

BIOLOGICAL RESOURCE ASSESSMENT

Aquatic and Terrestrial Wildlife, and Botanical Resources

Bruce Road Widening Project

City of Chico, California

August 2020



Prepared for:

City of Chico Public Works Department

Attn: Tracy Bettencourt

411 Main Street, 2nd Floor

P.O. Box 3420

Chico, CA 95927

Prepared by:

Gallaway Enterprises

117 Meyers Street, Suite 120

Chico CA 95928

530-332-9909

Contact: Jody Gallaway

www.gallawayenterprises.com

CONTENTS

INTRODUCTION.....	1
Purpose and Overview	1
Project Location and Environmental Setting	1
Project Description.....	5
METHODS.....	7
References Consulted	7
Special-Status Species.....	9
Critical Habitat	9
Waters of the United States	9
Biological and Botanical Surveys.....	9
Habitat Assessment	10
Protocol-Level Botanical Survey	10
RESULTS	10
Vegetation Communities	10
Annual Grassland	10
Aquatic Habitat	11
Riverine	11
Lacustrine.....	11
Non-vegetated Habitat	11
Barren.....	11
Urban	11
Critical Habitat	12
Sensitive Natural Communities.....	12
Special-Status Species.....	12
Endangered, Threatened and Rare Plants	19
Butte County Meadowfoam	19
Endangered, Threatened and Special Status Wildlife.....	19
Valley Elderberry Longhorn Beetle	19
Vernal Pool Fairy Shrimp.....	20
Vernal Pool Tadpole Shrimp.....	22

Spring-Run Chinook Salmon.....	22
Central Valley Steelhead	23
Western Spadefoot	24
Western Pond Turtle.....	25
Western Burrowing Owl.....	25
Swainson’s Hawk.....	26
Pallid Bat	27
Migratory Birds and Raptors	27
REGULATORY FRAMEWORK.....	28
Federal	28
Waters of the United States, Clean Water Act, Section 404	28
Clean Water Act, Section 401	28
Federal Endangered Species Act.....	29
Migratory Bird Treaty Act	29
State of California	30
California Endangered Species Act	30
California Fish and Game Code (§3503.5).....	30
Lake and Streambed Alteration Agreement, CFGC (§1602)	30
Rare and Endangered Plants.....	30
California Environmental Quality Act Guidelines §15380.....	31
CONCLUSIONS AND RECOMMENDATIONS.....	31
Endangered, Threatened and Rare Plants	31
Designated Critical Habitat	32
Endangered, Threatened, and Special-status Wildlife.....	32
Migratory Birds and Raptors.....	35
Other Natural Resources.....	36
REFERENCES	37
LIST OF PREPARERS	40

FIGURES

Figure 1. Regional Location.....	2
Figure 2. Project Location	3

Figure 3. Biological Survey Area 4

Figure 4. CNDDDB Occurrences and Critical Habitat Map 8

Figure 5. Critical Habitat Designations within the Bruce Road Widening Project 18

Figure 6. Elderberry bush location in the BSA of the Bruce Road Widening Project..... 21

TABLES

Table 1. Special-status species and sensitive natural communities and their potential to occur in the BSA of the Bruce Road Widening Project, Chico, CA. 12

APPENDICES

Appendix A.....Species Lists

Appendix B.....Observed Wildlife Species List

Appendix C.....Draft Delineation of Waters of the United States Map

Appendix D.....2017 Rare Plant Survey Letter

Appendix E.....2018 Rare Plant Survey Letter

BIOLOGICAL RESOURCE ASSESSMENT

Bruce Road Widening Project

Project Location:

City of Chico, Butte County, California
Sections 19, 20, 29, 30, 31, & 32, Township 22N, Range 2E

