# **Natural Environment Study**

(Minimal Impact)



SR 99 Corridor Bikeway Facility (Bikeway 99)- Phase 5

City of Chico, California

District 3-BUT-99- R31.1-R31.7

EA: 03-0J740; PIN: 0319000145

September 2019

STATE OF CALIFORNIA



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(Minimal Impact) EA: 03-0J740; PIN: 0319000145 STATE OF CALIFORNIA Department of Transportation and City of Chico

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#### List of Abbreviations

ADA	Americans with Disabilities Act			
amsl	Above Mean Sea Level			
BMP's	Best Management Practices			
BSA	Biological Study Area			
Cal-IPC	California Invasive Plant Council			
Caltrans	California Department of Transportation			
CDFW	California Department of Fish and Wildlife			
CEQA	California Environmental Quality Act			
CESA	California Endangered Species Act			
City	City of Chico			
CFG	California Fish and Game			
CFR	Code of Federal Regulations			
CNDDB	California Natural Diversity Database			
CNPS	California Native Plant Society			
CWA	Clean Water Act			
EO	Executive Order			
EPA	Environmental Protection Agency			
ESA	Environmentally Sensitive Area			
°F	Fahrenheit			
ft	feet			
FESA	Federal Endangered Species Act			
MBTA	Migratory Bird Treaty Act			
NEPA	National Environmental Policy Act			
NES-MI	Natural Environment Study – Minimal Impact			
NRCS	Natural Resources Conservation Service			
Project	SR 99 Corridor Bikeway Facility (Bikeway 99) Phase 5			
Plan	Chico Urban Area Bicycle Plan			
SR	State Route			
RWQCB	Regional Water Quality Control Board			
U.S.	United States			
USACE	United States Army Corps of Engineers			
USFWS	United States Fish and Wildlife Service			

# Summary

The City of Chico (City), in cooperation with the California Department of Transportation (Caltrans), proposes to construct a Class I bikeway street overcrossing above 20<sup>th</sup> Street, while establishing a bikeway gap closure along the east side of State Route (SR) 99 corridor in the City of Chico, Butte County, California. This document is an evaluation of potential Project related impacts to sensitive or special-status biological resources. The Biological Study Area (BSA) was established as a 50-foot buffer around the Project area.

This Natural Environment Study – Minimal Impact (NESMI) is an evaluation of the potential impacts to threatened, endangered, proposed listed, or sensitive species and protected habitat resources as a result of the proposed Project. The Project area is within a highly developed area and encompasses approximately 48.9 acres. Vegetation communities and habitat types within the BSA were identified and evaluated. After literature review, database queries and biological surveys it was determined that no special status species have the potential to occur within the BSA due to the lack of suitable habitat. No critical habitat or essential fish habitat occurs within or adjacent to the BSA. The biological survey conducted on April 10, 2019 identified one seasonal wetland swale and a jurisdictional drainage within the Project area; however, the Project does not anticipate impacts to any jurisdictional water features. The Project will require the removal of vegetation along the proposed alignment.

The Project is fully funded through the Active Transportation Program grant and the Congestion Mitigation and Air Quality Improvement Program, and therefore, requires compliance with both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The lead agency for CEQA is the City and the lead NEPA agency is Caltrans.

# 1. Introduction

### 1.1 History

The 2019 Chico Bicycle Plan Update was adopted by City Council on April 16<sup>th</sup>, 2019 to encourage the community to use bicycles as a means of transportation. This Plan includes the SR 99 Corridor Bikeway Project; a combination of Class I and Class II/III facilities commencing at Eaton Road and traversing to Skyway, spanning approximately 7 miles. The Project is phase 5 of the SR 99 Corridor Bikeway Project and will fill a gap in the existing bikeway corridor.

### 1.2 Purpose and Need

#### 1.2.1 Purpose

The purpose of the SR 99 Corridor Bikeway Facility (Bikeway 99) Phase 5 (Project) is to:

- To build a Class I pedestrian/bike multiuse path that closes the gap between Phases 2 and 4 of the SR 99 Corridor Bikeway;
- To build a bikeway that is consistent with the goals outlined in the City's 2030 General Plan and 2019 Chico Bicycle Plan 2019 Update;
- To build a safe and more direct route for pedestrians and cyclists to cross 20<sup>th</sup> Street;
- To provide a bikeway that will improve pedestrian and bicycle access throughout the City of Chico and will help provide multi-modal connectivity to public services, employment centers, business districts, commercial centers, health facilities, adjacent neighborhoods, and local schools; and,
- To design and construct a bikeway that meets Americans with Disabilities Act (ADA) requirements.

### 1.2.2 <u>Need</u>

- A bikeway that closes the gap (between Phases 2 and 4) of SR 99 Corridor Bikeway is needed;
- To achieve the goals of the City of Chico's 2030 General Plan & 2019 Chico Bicycle Plan Update;
- Safe and direct access across 20<sup>th</sup> Street is needed for pedestrians and cyclists. The current crossing at 20<sup>th</sup> Street is an incomplete sidewalk configuration that exposes pedestrians to vehicular traffic;
- Multimodal options within the City are needed to promote recreation and to provide safe connections for pedestrians and cyclists to public services, employment centers, business districts, commercial centers, health facilities, adjacent neighborhoods, and local schools; and,
- ADA upgrades are needed to ensure the bikeway meets ADA requirements.

### 1.3 **Project Description**

The City of Chico (City), in cooperation with the California Department of Transportation (Caltrans), proposes to construct a Class I bikeway street overcrossing above 20th Street, while establishing a bikeway gap closure along the east side of SR 99 corridor. The Project is located in Township 22 North, Range 1 East in the City of Chico, within Butte County, California (Figure 1. Project Vicinity, Figure 2. Project Location).





The completed Bikeway 99 Corridor will serve as a continuous alternative transportation and recreational route from Eaton Road to Skyway, spanning nearly 7 miles. The current lack of a safe and direct pedestrian/bike path discourages residents from walking or biking to local schools, job centers, commercial areas, and public services. This Project will connect people to goods and services including the Chico Mall. The bikeway overcrossing would provide a link to both sides of 20th Street and Business Lane, offering access to local restaurants and businesses. The bikeway would enhance the safety of pedestrians and bicyclists by creating a route that is separate from traffic congestion on 20th Street. Additional safety features of the path include lighting, security cameras and the removal of thick vegetation in order to increase visibility on the bikeway. The design of the bridge is intended to incorporate the history, culture and overall atmosphere of Chico.

The proposed Project is consistent with the Land Use, Circulation, and Parks, Public Facilities and Services Elements of the City's 2030 General Plan (adopted in 2011 and amended in 2017) as well as the 2019 Chico Bicycle Plan Update. The Project will be implemented in a manner that is consistent with the City's Best Practices and Municipal Code.

In addition to the local funds utilized during the design phase, the Project includes both the Active Transportation Program and Congestion Mitigation and Air Quality Improvement grant program dollars, and, therefore, requires compliance with both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The lead agency for CEQA is the City of Chico and the lead NEPA agency is Caltrans.

#### **Build Alternative**

The Project design offers a direct route, following SR 99. The total length of the bikeway segment will be approximately 0.6 miles. The north and south ends of this Project (from PM R31.1 to R31.7) will tie into Phases 2 and 4 of the overall 7-mile bikeway corridor from Eaton Road to Skyway.

The Project will be a Class I multi-use trail that will consist of an approximately 8 to 10-foot-wide paved path with approximately 2-foot wide shoulders. The Project will contain an overcrossing that runs parallel with SR 99, between the northbound 20<sup>th</sup> Street on and off ramps. The overcrossing would provide a link to both sides of 20<sup>th</sup> Street and Business Lane, offering access to local restaurants and businesses. A set of stairs will allow access on the north side of 20<sup>th</sup> Street and a ramp will provide access to the south side of 20<sup>th</sup> Street. Bikeway users would be separated from congestion of vehicular traffic on 20<sup>th</sup> Street. The overcrossing bridge will have architectural features that will provide the City of Chico with a context sensitive structure selected by the community through an extensive public outreach process.

The Project will require vegetation and tree removal, utility relocations, sign relocations, right-ofway acquisition and temporary construction easements. The Project will impact approximately nine parcels on the east side of SR 99 on/off ramps.

The total construction cost of the project is estimated to be approximately \$11 million. Construction is anticipated to begin in the spring of 2022.

#### No-Build Alternative

Under the no-build alternative a gap would exist between Phase 2 and Phase 4 of the SR99 Corridor Bikeway Facility Project. The intersection at 20<sup>th</sup> Street would remain congested with vehicular traffic and would not provide an ideal crossing for pedestrians or bicyclists.

# 2. Study Methods

#### 2.1 Regulatory Requirements

This section describes the general Federal, State, and local plans, policies, and laws that are relevant to biological resources within the BSA.

#### Federal Regulations

#### 2.1.1 National Environmental Policy Act

NEPA provides an interdisciplinary framework for environmental planning by Federal agencies and contains action-forcing procedures to ensure that Federal agency decision makers take environmental factors into account. NEPA applies whenever a Federal agency proposes an action, grants a permit, or agrees to fund or otherwise authorize any other entity to undertake an action that could possibly affect environmental resources. Caltrans is the designated NEPA lead agency for this proposed Project.

#### 2.1.2 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 (16 U.S.C. section 1531 et seq.) provides for the conservation of endangered and threatened species listed pursuant to Section 4 of the Act (16 U.S.C. section 1533) and the ecosystems upon which they depend. These species and resources have been identified by the United States Fish and Wildlife Service (USFWS) or National Marine Fisheries Service.

#### 2.1.3 Clean Water Act

The Clean Water Act (CWA) was enacted as an amendment to the Federal Water Pollutant Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to Waters of the United States (U.S.). The CWA serves as the primary Federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The CWA empowers 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 originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Non-pointsource pollution originates over a broader area and includes urban contaminants in stormwater runoff and sediment loading from upstream areas. All discharges into nation's water is unlawful unless authorized by a permit.

#### Section 401

The Regional Water Quality Control Board (RWQCB) has jurisdiction under Section 401 of the CWA and regulates any activity which may result in a discharge to surface waters. Typically, the areas subject to jurisdiction of the RWQCB coincide with those of United States Army Corps of Engineers (USACE) (i.e., waters of the US including any wetlands). The RWQCB also asserts authority over "waters of the State" under waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act.

### Section 404

The USACE regulates discharges of dredged or fill material into waters of the U.S. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or may be indirect (through a nexus identified in USACE regulations).

## 2.1.4 Executive Order 13112: Prevention and Control of Invasive Species

Executive Order (EO) 13112 (signed February 3, 1999) directs all Federal agencies to prevent and control introductions of invasive species in a cost-effective and environmentally sound manner. The EO requires consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

## 2.1.5 Executive Order 13186: Migratory Bird Treaty Act

EO 13186 (signed January 10, 2001) Migratory Bird Treaty Act (MBTA) directs each Federal agency taking actions that could adversely affect migratory bird populations to work with USFWS to develop a Memorandum of Understanding that will promote the conservation of migratory bird populations. Protocols developed under the Memorandum of Understanding will include the following agency responsibilities:

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

The EO is designed to assist Federal agencies in their efforts to comply with the MBTA (50 Code of Federal Regulations [CFR] 10 and 21) and does not constitute any legal authorization to take migratory birds. Take is defined under the MBTA as "the action of or attempt to pursue, hunt, shoot, capture, collect, or kill" (50 CFR 10.12) and includes intentional take (i.e., take that is the purpose of the activity in question) and unintentional take (i.e., take that results from, but is not the purpose of, the activity in question).

### State Regulations

# 2.1.6 California Environmental Quality Act

The CEQA is a State law created to inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities and to work to reduce these negative environmental impacts. The City is the CEQA lead agency for this Project.

# 2.1.7 California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game (CFG) Code Section 2050 et seq.) requires the California Department of Fish and Wildlife (CDFW) to establish a list of endangered and threatened species (Section 2070) and to prohibit the incidental taking of any such listed species except as allowed by the Act (Sections 2080-2089). In addition, CESA prohibits take of candidate species (under consideration for listing).

CESA also requires CDFW to comply with CEQA (Pub. Resources Code Section 21000 et seq.) when evaluating incidental take permit applications (CFG Code Section 2081(b) and California Code Regulations, Title 14, section 783.0 et seq.), and the potential impacts the project or activity for which the application was submitted may have on the environment. CDFW's CEQA obligations include consultation with other public agencies which have jurisdiction over the project or activity [California Code Regulations, Title 14, Section 783.5(d)(3)]. CDFW cannot issue an incidental take permit if issuance would jeopardize the continued existence of the species [CFG Code Section 2081(c); California Code Regulations, Title 14, Section 783.4(b)].

## 2.1.8 Section 3503 and 3503.5: Bird and Raptors

CFG Code Section 3503 prohibits the destruction of bird nests and Section 3503.5 prohibits the killing of raptor species and destruction of raptor nests. Trees and shrubs are present in and adjacent to the BSA and could contain nesting sites.

## 2.1.9 Section 3513: Migratory Birds

CFG Code 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.

# 2.2 Studies Required

# 2.2.1 Literature Search

Prior to field work, literature research was conducted through the USFWS Species List (Appendix A: USFWS Species List), CDFW, California Natural Diversity Database (CNDDB) (Appendix B: CNDDB Species List) the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Plants (Appendix C: CNPS Species List) and the Natural Resource Conservation Service (NRCS) Soil Report (Appendix D. NRCS Soil Report) to identify habitats and special-status species having the potential to occur within the BSA. A complete list of regional species of concern was generated and is available in Chapter 3, Table 1 of this document.

