation requirements for loss of riparian vegetation. U.S. Fish and Wildlife Service mitigation policy identifies California's riparian habitats in Resource Category 2, for which no net loss of existing habitat value is recommended (46 FR 7644). Additionally, riparian woodland contains native oak trees that are subject to the City's tree preservation ordinance.

4.1.2.2 Project Impacts

Construction of the proposed project would result in the removal of 1.77 acres of riparian communities (1.44 acres of riparian woodland and 0.33 acre of riparian scrub). This acreage is an estimate based on the 30% engineering drawings and may be more refined as part of the 65% drawings. The removal of riparian communities is primarily associated with the installation of the temporary shoofly and to a lesser extent widening of Washington Boulevard (as shown in Figure 6). For the purposes of this analysis, all riparian woodland disturbance and tree removal within the shoofly work area are considered permanent impacts because of the time required for habitat regeneration.

State and federal agencies will require avoidance, minimization, and compensatory mitigation for the loss of riparian habitat. The loss or disturbance of riparian vegetation would be adverse because this vegetation provides a variety of important ecological functions and values.

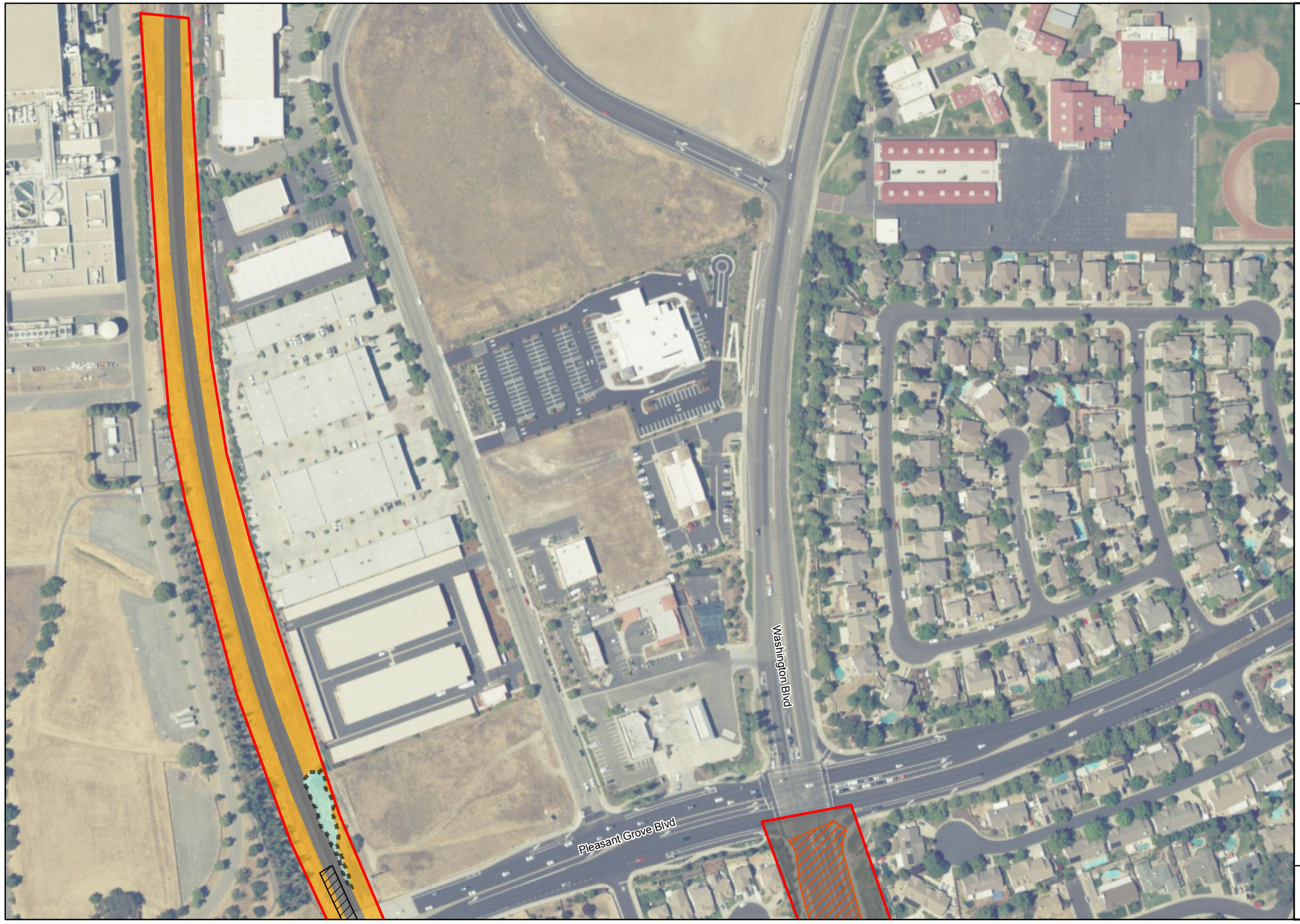
Implementation of the avoidance and minimization efforts described below would minimize the impacts on riparian communities. Additional mitigation is proposed to compensate for the permanent loss of riparian communities.

4.1.2.3 Avoidance and Minimization Efforts

Implementation of the following measures will ensure that the proposed project minimizes effects on riparian communities within and adjacent to the construction area. Additional avoidance and minimization measures may be identified by CDFW as part of the LSAA process.

Measure 1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources

Please refer to the discussion of Measure 1 above.



City of Roseville
Washington Blvd/ Andora Bridge Improvement
November 2017
Sheet 1 of 3

Legend

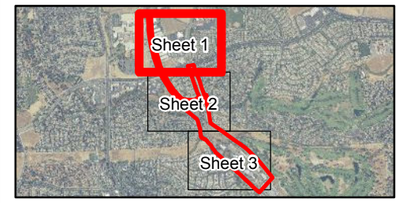
- Biological Study Area
- Permanent Impact
- Temporary Impact

Land Cover Types

- Artificial Created Seasonal Pool
- Developed
- Disturbed/Graded
- Ditch
- Nonnative Annual Grassland
- Riparian Scrub
- Riparian Woodland
- Seasonal Wetland
- Stream
- Wetland Stream

Special-Status Wildlife Habitat

- Elderberry Shrub (VELB Habitat)
- Vernal Pool Branchiopod Habitat



1 inch = 200 feet

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Feet

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Notes:

Base Map Source:
Imagery Source: NAIP 2016

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Figure 6
Impacts to Biological Resources

City of Roseville
Washington Blvd/ Andora Bridge Improvement
November 2017
Sheet 2 of 3

Legend

- Biological Study Area
- Permanent Impact
- Temporary Impact

Land Cover Types

- Artificial Created Seasonal Pool
- Developed
- Disturbed/Graded
- Ditch
- Nonnative Annual Grassland
- Riparian Scrub
- Riparian Woodland
- Seasonal Wetland
- Stream
- Wetland Stream

Special-Status Wildlife Habitat

- Elderberry Shrub (VELB Habitat)
- Vernal Pool Branchiopod Habitat

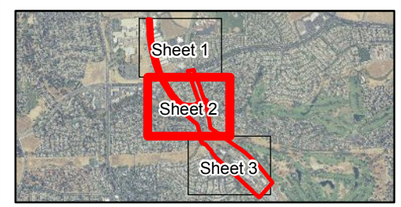

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Figure 6
Impacts to Biological Resources

City of Roseville
Washington Blvd/ Andora Bridge Improvement
November 2017
Sheet 3 of 3

Legend

- Biological Study Area
- Permanent Impact
- Temporary Impact

Land Cover Types

- Artificial Created Seasonal Pool
- Developed
- Disturbed/Graded
- Ditch
- Nonnative Annual Grassland
- Riparian Scrub
- Riparian Woodland
- Seasonal Wetland
- Stream
- Wetland Stream

Special-Status Wildlife Habitat

- Elderberry Shrub (VELB Habitat)
- Vernal Pool Branchiopod Habitat

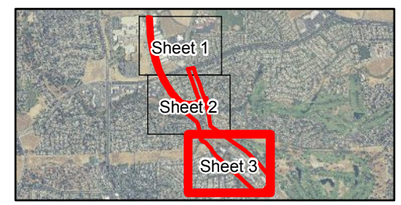

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Figure 6
Impacts to Biological Resources

Measure 2: Conduct Environmental Awareness Training for Construction Personnel

Please refer to the discussion of Measure 2 above.

Measure 3: Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats

Please refer to the discussion of Measure 3 above.

4.1.2.4 Compensatory Mitigation

Measure 7: Compensate for the Loss of Riparian Communities

To compensate for the loss of 1.77 acres of riparian communities, the City will purchase credits at an approved mitigation bank to ensure no net loss of riparian habitat functions and values. The City will purchase credits at a 3:1 ratio which would require purchasing 5.31 acres of riparian habitat credits from an approved mitigation bank. This acreage will be confirmed during the review of future engineering drawings and may be modified during the permitting process (if actual increase or decrease). The City will provide written evidence to the resource agencies that compensation has been established through the purchase of mitigation credits. The amount to be paid will be the fee that is in effect at the time the fee is paid. The City will also implement any compensatory mitigation identified in the CDFW Lake or Streambed Alteration Agreement.

4.1.2.5 Cumulative Impacts

Cumulative impacts on riparian communities would result from construction of other general development projects in Placer County. Construction of the proposed project would add to the cumulative loss of riparian communities. However, with implementation of the measures prescribed for avoiding or minimizing impacts and compensating for the remaining impacts, the proposed project's incremental contribution to cumulative impacts on riparian communities is not cumulatively considerable.

4.2 Special-Status Animal Species

As described in Chapter 2, special-status animal species with the potential to occur in the BSA were identified after a review of existing information, coordinating with local species experts, and conducting biological field surveys. Table 3-3 lists all special-status animal species that were identified during the prefield investigation as potentially occurring in the project region. After the 2016 and 2017 field surveys were conducted, the ICF biologist determined that 14 of the 22 wildlife species listed in Table 3-3 would not occur within the BSA on the basis of a lack of suitable habitat, a geographic range that did not overlap with the BSA, or a low likelihood of occurrence. The remaining eight special-status wildlife species that were identified as potentially occurring in the BSA or may be affected by construction activities are discussed below.

4.2.1 Vernal Pool Fairy Shrimp

Vernal pool fairy shrimp is a federally listed threatened species. The species is found from Shasta County in the north throughout the Central Valley, and west to the central Coast Ranges, at elevations of 30 to 4,000 feet. Additional populations have been reported from the Agate Desert region near Medford, Oregon, and disjunct populations occur in San Luis Obispo, Santa Barbara, and Riverside Counties. However, most known locations are in the Sacramento and San Joaquin Valleys and along the eastern margin of the central Coast Ranges (Eng et al. 1990:255–258).

Vernal pool fairy shrimp inhabit vernal pools that form in depressions, usually in grassland habitats (Eng et al. 1990:255–258). Pools must remain inundated long enough for the species to complete its life cycle. Vernal pool fairy shrimp has the shortest time to reach sexual maturity, with a minimum of 18 days (Helm 1998:132). Vernal pool fairy shrimp also occur in other wetlands that provide habitat similar to vernal pools, such as alkaline rain pools, ephemeral drainages, rock outcrop pools, ditches, stream oxbows, stock ponds, vernal swales, and some seasonal wetlands (Helm 1998:137). Occupied wetlands range in size from as small as several square feet to more than 10 acres. Vernal pool fairy shrimp and other fairy shrimp have been observed in artificial depressions and drainages where water ponds for a sufficient duration (Helm 1998:134–138). Examples of such areas include roadside ditches and ruts left behind by off-road vehicles or heavy equipment. Soil compaction from construction activity can sometimes create an artificial hardpan, or restrictive layer, which allows water to pond and form suitable habitat for vernal pool fairy shrimp.