INTRODUCTION

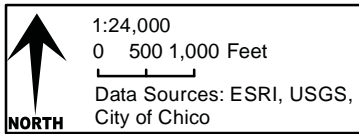
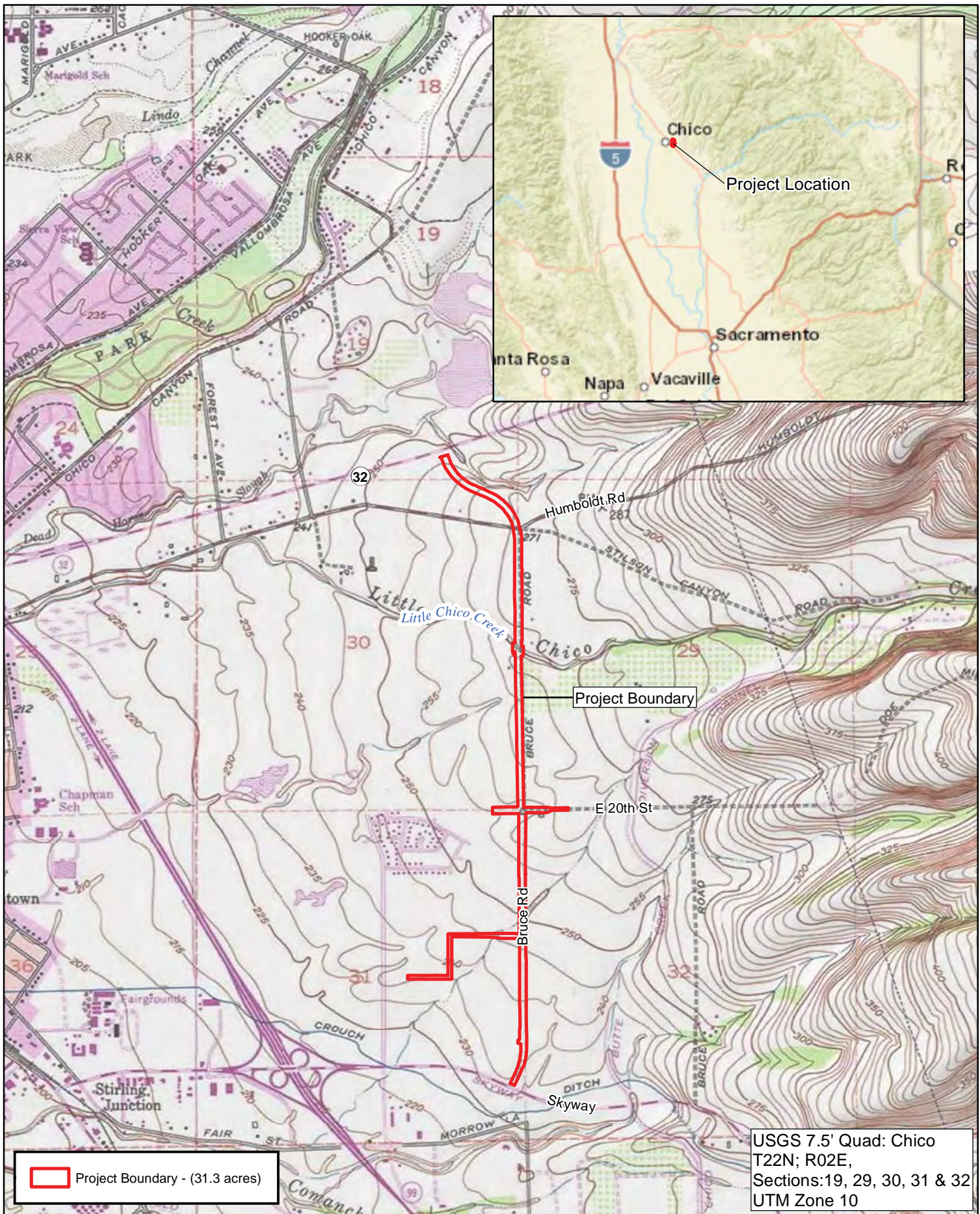
Purpose and Overview

The purpose of this biological resource assessment (BRA) is to document the endangered, threatened, sensitive, and rare species and their habitats that occur or may occur in the biological survey area (BSA) of the Bruce Road Widening Project Area (Project) located along Bruce Road from SR 32 to Skyway in the City of Chico, Butte County, California (**Figures 1 & 2**). The physical extent of the Project area is approximately 31 acres. The existing roadway is proposed to be widened within this area.