# 2.2.2 Field Reviews and Survey Methods

Prior to field surveys, the BSA was defined as the proposed Project area including potential staging areas with an approximate 50-foot buffer, where practical. Habitat assessments and analysis of historic occurrences were conducted to determine the potential for special-status species to occur within the BSA.

Biological surveys included walking meandering transects, where feasible through the BSA, observing vegetation communities, compiling notes on observed flora and fauna, conducting a wetland delineation, quantifying the number of trees anticipated for removal and assessing the potential for existing habitat to support sensitive plants and wildlife. All plant and wildlife

observations were recorded and are discussed in Chapter 3 (Appendix E. List of Species Observed).

#### 2.2.3 Personnel Survey Dates

Biological field surveys were conducted on April 10, 2019 by Dokken Engineering biologist Andrew Dellas.

#### 2.2.4 Agency Coordination and Professional Contacts

#### 2.2.4.1 United States Fish and Wildlife Service

On February 8, 2019, an official species list was obtained from USFWS of Federal Endangered and Threatened species that could occur in the vicinity of the proposed Project (Appendix A: USFWS Species List).

#### 2.2.4.2 California Department of Fish and Wildlife

On February 8, 2019, a four-quadrangle list of species potentially occurring in the proposed Project vicinity was obtained from CDFWs CNDDB (Appendix B: CNDDB Species List).

#### 2.2.4.3 California Native Plant Society

On February 8, 2019, a four-quadrangle list of plant species potentially occurring in the proposed Project vicinity was obtained from the CNPS Inventory of Rare and Endangered Plants of California (Appendix C: CNPS Species List).

#### 2.2.5 Limitations That May Influence Results

Sensitive wildlife species with the potential to occur in the BSA may be cryptic (difficult to detect) or transient, migratory species. The population size and locations of sensitive species may fluctuate through time. Because of this, the data collected for this NESMI represents a "snap shot" in time and may not reflect actual future conditions.

The collection of biological field data is normally subject to environmental factors that cannot be controlled or reliably predicted. Consequently, the interpretation of field data must be conservative and consider the uncertainties and limitations imposed by the environment. Due to the experience and qualifications of the consulting biologists, the developed nature of the BSA, and the favorable weather conditions/season during the survey, there are no limitations that are expected to influence the key survey findings. No additional limitations were present that could influence the results of this document. All surveys were conducted during appropriate weather and temperature conditions.

# 3. Results: Environmental Setting

The Project is located in the southern portion of the City of Chico. The Project is located within the northern Sierra Nevada Foothills Floristic Provence and U.S. Department of Agriculture ecological subsection M261F (Sierra Nevada Foothills Section). The region receives an average of approximately 27 inches of rainfall per year. The average annual high temperature is approximately 75 degrees Fahrenheit (°F) and average annual low temperature is approximately 47 °F (usclimatedata.com 2019).

### 3.1 Description of the Existing Biological and Physical Conditions Study Area

The following sections discuss ecological conditions of the region and biological resources present within the BSA.

### 3.1.1 Study Area

The Project area is approximately 38.8 acres, approximately 0.55 miles long and ranges in width from approximately 230 feet (ft) to 985 ft. The BSA was created by establishing a 50-foot buffer around all areas that will be temporarily or permanently impacted by the proposed Project, and includes construction easements, potential staging areas, access roads and right-of-way acquisition (Figure 3. Project Features).

#### 3.1.2 Physical Conditions

According to the NRCS, soil within the Project area is comprised of Redsluff gravelly loam, 0 to 2 percent slopes and Galt clay, 0 to 1 percent slopes (NRCS 2019), (Appendix D. NRCS Soil Report). The topography within the Project area is relatively flat and ranges in width from 220 to 230 ft in elevation.

#### 3.1.3 Biological Conditions in the Study Area

Biological surveys identified five different communities present within the BSA (Figure 4. Vegetation Communities within the BSA). Furthermore, based on field survey results there is a seasonal wetland swale and a jurisdictional drainage feature within the Project area (Appendix F. OHWM and Wetland Delineation Forms), (Appendix G. Representative Photographs).

#### 3.1.3.1 Roadways/Urban

Roadways and urban areas are characterized as artificial/man-made, are highly disturbed and contain zero vegetative cover. Urban areas within the BSA include parking lots, restaurants and the Chico Mall. The main roadways in the area include east 20<sup>th</sup> Street, Business Lane, Baney Lane, SR 99 and on and off ramps to SR 99. Roadways and urban areas comprise approximately 33.40 acres (68.3%) of the BSA.

### 3.1.3.2 Landscaping

Landscaping within the BSA consists of ornamental grass, shrubs and trees that are scattered throughout the Chico Mall parking lot and along east 20<sup>th</sup> Street and Business Lane. There are over 100 trees, both native and non-native, present within the BSA. Vegetation within these areas include valley oak (*Quercus lobata*), toyon (*Heteromeles arbutifolia*), silver wattle (*Acacia dealbata*), London plane (*Plantanus hispanica*) and Mexican fan palm (*Washingtonia robusta*).

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Project Features EA 03-0J740 PIN 0319000145 SR99 Corridor Bikeway Facility (Bikeway 99) Phase 5 City of Chico, Butte County, California





FIGURE 4 Vegetation Communitites within the BSA EA 03-0J740 PIN 0319000145 SR99 Corridor Bikeway Facility (Bikeway 99) Phase 5 City of Chico, Butte County, California

Landscaping comprises approximately 10.9 acres (22.2%) of the BSA.

# 3.1.3.3 Disturbed Grassland

Disturbed grassland is found on the west and south side of the BSA. The patch of grassland on the west side of the BSA is regularly maintained, whereas the grassland on the south side of the BSA is in an undeveloped plot of land. The dominant grass species identified in this habitat type include Italian ryegrass (*Festuca perennis*), ripgut brome (*Bromus diandrus*) and wild oat (*Avena fatua*). Disturbed grassland comprises approximately 4.58 acres (9.36%) of the BSA.

## 3.1.3.4 Jurisdictional Drainage

The jurisdictional drainage within the BSA is approximately 190 linear ft in length and is parallel to the SR 99 off ramp. The drainage connects to a City owned culvert within the Project area. The drainage collects stormwater runoff during heavy rain events and sheet flow from SR 99. Vegetation found within the drainage includes English plantain (*Plantago lanceolata*), wild radish (*Raphanuys sativus*) and bur chervil (*Anthriscus caucalis*). The jurisdictional drainage is approximately 0.03 acres (<1%), of the BSA.

## 3.1.3.5 Seasonal Wetland Swale

The Project area contains approximately 0.04 acres of a seasonal wetland swale and spans approximately 285 linear ft along the SR 99 offramp. On April 10, 2019 a wetland delineation, consistent the USACE *Arid West Wetland Delineation Manual*, was completed and delineated using a Trimble GeoXT Geoexplorer 6000 series handheld GPS unit. Vegetation within the wetland includes pale spikerush (*Eleocharis macrostachya*), water smartweed (*Persicaria amphibia*) and willow herb (*Epilobium brachycarpum*).

## 3.1.4 Habitat Connectivity

According to the CDFW *California Habitat Connectivity Projects*, the BSA is not located within any designated migratory corridor or essential habitat connectivity. The Project area is designated as Residential Commercial, per the City's General Plan, and lacks natural habitat communities that would allow for habitat connectivity. The Project does not anticipate to temporarily or permanently impact any wildlife corridors or areas designated for habitat connectivity.

# 3.2 Regional Species and Habitats and Natural Communities of Concern

Plant and animal species are considered to have special-status if they have been listed as such by Federal or State agencies or by one or more special interest groups, such as CNPS. Prior to field surveys, queries of the USFWS, CNDDB and CNPS databases were conducted to identify species protected under FESA and CESA. Table 1 provides a list of regional special-status species, describes the habitat requirements for each species, and states if the species has potential to occur within the BSA. Due to the lack of suitable habitat, no special-status wildlife species have the potential to occur within the Project area. Furthermore, no critical habitat occurs within or adjacent to the BSA.

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Amphibian Species	Ĩ		Γ			
California red-legged frog	Rana draytonii	Fed: State: CDFW:	T  SSC	The California red-legged frog occupies a fairly distinct habitat, combining both specific water (aquatic) and upland (terrestrial) components. California red- legged frog habitat includes nearly any area within one to two miles of a breeding site that stays moist and cool through the summer; this includes non-breeding aquatic habitat in pools of slow-moving streams, perennial or ephemeral ponds, and upland sheltering habitat such as rocks, small mammal burrows, logs, densely vegetated areas, and even, man- made structures (i.e., culverts, livestock troughs, spring-boxes, abandoned sheds). Breeding sites are generally found in deep, still or slow-moving water (greater than 2.5 ft) and can have a wide range of edge and emergent cover. California red- legged frogs can breed at sites with dense shrubby riparian or emergent vegetation, such as cattails, tulles, or overhanging willows or can proliferate in ponds devoid of any emergent	A	<b>Presumed Absent:</b> The Project area lacks suitable aquatic habitat required by the species. There are no CNDDB documented occurrences within a 10-mile radius of the Project area Due to the lack of suitable habitat and the lack of local recent occurrences, the species is presumed absent from the BSA.

# Table 1. Special-status Species and Habitats with Potential to Occur in Project Vicinity

Common Name	Species Name	Status		General Habitat Description	Habitat Prese <u>nt</u>	Potential for Occurrence and Rationale
				vegetative cover (i.e., stock ponds). The species breeds from late November to late April and occurs from sea level to approximately 5,200 ft above mean sea level (amsl).		
Foothill yellow-legged frog	Rana boylii	Fed: State: CDFW:	  SSC	This species can be found in a variety of chaparral and woodland habitats. The foothill yellow-legged frog requires shallow streams and riffles that contain rocky substrate and open, sunny banks. Tadpoles require water for at least three to four months to complete development. Breeding occurs from March - May at elevations from sea level to 6,700 ft.	A	<b>Presumed Absent:</b> The Project area is within a developed area and lacks suitable aquatic habitat required by the species. There are documented CNDDB occurrences within a 10-mile radius of the Project area. The nearest and most recent occurrence is approximately 8.6 miles east of the Project area and was recorded in 2014. The species was found within Butte Creek. Due to the lack of suitable aquatic within the BSA, the species is presumed absent.
Western spadefoot	Spea hammondii	Fed: State: CDFW:	  SSC	Inhabits burrows within grassland and valley foothill hardwood woodland communities. Requires vernal, shallow, temporary pools formed by heavy winter rains for reproduction. Breeds late winter- March.	A	<b>Presumed Absent:</b> The Project area lacks grassland and hardwood communities suitable for the species. There are documented CNDDB occurrences within a 10-mile radius of the Project area. The nearest and most recent occurrence is approximately 2.5 miles north of the Project area and was recorded in 2016. The species was found near Lindo Channel adjacent to an area with housing developments, parks and vernal pools. Due to the lack of

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						suitable aquatic habitat and the lack of grassland communities within the Project area, the species is presumed absent from the BSA.
Avian Species	1	Γ	I		Γ	
Bald eagle	Haliaeetus leucocephal us	Fed: State: CDFW:	 E 	Species occurs near ocean shores, lakes, rivers, rangelands and coastal wetlands for nesting and wintering; nesting occurs within 1 mile of a water source with abundant fish near mountain forests and woodlands. Prefers ponderosa pines for nesting.	A	<b>Presumed Absent:</b> The Project area does not contain mountain forest or woodland habitat required by the species. There are documented CNDDB occurrences within a 10-mile radius of the Project area. The nearest and most recent occurrence is approximately 3 miles northeast of the Project area and was recorded in 2007. The species was found within Upper Bidwell Park near Horeshoe Lake. Due to the lack of suitable habitat within the Project area, the species is presumed absent from the BSA.
Bank swallow	Riparia riparia	Fed: State: CDFW:	 T 	A migratory colonial nester inhabiting lowland and riparian habitats west of the deserts during spring - fall. Majority of current breeding populations occur along the Sacramento and Feather rivers in the north Central Valley. Requires vertical banks or cliffs with fine textured/sandy soils for nesting (tunnel and burrow excavations). Nests exclusively near streams, rivers, lakes or the ocean. Breeds May-July.	A	<b>Presumed Absent:</b> The Project area lacks banks and cliffs with streams or rivers required by the species for nesting. There are documented CNDDB occurrences within a 10-mile radius of the Project area. The nearest and most recent occurrence is approximately 7.5 miles west of the Project area and was recorded in 2010. Due to the lack of suitable habitat, the species is presumed absent from the BSA.

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Burrowing owl	Athene cunicularia	Fed: State: CDFW:	  SSC	The burrowing owl inhabits arid, open areas with sparse vegetative cover such as deserts, abandoned agricultural areas, grasslands, and disturbed open habitats. This species lives in mammal burrows or man-made structures, such as a pipe. This species requires friable soils for burrow construction and occurs below approximately 5,300 ft amsl.	A	<b>Presumed Absent:</b> The Project area lacks suitable grassland habitat and friable soils required by the species. There are documented CNDDB occurrences within a 10- mile radius of the Project area. The nearest and most recent occurrence is approximately 2 miles east of the Project area and was recorded in 2006. Due to the lack of recent occurrences and the lack of suitable habitat within the Project area, the species is presumed absent from the BSA.
California black rail	Laterallus jamaicensis coturniculus	Fed: State: CDFW:	 T 	A rare yearlong California resident of brackish, and fresh emergent wetlands in delta and coastal locations, including the San Francisco Bay area, Sacramento- San Joaquin Delta, Morro Bay, the Salton Sea, and lower Colorado River; extirpated from San Diego County and the majority of coastal southern California. Occurs in tidal emergent wetlands dominated by pickleweed, in brackish marshes dominated by bulrushes with pickleweed and in freshwater wetlands dominated by bulrushes, cattails, and saltgrass. Species prefers high wetland areas, away from areas experiencing fluctuating water	A	<b>Presumed Absent:</b> The Project area lacks brackish, fresh emergent wetlands containing bulrushes and cattails required by the species. There are documented CNDDB occurrences within a 10-mile radius of the Project area. The nearest and most recent occurrence is approximately 4.6 miles east of the Project area and was recorded in 2008. Due to the lack of suitable habitat and the lack of recent occurrences, the species is presumed absent from the BSA.