The proposed project is within the current range of vernal pool fairy shrimp. Based on the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (U.S. Fish and Wildlife Service 2005), the BSA lies within the Western Placer County core area within the Southeastern Sacramento Valley vernal pool region but does not overlap with designated critical habitat for vernal pool fairy shrimp (70 FR 46924 and 71 FR 7117).

4.2.1.1 Survey Results

No protocol surveys for vernal pool fairy shrimp were conducted for the proposed project; however, ICF biologists completed a habitat assessment and conducted a follow-up site visit with local biologist and expert entomologist Pete Balfour from ECORPS Consulting to confirm the ICF habitat assessment determinations. Standing water was commonly observed during the November 2016 to March 2017 field surveys because of substantial rains during the 2016–2017 wet season. The timing of the surveys typically coincided with dry periods after storm events. Aquatic features assessed to be suitable for vernal pool fairy shrimp were generally observed with hydrophytic indicators and ephemeral invertebrates present, and without evidence of flow. Several other features were observed with repeated inundation during surveys; however, most of these features serve as stormwater conveyance (i.e., ditches) and were deemed unsuitable because of high flows and scour during rain events.

Eight features were assessed as habitat for vernal pool fairy shrimp inside the BSA. Two artificially-created seasonal pools and one seasonal wetland along the UPRR track are considered suitable habitat for fairy shrimp within the BSA (depicted on Figure 4: Sheets 1 through 3).

These ephemeral features occupy low points in the landscape and their principal water sources are direct precipitation and stormwater runoff from the surrounding uplands or developed areas. Based on a review of historical aerial imagery, features identified as suitable habitat for vernal pool fairy shrimp may not reliably inundate from year to year under drought conditions of recent years. But in years of normal and above normal winter rainfall, they hold water for sufficient duration (i.e., at least 3 weeks) to allow vernal pool fairy shrimp to reproduce. The northernmost artificially-created seasonal pool was occupied by the non-listed branchiopod California linderiella (*Linderiella occidentalis*) at the time of the February 1, 2017, field survey.

Five additional seasonal wetlands in the BSA do not provide suitable habitat for vernal pool fairy shrimp because they are densely vegetated features along stream habitats (see Photo 9 in Appendix B) or they collect stormwater runoff that drains to culverts. Several shallow pools are present within City Open Space General Fund lands that are outside the BSA but within 250 feet of the project footprint (depicted in Photo 5 in Appendix B). These pools are within an area that is topographically higher than proposed project activities and will not be affected by the proposed project. Three occurrences of vernal pool fairy shrimp have been recorded within 1 mile of the BSA and 20 occurrences have been recorded between 1 and 5 miles of the BSA. (California Department of Fish and Wildlife 2017a).

4.2.1.2 Project Impacts

Based on the known presence of vernal pool fairy shrimp in the project vicinity (1 mile of the BSA), it was determined that vernal pool fairy shrimp may occur in suitable habitat (artificially-created seasonal pools and one seasonal wetland) within the BSA. For the purpose of this impact analysis, habitat in the BSA that supports suitable habitat characteristics are presumed to be occupied by vernal pool fairy shrimp. Two artificially-created seasonal pools that provide suitable habitat for vernal pool fairy shrimp would be directly affected (filled) during construction of the temporary shoofly.

As indicated above, several seasonal wetlands west of the BSA (in City open space) and one seasonal wetland within the BSA (along the UPRR track) could provide suitable habitat for vernal pool fairy shrimp. Construction of the proposed UPRR temporary shoofly track would require ground disturbance and grade modifications within the right-of-way that would occur within 200 feet of these habitat features. The seasonal wetlands in the open space are topographically higher than the low-lying UPRR track where the temporary shoofly will be installed. Potential indirect effects on these seasonal wetlands would be avoided by restricting construction access to the ROW. The seasonal wetland that provides suitable habitat in the BSA (along the east side of the railroad tracks; Figure 4, Sheet 1) is separated from project activities by the existing railroad and is not hydrologically connected to the area where the proposed shoofly track would be constructed; therefore, indirect affects to this habitat would be avoided.

Ground disturbance (excavating and grading) would be limited to the minimum necessary to complete installation of the temporary shoofly track within the UPRR ROW. Construction to key in placed fill material would occur horizontally against the existing railroad berm; excavation below initial construction grade elevation would occur only if unsuitable material (i.e., material that is too high in moisture or organic content) was encountered. Therefore, impacts to the surrounding topography and underlying catchment of vernal pool basins in proximity to the

artificially-created UPPR ROW seasonal pool and outside the action area are assumed to be negligible.

Habitat modification as a result of the proposed project would result in the loss of 0.08 acre of suitable vernal pool fairy shrimp habitat, which is considered an adverse effect on the species. Therefore, the effects determination for the proposed project is *may affect, and is likely to adversely affect* vernal pool fairy shrimp. As of this writing, a biological assessment is in preparation to support FESA Section 7 consultation between Caltrans and USFWS for project effects on vernal pool fairy shrimp.

4.2.1.3 Avoidance and Minimization Efforts

Implementation of the following measures will avoid or minimize indirect impacts on vernal pool fairy shrimp habitat that is located outside the limits of project disturbance. Additional conservation measures or conditions of approval may be required as part of FESA incidental take authorization.

Measure 1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources

Please refer to the discussion of Measure 1 above.

Measure 2: Conduct Environmental Awareness Training for Construction Personnel

Please refer to the discussion of Measure 2 above.

Measure 3: Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats

Please refer to the discussion of Measure 3 above.

Measure 4: Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Non-Wetland Waters

Please refer to the discussion of Measure 4 above.

4.2.1.4 Compensatory Mitigation

Implementation of the following measure will compensate for direct impacts on vernal pool fairy shrimp habitat within the limits of disturbance.

Measure 8: Compensate for Direct Impacts on Vernal Pool Branchiopod Habitat

The City will compensate for direct impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp (vernal pool branchiopod) habitat by purchasing the appropriate habitat credits at a USFWS-approved mitigation or conservation bank. The habitat impacts will be mitigated at a 2:1 ratio (2 acres preserved for every 1 acre affected). Mitigation and

conservation banks in Placer County that sell vernal pool branchiopod credits are Locust Road Mitigation Bank, Toad Hill Ranch Mitigation Bank, and Western Placer Schools Conservation Bank.

Based on the current project design, the City will purchase 0.16 acre of mitigation credits to compensate for direct impacts to 0.08 acre of vernal pool branchiopod habitat. The mitigation ratio and associated acreage may be modified based on the Biological Opinion which will dictate the ultimate compensation for this federally listed species.

4.2.1.5 Cumulative Impacts

Other non-federal projects that are likely to affect vernal pool fairy shrimp habitat within the greater Placer County region include private development and transportation projects (e.g., State Route 65 widening and Placer Parkway Phase I projects). The proposed project's incremental loss or disturbance of vernal pool fairy shrimp habitat within this region would be very small (0.08 acre of direct loss). Implementation of Measure 8 will compensate for this small amount of habitat loss and disturbance at up to a 2:1 ratio; therefore, impacts on vernal pool fairy shrimp from the proposed project are not expected to be cumulatively considerable.

4.2.2 Vernal Pool Tadpole Shrimp

Vernal pool tadpole shrimp is a federally listed endangered species. This species is a California Central Valley endemic species, with the majority of populations in the Sacramento Valley. This species has also been reported from the Sacramento-San Joaquin River Delta east of San Francisco Bay and from scattered localities in the San Joaquin Valley from San Joaquin to Madera Counties (Rogers 2001:1002).

Vernal pool tadpole shrimp generally take 38 days to mature and typically reproduce in about 54 days (Helm 1998:133). Vernal pool tadpole shrimp occur in a wide variety of seasonal habitats, including vernal pools, ponded clay flats, alkaline pools, ephemeral stock tanks, and roadside ditches (Helm 1998:137–138; Rogers 2001:1002–1005). This species is typically found at the highest concentrations in playa pools, large deep vernal pools, and winter lakes (greater than 100 acres) but have also been found in very small (less than 25 square feet) ephemeral pools (Helm 1998:134–138; Rogers 2001:1002–1005). The species' presence in very small pools is believed to be a result of wash down from larger source pools (Helm pers. comm.). Vernal pool tadpole shrimp have been observed in a variety of habitats ranging from clear, vegetated vernal pools to highly turbid alkali scald with variable depths and volumes of water during the wet cycle (Helm 1998:134–138). Vernal pool tadpole shrimp are uncommon even where suitable habitats occur. During surveys conducted in over 5,000 wetlands in 95 areas across 27 counties in northern and central California, vernal pool tadpole shrimp were detected in only 17% of wetlands sampled (Helm 1998).

Based on the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (U.S. Fish and Wildlife Service 2005), the BSA lies within the Western Placer County core area within the Southeastern Sacramento Valley vernal pool region but does not overlap with designated critical habitat for vernal pool tadpole shrimp (70 FR 46924 and 71 FR 7117).

4.2.2.1 Survey Results

As described above for vernal pool fairy shrimp, no protocol surveys for vernal pool tadpole shrimp were conducted and suitable habitat is assumed to be occupied by this species. In the BSA, the two artificially-created seasonal pools and a seasonal wetland located at the northern end of the BSA (north of Pleasant Grove Boulevard) represent potential habitat for vernal pool tadpole shrimp (Figure 4, Sheets 1 through 3). Large and deep pools, such as the artificially-created seasonal pools and seasonal wetland, are likely to provide sufficient ponding duration to support the lifecycle of tadpole shrimp (minimum 38 days for adult maturation). Potential habitat for vernal pool tadpole shrimp is considered the same as habitat for vernal pool fairy shrimp and is depicted as vernal pool branchiopod habitat on Figure 4.

Within Placer County, there have been two documented populations of vernal pool tadpole shrimp within surveyed habitats. The species has been detected at the Woodcreek Oaks City Preserve (documented within a created vernal pool in 1993 and 1995) located just north of Pleasant Grove Boulevard (ECORP Consulting 2011a; California Department of Fish and Game 2017a), less than 1 mile west of the BSA. Vernal pool tadpole shrimp has also been detected in as many as 10 vernal pools at the Lincoln Communication Facility, now part of the Western Placer Schools Conservation Bank, in 1994, 1995, 1996, 2006, 2009, 2011, and 2013 (U.S. Fish and Wildlife Service 2007; California Department of Fish and Wildlife 2017a), located approximately 8 miles northwest of the BSA. A vernal pool tadpole shrimp cyst was also detected in 2002 from a roadside wetland 5.6 miles north of the BSA along Industrial Avenue (California Department of Fish and Wildlife 2017a). It is presumed that the cyst may have been transported into this habitat from nearby wetlands that have since been filled by a housing development.

4.2.2.2 Project Impacts

It was determined that vernal pool tadpole shrimp may occur in suitable habitat within the BSA on the basis of the known presence of vernal pool tadpole shrimp in the project vicinity (within 1 mile of the BSA). The project's direct effects on vernal pool tadpole shrimp are expected to be the same as those described above for vernal pool fairy shrimp (Table 4-2).

Habitat modification as a result of the proposed project will result in the loss of 0.08 acre of suitable vernal pool tadpole shrimp habitat; which is considered an adverse effect on the species. Therefore, the effects determination for the proposed project is ***may affect, is likely to adversely affect*** for vernal pool tadpole shrimp. As of this writing, a biological assessment is in preparation to support FESA Section 7 consultation between Caltrans and USFWS for project effects on vernal pool tadpole shrimp.

4.2.2.3 Avoidance and Minimization Efforts

Implementation of the following measures will avoid and minimize indirect impacts on vernal pool tadpole shrimp habitat that is outside the limits of project disturbance. Additional conservation measures or conditions of approval may be required as part of FESA incidental take authorization.

Measure 1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources

Please refer to the discussion of Measure 1 above.

Measure 2: Conduct Environmental Awareness Training for Construction Personnel

Please refer to the discussion of Measure 2 above.

Measure 3: Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats

Please refer to the discussion of Measure 3 above.

Measure 4: Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Non-Wetland Waters

Please refer to the discussion of Measure 4 above.