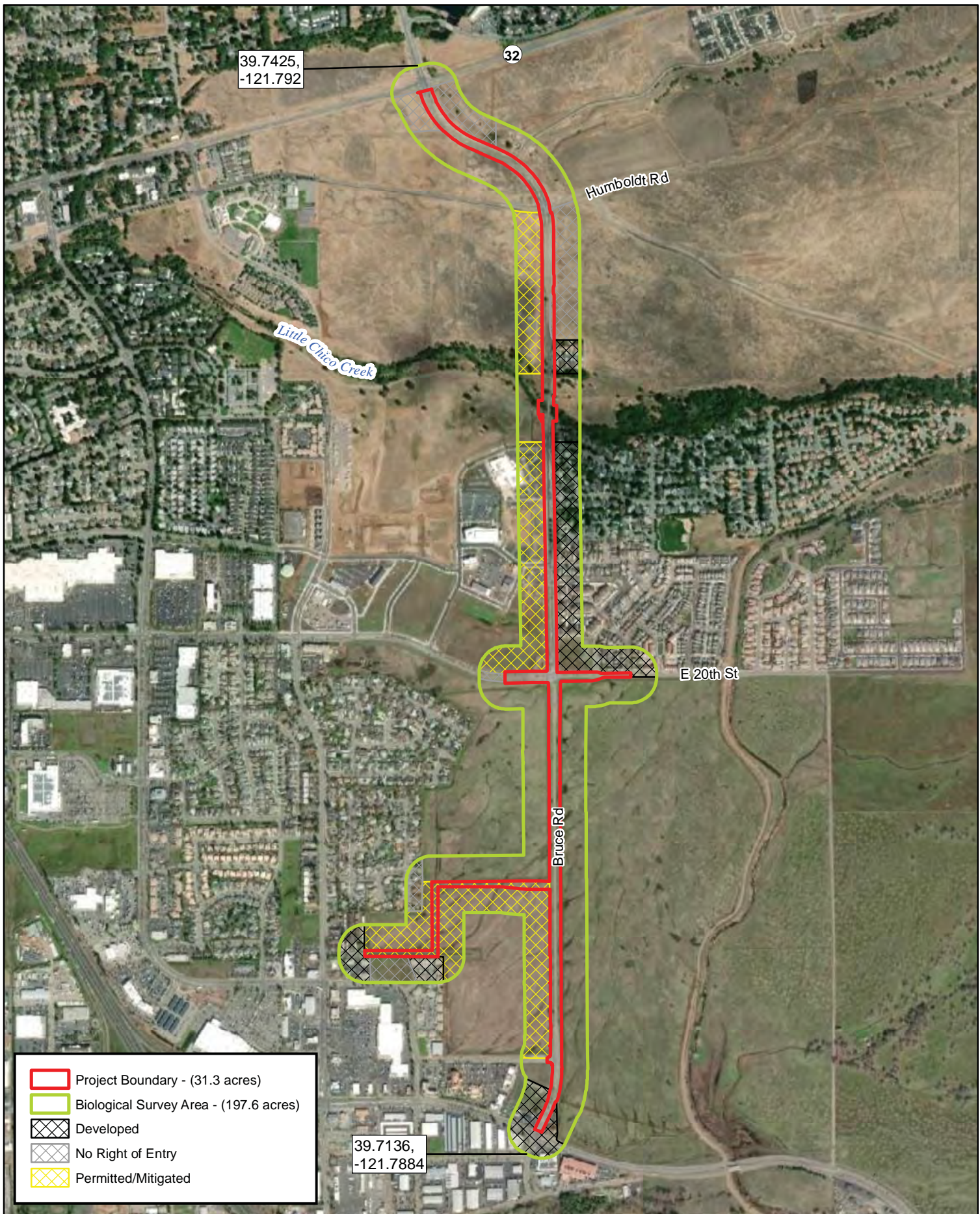
The BSA is the area where the focus of biological surveys is conducted (**Figure 3**) and it includes the project area and a 250 feet buffer. Gallaway Enterprises conducted a habitat assessment and biological and botanical surveys in the BSA to evaluate site conditions and potential for biological and botanical species to occur. Other primary references consulted include species lists and information gathered using United States Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPAC), California Department of Fish and Wildlife's (CDFW) Natural Diversity Database (CNDDDB), the California Native Plant Society's (CNPS) list of rare and endangered plants, and literature review.

Project Location and Environmental Setting

The BSA is located on Bruce Road, in the eastern limits of the City of Chico, Butte County, California, latitude 39.727142, longitude -121.787372, within the United States Geological Survey (USGS) "Chico" quadrangle, Sections 19, 20, 29, 30, 31, and 32, Township 22N, Range 2E. The BSA is located in the north Sacramento Valley at the base of the Sierra Nevada foothills. The BSA and adjacent land consists of urban and residential development and annual grasslands with vernal complex and other wetland features. The BSA also contains intermittent drainages, including Little Chico Creek and unnamed tributaries of Dead Horse Slough. The area is heavily influenced by human development and the central feature is Bruce Road, an arterial paved roadway that connects SR 32 to Skyway Road. Residential homes occur to the east and south, and the planned Meriam Park development occurs to the west. The large sections of open annual grassland in the southern portion of the BSA (south of East 20th Street) on both sides of Bruce Road have already been studied and permitted (i.e. Stonegate Development) for development. The overall topography of the BSA is relatively flat.



Bruce Road Road Widening Project
Regional Location
Figure 1

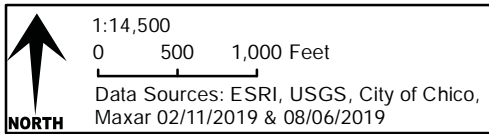


	Project Boundary - (31.3 acres)
	Biological Survey Area - (197.6 acres)
	Developed
	No Right of Entry
	Permitted/Mitigated

39.7136,
-121.7884

1:14,500
 0 500 1,000 Feet
 Data Sources: ESRI, USGS, City of Chico,
 Maxar 02/11/2019 & 08/06/2019
 NORTH

Bruce Road Road Widening Project
 Project Location
 Figure 2



Bruce Road Road Widening Project
Biological Survey Area
Figure 3

The BSA ranges in elevation from 261 to 268 feet above sea level and is sloped between 0-2 percent. Soils within the BSA are gravelly loams and clay loams with a restrictive layer ranging from 4 inches to more than 80 inches deep. The average annual precipitation is 25.66 inches and the average temperature is 61° F (WRCC 2019) in the region where the BSA is located.