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Prese <u>nt</u>	Potential for Occurrence and Rationale
				levels. Requires vegetation providing adequate overhead cover for nesting. Eggs are laid March-June.		
Least bell's vireo	Vireo bellii pusillus	Fed: State: CDFW:	E E 	The least bell's vireo is a summer resident of southern California inhabiting low riparian habitats near water and dry river bottoms. This species prefers willows, baccharis, mesquite and other low, dense vegetation for nesting. This species is only known to occur up to approximately 2,000 ft amsl.	A	<b>Presumed Absent:</b> The Project area lacks riparian habitat required by the species. There is one documented CNDDB occurrence within a 10-mile radius of the Project area. The occurrence is approximately 0.5 miles west of the Project area and was recorded in 1906. This area has since been developed into residential neighborhoods and public facilities. Due to the lack of suitable habitat and the lack of local, recent occurrences, the species is presumed absent from the BSA.
Swainson's hawk	Buteo swainsoni	Fed: State: CDFW:	  SSC	Inhabits grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, alfalfa or grain fields that support a stable rodent prey base. Breeds March to late August.	A	<b>Presumed Absent:</b> The Project area lacks agricultural and ranch land and lacks trees suitable for nesting. There are documented CNDDB occurrences within a 10- mile radius of the Project area. The nearest and most recent occurrence is approximately 9 miles north of the Project area and was recorded in 2009. Due to the lack of suitable habitat within the Project area and the lack of recent occurrences, the species is presumed absent from the BSA

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Tricolored blackbird	Agelaius tricolor	Fed: State: CDFW:	  SSC	This species inhabits freshwater marsh, swamp and wetland communities, but may utilize agricultural or upland habitats that can support large colonies, often in the Central Valley area. Requires dense nesting habitat that is protected from predators, is within 3-5 miles from a suitable foraging area containing insect prey and is within approximately 0.3 miles of open water. Suitable foraging habitat includes wetland, pastureland, rangeland, dairy farms, and some irrigated croplands (silage, alfalfa, etc.). Nests occurs from mid-March to early August but may extend into October and November in the Sacramento Valley region.	A	<b>Presumed Absent:</b> The Project area lacks freshwater marsh, swamp and suitable wetland communities with emergent vegetation required for nesting. There is one documented CNDDB occurrence within a 10-mile radius of the Project area. The occurrence is approximately one mile east of the Project area and was recorded in 1983. Due to the lack of suitable habitat within the Project area and the lack of recent occurrences, the species is presumed absent from the BSA.
Western yellow-billed cuckoo	Coccyzus americanus occidentalis	Fed: State: CDFW:	T E 	Species inhabits riparian forests, along broad, lower flood bottoms of larger river systems. Nests in large blocks of riparian jungles often mixed with cottonwoods. Nesting appears to be preferred in riparian forest habitats with a dense understory; requires water near nesting site. Breeds June- August.	A	<b>Presumed Absent:</b> The Project area lacks riparian forest required by the species. There are documented CNDDB occurrences within a 10- mile radius of the Project area. The nearest and most recent occurrence is approximately 7 miles north of the Project area and was recorded in 2013. The species was found near the east side of Sacramento River. Due to the lack of riparian habitat within the Project area, the species is presumed absent from the BSA.

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Fish Species	-					
Chinook salmon – Central Valley spring- run ESU	Oncorhynch us tshawytscha pop. 6	Fed: State: CDFW:	т т 	Spring-run Chinook enter the Sacramento-San Joaquin River system to spawn, requiring larger gravel particle size and more water flow through their redds than other salmonids. Remaining runs occur in Butte, Mill, Deer, Antelope, and Beegum Creeks, tributaries to the Sacramento River. Known to occur in Siskiyou and Trinity counties.	A	<b>Presumed Absent:</b> The Project area lacks fresh water streams required by the species. There are documented CNDDB occurrences within a 10-mile radius of the Project area. The nearest and most recent occurrence is approximately 3.5 miles east of the Project area and was recorded in 2010. Due to the lack of suitable aquatic habitat within the Project area, the species is presumed absent from the BSA.
Steelhead – Central Valley DPS	Oncorhynch us mykiss irideus pop. 11	Fed: State: CDFW:	T  	Spawning occurs in small tributaries on coarse gravel beds in riffle areas. Central Valley steelhead are found in the Sacramento River system. The principal remaining wild populations spawn annually in Deer and Mill Creeks in Tehama County, in the lower Yuba River, and a small population in the lower Stanislaus River.	A	<b>Presumed Absent:</b> The Project area lacks fresh water streams required by the species. There are documented CNDDB occurrences within a 10-mile radius of the Project area. The nearest and most recent occurrence is approximately 0.7 miles north of the Project area and was recorded in 2013. The species was found within the Big Chico Creek. Due to the lack of suitable aquatic habitat within the Project area, the species is presumed absent from the BSA.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale		
Invertebrate Species								
Conservancy fairy shrimp	Branchinect a conservatio	Fed: State: CDFW:	E  	Inhabits relatively large and turbid clay bottomed playa vernal pools. Species requires pools to continuously hold water for a minimum of 19 days and must remain inundated into the summer months. Occupied playa pools typically are 1 to 88 acres in size, but species may utilize smaller, less turbid pools.	A	<b>Presumed Absent:</b> The Project area lacks vernal pools required by the species. There are documented CNDDB occurrences within a 10- mile radius of the Project area. The nearest and most recent occurrence is approximately 7.5 miles north of the Project area and was recorded in 1981. Due to the lack of vernal pools within the Project area and the lack of local recent occurrences, the species is presumed absent from the BSA.		
Valley elderberry longhorn beetle	Desmoceru s californicus dimorphus	Fed: State: CDFW:	T  	Species requires elderberry shrubs as host plants. Typically occurs in moist valley oak woodlands associated with riparian corridors in the lower Sacramento River and upper San Joaquin River drainages. (sea level-3,000 ft).	A	<b>Presumed Absent:</b> The Project area lacks elderberry shrubs required by the species. There are documented CNDDB occurrences within a 10-mile radius of the Project area. The nearest and most recent occurrence is approximately 2 miles north of the Project area and was recorded in 2010. Due to the lack of suitable habitat, the species is presumed absent from the BSA.		
Vernal pool fairy shrimp	Branchinect a lynchi	Fed: State: CDFW:	T  	In California, species inhabits portions of Tehama county, south through the Central Valley, and scattered locations in Riverside County and the Coast Ranges. Species is associated with smaller	A	<b>Presumed Absent:</b> The Project area lacks vernal pools required by the species. There are documented CNDDB occurrences within a 10- mile radius of the Project area. The		

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				and shallower cool-water vernal pools approximately 6 inches deep and short periods of inundation. In the southernmost extremes of the range, the species occurs in large, deep cool-water pools. Inhabited pools have low to moderate levels of alkalinity and total dissolved solids. The shrimp are temperature sensitive, requiring pools below 50 F to hatch and dying within pools reaching 75 F. Young emerge during cold- weather winter storms.		nearest and most recent occurrence is approximately 7.7 miles north of the Project area and was recorded in 2011. Due to the lack of vernal pools within the Project area, the species is presumed absent from the BSA.
Vernal pool tadpole shrimp	Lepidurus packardi	Fed: State: CDFW:	E  	Inhabits vernal pools and swales containing clear to highly turbid waters such as pools located in grass bottomed swales of unplowed grasslands, old alluvial soils underlain by hardpan, and mud-bottomed pools with highly turbid water.	А	<b>Presumed Absent:</b> The Project area lacks vernal pools required by the species. There are documented CNDDB occurrences within a 10- mile radius of the Project area. The nearest and most recent occurrence is approximately 8.3 miles north of the Project area and was recorded in 2013. Due to the lack of vernal pools within the Project area, the species is presumed absent from the BSA.
Mammal Species	1	1			I	
Pallid bat	Antrozous pallidus	Fed: State: CDFW:	  SSC	Inhabits low elevations of deserts, grasslands, shrub lands, woodlands and forests year- round. Most common in open, dry habitats with rocky areas for	A	<b>Presumed Absent:</b> The Project area lacks grassland, woodland and other natural habitat communities required for the species.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				roosting. Forages over open ground within 1-3 miles of day roosts. Prefers caves, crevices, and mines for day roosts, but may utilize hollow trees, bridges and buildings. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites. Maternity colonies form early April and young are born April-July (below 10,000 ft).		Furthermore, there are no caves, mines or bridges within the Project area. There is one documented CNDDB occurrence within a 10-mile radius of the Project area. The occurrence is approximately 0.5 miles west of the Project area and was recorded in 1992. Additionally, no signs of bats were observed under the trees located within the BSA. Due to the lack of habitat and the lack of local recent occurrences, the species is presumed absent from the BSA.
Western mastiff bat	Eumops perotis californicus	Fed: State: CDFW:	  SSC	Inhabits many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Prefers open, rugged, rocky areas where suitable crevices are available for day roosts. Roots in cliff face crevices (usually granite or consolidated sandstone), high buildings, trees and tunnels. Roosting sites must have a minimum 10-foot vertical drop. Births early April through August or September (sea level-8,475 ft).	A	<b>Presumed Absent:</b> The Project area lacks woodland, grassland and chaparral habitat required by the species. Furthermore, the Project area lacks crevices and rocky areas required for roosting. There are documented CNDDB occurrences within a 10-mile radius of the Project area. The nearest and most recent occurrence is approximately 4.2 miles south and was recorded in 1997. Additionally, no signs of bats were observed under the trees located within the BSA. Due to the lack of suitable habitat and the lack of local recent occurrences, the
Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
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						species is presumed absent from the BSA.
Western red bat	Lasiurus blossevillii	Fed: State: CDFW:	  SSC	The species is found around North America, ranging from southern Canada, through the western United States, down to Central America and to the northern part of South America. These bats are migratory, similar to birds. They migrate to the southern parts of the Americas when it gets cold, and head north when the weather starts to warm up in northern parts. Unlike many bats, which roost in caves, this species will most likely be found in the forest roosting under leaves. The species is found in the foliage of trees and shrubs in forests, most commonly 1.5 to 12 m above the ground. The species often relies on riparian trees for roosting and foraging, and has been associated with mature stands of cottonwood, sycamore, and willows adjacent to streams. The species has also been associated with some fruit trees in orchards, and some evidence has been found to indicate that they may occasionally use caves. They can often be seen feeding in rural and	A	<b>Presumed Absent</b> : The Project area lacks riparian habitat required by the species. There are documented CNDDB occurrences within a 10-mile radius of the Project area. The nearest and most recent occurrence is approximately 7.3 miles west of the Project area and was recorded in 1999. Additionally, no signs of bats were observed under the trees located within the BSA. Due to the lack of suitable habitat and the lack of local recent occurrences, the species is presumed absent from the BSA.

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				suburban areas, around streetlights and other light sources. Mating occurs August- September and delayed fertilizaton to the following year and births are May-July.		
Reptile Species						
Coast horned lizard	Phrynosom a blainvillii	Fed: State: CDFW:	  SSC	Inhabits valley-foothill hardwood, conifer and riparian habitats, as well as pine-cypress, juniper woodlands, chaparral, and coastal scrub. Within these communities, the species requires a micro habitat of sandy soils for burying, open areas for sunning, and shrub cover for protection. The species predominantly feeds on ants but will also eat other small insects if they are abundant. The species is most common in sandy washes and flood plains.	A	<b>Presumed Absent:</b> The Project area lacks woodland, riparian and chaparral habitat required by the species. There is one CNDDB occurrence within a 10-mile radius of the Project area. The occurrence is located approximately 7.3 miles east of the Project area and was recorded in 1933. Due to the lack of local recent occurrences and the lack of suitable habitat, the species is presumed absent from the BSA.
Giant garter snake	Thamnophis gigas	Fed: State: CDFW:	т т 	This species can be found throughout the central valley from Butte County south to Kern County. However, due to habitat loss this species is no longer present in most of historical range. The preferred habitats include densely vegetated ponds, seasonal ponds and open hillsides. Vegetation, such as	A	<b>Presumed Absent:</b> The Project area lacks densely vegetated ponds and open hillside habitat required by the species. There are documented CNDDB occurrences within a 10- mile radius of the Project area. The nearest and most recent occurrence is approximately 5.8 miles west of the Project area and was recorded in 2005. The species was found near

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Prese <u>nt</u>	Potential for Occurrence and Rationale
				cattails, bulrushes and spike rushes are used as cover.		little Chico Creek. Due to the lack of local recent occurrences and the lack of suitable habitat, the species is presumed absent from the BSA.
Western pond turtle	Emys marmorata	Fed: State: CDFW:	  SSC	A fully aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat including sandy banks or grassy open field for reproduction. This species is known to occur from sea level to approximately 4,690 ft amsl.	A	<b>Presumed Absent:</b> The Project area lacks permanent ponds and aquatic vegetation required by the species. There are documented CNDDB occurrences within a 10- mile radius of the BSA. The nearest and most recent occurrence is approximately 5.7 miles west of the Project area and was recorded in 2010. Due to the lack of ponds and aquatic vegetation and the lack of local recent occurrences, the species is presumed absent from the BSA.
Plant Species		Γ	I			
Adobe-lily	Fritillaria pluriflora	Fed: State: CA RPR	  IB.2	A perennial bulbiferous herb inhabiting chaparral, cismontane woodlands and valley and foothill grasslands with adobe soils. Flowers February-April (195-2312 ft).	А	<b>Presumed Absent:</b> The Project area lacks chaparral, cismontante woodland and foothill grassland habitat. There are documented CNDDB occurrences within a 10- mile radius of the BSA. The nearest and most recent occurrence is approximately 6 miles north of the Project area and was recorded in 2018. The species was found within grassland habitat. Additionally, the species was not observed during the biological survey conducted on April