Measure 7: Avoid and Minimize Potential Indirect Impacts on Habitat for Vernal Pool Branchiopods and Other Vernal Pool Species

Please refer to the discussion of Measure 7 above.

4.2.2.4 Compensatory Mitigation

To mitigate for potential adverse effects on vernal pool tadpole shrimp habitat, the City will provide the following compensation.

Measure 8: Compensate for Direct Impacts on Habitat for Vernal Pool Branchiopods

Please refer to the discussion of Measure 8 above.

4.2.2.5 Cumulative Impacts

The cumulative impacts would be the same as described above for vernal pool fairy shrimp. Implementation of Measure 8 will compensate for this small amount of habitat loss and disturbance at up to a 2:1 ratio; therefore, impacts on vernal pool tadpole shrimp are not expected to be cumulatively considerable.

4.2.3 Valley Elderberry Longhorn Beetle

Valley elderberry longhorn beetle is federally listed as threatened. The presumed historical range and current range of valley elderberry longhorn beetle extends from Tehama County south to Fresno County through the Central Valley and associated foothills from about the 3,000-foot

contour on the east and the watershed of the Central Valley on the west (79 FR 55881-55884; U.S. Fish and Wildlife Service 1999:1). Valley elderberry longhorn beetle is dependent on its host plant, elderberry, which is a common component of riparian corridors and adjacent upland areas in the Central Valley (Barr 1991:5).

Valley elderberry longhorn beetle has four stages of life: egg, larva, pupa, and adult. Females deposit eggs on or adjacent to the host elderberry. Egg production varies; females have been observed to lay between 16 and 180 eggs. Eggs hatch within a few days of being deposited. Larvae emerge and bore into the wood of the host plant, creating a long feeding gallery in the pith of the elderberry stem. The larvae feed on the pith of the plant for 1 to 2 years. When a larva is ready to pupate, it chews an exit hole to the outside of the stem and then plugs it with frass. The larva then retreats into the feeding gallery and constructs a pupal chamber from wood and frass. The larvae metamorphose between December and April; the pupal stage lasts about a month. The adult remains in the chamber for several weeks after metamorphosis and then emerges from the chamber through the exit hole. Adults emerge between mid-March and mid-June, the flowering season of the plant. Adults feed on elderberry leaves and mate within the elderberry canopy (Talley et al. 2006:7–9).

4.2.3.1 Survey Results

One elderberry shrub was mapped in the BSA on December 6, 2016, with stems measuring 1 inch in diameter or greater at ground level (which provide suitable habitat for the valley elderberry longhorn beetle) (Figure 4). The shrub is growing in non-riparian habitat along a chain-link fence separating the UPRR right-of-way from an undeveloped parcel surrounded by commercial development. The dripline of the shrub is approximately 20 feet from the toe of the existing UPRR track berm. No valley elderberry longhorn beetle exit holes were detected in the shrub during field surveys. The closest CNDDB occurrence for valley elderberry longhorn beetle is a 2001 record from a conservation area in Rocklin, approximately 3 miles east of the BSA (California Department of Fish and Wildlife 2017a).

4.2.3.2 Project Impacts

Railroad shoofly construction activities could indirectly affect the elderberry shrub in the BSA that provides potential habitat for the valley elderberry longhorn beetle. Operation of heavy equipment and haul truck traffic are anticipated to occur within 15 feet of the dripline of the elderberry shrub. Other indirect effects that could occur as a result of construction activities are modification of the shrub's hydrology; exposure to contaminants and dust; and changes in moisture availability as a result of dust control. Activities that could modify shrub hydrology are fill placement along the existing railroad track to construct the temporary track berm, grading within the UPRR right-of-way to maintain an access road for construction vehicles, excavation or other ground disturbance (i.e., compaction) within 20 feet of the shrub dripline, and possible removal of adjacent vegetation or fence posts (disturbance of the root system) for access through the vacant lot directly adjacent to the UPRR right-of-way. Temporary fill placement and grading are not expected to substantially change the hydrology of the shrub, but would occur within 20 feet of the shrub dripline. Operation of heavy equipment and increased vehicle access within 20 feet of the shrub dripline would also result in dust generation and potential increased exposure to

contaminants such as hydraulic fluid, grease, oil, gasoline, and diesel fuel. Water applied during construction activities to control for dust could also affect the shrub and may result in increased soil pathogens (e.g., fungi) and susceptibility to colonization by Argentine ants, a predator of valley elderberry longhorn beetle.

Direct impacts associated with removal of the shrub are not anticipated. Based on the preliminary design drawings, the proposed project would not involve the direct trimming or removal of the shrub or ground disturbance within the dripline.

Because construction of the project would not involve the direct removal of suitable habitat, the effects determination for the proposed project is ***may affect, not likely to adversely affect*** for valley elderberry longhorn beetle. As of this writing, a biological assessment is in preparation to support FESA Section 7 consultation between the Caltrans and USFWS for project effects on valley elderberry longhorn beetle.

4.2.3.3 Avoidance and Minimization Efforts

Implementation of the following measures will avoid and minimize impacts on valley elderberry longhorn beetle habitat within 20 feet of the proposed project. Additional conservation measures or conditions of approval may be required by USFWS as a result of FESA Section 7 consultation.

Measure 1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources

Please refer to the discussion of Measure 1 above.

Measure 2: Conduct Environmental Awareness Training for Construction Personnel

Please refer to the discussion of Measure 2 above.

Measure 3: Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats

Please refer to the discussion of Measure 3 above.

Measure 9: Install a No-Disturbance Buffer around the Elderberry Shrub

In conjunction with Measure 1, *Install Fencing and/or Flagging to Protect Sensitive Biological Resources*, the City will ensure that a minimum 4-feet-tall, temporary plastic mesh-type construction fence (Tensor Polygrid or equivalent) is installed between the work area and the elderberry shrub to be protected. In addition to the exclusion fencing, k-rail (concrete or plastic) will be installed between the elderberry shrub and the work area to protect this shrub from inadvertent damage during construction and removal of the shoofly track. The biologist shall monitor the installation of k-rail protection.

This fencing is intended to prevent encroachment by construction vehicles and personnel. The exact location of the fencing and k-rail shall be determined by a qualified biologist, with the goal of protecting habitat for valley elderberry longhorn beetle. The fencing shall be strung tightly on posts set at a maximum interval of 10 feet. The fencing shall be checked regularly and maintained until all construction is complete. This exclusion fencing shall be marked by a sign stating:

This is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the federal Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment.

No construction activity, including grading, will be allowed until this condition is satisfied. The fencing and a note reflecting this condition will be shown on the construction plans and specifications.

4.2.3.4 Compensatory Mitigation

The proposed project would not result in direct impacts (trimming or removal) on valley elderberry longhorn beetle habitat; therefore, no compensatory mitigation is required.

4.2.3.5 Cumulative Impacts

Cumulative impacts on valley elderberry longhorn beetle would result from construction of other general development projects in Placer County. Construction of the proposed project would not add to the cumulative loss of valley elderberry longhorn beetle habitat.

4.2.4 Western Spadefoot Toad

The western spadefoot toad is designated as a state species of special concern. Western spadefoot toads range in length from 1.5 to 2.5 inches. They are dusky green or gray above and often have four irregular light-colored stripes on their back. The iris of the eye is usually a pale gold. The abdomen is whitish without any markings. Spadefoot toads have a wedge-shaped, glossy black "spade" on each hind foot, used for digging. In California, western spadefoot toads historically ranged throughout the Central Valley and Coast Ranges and the coastal lowlands from San Francisco Bay southward to Mexico (Jennings and Hayes 1994:94). The species has experienced severe population declines in the Sacramento Valley and a reduced density of populations in the eastern San Joaquin Valley (U.S. Fish and Wildlife Service 2005:II-223).

Western spadefoot toads typically inhabit lowland habitats such as washes, floodplains of rivers, alluvial fans, playas, and alkali flats. This species also may be found in the foothills and mountain regions. Western spadefoot toads prefer areas of open vegetation and short grasses where the soil is sandy or gravelly (U.S. Fish and Wildlife Service 2005:II-230). They are found in the valley and foothill grasslands, open chaparral, and pine-oak woodlands. Spadefoot toads are primarily terrestrial, and require upland habitats for feeding and for burrowing during their long dry-season dormancy (U.S. Fish and Wildlife Service 2005:II-231). They require wetlands for reproduction and have been observed in a variety of permanent and temporary wetlands, including rivers, creeks, pools in intermittent streams, vernal pools, and temporary rain pools

(U.S. Fish and Wildlife Service 2005:II-231). Larval development can be completed in 3 to 11 weeks but has been known to take up to 79 days from hatching to metamorphosis (U.S. Fish and Wildlife Service 2005:II-227). Vernal pools and other temporary wetlands may be optimal for breeding due to the absence or reduced abundance of predators (U.S. Fish and Wildlife Service 2005:II-231). Little is known regarding the distance that western spadefoot toads disperse from aquatic breeding areas. Current research on amphibian conservation suggests that average habitat utilization falls within 1,207 feet of aquatic habitats (U.S. Fish and Wildlife Service 2005:II-231).

4.2.4.1 Survey Results

Within the BSA, streams, wetland streams, ditches, seasonal wetlands, and artificially-created seasonal pools provide aquatic habitat for western spadefoot toad. Although they provide aquatic habitat, streams and wetland streams contain predatory fishes and are subject to high flows and scour that are not suitable for early lifestages (eggs, larvae, and metamorphosing juveniles). Ditches conveying stormwater are also considered unsuitable breeding habitat because of high flows and scour. The seasonal wetland north of Pleasant Grove Boulevard and the artificially-created seasonal pools along the UPRR right-of-way support the suitable breeding habitat for western spadefoot toad. Nonnative annual grassland, riparian scrub, and riparian woodland in the vicinity of the seasonal wetland and artificially created seasonal pools provide upland/burrowing habitat for adult spadefoots, though they may prefer grassland and woodland to scrub habitat. The closest CNDDB occurrence for western spadefoot toad is a 1990 record from an intermittent drainage located near the intersection of Woodcreek Oaks Boulevard and Pleasant Grove Boulevard, 0.9 mile west of the BSA (California Department of Fish and Wildlife 2017a).

4.2.4.2 Project Impacts

Construction activities such as excavation, grading, compacting, and stockpiling of soil could fill, remove, or otherwise alter potential habitat for western spadefoot toad, or could result in their injury or mortality. Western spadefoot toads could also become entrapped in open trenches or other project facilities. Construction associated with roadway and culvert expansion would result in permanent and temporary impacts on aquatic habitat (streams, wetland streams, and ditches), including suitable breeding habitat (artificially-created seasonal pools), and permanent and temporary impacts on upland habitat (nonnative annual grassland, riparian scrub, and riparian woodland) that could be used by spadefoot toads. Annual grasslands, riparian scrub, and riparian woodland within 1,200 feet of potential aquatic breeding habitat in the BSA is considered potential upland habitat for western spadefoot toad.

4.2.4.3 Avoidance and Minimization Efforts

Implementation of the following measures will avoid and minimize impacts on western spadefoot toad.

Measure 1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources

Please refer to the discussion of Measure 1 above.

Measure 2: Conduct Environmental Awareness Training for Construction Personnel

Please refer to the discussion of Measure 2 above.

Measure 3: Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats

Please refer to the discussion of Measure 3 above.

Measure 4: Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Non-Wetland Waters

Please refer to the discussion of Measure 4 above.

4.2.4.4 Compensatory Mitigation

With implementation of measures listed above in Section 4.2.4.3, potential impacts on western spadefoot toad will be minimized to the extent practical. No additional compensatory mitigation is proposed.

4.2.4.5 Cumulative Impacts

With implementation of measures prescribed to avoid or minimize potential impacts on western spadefoot toad, the proposed project would not contribute to cumulative impacts on the species.