Project Description

The proposed Project involves the reconstruction and widening of an approximately 2-mile segment of Bruce Road from SR 32 to Skyway utilizing roller-compacted concrete pavement. The proposed “complete streets” improvements include widening Bruce Road from an existing 2-lane arterial roadway to a 4-lane arterial roadway, and replacement of the existing two-lane, functionally obsolete Bruce Road bridge over Little Chico Creek (Caltrans Bridge # 12C0106) with a new four-lane bridge structure. The new, approximately 96-feet long by 96.5-feet wide bridge will accommodate four lanes of traffic, a center median, pedestrian/bicycle facilities consisting of a Class I bike path on the west side of Bruce Road, and a sidewalk on the east side. The new bridge will be comprised of three-span, cast-in-place, reinforced concrete slab superstructure founded on pile supported abutments and 16-inch diameter multi-column piers supported on spread footings. The ultimate roadway design includes construction of the following: a 14-foot landscaped center median; roadway lighting; 5-foot bike lanes with 2-foot buffered striping on both east and west sides of Bruce Road; dedicated left turn lanes at various intersections; concrete curb, gutter, and curb ramps; and a 12-foot-wide concrete multi-use path on the west side of Bruce Road. The Project also includes storm drainage improvements such as bio-retention facilities, drainage pipe, manholes, and curb inlets, as well as minor extension of sewer facilities where required. The proposed Project includes construction of most of the ultimate roadway design. The City will be installing all infrastructure improvements detailed herein, except for a few limited frontage improvements on the east side of Bruce Road. Sidewalk and parking strips on the east side of the roadway will be installed by others in conjunction with the requirements of adjacent private subdivisions to be constructed as separate projects.

Excavation will be required throughout the Project in order to construct the roadway, bridge and associated improvements. The estimated maximum depth of excavation for the roadway improvements is between 1 and 3 feet below existing grade. Landscaping and drainage facilities, which require trenching, placement of pipe, drainage structures, planting, irrigation, and backfill will have a maximum depth of 6 feet. For the bridge structure, a maximum excavation depth of 35-feet will be required to install abutment supports, which are anticipated to be Cast-In-Drilled-Hole (CIDH) piles.

Approximately 0.23 acres of right-of-way acquisition will be needed from 4 parcels. Temporary construction easements will be required in various locations. A drainage easement from Chico Unified School District (CUSD) will be required for the proposed stormwater drainage system. An easement for the installation of the multi-use path will also be required from CUSD. Approximately 23 trees will be removed along Bruce Road, plus an additional 11 trees (approximately) along East 20th Street.

Some segments of the Project will receive specific work that differs from work that has been proposed for the entire corridor. See below.

Bruce Road from SR 32 and East 20th Street

- A new storm drain outfall will be installed downstream of the Little Chico Creek bridge crossing, on the southbound side of Bruce Road at the northwest corner of the bridge. The existing upstream storm drain outfall will be removed and diverted to the new outfall.
- The existing asphalt-concrete path from Humboldt Road to Native Oak Drive will be removed and replaced with new sidewalk.
- On the east side of Bruce Road, the existing sidewalk that currently ends just south of the Little Chico Creek bridge will be extended northerly to the bridge.

East 20th Street

- Timing and equipment modifications will be made to the traffic signals at the intersection of Bruce Road and East 20th Street.
- Two traffic signal poles on the SW and SE corners of the Bruce Road and East 20th Street intersection will be relocated.
- Approximately 625 feet of additional work will be completed along East 20th Street right-of way from the Bruce Road intersection easterly to approximately 200 feet east of Belgium Avenue.
- The road will be widened from 3 lanes to 5 lanes to align with the proposed ultimate intersection configuration at Bruce Road and East 20th Street.
- Curb and gutter improvements will be installed on the north side of East 20th Street easterly to Belgium Avenue. No sidewalk or curb and gutter work is planned for the south side of East 20th Street.
- Approximately 11 trees will be removed from the center median of East 20th Street; the median will be modified to a raised curb median.
- Approximately 450 feet of East 20th Street west of Bruce Road will be widened to align with the proposed ultimate intersection configuration.

Bruce Road from East 20th Street to Raley Boulevard

- Proposed improvements include surface and subsurface drainage infrastructure to capture and direct stormwater runoff from Bruce Road to existing storm drain systems on Raley Boulevard and Fremont Street.
- A new 42-inch storm drainpipe will be installed from Bruce Road west across the CUSD parcel and will drain into an existing connection at Fremont Street. Trenching for the new storm drainpipe will be at least 6 feet deep and approximately 6 feet wide.
- The existing culverts under Bruce Road will be removed.
- Conduit will be installed at the intersection of Bruce Road and Raley Boulevard and at the location of the future intersection of Bruce Road and Webster Drive for traffic signals to be installed by developers in the future.
- Bio-retention facilities will be installed in both the northbound and southbound lane parkways on Bruce Road at Webster Drive.