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						10, 2019. Due to the lack of suitable habitat within the Project area, the species is presumed absent from the BSA.
Ahart's paronychia	Paronychia ahartii	Fed: State: CA RPR	  IB.1	An annual herb inhabiting well- drained, rocky outcrops and volcanic upland of cismontane woodland, valley and foothill grassland and vernal pool communities. Flowers February - June (98-1,673 ft).	A	<b>Presumed Absent:</b> The Project area lacks rocky outcrops, cismontane woodland, grassland and vernal pool habitat required by the species. There are documented CNDDB occurrences within a 10- mile radius of the BSA. The nearest and most recent occurrence is approximately 5.5 miles north of the Project area and was recorded in 2011. The species was found within vernal pool grassland habitat. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat within the Project area, the species is presumed absent from the BSA.
Big-scale balsamroot	Balsamorhiz a macrolepis	Fed: State: CA RPR	  IB.2	A perennial herb inhabiting open grassy or rocky slopes and valleys within chaparral, cismontane woodland, valley and foothill grassland communities; sometimes occurs in serpentinite soils. Flowers March- June (295- 5,101 ft).	A	<b>Presumed Absent</b> : The Project area lacks chaparral, woodland and foothill grassland communities required by the species. There are documented CNDDB occurrences within a 10-mile radius of the BSA. The nearest and most recent occurrence is approximately 9.9 miles south of the Project area and

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						was recorded in 1987. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat within the Project area and the lack of recent occurrences the species is presumed absent from the BSA.
Brazilian watermeal	Wolffia brasiliensis	Fed: State: CA RPR	  2B.3	A perennial herb inhabiting ponds, marshes and swamps, and other shallow freshwater communities. Flowers April - December (65- 328 ft).	A	<b>Presumed Absent:</b> The Project area lacks ponds, marshes and swamps in which the species occurs. There is one CNDDB occurrence within a 10-mile radius of the Project area. The occurrence is located approximately 6.8 miles west of the Project area and was recorded in 1988. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat and the lack of local recent occurrences, the species is presumed absent from the BSA.
Butte County checkerbloom	Sidalcea robusta	Fed: State: CA RPR	  IB.2	A perennial herb native and endemic to California. Inhabits chaparral and foothill woodland communities. Flowers April-June (161-2,468 ft).	A	<b>Presumed Absent:</b> The Project area lacks foothill woodland communities in which the species occurs. There are documented CNDDB occurrences within a 10- mile radius of the BSA. The nearest and most recent occurrence is approximately 5 miles east of the

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						Project area and was recorded in 2011. The species was found on the top of a ridge between Big Chico Creek and Little Chico Creek in Upper Bidwell Park. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat, the species is presumed absent from the BSA.
Butte County fritillary	Fritillary eastwoodia e	Fed: State: CA RPR	  3.2	A perennial bulbiferous herb inhabiting chaparral, cismontane woodland, and openings of lower montane coniferous forest. Sometimes in serpentine soil. Flowers March-June (164-4921 ft).	A	<b>Presumed Absent</b> : The Project area lacks chaparral and cismontane woodland habitat preferred by the species. There are documented CNDDB occurrences within a 10-mile radius of the BSA. The nearest and most recent occurrence is approximately 8.9 miles east of the Project area and was recorded in 2007. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat within the Project area, the species is presumed absent from the BSA.
Butte County meadowfoam	Limnanthes floccose ssp. californica	Fed: State: CA RPR	E E IB.1	Sometimes found at the edges of vernal pools, primarily found in the deepest parts of vernal swales that connect vernal pools. Is an annual plant that has only been found in a narrow 28-mile strip	A	<b>Presumed Absent</b> : The Project area lack vernal pools required for the species. There are documented CNDDB occurrences within a 10- mile radius of the BSA. The nearest and most recent occurrence is

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				along the eastern Sacramento Valley in Butte County (39-1,243 ft).		approximately 2.3 miles east of the Project area and was recorded in 2010. The species was found within vernal pool habitat. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat within the Project area, the species is presumed absent from the BSA.
California beaked-rush	Rhynchospo ra californica	Fed: State: CA RPR	  IB.1	A perennial grass like herb endemic to California. Typically occurs in lower montane coniferous forest, bogs, seeps, wet meadows, and freshwater marsh. Blooms March – July (147- 3,313 fe)	A	<b>Presumed Absent</b> : The Project area lacks montane forest, bogs, seeps and wet meadow and suitable freshwater marsh habitat required by the species. There are documented CNDDB occurrences within a 10-mile radius of the BSA. The nearest and most recent occurrence is approximately 3.8 miles east of the Project area and was recorded in 2012. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat within the Project area, the species is presumed absent from the BSA.
California satintail	Imperata brevifolia	Fed: State: CA RPR	  2B.1	A perennial herb inhabiting mesic soils within springs, meadows, streambanks, floodplain, chaparral, coastal scrub, Mojave desert scrub and riparian scrub.		<b>Presumed Absent:</b> The Project area lacks springs, meadows, streambanks and chaparral habitat preferred by the species. There are documented CNDDB occurrences

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				Blooms September-May (0-3,986 ft).		within a 10-mile radius of the BSA. The nearest and most recent occurrence is approximately 7.6 miles east of the Project area and was recorded in 1989. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of habitat and the lack of local recent occurrences, the species is presumed absent from the BSA.
Flagella-like atractylocarpus	Campylopo diella stenocarpa	Fed: State: CA RPR	  2B.2	A moss native to California inhabiting cismontane woodland habitat (328-1,640 ft).	A	<b>Presumed Absent</b> : The Project area lacks cismontane woodland in which the species occurs. There is one CNDDB occurrence within a 10-mile radius of the Project area. The occurrence is located approximately 4.4 miles east of the Project area and was recorded in 2001. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat and the lack of local recent occurrences, the species is presumed absent from the BSA.
Greene's tuctoria	Tuctoria greenei	Fed: State: CA RPR	E  1B.1	This grass typically occurs in vernal pools in open grassland on the eastern side of the Sacramento and San Joaquin Valleys. It is only found in these	A	<b>Presumed Absent</b> : The Project area lacks vernal pools required by the species. There are documented CNDDB occurrences within a 10-mile radius of the BSA. The nearest and most recent occurrence is

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				seasonally wet areas. Blooms from May-July (26-3,583 ft).		approximately 8.2 miles south and was recorded in 2011. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat within the Project area, the species is presumed absent from the BSA.
Hairy orcutt grass	Orcuttia pilosa	Fed: State: CA RPR	  1B.1	An annual grass native and endemic to California. Inhabits wetlands, vernal pools and valley grassland communities. Blooms from May-September (27-385 ft).	A	<b>Presumed Absent</b> : The Project area lacks suitable wetlands, vernal pools and grassland communities required by the species. Furthermore, there are no documented CNDDB occurrences within a 10-mile radius of the Project area. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat and the lack of occurrences, the species is presumed absent from the BSA.
Hoover's spurge	Euphorbia hooveri	Fed: State: CA RPR	T  1B.2	An annual herb native and endemic to California. Inhabits wetlands, vernal pools and grassland communities. Blooms from July-September (193-348 ft).	A	<b>Presumed Absent</b> : The Project lacks vernal pools, suitable wetlands and grassland communities required for the species. There is one CNDDB occurrence within a 10-mile radius of the Project area. The occurrence is located approximately 8.2 miles south of the Project area and was recorded in 1986. Additionally, the species was not observed during the

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Prese <u>nt</u>	Potential for Occurrence and Rationale
						biological survey conducted on April 10, 2019. Due to the lack of suitable habitat and the lack of recent occurrences, the species is presumed absent from the BSA.
Pink creamsacs	Castilleja rubicundula var. rubicundula	Fed: State: CA RPR	  1B.2	An annual hemiparasitic herb inhabiting serpentinite soils of chaparral, cismontane woodland, meadows and seeps and valley and foothill grassland communities. Flowers April - June (65- 2,985 ft).	A	<b>Presumed Absent:</b> The Project area lacks cismontane woodland, meadows, seeps and grassland habitat required by the species. There are documented CNDDB occurrences within a 10-mile radius of the BSA. The nearest and most recent occurrence is approximately 8.7 miles north of the Project area and was recorded in 1986. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat and the lack of recent occurrences, the species is presumed absent from the BSA.
Red bluff dwarf rush	Juncus leiospermus var. occidentalis	Fed: State: CA RPR	  1B.1	An annual herb inhabiting vernally mesic soils of chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland and vernal pool communities. Flowers April – June (104-4,101 ft).	A	<b>Presumed Absent</b> : The Project area lacks chaparral, cismontane woodland, meadow and seep habitat required by the species. There is one CNDDB occurrence within a 10-mile radius of the Project area. The occurrence is located approximately 9.3 miles east of the Project area and was recorded in 1980. Additionally,

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat and the lack of recent occurrences, the species is presumed absent from the BSA.
Silky cryptantha	Cryptantha crinita	Fed: State: CA RPR	  1B.2	An annual endemic herb that occurs in the northern Sacramento Valley and the adjacent edges of the Cascade Range foothills. The species inhabits foothill woodland, yellow pine forest and valley grassland in riparian habitats. Flower April-May (200-5,000 ft).	A	<b>Presumed Absent</b> : The Project area lacks foothill woodland, yellow pine forest and grassland riparian habitats required by the species. There is one CNDDB occurrence within a 10-mile radius of the Project area. The occurrence is located approximately 7.4 miles west of the Project area and was recorded in 2010. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat within the Project area, the species is presumed absent from the BSA.
Slender-leaved pondweed	Stuckenia filiformis ssp. alpine	Fed: State: CA RPR	  2B.2	A perennial herb rhizomatous herb inhabiting shallow, clear water of lakes, drainage channels and marshes and swamps. Flowers May-July (984-7,053 ft).	A	<b>Presumed Absent</b> : The Project area lacks clear water lakes and marsh habitat required by the species. There is one CNDDB occurrence within a 10-mile radius of the Project area. The occurrence is located approximately 2.8 miles south of the Project area and was recorded in 1987. Additionally, the species was not observed during the biological

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						survey conducted on April 10, 2019. Due to the lack of recent occurrences and the lack of suitable habitat within the Project area, the species is presumed absent from the BSA.
Veiny monardella	Monardella venosa	Fed: State: CA RPR	  1B.1	An annual herb inhabiting heavy clay soils in cismontane woodlands, valley and foothill grasslands. Flowers May-July (195-1350 ft).	A	<b>Presumed Absent:</b> The Project area lacks cismontane woodlands and valley foothill grasslands in which the species occurs. There is one CNDDB occurrence within a 10- mile radius of the Project area. The occurrence is located approximately 6 miles south of the Project area and was recorded in 1992. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of recent occurrences and the lack of suitable habitat, the species is presumed absent from the BSA.
White-stemmed clarkia	Clarkia gracilis ssp. albicaulis	Fed: State: CA RPR	  1B.2	An annual herb native and endemic to California. Inhabits chaparral and foothill woodland communities. Blooms from May- July (116-5,107 ft).	A	<b>Presumed Absent:</b> The Project area lacks chaparral and foothill woodland communities required by the species. There are documented CNDDB occurrences within a 10- mile radius of the BSA. The nearest and most recent occurrence is approximately 7.3 miles east of the Project area and was recorded in 2009. The species was found in Bidwell Park on a steep grassy

Common Name	Species Name	Stat	us	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						hillside. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat within the Project area, the species is presumed absent from the BSA.
Woolly rose-mallow	Hibiscus lasiocarpos var. occidentalis	Fed: State: CA RPR	  1B.2	A perennial rhizomatous herb inhabiting freshwater wetlands, wet banks, and marsh communities. Often found in- between riprap on levees. Flowers June-September (0-394 ft).	A	<b>Presumed Absent:</b> The Project area lacks suitable freshwater wetlands and marsh communities required by the species. There are documented CNDDB occurrences within a 10-mile radius of the BSA. The nearest and most recent occurrence is approximately 5 miles east of the Project area and was recorded in 2002. Additionally, the species was not observed during the biological survey conducted on April 10, 2019. Due to the lack of suitable habitat present within the Project area, the species is presumed absent from the BSA.