4.2.5 Northern Western Pond Turtle

Northern western pond turtle (also called western pond turtle or Pacific pond turtle) is a California species of special concern. Pond turtles occur throughout much of California except for east of the Sierra-Cascade crest and desert regions (with the exception of the Mojave River and its tributaries) (Zeiner et al. 1988). Aquatic habitats used by northern western pond turtles include ponds, lakes, marshes, rivers, streams, and irrigation ditches with a muddy or rocky bottom in grassland, woodland, and open forest areas (Stebbins 2003). Pond turtles spend a considerable amount of time basking on rocks, logs, emergent vegetation, mud or sand banks, or human-generated debris (Jennings et al. 1992:11). They move to upland areas adjacent to watercourses to deposit eggs and overwinter (Jennings and Hayes 1994). Pond turtles have been observed several hundred meters from aquatic habitat (Pilliod et al. 2013:215). Throughout their range, the furthest distance that pond turtles have been reported to travel from water is between approximately 500 and 1,500 feet (Pilliod et al. 2013:207) Where permanent water is available and winter temperatures are mild, for example in the southern portion of the range and along the central coast, western pond turtles can be active year-round. In colder regions and where permanent water is not reliable or aquatic habitat is associated with streams and rivers, pond turtles typically become active in March and return to overwintering sites by October or November (Jennings et al. 1992, Pilliod et al. 2013: 215).

4.2.5.1 Survey Results

South Branch Pleasant Grove Creek and its tributaries represent suitable aquatic habitat in the BSA for northern western pond turtle. Nonnative annual grassland, riparian scrub, and riparian woodland within the BSA are located within 1,500 feet of potential aquatic habitat and therefore could be used as upland nesting and overwintering sites by pond turtles if they are present. No northern western pond turtles were observed within the BSA during the 2016 and 2017 wildlife surveys.

4.2.5.2 Project Impacts

Construction activities associated with roadway and culvert expansion, drainage and floodplain improvements, and utility relocation adjacent to South Branch Pleasant Grove Creek and its associated tributaries would result in permanent and temporary impacts on suitable aquatic and upland habitat for northern western pond turtle. In-water work within and near stream and wetland stream habitat could cause entrapment of pond turtles, resulting in their injury or mortality. Additionally, pond turtles and nests containing hatchlings or eggs could be crushed and killed during the movement of construction equipment in upland habitats (i.e., nonnative annual grassland, riparian scrub, and riparian woodland) that are typically within 1,500 feet of aquatic sites.

4.2.5.3 Avoidance and Minimization Efforts

Implementation of the following measures will avoid or minimize impacts on northern western pond turtle.

Measure 1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources

Please refer to the discussion of Measure 1 above.

Measure 2: Conduct Environmental Awareness Training for Construction Personnel

Please refer to the discussion of Measure 2 above.

Measure 3: Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats

Please refer to the discussion of Measure 3 above.

Measure 4: Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Non-Wetland Waters

Please refer to the discussion of Measure 4 above.

Measure 10: Conduct a Preconstruction Survey for Northern Western Pond Turtle and Exclude Turtles from the Work Area

To avoid and minimize impacts on northern western pond turtles, the City will retain a qualified wildlife biologist to conduct a preconstruction survey within 48 hours of disturbance in suitable aquatic and upland habitats. The survey objectives are to determine the presence or absence of pond turtles in the vicinity of the construction work area and to determine if additional monitoring for pond turtles is necessary during construction to avoid entrapment of pond turtles during installation of stream diversion materials. If possible, the survey will be timed to coincide with the time of day and year when turtles are most likely to be active (during the cooler part of the day from 8:00 a.m. to 12:00 p.m. during spring, summer, and late summer). Prior to conducting presence/absence surveys, the biologist will locate the microhabitats for turtle basking (logs, rocks, and brush thickets) and determine a location to quietly observe turtles. The survey will include a 15-minute wait time after arriving on site to allow startled turtles to return to open basking areas. The survey will consist of a minimum 15-minute observation time per area where turtles could be observed.

If turtles are observed during the preconstruction survey or at any time during construction and they cannot be avoided, they will be either hand-captured or trapped and then relocated outside the construction area to appropriate aquatic habitat by a biologist with a valid memorandum of understanding from CDFW and as determined during coordination with CDFW. If an active turtle nest is found, the biologist will coordinate with CDFW to determine the appropriate avoidance measures.

4.2.5.4 Compensatory Mitigation

With implementation of measures listed above in Section 4.2.5.3, potential impacts on northern western pond turtle will be avoided or minimized. No compensatory mitigation is required.

4.2.5.5 Cumulative Impacts

With implementation of measures prescribed to avoid and minimize potential impacts on northern western pond turtle, the proposed project would not contribute to cumulative effects on the species.

4.2.6 White-Tailed Kite and other Migratory Birds and Raptors

White-tailed kite is a state species of special concern and is designated as fully protected under California Fish and Game Code Section 3511. White-tailed kites generally inhabit low-elevation grassland, savannah, oak woodland, wetlands, agricultural, and riparian habitats. Some large shrubs or trees are required for nesting and for communal roosting sites. Nest trees range from small, isolated shrubs and trees to trees in relatively large stands (Dunk 1995). White-tailed kites make nests of loosely piled sticks and twigs, lined with grass and straw, near the top of dense oaks, willows, and other tree stands. The breeding season occurs generally from March through

August. They forage in undisturbed, open grassland; meadows; farmland; and emergent wetlands.

Special-status and non-special-status migratory birds and raptors are protected under the MBTA and CFGC 3503 and 3503.5.

4.2.6.1 Survey Results

Focused nest surveys for white-tailed kite and other migratory birds and raptors were not conducted. The closest CNDDB occurrence for a white-tailed kite nest site is a 1998 record that is 1 mile northwest of the BSA along Pleasant Grove Creek in riparian/oak woodland (California Department of Fish and Wildlife 2017a). The next closest occurrence for a white-tailed kite nest is a 1992 record that is 4.5 miles southeast of the BSA along Linda Creek (California Department of Fish and Wildlife 2017a). Trees within the BSA provide potential nesting habitat for white-tailed kite. Because the project is within a largely developed area with a high level of human disturbance and foraging habitat in the project vicinity is limited for white tailed kite, the potential for white-tailed kites to nest in the BSA is reduced. No white-tailed kites were observed in the BSA during the 2016 and 2017 wildlife surveys.

Migratory birds and raptors that are likely to nest in the BSA include red-shouldered hawk (*Buteo lineatus*), Anna's hummingbird, western scrub jay, acorn woodpecker, American robin (*Turdus migratorius*), and house finch (*Haemorhous mexicanus*).

4.2.6.2 Project Impacts

The proposed project would remove mature trees that could provide suitable nesting habitat within the construction footprint, primarily along Washington Boulevard, west of the existing UPRR track, and within the area bordered on the north by Emerald Oak Road. White-tailed kite would not be expected to nest along the existing roadway or railroad corridors; however, many migratory birds can, and do, become acclimated to existing levels of disturbance and may nest in trees along these corridors. Construction activities would occur during the nesting season for white-tailed kite and other migratory birds (generally March through August) and could result in the disturbance of active nests. Construction disturbance (noise and/or activity) during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Removal of suitable nest trees in the BSA would reduce the amount of available nesting habitat for white-tailed kite and migratory birds and a temporal loss of nesting habitat would continue until replacement trees mature.

Roadway construction would result in indirect impacts on white-tailed kite through temporary and permanent loss of nonnative annual grassland that provides suitable foraging habitat. Because only a small area of suitable foraging habitat would be permanently lost, the proposed project is not expected to affect white-tailed kites and would not result in an adverse impact on foraging white-tailed kite.

4.2.6.3 Avoidance and Minimization Efforts

Implementation of the following measures will avoid direct impacts and minimize indirect impacts on white-tailed kite and other migratory birds and raptors, and would avoid violation of the MBTA and the CFGC.

Measure 1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources

Please refer to the discussion of Measure 1 above.

Measure 2: Conduct Environmental Awareness Training for Construction Personnel

Please refer to the discussion of Measure 2 above.

Measure 3: Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats

Please refer to the discussion of Measure 3 above.

Measure 11: Conduct Vegetation Removal during the Non-breeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds and Raptors

Where vegetation removal is required to construct project features, the City will conduct this activity during the non-breeding season for migratory birds and raptors (generally between September 1 and February 28), to the extent feasible.

If construction activities (including vegetation removal) cannot be confined to the non-breeding season, the City will retain a qualified wildlife biologist with knowledge of the relevant species to conduct nesting surveys before the start of construction. The migratory bird and raptor nesting surveys will include a minimum of two separate surveys to look for active migratory bird and raptor nests. Surveys will include a search of all trees and shrubs that provide suitable nesting habitat in the construction area. In addition, a 500-foot area around the construction area will be surveyed for nesting raptors and a 50-foot area around the construction area will be surveyed for songbirds. One survey should occur within 14 days prior to construction and the second survey within 48 hours prior to the start of construction or vegetation removal. If no active nests are detected during these surveys, no additional measures are required.

If an active nest is found in the survey area, a no-disturbance buffer will be established around the nest site to avoid disturbance or destruction of the nest until the end of the breeding season (August 31) or until after a qualified wildlife biologist determines that the young have fledged and moved out of the project area (this date varies by species). The extent of these buffers will be determined by the biologist in coordination with USFWS and CDFW, and will depend on the level of construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other

disturbances, and other topographical or artificial barriers. Suitable buffer distances may vary between species.

4.2.6.4 Compensatory Mitigation

With implementation of measures described in Section 4.2.6.3, potential impacts on white-tailed kite and other migratory birds and raptors will be avoided or minimized. Compensation for permanent impacts on riparian woodland habitat also will compensate for removal of nesting habitat. No further compensatory mitigation is required.

4.2.6.5 Cumulative Impacts

With implementation of measures prescribed to avoid and minimize potential impacts on white-tailed kite and other migratory birds and raptors, the proposed project is not expected to contribute to cumulative effects on white-tailed kite and other migratory birds and raptors.

4.2.7 Pallid Bat, Western Red Bat, and Non-Special-Status Bats

The 2016/2017 wildlife habitat assessment identified potential roosting habitat for two special-status bats (pallid bat and western red bat) in the BSA, as well as several species of non-special-status bats including hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), California myotis (*Myotis californicus*), and Yuma myotis (*Myotis yumanensis*).

Pallid Bat

Pallid bat is a California species of special concern and is considered a high priority species in California by the Western Bat Working Group (2017). This species is found throughout most of California at low to middle elevations (6,000 feet), in a variety of habitats including desert, brushy terrain, coniferous forest, and non-coniferous woodlands. Daytime roost sites include rock outcrops, mines, caves, hollow trees, buildings, and bridges. Night roosts are commonly under bridges but are also in caves and mines (Brown and Pierson 1996). Hibernation may occur during late November through March. Pallid bats breed from late October through February (Zeiner et al. 1990b:70) and one or two young are born in May or June (Brown and Pierson 1996).

Western Red Bat

Western red bat is a California species of special concern and is considered a high priority species in California by the Western Bat Working Group (2017). This species is found throughout much of California at lower elevations, primarily in riparian and wooded habitats but also occurs seasonally in urban areas (Brown and Pierson 1996). Western red bats roost in the foliage of trees that are often located on the edge of habitats adjacent to streams, fields, or urban areas. This species breeds in August and September and young are born in May through July (Zeiner et al. 1990b:60).

4.2.7.1 Survey Results

No focused or acoustics surveys for special-status bats were conducted. One CNDDB record exists for pallid bat within 6.0 miles of the BSA; the record is from 1941 for a single pallid bat collected southeast of the BSA (California Department of Fish and Wildlife 2017a) (Figure 5). Mature trees with basal hollows, cavities, loose/peeling bark, deeply furrowed bark, cracks, and crevices represent suitable roosting habitat for pallid bat. Pallid bats may also roost in box culverts, or in mud nests of structure-nesting birds that are built in culverts. The bicycle tunnel is not considered to be suitable habitat because of the absence of expansion joints, cracks and crevices, or other similar built features, and because it is regularly disturbed by pedestrian and bicycle traffic.