Bruce Road from Raley Boulevard to Skyway

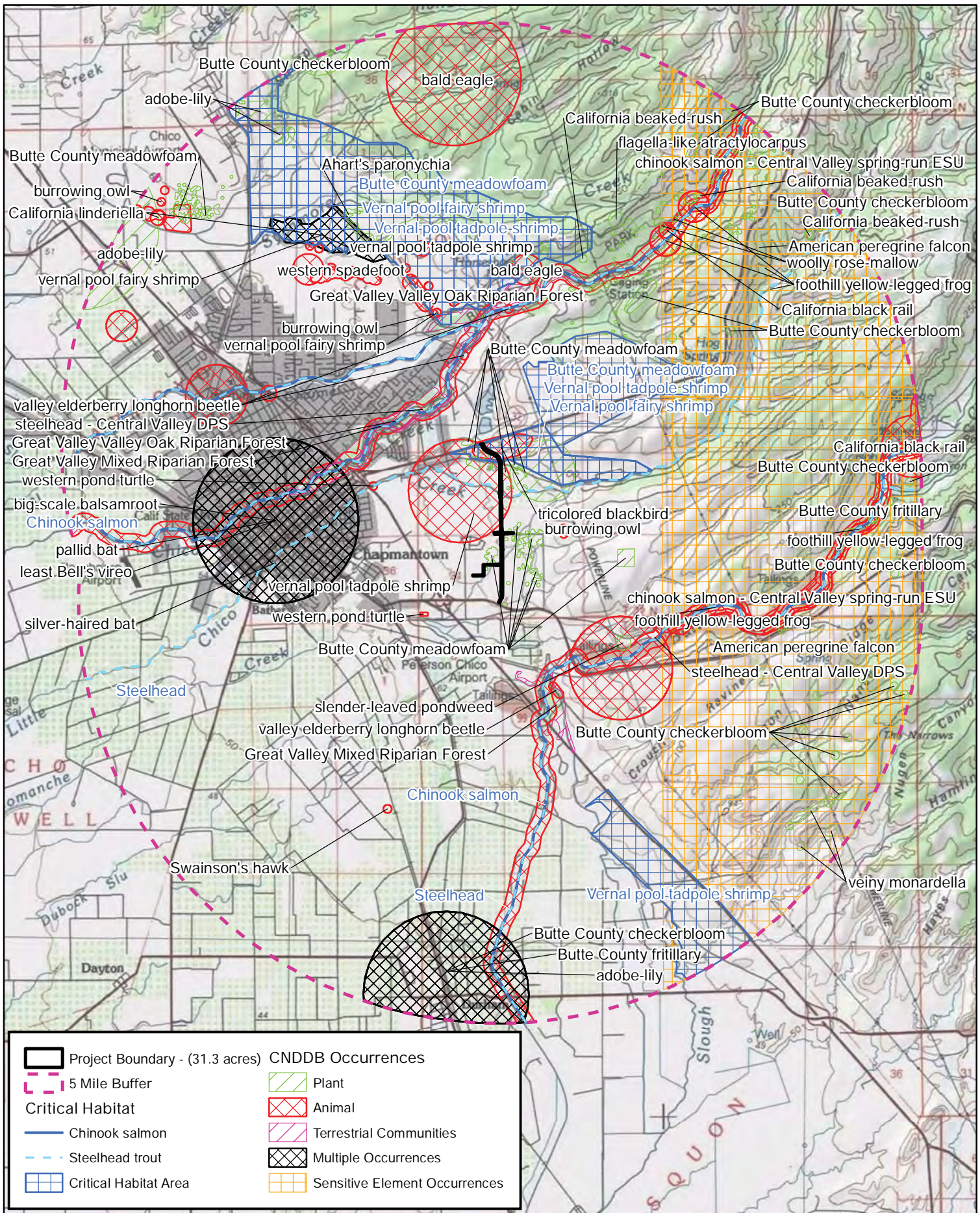
- Curb and gutter will be installed on the east side of Bruce Road.