Federal Designations (Fed): (FESA, USFWS) E: Federally listed, endangered T: Federally listed, threatened D: Delisted	State Designations (CA):         (CESA, CDFW)         E: State-listed, endangered         T: State-listed, threatened         CE: State-candidate, endangered         R: State-designated, rare
Other Designations CDFW_SSC: CDFW Species of Special Concern CDFW_FP: CDFW Fully Protected California Native Plant Society (CNPS) Designati *Note: according to CNPS (Skinner and Pavlik 19	ions: 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901. Chapter 10
<ul> <li>of the California Fish and Game Code. This inter</li> <li>1A: Plants presumed extinct in California.</li> <li>1B: Plants rare and endangered in California and th</li> <li>2: Plants rare, threatened, or endangered in Califo</li> <li>3: Plants about which need more information: a rev</li> </ul>	pretation is inconsistent with other definitions. roughout their range. rnia but more common elsewhere in their range. iew list.
<ul> <li>Plants 1B, 2, and 3 extension meanings:</li> <li>1. Seriously endangered in California (over 80% of c</li> <li>2. Fairly endangered in California (20-80% occurren</li> <li>3. Not very endangered in California (&lt;20% of occur</li> </ul>	occurrences threatened / high degree and immediacy of threat) lices threatened) rrences threatened or no current threats known)
Habitat Potential Absent [A] - No habitat present and no further work Habitat Present [HP] - Habitat is, or may be present. Critical Habitat [CH] – Project is within designated C	needed. . The species may be present. critical Habitat.
Potential for Occurrence Criteria: Present: Species was observed on site during a site High: Habitat (including soils and elevation factors) Low-Moderate: Either low quality habitat (including habitat strongly associated with the species occurs of Presumed Absent: Focused surveys were conduct factors) do not exist on site, or the known geographi	visit or focused survey. for the species occurs on site and a known occurrence has been recorded within 5 miles of the site. soils and elevation factors) for the species occurs on site and a known occurrence exists within 5 miles of the site; or suitable on site, but no records were found within the database search. ted, and the species was not found, or species was found within the database search but habitat (including soils and elevation ic range of the species does not include the survey area.
Species Table Sources: CNDDB 2019, CNPS 201	9, Jepson eFlora 2019, NRCS 2019, USFWS 2019

# 4. Results: Biological Resources, Discussion of Impacts & Mitigation

#### 4.1 Habitats and Natural Communities of Special Concern

Databases searches through USFWS National Wetland Inventory and through the EPA's Waters database did not detect any water resources within the Project area. The biological surveys conducted on April 10, 2019 identified a wetland feature and jurisdictional drainage feature present within the Project area. The remaining of the BSA is highly developed and does not contain any other habitat or natural community of concern. The Project does not anticipate impacts to the seasonal wetland or jurisdictional drainage. The project will require the removal of approximately 73 trees. These removals are required to allow for construction of the bike path which will also increase visibility and improve safety on the proposed bike path. Temporary impacts that include construction staging and construction access are anticipated to be limited to roadways within the Project area and one parking lot within the Chico Mall.

#### 4.1.1. Jurisdictional Waters Survey Results

Approximately 285 linear ft of a seasonal wetland swale was identified within the Project area during the biological surveys conducted on April 10, 2019 by Dokken Engineering biologist Andrew Dellas. A wetland delineation, consistent with USACE *Arid West Wetland Delineation Manual*, was completed during the biological survey (Appendix F. OHWM and Wetland Delineation Forms). The wetland feature occupies approximately 0.04 acres of the BSA. Water within the wetland seems to have collected due to a large tree stump that has blocked water flow to the adjacent jurisdictional drainage. As a result, hydric soils have formed in this area and created ideal conditions for wetland specific plant species. The following plant species are present within the seasonal wetland swale; pale spikerush (*Eleocharis macrostachya*), water smartweed (*Persicaria amphibia*) and willow herb (*Epilobium brachycarpum*).

Additionally, approximately 190 linear ft of a jurisdictional drainage is present within the Project area, parallel to the SR 99 off ramp. The drainage connects to a City owned culvert that transports water under SR 99 and then flows south through another drainage channel for approximately 0.70 miles before entering Comanche Creek.

#### 4.1.2 Project Impacts to Jurisdictional Waters

The Project does not anticipate impacts to the seasonal wetland swale or the jurisdictional drainage. The Project design proposes to avoid all jurisdictional water features present within the Project area.

#### 4.1.3 Jurisdictional Waters Avoidance and Minimization Efforts/Compensatory Mitigation

The Project has been designed to avoid permanent and temporary impacts to jurisdictional waters. The following avoidance and minimization measures and Best Management Practices (BMPs) will be incorporated into Project design to ensure avoidance of construction impacts to the seasonal wetland swale and the jurisdictional drainage.

- **BIO-1**: Prior to the start of construction activities, the Project limits in proximity to jurisdictional water features must be marked with Environmentally Sensitive Area (ESA) high visibility orange fencing, a permanent fence (similar to the chain link fence that is currently present), or staking to ensure construction will not encroach into the wetland or drainage.
- **BIO-2**: Contract specifications will include the following best management practices (BMPs), where applicable, to reduce erosion during construction:
  - The Project specifications will require the contractor to operate under an approved spill prevention and clean-up plan;
  - 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 must be prevented from contaminating the soil or entering surface waters; and,
  - Any concrete rubble, asphalt, or other debris from construction must be taken to an approved disposal site.
- **BIO-3:** To conform to water quality requirements, the SWPPP must include the following:
  - Vehicle maintenance, staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants shall be a minimum of 100 ft from wetland habitat. Any necessary equipment washing shall occur where the water cannot flow into the wetland or drainage channel. The Project proponent will prepare a spill prevention and clean-up plan.

## 4.2 Special-Status Plant Species

Prior to field surveys, a list of regional special-status plant species with potential to occur within the Project vicinity was compiled from database searches. The potential for each species to occur within the BSA was determined by analyzing the habitat requirements of each species and comparing the habitat requirements to available habitat within the BSA (Figure 4. Vegetation Communities within the BSA). The BSA lacks natural habitats that support many special-status plant species. Database searches concluded that 20 special-status plant species have the potential to occur within the Project vicinity.

## 4.2.1 Special-Status Plant Species Survey Results

After a careful comparison between habitat requirements and the habitat available within the BSA, no special-status plants were determined to have potential to occur within the BSA. Additionally, biological surveys did not detect any special-status species within the Project area. General surveys and habitat assessments determined that no special-status plant species have the potential of being present within the Project area.

#### 4.2.1.1 Project Impacts to Special-Status Plant Species

During the April 2019 biological survey, no special-status plant species were observed within the BSA. The proposed Project is not anticipated to impact special-status plant species.

#### 4.2.1.2 Special-Status Plant Species Avoidance and Minimization Efforts/Compensatory Mitigation

Although no special-status plant species were detected during biological surveys, the incorporation of the following avoidance and minimization measure will further minimize and avoid potential impacts to the local plant species.

**BIO-4** Prior to arrival at the Project site and prior to leaving the Project site, construction equipment that may contain invasive plants and/or seeds will be cleaned to reduce the spreading of noxious weeds.

#### 4.3 Special-Status Wildlife Species

Prior to field surveys, a list of regional special-status wildlife species with potential to occur within the Project vicinity was compiled from database searches. The potential for each species to occur within the BSA was determined by analyzing the habitat requirements of each species and comparing the habitat requirements to available habitat within the BSA (Figure 4. Vegetation Communities within BSA). The wildlife species listed in Table 1 are considered to be of special concern based on (1) Federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the presence of habitat required by the special-status wildlife species occurring on site.

After a careful comparison between habitat requirements and the habitat available within the BSA, no special-status species have the potential to occur onsite. Furthermore, no special-status species were observed during the biological surveys conducted on April 10, 2019.

Although no special-status species have the potential to occur within the BSA there is still potential for birds to nest in trees or shrubs within the Project area. The following avoidance and minimization measures will be incorporated into the Project to ensure the protection of migratory birds:

- BIO-5 If possible, vegetation removal should occur outside the nesting bird season (February 1 August 31). If vegetation removal is to take place during the nesting season, a preconstruction nesting bird survey must be conducted within 7 days prior to vegetation removal. Within 2 weeks of the nesting bird survey, all vegetation cleared during these surveys must be removed by the contractor.
- **BIO-6** A minimum 50-foot no-disturbance buffer for songbirds and a 100-foot buffer for raptors must be established around any active nests. The contractor must immediately stop work in the nesting area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the Project biologist and in coordination with wildlife agencies) in the buffer area until a qualified biologist determines the young have fledged.

# 5. Conclusions & Regulatory Determination

## 5.1. Federal Endangered Species Act Consultation Summary

On February 8, 2019, an official species list was obtained from USFWS of federal endangered and threatened species that have the potential to occur in the vicinity of the proposed Project (Appendix A. USFWS Species List). Habitat assessments concluded that no federally threatened or endangered species have the potential to occur within the BSA; no consultation with USFWS is required.

### 5.2. Essential Fish Habitat Consultation Summary

The BSA lacks aquatic resources suitable for fish species; the Project will not result in any impacts to Federal fisheries or Essential Fish Habitat (EFH).

### 5.3. Wetlands and Other Waters Coordination Summary

#### 5.3.1 Environmental Permits

The Project contains approximately 0.04 acres of seasonal wetland habitat and approximately 0.03 acres of a jurisdictional drainage. The Project will avoid all impacts to jurisdictional water features within the Project area (Appendix H. Project Plan Sheets). Therefore, no permits will be required.

#### 5.4. Invasive Species

During the biological survey 18 invasive plant species were identified within the BSA (Appendix E: List of Species Observed).

In February 1999, EO 13112 was signed, requiring Federal agencies to work on preventing and controlling the introduction and spread of invasive species. Measure **BIO-4** will be included in the Project to ensure that invasive species are not introduced or spread.

#### 5.5. Other

#### 5.5.1 Nesting Birds: MBTA and CFG Code Section 3503 and 3503.5

A number of bird species have the potential to nest within the BSA and are protected during their nesting periods under the provisions of the federal MBTA and CFG Code Sections 3503 and 3503.5. Measure **BIO-5** and **BIO-6**, discussed in Chapter 4, would be implemented to avoid and minimize potential Project related impacts to nesting birds. The Project will comply with the MBTA and CFG Code Sections 3503 and 3503.5.

## 6. References

- CDFW. 2019. California Habitat Connectivity Projects. Available at: <a href="https://apps.wildlife.ca.gov/bios/?bookmark=648">https://apps.wildlife.ca.gov/bios/?bookmark=648</a> (accessed: March 21, 2019).
- CNDDB. 2019. Available at: <https://map.dfg.ca.gov/rarefind/Login.aspx?ReturnUrl=%2frarefind%2fview%2fRareFin d.aspx> (accessed February 8, 2019).
- CNPS, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants. (online second edition,). California Native Plant Society. Available at: <a href="http://www.rareplants.cnps.org">http://www.rareplants.cnps.org</a> (accessed February 8, 2019).
- NRCS. 2019. Custom Soil Resource Report. Available at: <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm> (accessed: February 8, 2019).
- NWI. 2019. USFWS National Wetlands Inventory. Available at: <a href="https://www.fws.gov/wetlands/data/mapper.html">https://www.fws.gov/wetlands/data/mapper.html</a> (accessed March 20, 2019)
- US Climate Data. 2019. U.S. Climate Data. Available at: <a href="http://usclimatedata.com/climate/chico/California/united-states/usca0211">http://usclimatedata.com/climate/chico/California/united-states/usca0211</a> (accessed March 20, 2019).
- USFWS. 2019. Official Species List: Sacramento Fish and Wildlife Office. Available at: <a href="http://www.fws.gov/carlsbad/">http://www.fws.gov/carlsbad/</a>> (accessed February 8, 2019).



# United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish And Wildlife Office Federal Building 2800 Cottage Way, Room W-2605 Sacramento, CA 95825-1846 Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To: Consultation Code: 08ESMF00-2019-SLI-2883 Event Code: 08ESMF00-2019-E-09214 Project Name: Chico Bikeway Project August 28, 2019

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

To Whom It May Concern:

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

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

http://www.nwr.noaa.gov/protected\_species/species\_list/species\_lists.html

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

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

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

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

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

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

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

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

# Attachment(s):

Official Species List

# **Official Species List**

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

This species list is provided by:

## Sacramento Fish And Wildlife Office

Federal Building 2800 Cottage Way, Room W-2605 Sacramento, CA 95825-1846 (916) 414-6600

# **Project Summary**

Consultation Code:	08ESMF00-2019-SLI-2883
Event Code:	08ESMF00-2019-E-09214
Project Name:	Chico Bikeway Project
Project Type:	TRANSPORTATION

Project Description: Bike trail project

#### Project Location:

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/place/39.725836026616605N121.806810100993W</u>



Counties: Butte, CA

# **Endangered Species Act Species**

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

# Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/4482</u>	Threatened
Amphibians	
NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <u>https://ecos.fws.gov/ecp/species/2891</u>	Threatened
Fishes	
NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

# Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus	Threatened
There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/7850	
Habitat assessment guidelines:	
https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf	

# Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <u>https://ecos.fws.gov/ecp/species/8246</u>	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <u>https://ecos.fws.gov/ecp/species/498</u>	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <u>https://ecos.fws.gov/ecp/species/2246</u>	Endangered

# **Flowering Plants**

NAME	STATUS
Butte County Meadowfoam Limnanthes floccosa ssp. californica	Endangered
There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat.	
Species profile: <u>https://ecos.fws.gov/ecp/species/4223</u>	

# **Critical habitats**

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





Query Criteria: Quad<span style='color:Red'> IS </span>(Chico (3912167)<span style='color:Red'> OR </span>Ord Ferry (3912168)<span style='color:Red'> OR </span>Hamlin Canyon (3912166)<span style='color:Red'> OR </span>Richardson Springs (3912177))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
adobe-lily	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2
Fritillaria pluriflora						
Ahart's paronychia	PDCAR0L0V0	None	None	G3	S3	1B.1
Paronychia ahartii						
American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Falco peregrinus anatum						
Antioch Dunes anthicid beetle	IICOL49020	None	None	G1	S1	
Anthicus antiochensis						
bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Haliaeetus leucocephalus						
bank swallow	ABPAU08010	None	Threatened	G5	S2	
Riparia riparia						
big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Balsamorhiza macrolepis						
Brazilian watermeal	PMLEM03020	None	None	G5	S2	2B.3
Wolffia brasiliensis						
burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Athene cunicularia						
Butte County checkerbloom	PDMAL110P0	None	None	G2	S2	1B.2
Sidalcea robusta						
Butte County fritillary	PMLIL0V060	None	None	G3Q	S3	3.2
Fritillaria eastwoodiae						
Butte County meadowfoam	PDLIM02042	Endangered	Endangered	G4T1	S1	1B.1
Limnanthes floccosa ssp. californica						
California beaked-rush	PMCYP0N060	None	None	G1	S1	1B.1
Rhynchospora californica						
California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Laterallus jamaicensis coturniculus						
California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Linderiella occidentalis						
California satintail	PMPOA3D020	None	None	G4	S3	2B.1
Imperata brevifolia						
chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	G5	S1	
Oncorhynchus tshawytscha pop. 6						
coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Phrynosoma blainvillii						
Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Coastal and Valley Freshwater Marsh						