Other potentially suitable features identified in the BSA for pallid bat roosting are the gage station at the bicycle and pedestrian bridge over SBPGC, and in weep holes on the underside of the Pleasant Grove Boulevard overcrossing. These features are not expected to be disturbed or removed by the project.

No records exist for western red bat within 10 miles of the BSA. Mature trees with well-developed canopies and abundant foliage represent suitable roosting habitat for western red bat within the BSA. Mature trees within the BSA also provide suitable roosting habitat for non-special-status foliage roosting bats, such as hoary bat. Trees with crevices provide suitable roosting habitat for silver-haired bat. No expansion joints or other crevice-like habitat were observed at the pedestrian/bicycle bridge, pedestrian/bicycle tunnel, or in the box culverts under the roadway or UPRR track. No signs of bat use were detected at these structures during the 2016 wildlife surveys. However, standing or flowing water was present in the box culverts at the time of the surveys and may have obscured guano accumulations or culled insect parts.

Andora bridge was not directly inspected during the field surveys because pedestrian traffic at this location on Washington Boulevard is prohibited. However, based on available street view imagery, the concrete abutments flanking the roadway do not provide crevice-like habitat for roosting. The underside of the crossing was not visible in this imagery, but would likely be unsuitable for roosting. Bats may avoid roosting in structure, crevice, or cavity habitats with a high level of light disturbance at the entry/exit, and high likelihood of collision with vehicles. Culverts in the BSA that would be removed or modified may also provide suitable roosting habitat, particularly at night, for non-special-status bats such as California myotis and Yuma myotis. Although box culverts in the BSA lacked crack and crevice-like features, inactive mud nests built by structure-nesting birds could support day roosting bats.

4.2.7.2 Project Impacts

Direct Impacts

Construction of the proposed project would occur during the maternity season of bats (April 1 through September 15). The proposed project would result in the removal or disturbance of trees that may provide suitable roosting habitat (cavities, crevices, furrowed bark, and foliage) for pallid bat and western red bat. Removal or disturbance of trees providing suitable roosting

habitat could result in the injury to or mortality of roosting pallid bat and western red bat, if present during removal or disturbance of the tree. Removal of occupied roost habitat would also displace bats, causing them to relocate to another roost site, and potentially competing with other bats for the roost site.

The proposed project would result in the disturbance of culverts that may provide suitable habitat for non-special-status bats. Disturbance of structures providing suitable roosting habitat could result in the injury to or mortality of non-special-status bats, if present during disturbance of the structure. Temporary removal or disturbance of occupied roost habitat would also displace bats, causing them to relocate to another roost site, and potentially competing with other bats for the roost site.

Indirect Impacts

A potential indirect impact of the proposed project could be the degradation of foraging habitat for special-status bats from the wider road, because bat activity near large roads has been found to be lower than activity at a distance of 984 feet from large roads (Kitzes and Merenlender 2014).

4.2.7.3 Avoidance and Minimization Efforts

Implementation of the following measures will avoid direct impacts and minimize indirect impacts on special-status and non-special-status bats.

Measure 1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources

Please refer to the discussion of Measure 1 above.

Measure 2: Conduct Mandatory Environmental Awareness Training for Construction Personnel

Please refer to the discussion of Measure 2 above.

Measure 3: Retain a Qualified Biologist to Conduct Periodic Monitoring during Construction in Sensitive Habitats

Please refer to the discussion of Measure 3 above.

Measure 11: Conduct Vegetation Removal during the Non-Breeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds and Raptors

Please refer to the discussion of Measure 11 above.

Measure 12: Conduct Preconstruction Surveys for Roosting Bats and Implement Protection Measures

Baseline data are not available or are limited on how bats use the BSA, their individual numbers, and how they vary seasonally. Bat species with potential to occur in the BSA use a variety of roosting strategies, from solitary roosting in foliage or bark of trees to colonial roosting in tree cavities. Daily and seasonal variations in habitat use are also common. To obtain the highest likelihood of detection, the following preconstruction bat surveys will be conducted within and adjacent to the construction area for each construction season. If surveys determine that bats are roosting in the construction area, the City will implement the protective measures described below.

- Conduct Preconstruction Tree Surveys

Prior to tree removal or pruning, qualified biologists will examine trees to be removed or pruned for suitable bat roosting habitat. High-value habitat features (e.g., large tree cavities, basal hollows, loose or peeling bark, and larger snags,) will be identified, and the area around these features will be searched for bats and bat sign (e.g., guano, culled insect parts, and staining). All mature broadleaf trees should be considered potential habitat for solitary foliage-roosting bat species.

If bat sign is detected, biologists will conduct evening visual emergence survey of the source habitat feature, from a half hour before sunset to 1–2 hours after sunset for a minimum of 2 nights within the season that construction would be taking place. Night-vision goggles and/or full-spectrum acoustic detectors will be used during emergence surveys to assist in species identification. All emergence surveys will be conducted during favorable weather conditions (calm nights with temperatures conducive to bat activity and no precipitation predicted). Survey methodology may be supplemented as new research identifies advanced survey techniques and equipment that would aid in bat detections.

- Identify Protective Measures for Bats Using Trees

If it is determined that bats are using trees within or adjacent to the construction area as roost sites, the City (or its designated contractor) will coordinate with CDFW to identify protective measures to avoid and minimize impacts on roosting bats based on the type of roost and timing of activities. These measures could include the following measures.

  - If feasible, tree removal and pruning of trees containing an active roost will be avoided between April 1 and September 15 (the maternity period) to avoid impacts on reproductively active females and dependent young.
  - If a maternity roost is located, whether solitary or colonial, that roost will remain undisturbed until September 15 or until a qualified biologist has determined that the roost is no longer active.

    If avoidance of non-maternity roost trees is not possible, tree removal or pruning will be monitored by a qualified biologist. Prior to removal or pruning, the tree will be gently shaken, and several minutes should pass before felling trees or pruning limbs to allow bats time to arouse and leave the tree. The tree then will be removed in pieces, rather than felling the entire tree. The

biologists will search downed vegetation for dead and injured bats. The presence of dead or injured bats that are species of special concern will be reported to CDFW.

- Conduct Preconstruction Surveys of Culverts

Prior to any work to replace, extend, or remove culverts, a qualified biologist will inspect box and pipe culverts for the presence of roosting bats. The biologist will conduct a daytime inspection/survey of box culverts for bat sign or occupancy to determine whether the structure is being used as a roost. Biologists conducting daytime surveys will listen for audible bat calls and will use the naked eye, binoculars, telescoping inspection mirror, and a high-powered spotlight to inspect culverts, and mud nests if present, for bats. Surfaces and the ground around the culvert will be surveyed for bat sign, such as guano, staining, and prey remains. Pipe culverts will be inspected from the exterior using the methods listed. If no suitable features are found, and no bats or bat sign are present, then a preconstruction survey within 24 hours prior to construction will be conducted. If suitable features are found, and bats or bat sign are present, additional surveys may be conducted to determine how the culvert is used by bats (i.e., whether it is used as a night roost, maternity roost, migration stopover, or for hibernation).

Measure 13: To the Extent Possible and Where Appropriate, Conduct Culvert Construction and other Structure Work during the Day to Avoid Disturbance of Night-Roosting Bats

To avoid disturbance, injury, or mortality of bats utilizing culverts for roosting, the City (or its contractor) will conduct all work on these structures during the day (to the extent possible and where appropriate). If this is not possible, portable lights will be used to illuminate the roosting areas prior to and after sunset to deter bats from roosting during night/s when work will occur.

4.2.7.4 Compensatory Mitigation

With implementation of measures described in Section 4.2.7.3, potential impacts on pallid bat, western red bat, and non-special-status bats would be avoided or minimized. Impacts to potential structure-roosting bats would be temporary and no permanent night roosting habitat is anticipated. No compensatory mitigation is required.

4.2.7.5 Cumulative Impacts

Implementation of measures will avoid and minimize potential construction impacts on special-status bats. Mature and native oak trees that provide suitable roosting habitat for bats could also be removed. Although construction of the proposed project could contribute to the cumulative loss of suitable roosting habitat (through the temporal loss of large trees and potential removal of other suitable roost structures), with implementation of avoidance and minimization measures, the proposed project's effect on special-status bats would not be cumulatively considerable.

4.3 Other Protected and Managed Biological Resources

4.3.1 Structure-Nesting Migratory Birds

Cliff swallows (*Petrochelidon pyrrhonota*) and barn swallows (*Hirundo rustica*) are species that frequently build mud nests on the undersides of artificial structures such as bridges. Swallows winter in South America and return to California to breed in February. Swallows nest from February to August and migrate south in September and October (Zeiner et al. 1990a). Black phoebes also build mud nests on, near, or over water on cliff faces, on walls of old buildings, under bridges, under eaves, and on other natural and artificial sheltered locations near water. Black phoebes breed from March to August (Zeiner et al. 1990a). The occupied nests and eggs of migratory birds are protected by federal and state laws, including the MBTA and CFGC Sections 3503 and 3503.5. USFWS is responsible for overseeing compliance with the MBTA, and CDFW is responsible for overseeing compliance with the CFGC and making recommendations on nesting bird protection.

4.3.1.1 Survey Results

Based on 2016 wildlife surveys, the Pleasant Grove Boulevard overcrossing structure in the BSA provides nesting habitat (i.e., weep holes) for white-throated swifts and northern rough-winged swallows. This structure, as well as box culverts under Washington Boulevard and the UPRR track, provide other structure nesting sites (i.e., ledges and 90 degree angles) for non-special-status birds including cliff swallows and black phoebe. Within the BSA, remnant cliff swallow nests were observed on the underside of the Pleasant Grove Boulevard overcrossing; a black phoebe nest and several remnant swallow nests were also present in the box culvert conveying the waters of SBPGC under Washington Boulevard. White-throated swifts were detected through calls during the winter 2016 and 2017 wildlife surveys in proximity to the Pleasant Grove Boulevard overcrossing.

4.3.1.2 Project Impacts

Construction activities to extend, abandon, or replace box culverts would occur during the breeding season for birds (generally February 1 through August 31). Swallows and phoebes that are nesting in box culverts could be disturbed when culvert construction occurs. These activities could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbances that result in the loss of a migratory bird egg, nestling, or adult would violate the MBTA and CFGC Section 3503.

Construction activities under the Pleasant Grove Boulevard overcrossing are not anticipated to disturb structure-nesting birds because no modifications to the existing structure are proposed.

4.3.1.3 Avoidance and Minimization Efforts

Implementation of the following measures will avoid direct impacts and minimize indirect impacts on structure-nesting birds and will avoid violation of the MBTA and CFGC.

Measure 1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources

Please refer to the discussion of Measure 1 above.

Measure 2: Conduct Mandatory Environmental Awareness Training for Construction Personnel

Please refer to the discussion of Measure 2 above.

Measure 3: Retain a Qualified Biologist to Conduct Periodic Monitoring during Construction in Sensitive Habitats

Please refer to the discussion of Measure 3 above.

Measure 14: Modify Existing Structures during the Non-Breeding Season for Structure-Nesting Migratory Birds or Implement Exclusion Measures to Deter Nesting

To avoid impacts on nesting swallows and other structure-nesting migratory birds that are protected under the Migratory Bird Treaty Act and the California Fish and Game Code, the City will modify existing structures after the conclusion of the bird nesting period (generally February 1 through August 31). Construction, modification, or disturbance of existing box culvert structures after the nesting period has concluded is strongly preferred; however, if this is not possible, the City will implement the following avoidance measures.