METHODS

References Consulted

Gallaway Enterprises obtained lists of special-status species that occur in the vicinity of the BSA. The CNDDDB Geographic Information System (GIS) database was also consulted and showed special-status species within a 5 mile radius of the BSA (**Figure 4**). Other primary sources of information regarding the occurrence of federally listed threatened, endangered, proposed and candidate species, and their habitats within the BSA used in the preparation of this BRA are:

- The USFWS IPaC Official Species List for the Project area, March 5, 2020, Consultation Code 08ESMF00-2019-SLI-1272 (**Appendix A; Species Lists**);
- The results of a species record search of the CDFW CNDDDB, RareFind 5, for the 7.5 minute USGS “Chico” and “Richardson Springs” quadrangles (**Appendix A; Species Lists**);
- The review of the CNPS Inventory of Rare and Endangered Vascular Plants of California for the 7.5 minute USGS “Chico” quadrangle (**Appendix A; Species Lists**);
- USFWS Critical Habitat Portal, April 5, 2019;
- Results from field surveys conducted by Gallaway Enterprises on April 9, 2019 and January 8, 2020 (**Appendix B; Observed Wildlife Species List**);
- Results from the Draft Delineation of Jurisdictional Waters of the United States conducted by Gallaway Enterprises on April 7 and 20, 2016 and June 18, 2019 (**Appendix C; Draft Delineation of Jurisdictional Waters of the U.S., Bruce Road Widening Project**);
- Results from the protocol-level rare plant survey conducted by Gallaway Enterprises on April 5 and 6, 2017 (**Appendix D; Bruce Road Widening Project 2017 Rare Plant Survey Letter**);
- Results from the protocol-level BCM survey conducted by Gallaway Enterprises on March 23 and 27 and April 2, 2018 (**Appendix E; Bruce Road Widening Project 2018 Rare Plant Survey Letter**);
- Results of the verified Aquatic Resources Delineation Report for the Stonegate Property prepared by Foothill Associates on May 25, 2017 (SPK-2006-00794); and
- The USFWS *Formal Consultation on the Stonegate Subdivision Project, Butte County, California* (Corps File Number SPK-1994-00040) (USFWS File No. 08ESMF00-2016-F-0236-3).



1:95,000
 0 0.5 1 Miles
 Data Sources: ESRI, USGS,
 City of Chico

Bruce Road Road Widening Project
 CNDDDB Occurrences and Critical Habitat
 Figure 4

Special-Status Species

Special-status species that have potential to occur in the BSA are those that fall into one of the following categories:

- Listed as threatened or endangered, or are proposed or candidates for listing under the California Endangered Species Act (CESA, 14 California Code of Regulations 670.5) or the Federal Endangered Species Act (ESA, 50 Code of Federal Regulations 17.12);
- Listed as a SSC by CDFW or protected under the California Fish and Game Code (i.e Fully Protected Species);
- Ranked by the CNPS as 1A, 1B, or 2;
- Protected under the Migratory Bird Treaty Act (MBTA);
- Protected under the Bald and Golden Eagle Protection Act; or
- Species that are otherwise protected under policies or ordinances at the local or regional level as required by the California Environmental Quality Act (CEQA, §15380).

Critical Habitat

The ESA requires that critical habitat be designated for all species listed under the ESA. Critical habitat is designated for areas that provide essential habitat elements that enable a species survival and which are occupied by the species during the species listing under the ESA. Areas outside of the species range of occupancy during the time of its listing can also be determined as critical habitat if the agency decides that the area is essential to the conservation of the species.

The USFWS Critical Habitat Portal was accessed on April 5, 2019 to determine if critical habitat occurred within the BSA. Appropriate Federal Registers were also used to confirm the presence or absence of critical habitat.

Waters of the United States

Various delineations of waters of the United States (WOTUS) have been conducted within and adjacent to the BSA. Gallaway Enterprises prepared a delineation map depicting the extent of unverified WOTUS, land that is already developed or has already been permitted and the extent of verified WOTUS within the BSA (**Appendix C**). The delineation of the currently unverified WOTUS is pending a jurisdictional determination.

Biological and Botanical Surveys

Many past biological surveys have been conducted within and immediately adjacent to the Project area by various companies over the years for a number of different proposed projects. Recent habitat assessment and protocol-level botanical surveys were conducted specifically within the BSA by Gallaway Enterprises Senior Botanist Elena Gregg and Biologist Brittany Reaves. Recently, a variety of resource studies were conducted for the Stonegate Property and proposed development which occurs on both side of Bruce Road south of 20th Street and partially overlaps the Bruce Road Widening Project. Gallaway Enterprises consulted these studies and utilized the impacts assessment methodology for consistency.

Habitat Assessment

A biological habitat assessment of the BSA was conducted on April 9, 2019 and January 8, 2020. The purpose of the habitat assessment is to determine if suitable habitat elements occur within the BSA for special-status species. The purpose of the habitat assessment is to determine the presence of suitable habitat elements for special-status species that were not blooming during the time of past botanical surveys. In addition, the habitat assessment is used to confirm that habitat conditions have not changed since previous multiple year surveys were complete. The habitat assessments were conducted by walking all accessible portions of the BSA and recording specific habitat types and elements. If habitat was observed for special-status species it was then evaluated for quality based on vegetation composition and structure, physical features (e.g. soils, elevation), micro-climate, surrounding area, presence of predatory species and available resources (e.g. prey items, nesting substrates), and land use patterns. A list of wildlife species observed during the site visits is included in **Appendix B**.