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



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFV SSC or FP
flagella-like atractylocarpus	NBMUS84010	None	None	G5	S1?	2B.2
Campylopodiella stenocarpa						
foothill yellow-legged frog	AAABH01050	None	Candidate	G3	S3	SSC
Rana boylii			Threatened			
giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Thamnophis gigas						
great blue heron	ABNGA04010	None	None	G5	S4	
Ardea herodias						
great egret	ABNGA04040	None	None	G5	S4	
Ardea alba						
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
Great Valley Valley Oak Riparian Forest Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
Great Valley Willow Scrub Great Valley Willow Scrub	CTT63410CA	None	None	G3	S3.2	
Greene's tuctoria	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
Tuctoria greenei		Ū.				
hoary bat	AMACC05030	None	None	G5	S4	
Lasiurus cinereus						
Hoover's spurge	PDEUP0D150	Threatened	None	G1	S1	1B.2
Euphorbia hooveri						
least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	
Vireo bellii pusillus						
North American porcupine	AMAFJ01010	None	None	G5	S3	
Erethizon dorsatum						
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	
osprey	ABNKC01010	None	None	G5	S4	WL
Pandion haliaetus						
pallid bat	AMACC10010	None	None	G5	S3	SSC
Antrozous pallidus						
pink creamsacs	PDSCR0D482	None	None	G5T2	S2	1B.2
Castilleja rubicundula var. rubicundula						
Red Bluff dwarf rush	PMJUN011L2	None	None	G2T2	S2	1B.1
Juncus leiospermus var. leiospermus						
Sacramento anthicid beetle	IICOL49010	None	None	G1	S1	
Anthicus sacramento						



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



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFV SSC or FP
silky cryptantha	PDBOR0A0Q0	None	None	G2	S2	1B.2
Cryptantha crinita						
silver-haired bat	AMACC02010	None	None	G5	S3S4	
Lasionycteris noctivagans						
slender-leaved pondweed	PMPOT03091	None	None	G5T5	S2S3	2B.2
Stuckenia filiformis ssp. alpina						
steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Oncorhynchus mykiss irideus pop. 11						
Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Buteo swainsoni						
tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Agelaius tricolor						
valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Desmocerus californicus dimorphus						
veiny monardella	PDLAM18082	None	None	G1	S1	1B.1
Monardella venosa						
vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta lynchi						
vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Lepidurus packardi						
western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
Eumops perotis californicus						
western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Emys marmorata						
western red bat	AMACC05060	None	None	G5	S3	SSC
Lasiurus blossevillii						
western spadefoot	AAABF02020	None	None	G3	S3	SSC
Spea hammondii						
western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Coccyzus americanus occidentalis						
white-stemmed clarkia	PDONA050J1	None	None	G5T3	S3	1B.2
Clarkia gracilis ssp. albicaulis						
woolly meadowfoam	PDLIM02043	None	None	G4T4	S3	4.2
Limnanthes floccosa ssp. floccosa						
woolly rose-mallow Hibiscus lasiocarpos var. occidentalis	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Yuma myotis	AMACC01020	None	None	G5	S4	
Myotis yumanensis						

Record Count: 59



\*The database used to provide updates to the Online Inventory is under construction. <u>View updates and changes made since May 2019 here</u>.

# **Plant List**

31 matches found. Click on scientific name for details

#### Search Criteria

Found in Quads 3912177, 3912168 3912167 and 3912166;

### Q Modify Search Criteria Second to Excel Modify Columns 2 Modify Sort Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Astragalus pauperculus	depauperate milk- vetch	Fabaceae	annual herb	Mar-Jun	4.3	S4	G4
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
<u>Brodiaea rosea ssp.</u> <u>vallicola</u>	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr- May(Jun)	4.2	S3	G5T3
Calycadenia oppositifolia	Butte County calycadenia	Asteraceae	annual herb	Apr-Jul	4.2	S3	G3
<u>Campylopodiella</u> <u>stenocarpa</u>	flagella-like atractylocarpus	Dicranaceae	moss		2B.2	S1?	G5
<u>Castilleja rubicundula var.</u> <u>rubicundula</u>	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	Apr-Jun	1B.2	S2	G5T2
<u>Clarkia gracilis ssp.</u> <u>albicaulis</u>	white-stemmed clarkia	Onagraceae	annual herb	May-Jul	1B.2	S3	G5T3
<u>Claytonia palustris</u>	marsh claytonia	Montiaceae	perennial herb	May-Oct	4.3	S4	G4
<u>Cryptantha crinita</u>	silky cryptantha	Boraginaceae	annual herb	Apr-May	1B.2	S2	G2
<u>Cryptantha rostellata</u>	red-stemmed cryptantha	Boraginaceae	annual herb	Apr-Jun	4.2	S3	G4
Erythranthe glaucescens	shield-bracted monkeyflower	Phrymaceae	annual herb	Feb- Aug(Sep)	4.3	S3S4	G3G4
<u>Euphorbia hooveri</u>	Hoover's spurge	Euphorbiaceae	annual herb	Jul- Sep(Oct)	1B.2	S1	G1
<u>Fritillaria eastwoodiae</u>	Butte County fritillary	Liliaceae	perennial bulbiferous herb	Mar-Jun	3.2	S3	G3Q
<u>Fritillaria pluriflora</u>	adobe-lily	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2S3	G2G3
<u>Hesperevax caulescens</u>	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3
<u>Hibiscus lasiocarpos var.</u> <u>occidentalis</u>	woolly rose- mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous	Sep-May	2B.1	S3	G4

www.rareplants.cnps.org/result.html?adv=t&quad=3912177:3912168:3912167:3912166

8/28/2019

#### **CNPS** Inventory Results

<u>Juncus leiospermus var.</u> <u>leiospermus</u>	Red Bluff dwarf rush	Juncaceae	annual herb	Mar-Jun	1B.1	S2	G2T2
<u>Limnanthes floccosa ssp.</u> <u>californica</u>	Butte County meadowfoam	Limnanthaceae	annual herb	Mar-May	1B.1	S1	G4T1
<u>Limnanthes floccosa ssp.</u> <u>floccosa</u>	woolly meadowfoam	Limnanthaceae	annual herb	Mar- May(Jun)	4.2	S3	G4T4
<u>Monardella venosa</u>	veiny monardella	Lamiaceae	annual herb	May,Jul	1B.1	S1	G1
Navarretia heterandra	Tehama navarretia	Polemoniaceae	annual herb	Apr-Jun	4.3	S4	G4
<u>Navarretia nigelliformis</u> <u>ssp. nigelliformis</u>	adobe navarretia	Polemoniaceae	annual herb	Apr-Jun	4.2	S3	G4T3
<u>Orcuttia pilosa</u>	hairy Orcutt grass	Poaceae	annual herb	May-Sep	1B.1	S1	G1
<u>Paronychia ahartii</u>	Ahart's paronychia	Caryophyllaceae	annual herb	Feb-Jun	1B.1	S3	G3
<u>Polygonum bidwelliae</u>	Bidwell's knotweed	Polygonaceae	annual herb	Apr-Jul	4.3	S4	G4
Rhynchospora californica	California beaked- rush	Cyperaceae	perennial rhizomatous herb	May-Jul	1B.1	S1	G1
<u>Sidalcea robusta</u>	Butte County checkerbloom	Malvaceae	perennial rhizomatous herb	Apr,Jun	1B.2	S2	G2
<u>Stuckenia filiformis ssp.</u> <u>alpina</u>	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S2S3	G5T5
<u>Tuctoria greenei</u>	Greene's tuctoria	Poaceae	annual herb	May- Jul(Sep)	1B.1	S1	G1
<u>Wolffia brasiliensis</u>	Brazilian watermeal	Araceae	perennial herb (aquatic)	Apr,Dec	2B.3	S2	G5

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#### Contributors

<u>The Califora Database</u> <u>The California Lichen Society</u> <u>California Natural Diversity Database</u> <u>The Jepson Flora Project</u> <u>The Consortium of California Herbaria</u> <u>CalPhotos</u>

#### **Questions and Comments**

rareplants@cnps.org

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United States Department of Agriculture

Natural Resources Conservation

Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants Custom Soil Resource Report for Butte Area, California, Parts of Butte and Plumas Counties



# Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/? cid=nrcs142p2\_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# **How Soil Surveys Are Made**

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

#### Custom Soil Resource Report Soil Map



MAP LEGEND				MAP INFORMATION		
Area of Int	terest (AOI) Area of Interest (AOI)	8	Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:24,000.		
Soils	Soil Map Unit Polygons Soil Map Unit Lines Soil Map Unit Points	00 \[\] \[\]	Very Stony Spot Wet Spot Other Special Line Features	Warning: Soil Map may not be valid at this scale. Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of		
Special ©	Point Features Blowout Borrow Pit	Water Fea	tures Streams and Canals	contrasting soils that could have been shown at a more detailed scale.		
× ♦	Clay Spot Closed Depression	Transport	ation Rails Interstate Highways	Please rely on the bar scale on each map sheet for map measurements. Source of Map: Natural Resources Conservation Service		
: : 0	Gravel Pit Gravelly Spot Landfill	۲ <b>۲</b>	US Routes Major Roads Local Roads	Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857) Maps from the Web Soil Survey are based on the Web Mercator		
۸. جه	Lava Flow Marsh or swamp Mine or Quarry	Backgrou	nd Aerial Photography	projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.		
0	Miscellaneous Water Perennial Water			This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.		
× + ∷	Rock Outcrop Saline Spot Sandy Spot			Soil Survey Area: Butte Area, California, Parts of Butte and Plumas Counties Survey Area Data: Version 15, Sep 12, 2018		
⊕ ♦ ♦	Severely Eroded Spot Sinkhole Slide or Slip			Soil map units are labeled (as space allows) for map scales 1:50,000 or larger. Date(s) aerial images were photographed: May 21, 2015—Jun		
ø	Sodic Spot			2, 2015 The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background		

### MAP LEGEND

### MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# **Map Unit Legend**

		-	
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
300	Redsluff gravelly loam, 0 to 2 percent slopes	28.8	76.8%
336	Galt clay, 0 to 1 percent slopes	8.7	23.2%
Totals for Area of Interest		37.5	100.0%

## **Map Unit Descriptions**

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

### Butte Area, California, Parts of Butte and Plumas Counties

### 300—Redsluff gravelly loam, 0 to 2 percent slopes

#### **Map Unit Setting**

National map unit symbol: hh0t Elevation: 180 to 400 feet Mean annual precipitation: 24 to 29 inches Mean annual air temperature: 61 to 63 degrees F Frost-free period: 250 to 255 days Farmland classification: Prime farmland if irrigated

#### **Map Unit Composition**

Redsluff, gravelly loam, and similar soils: 80 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

#### Description of Redsluff, Gravelly Loam

#### Setting

Landform: Fan terraces Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Fine-loamy alluvium derived from igneous, metamorphic and sedimentary rock over gravelly alluvium derived from volcanic rock

#### **Typical profile**

Ap - 0 to 2 inches: gravelly loam Bt1 - 2 to 5 inches: gravelly loam Bt2 - 5 to 12 inches: gravelly clay loam Bt3 - 12 to 21 inches: gravelly loam Bt4 - 21 to 29 inches: gravelly loam Bt5 - 29 to 37 inches: gravelly loam Bt6 - 37 to 42 inches: extremely gravelly sandy loam Cq - 42 to 80 inches: extremely gravelly loamy sand

#### **Properties and qualities**

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.28 to 0.99 in/hr)
Depth to water table: About 35 to 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 0.5 mmhos/cm)
Available water storage in profile: Low (about 5.5 inches)

#### Interpretive groups

Land capability classification (irrigated): 2s Land capability classification (nonirrigated): 3s Hydrologic Soil Group: C Hydric soil rating: No

#### **Minor Components**

#### Unnamed, weak cementation below 40 inches

Percent of map unit: 4 percent Landform: Fan terraces Hydric soil rating: No

#### Fernandez, sandy loam

Percent of map unit: 4 percent Landform: Fan terraces Hydric soil rating: No

#### Anita, gravelly duripan

Percent of map unit: 3 percent Landform: Fan terraces Hydric soil rating: Yes

#### Typic haploxeralfs, very deep

Percent of map unit: 3 percent Landform: Fan terraces Hydric soil rating: No

#### Munjar

Percent of map unit: 2 percent Landform: Fan terraces Hydric soil rating: No

#### Redtough

Percent of map unit: 2 percent Landform: Fan terraces Hydric soil rating: No

#### Pachic argixerolls

Percent of map unit: 2 percent Landform: Fan terraces Hydric soil rating: No

#### 336—Galt clay, 0 to 1 percent slopes

#### **Map Unit Setting**

National map unit symbol: hgwm Elevation: 140 to 300 feet Mean annual precipitation: 22 to 25 inches Mean annual air temperature: 61 to 63 degrees F Frost-free period: 250 days Farmland classification: Not prime farmland

#### Map Unit Composition

*Galt, clay, and similar soils:* 90 percent *Minor components:* 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Galt, Clay**

#### Setting

Landform: Terraces Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Clayey alluvium over cemented loamy alluvium derived from volcanic rock

#### **Typical profile**

A1 - 0 to 3 inches: clay A2 - 3 to 13 inches: clay Bss - 13 to 29 inches: clay Bkss - 29 to 32 inches: clay 2Bkqm - 32 to 39 inches: cemented material