- Prior to the start of each phase of construction, the City (or its contractor) will hire a qualified wildlife biologist to inspect any box culvert that would be modified or disturbed during the nonbreeding season (September 1 through February 1). If nests are found and are determined to be inactive (abandoned), they shall be removed.
- After inactive nests are removed and prior to construction from February 1 to August 31, the undersides of the portion of the culvert to be modified or disturbed will be covered with a suitable exclusion material that will prevent birds from nesting (i.e., 0.5- to 0.75-inch mesh netting, plastic tarp, expandable foam sealant, or other suitable material safe for wildlife). The City will hire a qualified wildlife management specialist experienced with installation of bird exclusion materials to ensure that exclusion devices are properly installed and will avoid inadvertent entrapment of migratory birds. All exclusion devices will be installed before February 1 and will be monitored throughout the breeding season (typically several times a week). The exclusion material will be anchored so that swallows cannot attach their nests to the structures through gaps in the net.
- Exclusion devices for birds will be installed in a manner that does not entrap day-roosting bats.

- As an alternative to installing exclusion materials on a culvert, the City may hire a qualified biologist or qualified wildlife management specialist to remove nests as the birds construct them and before any eggs are laid. Visits to the site would need to occur daily throughout the breeding season (February 1 through August 31) because swallows can complete a nest in a 24-hour period.
- If exclusion material is not installed on structures prior to February 1 or manual removal of nests is not conducted daily, and migratory birds colonize a culvert, removal or modification to that portion of the culvert may not occur until after August 31, or until a qualified biologist has determined that the young have fledged and the nest is no longer in use.
- If appropriate steps are taken to prevent swallows from constructing new nests as described in the preceding measures, work can proceed at any time of the year.

4.3.1.4 Compensatory Mitigation

With implementation of measures described above, potential impacts on structure-nesting birds will be avoided. No compensatory mitigation is proposed.

4.3.1.5 Cumulative Impacts

With implementation of measures prescribed to avoid and minimize potential impacts on structure-nesting birds, the proposed project is not expected to contribute to cumulative effects on these species.

4.3.2 Invasive Plants

Invasive plant species include species designated as federal noxious weeds by the USDA, species listed by the CDFA, and invasive plants identified by Cal-IPC. Invasive plants displace native species, change ecosystem processes, alter plant community structure, and lower wildlife habitat quality (California Invasive Plant Council 2006:1). Road, highway, and related construction projects are some of the principal dispersal pathways for invasive plants and their propagules. FHWA requires that state departments of transportation use the respective state's noxious weed list to identify invasive plant species that could be spread by construction of transportation projects. Accordingly, Table 3-1 lists the invasive plant species identified by CDFA and Cal-IPC that are known to occur in the BSA (Natural Resources Conservation Service 2003; California Invasive Plant Council 2006, 2007). No plant species designated as federal noxious weeds have been identified in the BSA (Natural Resources Conservation Service 2014).

4.3.2.1 Survey Results

Table 3-1 in Chapter 3 identifies the invasive plant species known to occur in the BSA. The infestation of the BSA by invasive plants is generally limited; they occur primarily as scattered individuals in the nonnative grassland and disturbed/developed areas.

4.3.2.2 Project Impacts

The proposed project has the potential to create additional disturbed areas for a temporary period and to introduce and spread invasive plant species to uninfected areas within and adjacent to the BSA. This would be of particular concern for natural communities of special concern, where nonnative invasive plants could outcompete and replace native vegetation.

4.3.2.3 Avoidance and Minimization Efforts

Implementation of Measures 1–3 and Measure 15, described below, will help to prevent the introduction and spread of invasive plants.

Measure 15: Avoid the Introduction and Spread of Invasive Plants

The City or its contractor will be responsible for avoiding the introduction of new invasive plants and the spread of invasive plants previously documented in the BSA. Accordingly, the following measures will be implemented during construction:

- Educate construction supervisors and managers on weed identification and the importance of controlling and preventing the spread of invasive weeds.
- Minimize surface disturbance to the greatest extent feasible to complete the work.
- Use weed-free imported erosion-control materials (or rice straw in upland areas).
- Use native or naturalized (noninvasive) grass seed or a sterile seed mix during revegetation.

4.3.2.4 Compensatory Mitigation

Implementation of avoidance and minimization efforts will minimize or prevent the spread of invasive plants; therefore, no compensatory mitigation for invasive plant species is required.

4.3.2.5 Cumulative Impacts

Cumulative impacts caused by the spread of invasive weed species would result from other projects in Placer County. With implementation of avoidance and minimization efforts, the proposed project is not expected to add to the cumulative spread of invasive weeds and would not result in cumulatively adverse effects related to the spread of invasive weed species.

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Chapter 5 Conclusions and Regulatory Determinations

Permits or compliance with the federal and state regulations listed in Table 5-1 may be required prior to construction of the proposed project.

Table 5-1. Permits and Approvals Potentially Required for the Proposed Project

Permit/Approval	Approving Agency
Endangered Species Act Section 7: Consultation and Incidental Take Statement	USFWS
Executive Order 11990: Protection of Wetlands	FHWA
Executive Order 13112: Prevention and Control of Invasive Species	FHWA
Executive Order 13186: Migratory Bird Treaty Act	FHWA
Clean Water Act Section 401: Water Quality Certification	Central Valley RWQCB
Clean Water Act Section 402: National Pollutant Discharge Elimination System Permit	Central Valley RWQCB
Clean Water Act Section 404: Nationwide Permit Authorization	USACE
California Fish and Game Code Section 1602: Lake or Streambed Alteration Agreement	CDFW
California Fish and Game Code Sections 3503 and 3503.5: Protection of Birds and Raptors	CDFW
California Fish and Game Code Sections 3511, 3513, 4700, and 5050: Fully Protected Species	CDFW
California Fish and Game Code Sections 3513: Migratory Birds	CDFW
City of Roseville Tree Preservation Ordinance, Roseville Municipal Code, Chapter 1966, Tree Preservation	City of Roseville

5.1 Federal Endangered Species Act Consultation Summary

To date, there has been no consultation with the NMFS or USFWS for the proposed project. On April 26, 2017, Ms. Asbell obtained a list of all threatened and endangered fish species, designated critical habitat, and essential fish habitat that could occur in the vicinity of the proposed action from the NMFS website (National Marine Fisheries Service 2017). On October 4, 2016, Ms. Asbell obtained a list of threatened and endangered species for the proposed project from the USFWS Sacramento Field Office through the iPAC website. Updates to the list were obtained from the iPAC website on February 14, and again on May 5, 2017 (U.S. Fish and Wildlife Service 2017) (Appendix A). Of the eleven species identified on the NMFS and USFWS species lists for the project region, three species–vernal pool fairy shrimp, vernal pool tadpole shrimp, and valley elderberry longhorn beetle–were identified to have the potential to occur in the BSA or could otherwise be affected by the proposed project. A Biological Assessment is in preparation to address potential effects to these species from the proposed project. Table 5-2 lists effect determinations for federally listed species that may occur in the BSA of the proposed project.

Table 5-2. Effect Determinations for Federally Listed Species

Species	Effect Determination
Vernal pool fairy shrimp	May affect, likely to adversely affect
Vernal pool tadpole shrimp	May affect, likely to adversely affect
Valley elderberry longhorn beetle	May affect, not likely to adversely affect

5.2 Federal Fisheries and Essential Fish Habitat Consultation Summary

The project will not affect any federal fisheries or essential fish habitat; therefore, consultation with NMFS is not required.

5.3 California Endangered Species Act Consultation Summary

The project will not affect any state listed species; therefore consultation with the CDFW for project effects to state listed species is not required.

5.4 Wetlands and Other Waters Coordination Summary

The BSA contains wetlands and other waters that are considered waters of the United States and waters of the State. As indicated in Chapter 4, the proposed project would result in placement of fill into wetlands and other waters. Therefore, the City will comply with the CWA by obtaining nationwide permit authorization from the Sacramento District of the USACE, and a water quality certification from the Central Valley RWQCB before discharging fill into, or excavating within, federally and state-regulated waters and wetlands.

5.5 Invasive Species (Executive Order 13112)

With implementation of Measures 1–3 and 15 described in Chapter 4, the proposed project is not anticipated to increase or decrease the area currently occupied by invasive plants or the potential for spreading invasive plant species.

5.6 Other

5.6.1 Federal Migratory Bird Treaty Act

Caltrans will ensure that the City avoids violation of the MBTA by implementing measures identified in Chapter 4 for migratory birds.

5.6.2 California Fish and Game Code

Sections 1602, 3503, 3503.5, 3511, 3513, 4700, and 5050 of the CFGC apply to the proposed project and are described below.

5.6.2.1 Section 1602: Lake or Streambed Alteration Agreements

The City will enter into an LSAA with CDFW for proposed culverts (new culverts, extensions, and replacements; temporary and permanent) in SBPGC, SVT, and UT.

5.6.2.2 Sections 3503 and 3503.5: Protection of Birds and Raptors

The City will avoid violation of CFGC Sections 3503 and 3503.5 by implementing measures identified in Chapter 4 for birds and raptors.

5.6.2.3 Sections 3511, 3513, 4700, and 5050: Fully Protected Species

The City will avoid violation of CFGC Section 3511 (fully protected birds) by implementing measures identified in Chapter 4 for white-tailed kite.

5.6.2.4 Sections 3513: Migratory Birds

The City will avoid violation of CFGC Section 3513 (migratory birds) by implementing measures identified in Chapter 4 for migratory birds.

5.6.3 City of Roseville Tree Preservation Ordinance

The City will comply with their Tree Preservation Ordinance by submitting an arborist report and implementing the required avoidance and compensatory mitigation.

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Appendix A Species Lists

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Roseville (3812173) OR Sheridan (3812184) OR Lincoln (3812183) OR Gold Hill (3812182) OR Pleasant Grove (3812174) OR Rocklin (3812172) OR Rio Linda (3812164) OR Citrus Heights (3812163) OR Folsom (3812162))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
Alkali Meadow Alkali Meadow	CTT45310CA	None	None	G3	S2.1	
Alkali Seep Alkali Seep	CTT45320CA	None	None	G3	S2.1	
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Andrena subapasta An andrenid bee	IIHYM35210	None	None	G1G2	S1S2	
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Chloropyron molle ssp. hispidum hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1
Clarkia biloba ssp. brandegeeae Brandegee's clarkia	PDONA05053	None	None	G4G5T4	S4	4.2
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Falco columbarius merlin	ABNKD06030	None	None	G5	S3S4	WL
Fritillaria agrestis stinkbells	PMLIL0V010	None	None	G3	S3	4.2
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
Hydrochara rickseckeri Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
Juncus leiospermus var. ahartii Ahart's dwarf rush	PMJUN011L1	None	None	G2T1	S1	1B.2
Juncus leiospermus var. leiospermus Red Bluff dwarf rush	PMJUN011L2	None	None	G2T2	S2	1B.1
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G5	S3S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Melospiza melodia song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
Navarretia myersii ssp. myersii pincushion navarretia	PDPLM0C0X1	None	None	G2T2	S2	1B.1
Northern Claypan Vernal Pool Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Northern Volcanic Mud Flow Vernal Pool Northern Volcanic Mud Flow Vernal Pool	CTT44132CA	None	None	G1	S1.1	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Orcuttia viscida Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G3	S3	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Valley Needlegrass Grassland Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	

Record Count: 49

CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

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

Search Criteria

Found in Quads 3812184, 3812183, 3812182, 3812174, 3812173, 3812172, 3812164 3812163 and 3812162;

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
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Chloropyron molle ssp. hispidum	hispid bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	1B.1	S1	G2T1
Clarkia biloba ssp. brandegeeae	Brandegee's clarkia	Onagraceae	annual herb	May-Jul	4.2	S4	G4G5T4
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	4.2	S3	G3
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2
Juncus leiospermus var. ahartii	Ahart's dwarf rush	Juncaceae	annual herb	Mar-May	1B.2	S1	G2T1
Juncus leiospermus var. leiospermus	Red Bluff dwarf rush	Juncaceae	annual herb	Mar-Jun	1B.1	S2	G2T2
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
Navarretia myersii ssp. myersii	pincushion navarretia	Polemoniaceae	annual herb	Apr-May	1B.1	S2	G2T2
Navarretia nigelliformis ssp. nigelliformis	adobe navarretia	Polemoniaceae	annual herb	Apr-Jun	4.2	S3	G4T3
Orcuttia viscida	Sacramento Orcutt grass	Poaceae	annual herb	Apr-Jul (Sep)	1B.1	S1	G1
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct (Nov)	1B.2	S3	G3

Suggested Citation

California Native Plant Society, Rare Plant Program. 2017. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 04 December 2017].