Protocol-Level Botanical Survey

Protocol-level botanical surveys were conducted on April 5 and 6, 2017, March 23 and 27, 2018 and April 2, 2018. The protocol-level botanical surveys were conducted for all special status plant species with blooming periods that overlapped the survey dates. The surveys were conducted by walking in all accessible areas of the BSA and taking inventory of observed botanical species and habitat elements. A Trimble Global Positioning System (GPS) unit was on hand to record the location, extent and estimated number of individuals of any special status plant populations observed within the BSA. A list of all plant species observed during the surveys is included in **Appendix D and E**.

RESULTS

Vegetation Communities

The vegetation communities present within the BSA have been classified, as detailed below, to follow the current classification scheme identified in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1998).

Annual Grassland

Annual grassland habitat occurs throughout most of the BSA. Vegetation within this community is primarily composed of medusahead (*Elymus caput-medusae*), soft chess (*Bromus hordeaceus*), wild oats (*Avena barbata*), perennial rye-grass (*Festuca perennis*), hawkbit (*Leontodon saxatilis*), Spanish lotus (*Acmispon americanus*), winter vetch (*Vicia villosa*), and yellow star-thistle (*Centaurea solstitialis*). Wildlife species use grassland habitat for foraging but require some other habitat characteristic such as rocky outcrops, cliffs, caves, or ponds in order to find shelter and cover for escapement. Common species that are found breeding in this habitat when it is healthy include a variety of ground nesting avian species and small mammals (Mayer and Laudenslayer 1998).

Aquatic Habitat

Riverine

Riverine habitat is distinguished by intermittent or continually running water within rivers and streams. Streams begin at outlets of ponds or lakes or from springs or seeps. Flows within streams vary seasonally with some streams drying up every year or nearly every year. The riverine habitat present within the BSA occurs within the banks of Little Chico Creek and unnamed tributaries to Dead Horse Slough. Watershed surveys conducted within Little Chico Creek have identified four different zones of the creek; the mountain zone, canyon zone, urban zone and agricultural zone (California State University Chico 2002). The BSA is positioned within the urban zone of Little Chico Creek, which is where the creek changes from a perennial stream to an intermittent stream. Within the BSA Little Chico Creek and the unnamed tributaries to Dead Horse Slough convey water and provide riverine habitat during the winter and spring months and are dry during the summer and fall. Riverine habitat supports a variety of wildlife species including amphibians, reptiles, and fish, and provides prey items for birds and mammals.

Lacustrine

Lacustrine habitats are inland depressions containing standing water that vary in size from small ponds to large areas that cover many acres. Typical lacustrine habitats include lakes and ponds including vernal pools. Most permanent lacustrine systems support fish life and intermittent types usually do not (Mayer and Laudenslayer 1988).

Within the BSA, lacustrine habitat occurs in the form of vernal pools, seasonal wetlands, and swales which occur within the annual grassland habitat. The vernal pools present are northern hardpan vernal pools. Northern hardpan vernal pools are the most common classification of vernal pool in the Northwest Sacramento Valley Region. Pools consist of a shallow soil layer with an impermeable hardpan bottom, often within mima-mound topography. These types of vernal pools are often small and are inundated with water for a short period of time. Species that specialize in vernal pools ecosystems include western spadefoot, vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*) and several rare botanical species.

Non-vegetated Habitat

Barren

Barren habitat is typified by non-vegetated soil, rock, and gravel. The existing roadway, gravel road shoulder, and asphalt bike path are characterized as barren habitat and are not considered habitat for any special-status species. Although some ground-nesting avian species, such as killdeer (*Charadrius vociferous*), and small reptiles, such as western fence lizards (*Sceloporus occidentalis*), can be found breeding in barren habitat, it is typically considered low quality habitat for most wildlife species.

Urban

Urban habitat is present in the form of residential and commercial developments, which occurs on the east and west side of Bruce Road between East 20th Street and Picholine Way and at the southern end of

the BSA. This environment can present a mosaic of vegetation, including primarily ornamental landscaping, but can incorporate native tree species. Generalist and invasive wildlife species often occupy urban habitat, such as common raven (*Corvus corax*), house sparrow (*Passer domesticus*), scrub jays (*Aphelocoma californica*), and Brewer’s blackbirds (*Euphagus cyanocephalus*), as well as small to medium mammals (e.g raccoon, opossum, striped skunk) (Mayer and Laudenslayer 1998).

Critical Habitat

The northern portion of the BSA falls within designated critical habitat for Butte County meadowfoam (BCM, *Limnanthes floccosa ssp. californica*), vernal pool tadpole shrimp (*Lepidurus packardii*), and vernal pool fairy shrimp (*Branchinecta lynchi*). The critical habitat area occurs specifically along the portion of Bruce Road from the intersection of Humboldt Rd to the intersection of SR 32 (Figure 5).