#### **Properties and qualities**

Slope: 0 to 1 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Natural drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: About 0 to 40 inches
Frequency of flooding: Rare
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline (0.0 to 0.5 mmhos/cm)
Available water storage in profile: Low (about 4.8 inches)

#### Interpretive groups

Land capability classification (irrigated): 5w Land capability classification (nonirrigated): 5w Hydrologic Soil Group: D Hydric soil rating: Yes

#### Minor Components

#### Unnamed, fine-loamy, duripan 20 to 40 inches

Percent of map unit: 3 percent Landform: Terraces Hydric soil rating: No

#### Anita, clay

Percent of map unit: 3 percent Landform: Terraces Hydric soil rating: Yes

#### Bosquejo, clay

Percent of map unit: 2 percent Landform: Basin floors Hydric soil rating: No

### Custom Soil Resource Report

Conejo, clay loam Percent of map unit: 2 percent Landform: Alluvial fans Hydric soil rating: No

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### Plant Species Observed within the BSA

Common Name (Genus species)	Native (N) / Non- native (X)	Cal IPC Rating
African lily (Agapanthus praecox)	X	N/A
Blue dicks (Dichelostemma capitatum)	Ν	N/A
Blow wives (Achyrachaena mollis)	Ν	N/A
Bonfire moss (Funaria hygrometrica)	Х	N/A
Bur chevril (Anthriscus caucalis)	Х	N/A
California fan palm (Wasingtonia filifera)	Ν	N/A
California poppy ( <i>Eschscholzia californica</i> )	Ν	N/A
Coast redwood (Sequoia sempervirens)	Ν	N/A
Common bedstraw (Galium aparine)	Ν	N/A
Common dandelion ( <i>Taraxacum officinale</i> )	Х	N/A
Common manzanita ( <i>Arctostaphlos manzanita</i> )	Ν	N/A
Common mallow (Malva sylvestris)	Х	N/A
Common mustard (Brassica rapa)	X (Invasive)	Limited
Creeping buttercup (Ranunculus repens)	X (Invasive)	Limited
Curly dock (Rumex crispus)	X (Invasive)	Limited
English ivy ( <i>Hedera helix</i> )	X (Invasive)	High
English plantain ( <i>Plantago lanceolata</i> )	X (Invasive)	Limited
Foxtail barley (Hordeum murinum)	X (Invasive)	High
Gooding's willow (Salix gooddingii)	Ν	N/A
Himalayan blackberry ( <i>Rubus armeniacus)</i>	X (Invasive)	High

Common Name (Genus species)	Native (N) / Non- native (X)	Cal IPC Rating
Interior live oak (Quercus wislizeni)	N	N/A
Italian ryegrass (Festuca perennis)	X (Invasive)	Moderate
Lesser periwinkle (Vinca minor)	X (Invasive)	Moderate
London plane (Plantanus hispanica)	Х	N/A
Mexican fan palm ( <i>Washingtonia robusta</i> )	X (Invasive)	Moderate
Olive (Olea europea)	X (Invasive)	Limited
Pale spikerush ( <i>Eleocharis</i> macrostachya)	Ν	N/A
Red-stem fillaree (Erodium cicutarium)	X (Invasive)	Limited
Ripgut brome (Bromus diandrus)	X (Invasive)	Moderate
Russian thistle (Salsola australis)	Х	N/A
Sage leaf rockrose (Cistus salviifolius)	Х	N/A
Salsify (Tragopogon porrifolius)	Х	N/A
Silver wattle (Acacia dealbata)	X (Invasive)	Moderate
Soft chess brome (Bromus hordeaceus)	X (Invasive)	Limited
Sow thistle (Sonchus asper ssp. asper)	Х	N/A
Spring vetch (Vicia sativa)	Х	N/A
Toyon (Heteromeles arbutifolia)	Ν	N/A
Valley Oak (Quercus lobata)	Ν	N/A
Water smartweed (Persicaria amphibia)	Ν	N/A
White stemmed filaree (Erodium brachycarpum)	Х	N/A
Wild geranium (Geranium dissectum)	X (Invasive)	Limited
Wild oat ( <i>Avena fatua</i> )	X (Invasive)	Moderate
Wild radish (Raphanus sativus)	X (Invasive)	Limited
Willow herb ( <i>Epilobium brachycarpum</i> )	Ν	N/A

### Animal Species Observed within the BSA

Common Name (Genus species)	Native (N) / Non-native (X)
American crow (Corvus brachyrhynchos)	Ν
Anna's hummingbird (Calypte anna)	Ν
European starling (Sturnus vularis)	Х
House sparrow (Passer domesticus)	Х
Rock dove (Columba livia)	Х
Turkey vulture (Cathartes aura)	Ν

Arid West Ephemeral and Intermit	ttent Streams OHV	VM Datasheet
Project: SK99 Corridor Bikeway Facility Phuse 5	Date: 4/10/19	Time: 11:07
Stream: Alle Roadsile Devouse	Town: Chilo Photo begin file#	State: CA
Investigator(s): Andrew Pullas	r noto begin me#:	Photo end me#:
$Y \times N$ Do normal circumstances exist on the site?	Location Details: Highway 99 Koad	sile Drainage
$Y \square / N \bigotimes$ Is the site significantly disturbed?	Projection: State Pla Coordinates: 39 72	ne 2 Datum: 685
Potential anthropogenic influences on the channel syst Man-made chainage feature along 140199	em: 9	
Brief site description: Road-site change connecting in culvert for Turisfactured creek whether	large box confluent	under Hwy 99 to
Checklist of resources (if available):		
Aerial photography Stream gag	e data	
Topographic maps Bowind of m	per:	
Geologic mans Period of re	cord: of recent effective dia	abaraaa
Vegetation mans	of flood frequency and	charges
Soils maps $\Box$ Most re	cent shift-adjusted rati	
Rainfall/precipitation maps Gage h	eights for $2-5-10-a$	nd 25-year events and the
Existing delineation(s) for site	cent event exceeding a	1 5-year event
Global positioning system (GPS)		
Other studies		
Hydrogeomorphic Fl	oodplain Units	
Active Floodplain	Low Terrac	e
Low-Flow Channels	OHWM Paleo C	hannel
Procedure for identifying and characterizing the flood	plain units to assist in	identifying the OHWM:
. Walk the channel and floodplain within the study area to	get an impression of t	the geomorphology and
vegetation present at the site.		oprotobj und
. Select a representative cross section across the channel. D	Praw the cross section a	nd label the floodplain units.
. Determine a point on the cross section that is characteris a) Record the floodplain unit and GPS position.	tic of one of the hydro	geomorphic floodplain units.
	lass size) and the vege	tation characteristics of the
<ul> <li>b) Describe the sediment texture (using the Wentworth c floodplain unit.</li> <li>c) Identify any indicators present at the location</li> </ul>		
<ul><li>b) Describe the sediment texture (using the Wentworth c floodplain unit.</li><li>c) Identify any indicators present at the location.</li><li>Repeat for other points in different hydrogeometric floodplain and the sedimetric floodplain and</li></ul>	adulain mite 1	
<ul> <li>b) Describe the sediment texture (using the Wentworth c floodplain unit.</li> <li>c) Identify any indicators present at the location.</li> <li>Repeat for other points in different hydrogeomorphic flo Identify the OHWM and record the indicators. Pagerd the</li> </ul>	odplain units across th	e cross section.
<ul> <li>b) Describe the sediment texture (using the Wentworth c floodplain unit.</li> <li>c) Identify any indicators present at the location.</li> <li>Repeat for other points in different hydrogeomorphic flo</li> <li>Identify the OHWM and record the indicators. Record the Mapping on aerial photograph</li> </ul>	odplain units across th e OHWM position via	e cross section. :
<ul> <li>b) Describe the sediment texture (using the Wentworth c floodplain unit.</li> <li>c) Identify any indicators present at the location.</li> <li>Repeat for other points in different hydrogeomorphic flo</li> <li>Identify the OHWM and record the indicators. Record the Mapping on aerial photograph Digitized on computer</li> </ul>	odplain units across th of OHWM position via GPS Other:	e cross section.

Inches (in)			Millimeters (mm)			m)	Wentworth size class		
	10.08 2.56 0.157				256 64 4	_	-	Boulder Cobble Pebble Granule	CLAVE
1/2 1/4	0.079 0.039 0.020 0.0098 0.005				2.00 1.00 0.50 0.25 0.125	_		Very coarse sand Coarse sand Medium sand Fine sand Very fine sand	DURD
1/8 — 1/16 1/32 1/64	0.0025 0.0012 0.00061 0.00031	1 1 1			0.0625 0.031 0.0156 0.0078	_		Coarse silt Medium silt Fine silt Very fine silt	
1/128 —	0.00015				0.0039			Clay	Mug

Wentworth Size Classes

**Project ID: Cross section ID:** Date: Time: Cross section drawing: 120" Topot bank to tay of lecule. 70" wide 15" tall . 16" low flow. **OHWM** GPS point: Juni fictional Ditch of **Indicators:** Change in average sediment texture Break in bank slope Change in vegetation species Change in vegetation cover **Comments:** Change Rom no veg to cyland presses at other brak in slope gentle bank continues to top of bank Vey cover for other to top of bank. Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace GPS point: Juniderhand Detch of Characteristics of the floodplain unit: Average sediment texture: <u>Sthy loam</u> Total veg cover: <u>4</u> % Tree: <u>%</u> Shrub: <u>%</u> Herb: <u>4</u> % Community successional stage: X NA Mid (herbaceous, shrubs, saplings) Early (herbaceous & seedlings) Late (herbaceous, shrubs, mature trees) **Indicators:** Mudcracks Soil development Ripples Surface relief Drift and/or debris 
 Other:

 Other:

 Other:

 Other:
 Drift and/or debris Presence of bed and bank Benches **Comments:** within other <1 % veg. Disting hid and bank with brake a slope.

Project ID:	<b>Cross section ID:</b>	Date:	Time:
Floodplain unit:	Low-Flow Channel	Active Floodplain	Low Terrace
GPS point:			
Characteristics of th Average sediment te Total veg cover: Community successi NA Early (herba	e floodplain unit: xture:% Tree:% Shr onal stage: aceous & seedlings)	ub:% Herb:%	s, saplings) s, mature trees)
Indicators: Mudcracks Ripples Drift and/or Presence of Benches	debris bed and bank	<ul> <li>Soil development</li> <li>Surface relief</li> <li>Other:</li> <li>Other:</li> <li>Other:</li> <li>Other:</li> </ul>	
<b>Comments:</b>			
<u>Floodplain unit</u> : GPS point:	Low-Flow Channel	Active Floodplain	Low Terrace
Characteristics of th Average sediment te Total veg cover: Community success NA Early (herb	e floodplain unit: xture:% Tree:% Shr ional stage: aceous & seedlings)	ub:% Herb:%	s, saplings) s, mature trees)
Indicators: Mudcracks Ripples Drift and/or Presence of Benches	debris bed and bank	<ul> <li>Soil development</li> <li>Surface relief</li> <li>Other:</li> <li>Other:</li> <li>Other:</li> <li>Other:</li> </ul>	
Comments:			

### WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 5R99 Corridor Bikenay 1	Failty Phase So	ity/County:	co/Butke	Sampling Date:///	0/19
Applicant/Owner: of Chico / Cu	Irran's D3		State: <u></u>	_ Sampling Point: <u></u>	1A
Investigator(s): Audvew Dellas	s	ection, Township, Ra	inge: <u>536, 722</u>	N, RIE	
Landform (hillslope, terrace, etc.):fractide_d	nahage	ocal relief (concave,	convex, none):	cave Slope (%):	0-2
Subregion (LRR):C	Lat: <u>_39</u>	7232660	Long: 121. 8067	Datum:	PS
Soil Map Unit Name: Redstuff gravelly loan	n 0-2 % slopes	; Galt clay 0.1	1. slopes NWI classifi	cation: N/A	
Are climatic / hydrologic conditions on the site typic	al for this time of yea	r? Yes No _	(If no, explain in F	Remarks.)	
Are Vegetation, Soil, or Hydrology _	significantly d	isturbed? Are	"Normal Circumstances"	present? Yes	)
Are Vegetation Soil or Hydrology	naturally prob	lematic? (If ne	eded, explain any answe	ers in Remarks )	
SUMMARY OF FINDINGS – Attach site	e map showing	sampling point l	ocations, transects	s, important features	s, etc.
Hydrophytic Vegetation Present? Yes	No				
Hydric Soil Present? Yes	No	Is the Sampled	Area		
Wetland Hydrology Present? Yes	No	within a Wetla	nd? Yes 📈	No	
VEGETATION – Use scientific names o	of plants.				-
	Absolute	Dominant Indicator	Dominance Test work	sheet:	
Tree Stratum (Plot size:)	% Cover	Species? Status	Number of Dominant S	pecies	
1			That Are OBL, FACW,	or FAC:	(A)
2			Total Number of Domin	ant j	
3			Species Across All Stra	ita:	(B)
4		Total Cover	Percent of Dominant S That Are OBL, FACW,	pecies or FAC: 1/1 = 100 7.	(A/B)
1	$\leq$		Prevalence Index wor	ksheet:	
2			Total % Cover of:	Multiply by:	-
3			OBL species	x 1 =	-
4		v	FACW species	x 2 =	-
5			FAC species	x 3 =	-
Herb Stratum (Plot size:		Total Cover	FACU species	x 4 =	-
1 Elencharis Pale save h	url 20		UPL species	x 5 =	.
2			Column Totals:	(A)	(B)
3.			Prevalence Index	= B/A =	
4			Hydrophytic Vegetatio	on Indicators:	
5			Dominance Test is	>50%	
6			Prevalence Index is	s ≤3.0 <sup>1</sup>	
7			Morphological Ada	ptations <sup>1</sup> (Provide supporti	ng
8			data in Remarks	s or on a separate sheet)	
Woody Vine Stratum (Plot size:)		Total Cover	Problematic Hydrop	phytic Vegetation' (Explain	ı)
1			<sup>1</sup> Indicators of hydric soil be present, unless distu	and wetland hydrology m irbed or problematic.	ust
6		Total Cover	Hydrophytic		
% Bare Ground in Herb Stratum 70	Cover of Biotic Cru	t D	Vegetation Procent?	Na	
Remarke:			riesent? Yes	5 <u> </u>	
Roadille Anairway Incland le	ndmy h J	eristrace/handl	Julich to south	١.	