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rareplants@cnps.org

From: Asbell, Aundrea
To: "nmfswcrca.specieslist@noaa.gov"
Subject: FHWA-Caltrans Washington Boulevard/Andora Bridge Improvement Project
Date: Wednesday, April 26, 2017 2:57:00 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: ICF (on behalf of City of Roseville)
Non-Federal Agency Representative Address:, 630 K Street, suite 400, Sacramento, CA 95814
Project Name: Washington Boulevard/Andora Bridge Improvement Project
Point-of-Contact: Aundrea Asbell, Aundrea.Asbell@icf.com, 916-231-9732

Quad Name **Roseville**
Quad Number **38121-G3**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - **X**
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -

Fin Whale (E) -

Humpback Whale (E) -

Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH - **X**

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

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IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Placer County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.

The following species are potentially affected by activities in this location:

Reptiles

NAME	STATUS
Giant Garter Snake Thamnophis gigas No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

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

Fishes

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

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS

Conservancy Fairy Shrimp Branchinecta conservatio There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp Branchinecta lynchi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp Lepidurus packardi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service[3]. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured. Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are USFWS Birds of Conservation Concern that might be affected by activities in this location. The list does not contain every bird you may find in this location, nor is it guaranteed that all of the birds on the list will be found on or near this location. To get a better idea of the specific locations where certain species have been reported and their level of occurrence, please refer to resources such as the E-bird data mapping tool (year-round bird sightings by birders and the general public) and Breeding Bird Survey (relative abundance maps for breeding birds). Although it is important to try to avoid and minimize impacts to all birds, special attention should be given to the birds on the list below. To get a list of all birds potentially present in your project area, visit the E-bird Explore Data Tool.

NAME	BREEDING SEASON
Black Swift Cypseloides niger https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Black-chinned Sparrow Spizella atrogularis https://ecos.fws.gov/ecp/species/9447	Breeds Apr 15 to Jul 31
Burrowing Owl Athene cunicularia https://ecos.fws.gov/ecp/species/9737	Breeds Mar 15 to Aug 31
California Spotted Owl Strix occidentalis occidentalis https://ecos.fws.gov/ecp/species/7266	Breeds Mar 10 to Jun 15

California Thrasher Toxostoma redivivum	Breeds Jan 1 to Jul 31
Clark's Grebe Aechmophorus clarkii	Breeds Jan 1 to Dec 31
Common Yellowthroat Geothlypis trichas sinuosa https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Costa's Hummingbird Calypte costae https://ecos.fws.gov/ecp/species/9470	Breeds Jan 15 to Jun 10
Lawrence's Goldfinch Carduelis lawrencei https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Lewis's Woodpecker Melanerpes lewis https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Long-billed Curlew Numenius americanus https://ecos.fws.gov/ecp/species/5511	Breeds elsewhere
Marbled Godwit Limosa fedoa https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Nuttall's Woodpecker Picoides nuttallii https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse Baeolophus inornatus https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Rufous Hummingbird selasphorus rufus https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Song Sparrow Melospiza melodia maxillaris https://ecos.fws.gov/ecp/species/7716	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Tricolored Blackbird Agelaius tricolor https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Whimbrel Numenius phaeopus https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
White Headed Woodpecker Picoides albolarvatus https://ecos.fws.gov/ecp/species/9411	Breeds May 1 to Aug 15
Willet Tringa semipalmata	Breeds elsewhere
Wrentit Chamaea fasciata	Breeds Mar 15 to Aug 10
Yellow-billed Magpie Pica nuttalli https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in your project's counties during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

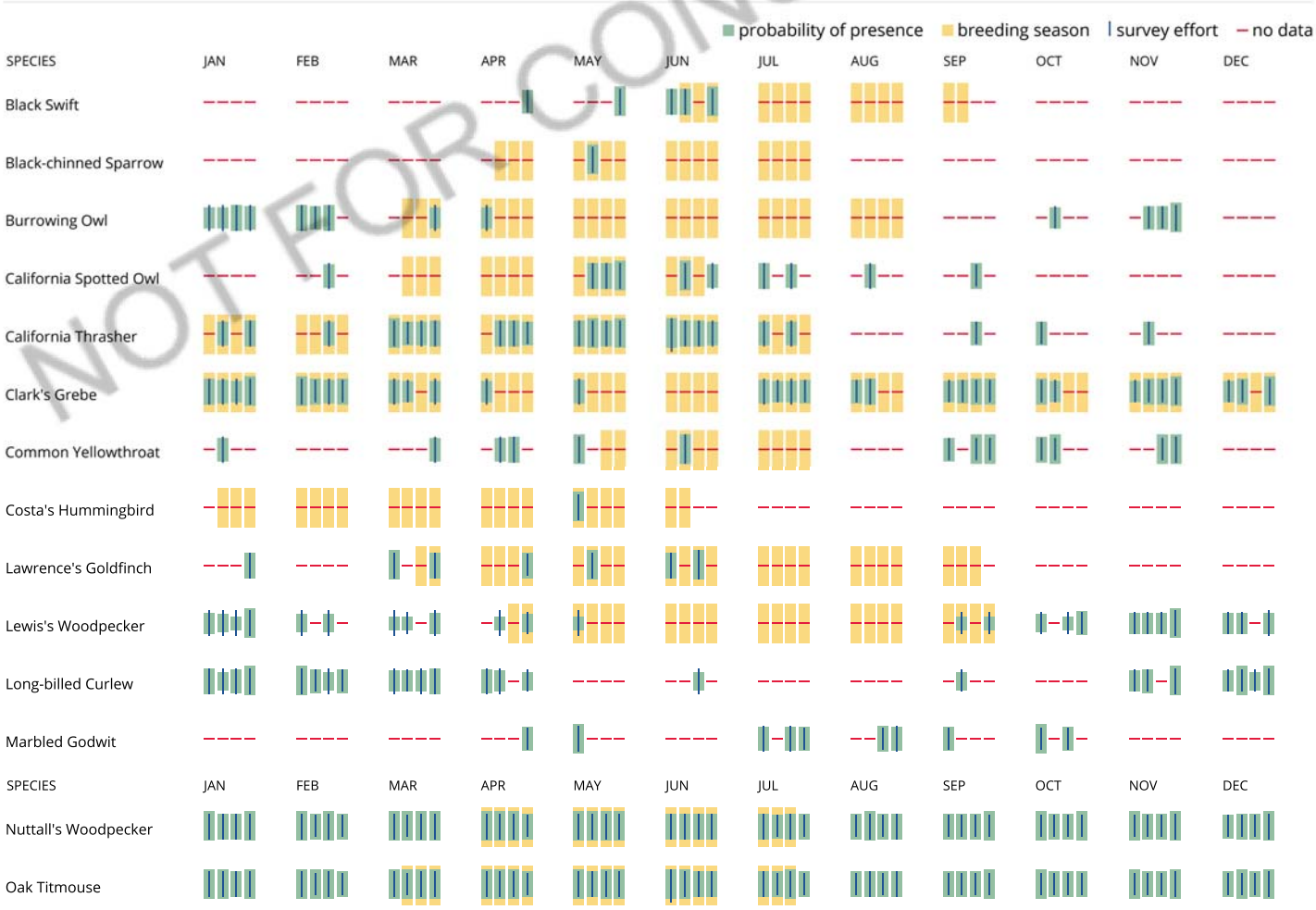
Breeding Season (■)
Yellow bars denote when the bird breeds in the Bird Conservation Region(s) in which your project lies. If there are no yellow bars shown for a bird, it does not breed in your project area.

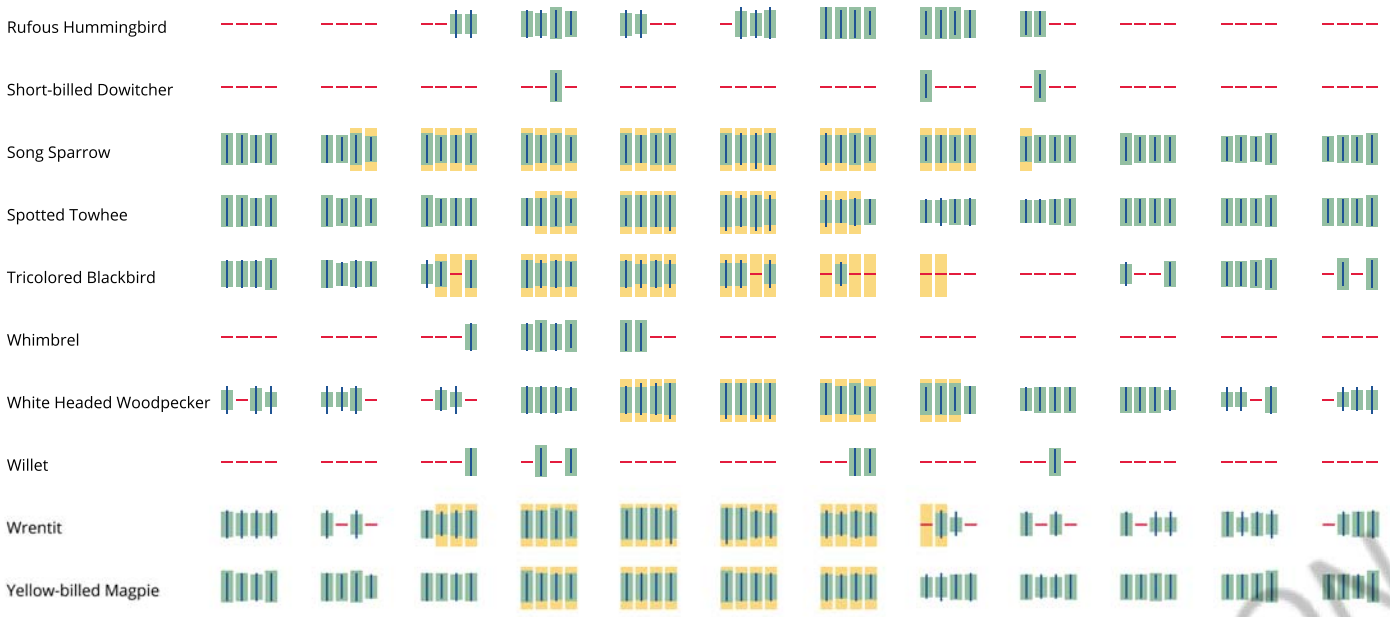
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the counties of your project area. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Such measures are particularly important when birds are most likely to occur in the project area. To see when birds are most likely to occur in your project area, view the Probability of Presence Summary. Special attention should be made to look for nests and avoid nest destruction during the breeding season. The best information about when birds are breeding can be found in Birds of North America (BNA) Online under the "Breeding Phenology" section of each species profile. Note that accessing this information may require a subscription. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) that might be affected by activities in your project location. These birds are of priority concern because it has been determined that without additional conservation actions, they are likely to become candidates for listing under the Endangered Species Act (ESA).

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets. The AKN list represents all birds reported to be occurring at some level throughout the year in the counties in which your project lies. That list is then narrowed to only the Birds of Conservation Concern for your project area.

Again, the Migratory Bird Resource list only includes species of particular priority concern, and is not representative of all birds that may occur in your project area. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird entry on your migratory bird species list indicates a breeding season, it is probable the bird breeds in your project's counties at some point within the time-frame specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix B Representative Photographs

Photo 1. Looking south from UPRR track, east of Washington Boulevard and Derek Place, south of the Andora bridge. Photo taken February 1, 2017.

Photo 2. Looking north from the west side of Washington Boulevard, south of the Andora bridge, at disturbed/graded area (left foreground). Photo depicts narrow vehicle underpass (background) and proposed temporary access road (graded area, foreground) to proposed staging area. Sign to left of roadway indicates that pedestrian access is prohibited under the bridge. Photo taken December 6, 2016.

Photo 3. Looking northwest from the west side of Washington Boulevard, south of the Andora bridge, at disturbed/graded area/access road and riparian woodland bordering the Sierra View Tributary (not pictured). Photo taken November 11, 2016.

Photo 4. Looking north from the east side of Washington Boulevard, south of the Andora bridge, at riparian scrub habitat along the unnamed tributary. Photo taken December 6, 2016.

Photo 5. Looking southeast from City open space preserve west of Washington Boulevard (outside BSA), north of the Andora bridge, at nonnative annual grassland. Photo depicts existing UPRR track in the background. Photo taken February 1, 2017.

Photo 6. Looking east from City open space preserve at confluence of SBPGC and SVT, and box culvert under existing UPRR track. Culvert is upstream of confluence. Photo taken November 11, 2016.

Photo 7. Looking northeast from the west side of Washington Boulevard, south of the Andora bridge, at pipe culvert under the roadway. Photo depicts upstream view of the unnamed tributary. Photo taken December 6, 2016.

Photo 8. Looking west from the bicycle/pedestrian bridge over SBPGC on the east side of Washington Boulevard, north of the Andora bridge. Photo depicts downstream view of SBPGC and box culvert under roadway. Photo taken November 11, 2016.

Photo 9. Looking northwest from the west side of Washington Boulevard, south of the Andora bridge, at seasonal wetland abutting the Sierra View Tributary. Photo taken November 11, 2016.

Photo 10. Representative photo of wetland stream. Photo taken December 6, 2016.

Photo 11. Representative photo of seasonal wetland. Photo taken December 13, 2016.

Photo 12. Looking southeast from the existing UPRR ROW, west of Washington Boulevard, north of the Andora bridge, and adjacent to City open space preserve. Photo depicts inundated artificially-created pool feature; *Linderiella occidentalis* was observed when this photo was taken on February 1, 2017.

Photo 13. Looking northwest adjacent to the existing UPRR right-of-way (right side of fence), west of Washington Boulevard, north of the Andora bridge, and south of Pleasant Grove Boulevard (overpass structure). Photo depicts ditch (on left) near north end of City open space preserve. Photo taken February 1, 2017.

Appendix C Plant and Wildlife Species Observed in the Biological Study Area

Appendix C Species Observed in the Biological Study Area

Table C-1. Plant Species Observed in the Biological Study Area

Scientific Name	Common Name
Acer macrophyllum	Bigleaf maple
Ailanthus altissima	tree of heaven
Alisma triviale	northern water plantain
Amaranthus sp.	amaranth
Ambrosia artemisiifolia	annual ragweed
Amsinckia intermedia	common fiddleneck
Avena barbata	slender wild oat
Avena fatua	wild oat
Baccharis pilularis	coyote brush
Brassica nigra	black mustard
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft chess
Callitriche heterophylla	Water starwort
Centaurea solstitialis	yellow star-thistle
Chlorogalum pomeridianum	soap plant
Cirsium vulgare	bull thistle
Croton setigerus	turkey mullein
Cynodon dactylon	Bermuda grass
Cynosurus echinatus	hedgehog dogtail grass
Cyperus eragrostis	tall flatsedge
Dittrichia graveolens	stinkwort
Eleocharis macrostachya	spike rush
Elymus caput-medusae	Medusahead
Epilobium ciliatum	hairy willowherb
Erigeron canadensis	Canada horseweed
Erodium botrys	broadleaf filaree
Eryngium sp.	coyote thistle
Eschscholzia californica	California poppy
Festuca perennis	Italian ryegrass
Ficus carica	edible fig
Foeniculum vulgare	fennel
Galium sp.	bedstraw
Geranium dissectum	cutleaf geranium
Geranium molle	dovefoot geranium
Helminthotheca echioides	bristly ox-tongue
Hirschfeldia incana	field mustard
Holocarpha virgata	narrow tarplant
Juglans hindsii	northern California black walnut
Juncus effusus	bog rush

Scientific Name	Common Name
Lactuca serriola	prickly lettuce
Leontodon saxatilis	hawkbit
Ludwigia peploides	water primrose
Lupinus bicolor	miniature lupine
Marrubium vulgare	white horehound
Medicago polymorpha	bur-clover
Persicaria hydropiperoides	false waterpepper
Phalaris aquatica	Harding grass
Pinus sp.	ornamental pine
Plantago lanceolata	English plantain
Populus fremontii	Fremont cottonwood
Prunus sp.	cherry
Quercus douglasii	blue oak
Quercus lobata	valley oak
Quercus wislizeni	interior live oak
Ranunculus bonariensis var. *trisepalus*	vernal pool buttercup
Rosmarinus officinalis	rosemary
Rubus armeniacus	Himalayan blackberry
Rumex crispus	curly dock
Rumex pulcher	fiddle dock
Salix gooddingii	black willow
Salix lasiolepis	arroyo willow
Sambucus nigra ssp. *caerulea*	blue elderberry
Silybum marianum	milk thistle
Torilis arvensis	hedge parsley
Toxicodendron diversilobum	poison oak
Trifolium hirtum	rose clover
Typha angustifolia	narrowleaf cattail
Verbena bonariensis	common vervain
Vicia villosa	hairy vetch
Xanthium strumarium	cocklebur

Table C-2. Wildlife Species Observed or Detected in the Biological Study Area

Scientific Name	Common Name
Junonia coenia	Buckeye (butterfly)
Melanerpes formicivorus	Acorn woodpecker
Corvus brachyrhynchos	American crow
Falco sparverius	American kestrel
Turdus migratorius	American robin
Calypte anna	Anna's hummingbird
Thryomanes bewickii	Bewick's wren
Sayornis nigricans	Black phoebe
Euphagus cyanocephalus	Brewer's blackbird
Psaltriparus minimus	Bushtit
Melozone crissalis	California towhee
Petrochelidon pyrrhonota	Cliff swallow
Junco hyernalis	Dark-eyed junco
Picoides pubescens	Downey woodpecker
Sturnus vulgaris	European starling
Carpodacus mexicanus	House finch
Passer domesticus	House sparrow
Carduelis psaltria	Lesser goldfinch
Zenaida macroura	Mourning dove
Colaptes auratus	Northern flicker
Mimus polyglottos	Northern mockingbird
Baeolophus inornatus	Oak titmouse
Contopus cooperi	Olive-sided flycatcher
Buteo lineatus	Red-shouldered hawk
Buteo jamaicensis	Red-tailed hawk
Agelaius phoeniceus	Red-winged blackbird
Phasianus colchicus	Ring-necked pheasant
Columba livia	Rock pigeon
Regulus calendula	Ruby-crowned kinglet
Sayornis saya	Say's phoebe
Pipilo maculatus	Spotted towhee
Cathartes aura	Turkey vulture
Sialia mexicana	Western bluebird
Aphelocoma californica	Western scrub-jay
Aeronautes saxatalis	White-throated swift
Meleagris gallopavo	Wild turkey
Pseudacris sierra	Sierran treefrog
Sceloporus occidentalis	Western fence lizard
Lepus californicus	Black-tailed hare
Thomomys bottae	Botta's pocket gopher
Odocoileus hemionus columbianus	Black-tailed deer
Procyon lotor	Raccoon
Spermophilus beecheyi	California ground squirrel
Sciurus niger	Fox squirrel
Canis latrans	Coyote

Appendix D Delineation of Aquatic Resources

Table D-1. Aquatic Resource Features Mapped in the Biological Study Area

Feature Number	Feature Type	Acreage	Map Sheet Number	Data Form
WS-1	Wetland Stream	0.023	2	DP-9
WS-2	Wetland Stream	0.039	3	--
SW-1	Seasonal Wetland	0.012	2	--
SW-2	Seasonal Wetland	0.037	3	DP-5
SW-3	Seasonal Wetland	0.018	3	--
SW-4	Seasonal Wetland	0.030	3	DP-1
SW-5	Seasonal Wetland	0.014	3	--
SW-6	Seasonal Wetland	0.126	1	DP-7
S-1	Stream	0.306	2	OHWM-4
S-2	Stream	0.130	2	OHWM-5
S-3	Stream	0.253	2, 3	OHWM-2
S-4	Stream	0.012	2	--
S-5	Stream	0.360	3	OHWM-1
S-6	Stream	0.014	3	OHWM-3, DP-4
D-1	Ditch	0.006	2	--
D-2	Ditch	0.005	2	--
D-2	Ditch	0.006	3	--

Note: Data forms are contained in the Aquatic Resources Delineation Report (ICF 2017)

Andora Widening
November 2017
Sheet 1 of 3

Legend

- Delineation Area
- Culvert
- Data Points
- OHWM
- Photo Locations
- Flow Direction
- Culverts

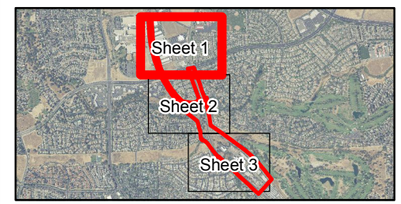
Wetlands

- Seasonal Wetland
- Wetland Stream

Other Waters

- Ditch
- Stream
- Feature Boundaries Outside Delineation Area

W = Average Width



1 inch = 200 feet

0 50 100 200
Feet

N

Notes:

Base Map Source:
Imagery Source: NAIP 2016
USGS Topo Quad: Roseville
PLSS: S28 T11N R06E, S27 T11N R06E, S34 T11N R06E

Prepared By: ICF\916.737.3000
Delineated By: Lisa Webber, Renee Richardson
Delineation Dates: Nov. 11th, Dec. 6th, and 13th, 2016
Drawn By: Alex Angier

Path: K:\Projects_1\mark_thomas\00274_16_AndoraWidening\mapdoc\Aquatic_Resources.mxd, Author: , Date: 1/9/2018

Andora Widening
November 2017
Sheet 2 of 3

Legend

- Delineation Area
- Culvert
- Data Points
- OHWM
- Photo Locations
- Flow Direction
- Culverts

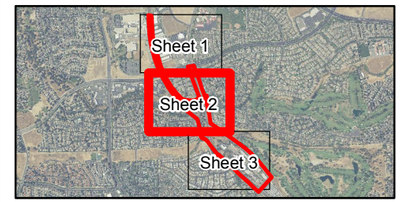
Wetlands

- Seasonal Wetland
- Wetland Stream

Other Waters

- Ditch
- Stream
- Feature Boundaries Outside Delineation Area

W = Average Width



1 inch = 200 feet

0 50 100 200
Feet

N

Notes:

Base Map Source:
Imagery Source: NAIP 2016
USGS Topo Quad: Roseville
PLSS: S28 T11N R06E, S27 T11N R06E, S34 T11N R06E

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Path: K:\Projects_1\mark_thomas\00274_16_AndoraWidening\mapdoc\Aquatic_Resources.mxd, Author: , Date: 1/9/2018

Andora Widening
November 2017
Sheet 3 of 3

Legend

- Delineation Area
- Culvert
- Data Points
- OHWM
- Photo Locations
- Flow Direction
- Culverts

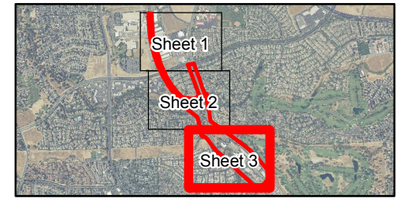
Wetlands

- Seasonal Wetland
- Wetland Stream

Other Waters

- Ditch
- Stream
- Feature Boundaries Outside Delineation Area

W = Average Width



1 inch = 200 feet

0 50 100 200
Feet

N

Notes:

Base Map Source:
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USGS Topo Quad: Roseville
PLSS: S28 T11N R06E, S27 T11N R06E, S34 T11N R06E

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Appendix D
Delineation of Aquatic Resources