SOIL

Sampling Point: SP - 1A

Profile Description: (Describe to the de	oth needed to docur	nent the i	ndicator (	or confirm	the absence	of indicators.)			
Depth Matrix	Redo	x Features				·			
(inches) Color (moist) %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks			
0-5 75VR 2.5/2 93	CVR Y/L	15	C	M	SCL	Roadside fill mix			
F. d. The	QV2.5/N	2		NA	Sele	11			
5 10 -7 51/02 sh	TENPULL	20		10/2	500				
5-137 1.5 yr 1.42	L S K T/T	20		<u></u>	SC				
	GLYZ.S/N	_5	<u> </u>	M	Sc				
100/12	· · ·								
10									
			;						
		0				-			
<sup>1</sup> Type: C=Concentration, D=Depletion, R	A=Reduced Matrix, CS	S=Covered	l or Coate	d Sand Gr	ains. Lo	cation: PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators: (Applicable to a	II LRRs, unless other	wise note	ed.)		Indicators	for Problematic Hydric Solls :			
Histosol (A1)	V Sandy Redo	ox (S5)				Auck (A9) (LRR C)			
Histic Epipedon (A2)	Stripped Ma	itrix (S6) ku Minere				Auck (A10) (LRR B)			
Black Histic (A3)	Loamy Muc	ky Matrix	(F1) (F2)		Red D	arent Material (TE2)			
Stratified Layers (A5) (LRR C)	Depleted M	atrix (F3)	(12)		Other	(Explain in Remarks)			
1 cm Muck (A9) (LRR D)	Redox Dark	Surface (	F6)			(			
Depleted Below Dark Surface (A11)	Depleted Da	ark Surfac	, e (F7)						
Thick Dark Surface (A12)	Redox Depi	essions (I	-8)		<sup>3</sup> Indicators	of hydrophytic vegetation and			
Sandy Mucky Mineral (S1)	Vernal Pool	s (F9)			wetland	hydrology must be present,			
Sandy Gleyed Matrix (S4)					unless d	isturbed or problematic.			
Restrictive Layer (if present):									
Type:	,			147	1				
Depth (inches): $2 \approx 16$ /17 thu	hes				Hydric Soil	Present? Yes V			
Remarks:									
		_		_					
HTDROLOGT									
Wetland Hydrology Indicators:									
Primary Indicators (minimum of one requir	ed; check all that appl	y)			Secon	ndary Indicators (2 or more required)			
Surface Water (A1)	Salt Crust	(B11)			v	Vater Marks (B1) ( <b>Riverine</b> )			
High Water Table (A2)	Biotic Crus	st (B12)			s	ediment Deposits (B2) (Riverine)			
Saturation (A3)	Aquatic In	vertebrate	s (B13)	Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine)					
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)									
Water Marks (B1) (Nonriverine)	Hydrogen	Sulfide Oc	lor (C1)			Prainage Patterns (B10)			
Water Marks (B1) (Nonriverine)     Sediment Deposits (B2) (Nonriverine	) Oxidized F	Sulfide Oo Rhizosphe	lor (C1) res along	Living Roc	C C ots (C3) C	Irrainage Patterns (B10) Iry-Season Water Table (C2)			
Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	) Oxidized F Presence	Sulfide Oc hizosphe of Reduce	dor (C1) res along d Iron (C4	Living Roc )	C C ots (C3) C	Irainage Patterns (B10) Iry-Season Water Table (C2) Irayfish Burrows (C8)			
Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Unift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	) Oxidized F Oxidized F Presence Recent Iro	Sulfide Oo Rhizospher of Reduce n Reductio	lor (C1) res along d Iron (C4 on in Tilleo	Living Roc ) I Soils (C6	C C ots (C3) C C 5) S	Irainage Patterns (B10) Iry-Season Water Table (C2) Grayfish Burrows (C8) Iaturation Visible on Aerial Imagery (C9)			
Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (	) Oxidized F Presence Recent Iro B7) Thin Muck	Sulfide Od Rhizospher of Reduce n Reduction Surface (	dor (C1) res along d Iron (C4 on in Tilleo C7)	Living Roc ) I Soils (C6	C C ots (C3) C C S S	Irainage Patterns (B10) Iry-Season Water Table (C2) Grayfish Burrows (C8) Naturation Visible on Aerial Imagery (C9) Ihallow Aquitard (D3)			
Water Marks (B1) (Nonriverine)     Sediment Deposits (B2) (Nonriverine)     Drift Deposits (B3) (Nonriverine)     Surface Soil Cracks (B6)     Inundation Visible on Aerial Imagery (     Water-Stained Leaves (B9)	) Oxidized F Presence Recent Iro B7) Thin Muck	Sulfide Oo Rhizospher of Reduce n Reductio Surface ( plain in Re	dor (C1) res along d Iron (C4 on in Tilleo C7) marks)	Living Roo ) I Soils (C6	C C ots (C3) C C ;) S F	Irainage Patterns (B10) Iry-Season Water Table (C2) Irayfish Burrows (C8) Inturation Visible on Aerial Imagery (C9) Inhallow Aquitard (D3) AC-Neutral Test (D5)			
Water Marks (B1) (Nonriverine)     Sediment Deposits (B2) (Nonriverine)     Drift Deposits (B3) (Nonriverine)     Surface Soil Cracks (B6)     Inundation Visible on Aerial Imagery (     Water-Stained Leaves (B9)     Field Observations:	) Oxidized F Presence Recent Iro B7) Thin Muck	Sulfide Oo Rhizospher of Reduce n Reductio Surface ( blain in Re	dor (C1) res along d Iron (C4 on in Tilleo C7) marks)	Living Roc ) I Soils (C6	C C ots (C3) C C ;) S F	Arainage Patterns (B10) Iry-Season Water Table (C2) Irayfish Burrows (C8) Inaturation Visible on Aerial Imagery (C9) Inallow Aquitard (D3) AC-Neutral Test (D5)			
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Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Urift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery ( Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, r Remarks:	Hydrogen Oxidized F Presence Recent Iro B7) Thin Muck Other (Exp No Depth (inclustry) No Depth (inclustry) No Depth (inclustry) nonitoring well, aerial [	Sulfide Od Rhizospher of Reduce n Reductio Surface ( olain in Re ches): ches): ohotos, pro	dor (C1) res along d Iron (C4 on in Tilled C7) marks) 0-4' 0-12' evious ins	Living Roc ) d Soils (C6  wetl: pections),	C C ots (C3) C S S F and Hydrolog if available:	y Present? Yes <u>No</u>			
Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Unift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery ( Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge, r Remarks:	Hydrogen     Oxidized F     Presence     Recent Iro B7) Thin Muck     Other (Exp     No Depth (in     No Depth (in     No Depth (in     nonitoring well, aerial	Sulfide Oc Rhizospher of Reduce n Reductio Surface ( olain in Re ches): ches): ohotos, pro	dor (C1) res along d Iron (C4 on in Tilleo C7) marks) 0-4 0-12 evious ins	Living Roo ) d Soils (C6  weth pections),	C C C S S F and Hydrolog if available:	y Present? Yes <u>No</u>			

#### WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SP99 Corrider Bitenny Facility Phile Scity/C	ounty: <u>Chico/Butte</u> Sampling Date: <u>4/10/19</u>
Applicant/Owner: City of Chico / Caltrans D3	State: CA Sampling Point: SP-1/B
Investigator(s): <u>Andrew Dellas</u> Section	n, Township, Range: <u>S36, T22N, R1E</u>
Landform (hillslope, terrace, etc.): <u>Roadside drainage</u> Local	relief (concave, convex, none): CONCAVE Slope (%): 0-2
Subregion (LRR): LRR C Lat: 39, 7	23266° Long: -121.806740 Datum: GPS
Soil Map Unit Name: Rodshiff gravelly loam 0-2% slopes; (	Galt Clay 0-1% stypy NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Ye	esNo (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturb	ped? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problema	tic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	In the Complet Area
Hydric Soil Present? Yes No	vithin a Wetland?
Wetland Hydrology Present? Yes No	
Remarks:	
	2 S S S S S S S S S S S S S S S S S S S
	2

VEGETATION – Use scientific names of plants.

Tree Stratum         (Plot size:)           1.	Absolute <u>% Cover</u>	Dominant Species?	Indicator Status	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:       0         (A)         Total Number of Dominant         Species Across All Strata:       (B)
Sapling/Shrub Stratum (Plot size:)		= Total Co	ver	Percent of Dominant Species That Are OBL, FACW, or FAC: $0 l \neq 0$ (A/B)
1				Prevalence Index worksheet:
2				Total % Cover of: Multiply by:
3				OBL species x 1 =
4				FACW species x 2 =
5				FAC species x 3 =
		= Total Co	ver	FACU species x 4 =
Herb Stratum (Plot size:)				UPL species x 5 =
1. Avena fatule	<u> </u>		UPL	Column Totals: (A) (B)
2. Festura perennis			FAC	
3. Erodium cicutarium	2		UPL	Prevalence Index = B/A =
4. Vinen minor			UPL	Hydrophytic Vegetation Indicators:
5				Dominance Test is >50%
6				Prevalence Index is ≤3.0 <sup>1</sup>
7.				Morphological Adaptations <sup>1</sup> (Provide supporting
8.	• •			data in Remarks or on a separate sheet)
0		- Total Co		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)	( <u> </u>		VCI	
1				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
2				be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum % Cover of Biotic Crust			Hydrophytic Vegetation Present? Yes No	
Remarks:				

#### SOIL

1-13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix		Redox Features							
(inches)	Color (moist)	%	Color (moist)	Ту	/pe <sup>1</sup> Lo	<u>c<sup>2</sup></u>	Texture		Remarks	
0-7	7.5 YR 2.5/2	100					SCL	Roadsie	le fill mix	u/gravel
7-16	10YR 2/2	100					SC	a		1
		•				1.55				
	*									
<sup>1</sup> Type: C=C	oncentration, D=Depl	etion, RM=R	educed Matrix, CS	S=Covered or	Coated Sa	nd Grai	ns. <sup>2</sup> Loo	cation: PL=F	ore Lining, M	=Matrix.
Hydric Soil	Indicators: (Applica	able to all LF	Rs, unless othe	rwise noted.)			Indicators	for Problen	natic Hydric S	ioils <sup>3</sup> :
Histosol	(A1)		Sandy Rede	ox (S5)			1 cm M	Muck (A9) (L	RR C)	
Histic E	Epipedon (A2) Stripped Matrix (S6)			2 cm Muck (A10) (LRR B)						
Black H	istic (A3)		Loamy Muc	ky Mineral (F1	)		Reduc	ed Vertic (F1	18)	
Hvdroae	en Sulfide (A4)		Loamy Gley	ed Matrix (F2)	)		Red P	arent Materia	al (TF2)	
Stratifie	d Lavers (A5) (LRR C	:)	Depleted M	atrix (F3)	•		Other	(Explain in R	emarks)	
1 cm Mi	ick (A9) (I RR D)	.,	Redox Dark	Surface (F6)					,	
Deplete	d Below Dark Surface	→ (A11)	Denleted D	ark Surface (F	7)					
Thick D	ark Surface (A12)		Redox Den	ressions (F8)	.,		<sup>3</sup> Indicators	of hydrophy	tic vedetation a	and
Sandy M	Aucky Mineral (S1)		Vernal Pool	s (F9)			wetland	hydrology m	ust be present	 t.
Sandy M	Gleved Matrix (S4)			5(10)			unless d	listurbed or p	roblematic.	-
Restrictive	Layer (if present):									
Type:			_							,
Depth (in	ches):						Hydric Soil	Present?	Yes	No
Remarks:										
HYDROLO	GY									
Wetland Hy	drology Indicators:									

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)			
Surface Water (A1) Salt Crust (B11)	Water Marks (B1) (Riverine)			
High Water Table (A2) Biotic Crust (B12)	Sediment Deposits (B2) (Riverine)			
Saturation (A3) Aquatic Invertebrates (B13)	Drift Deposits (B3) (Riverine)			
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)			
Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Livir	ng Roots (C3) Dry-Season Water Table (C2)			
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4)	Crayfish Burrows (C8)			
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled So	oils (C6) Saturation Visible on Aerial Imagery (C9)			
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)	Shallow Aquitard (D3)			
Water-Stained Leaves (B9) Other (Explain in Remarks)	FAC-Neutral Test (D5)			
Field Observations:				
Surface Water Present? Yes No 📈 Depth (inches):				
Water Table Present? Yes No _				
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				

# Appendix G: Representative Photographs



Photo 1: Representative of landscaping within the BSA, facing west; taken April 2019.



Photo 2: Representative of the seasonal wetland swale and jurisdictional drainage at the south end of the Project area, facing south; taken April 2019.



Photo 3: Representative of the City owned culvert located at the south end of the Project area, facing east; taken April 2019.



Photo 4: Representative of roadways and urban development within the Project area, facing west; taken April 2019.



Photo 5: Representative of the disturbed grassland present within the Project area, facing south; taken August 2016.