Little Chico Creek has been designated as critical habitat for Central Valley steelhead by the National Marine Fisheries Service (NMFS) (Figure 5)

Sensitive Natural Communities

No CDFW designated Sensitive Natural Communities occur within the BSA.

Special-Status Species

A summary of special-status species assessed for potential occurrence within the BSA based on the USFWS, IPAC species list, CNDDDB, and the CNPS list of rare and endangered plants within the “Chico” and eight surrounding USGS 7.5 minute quadrangles, and their potential to occur within the BSA are described in Table 1. Potential for occurrence was determined by reviewing database queries from federal and state agencies, performing field visits, and evaluating habitat characteristics.

Table 1. Special-status species and sensitive natural communities and their potential to occur in the BSA of the Bruce Road Widening Project, Chico, CA.

Common Name (Scientific Name)	Status	Associated Habitats	Potential for Occurrence
PLANTS			
Big-scale balsamroot (<i>Balsamorhiza macrolepis</i>)	1B.2	Typically serpentine grasslands and openings in chaparral and woodlands. (Mar-Jun)	<u>None</u> . Not observed during past surveys.
Silky cryptantha (<i>Cryptantha crinita</i>)	1B.2	Gravelly streambeds. (Apr-May)	<u>None</u> . Not observed within the BSA during the field survey.
Adobe lily (<i>Fritillaria pluriflora</i>)	1B.2	Adobe soils. (Feb-Apr)	<u>None</u> . No adobe soils present in the BSA.

Common Name <i>(Scientific Name)</i>	Status	Associated Habitats	Potential for Occurrence
Woolly rose mallow <i>(Hibiscus lasiocarpus</i> <i>var. occidentalis)</i>	1B.2	Freshwater marshes and swamps, often in rip-rap. (Jun-Sep)	<u>None</u> . No suitable habitat present within the BSA.
California satintail <i>(Imperata brevifolia)</i>	2B.1	Alkaline seeps and mesic riparian scrub. (Sep-May)	<u>None</u> . No suitable habitat present within the BSA.
Red Bluff dwarf rush <i>(Juncus leiospermus</i> <i>var. leiospermus)</i>	1B.1	Vernal pools and vernal mesic habitats. (Mar-Jun)	<u>None</u> . Not observed within the BSA during the field surveys.
Butte County meadowfoam <i>(Limnanthes floccosa</i> ssp. <i>californica)</i>	FE/SE/1B.1	Vernal pools and swales. (Mar-May)	Known . Observed during protocol-level surveys performed in 2017 and 2018.
California beaked-rush <i>(Rhynchospora californica)</i>	1B.1	Freshwater seep and marsh habitats. (May-Jul)	<u>None</u> . No suitable habitat within the BSA during the field surveys.
Brownish beaked-rush <i>(Rhynchospora capitellata)</i>	2B.2	Freshwater seep and marsh habitats. (Jul-Aug)	<u>None</u> . No suitable habitat within the BSA during the field surveys.
Butte County checkerbloom <i>(Sidalcea robusta)</i>	1B.2	Blue oak woodlands often associated with ephemeral drainages. (Apr-Jun)	<u>None</u> . No habitat and not observed within the BSA during the field surveys.
Slender-leaved pondweed <i>(Stuckenia filiformis</i> <i>ssp. alpina)</i>	2B.2	Shallow freshwater marshes. (May-Jul)	<u>None</u> . No habitat within the BSA during the field surveys.
Brazilian watermeal <i>(Wolffia brasiliensis)</i>	2B.3	Shallow freshwater marshes (Apr-Dec)	<u>None</u> . No habitat and not observed within the BSA during the field surveys.
INVERTEBRATES			

Common Name (Scientific Name)	Status	Associated Habitats	Potential for Occurrence
Conservancy fairy shrimp (<i>Branchinecta conservatio</i>)	FE	Deep, turbid vernal pools.	<u>None.</u> Conservancy fairy shrimp are aligned with deeper and more turbid vernal pools than occur within the BSA. There are no CNDDDB occurrences within 5 miles of the BSA.
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FT	Vernal pools.	<u>High.</u> There are vernal pools that could support this species present within the BSA. There are two CNDDDB occurrences within 5 miles of the BSA.
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	FT	Blue elderberry shrubs usually associated with riparian areas.	<u>Low.</u> There is one elderberry bush present behind the lava rock wall on the west side of Bruce Road north of Little Chico Creek. The Project will have no effect on valley elderberry longhorn beetles.
Vernal pool tadpole shrimp (<i>Lepidurus packardi</i>)	FE	Deep vernal pools.	<u>Moderate.</u> There are vernal pools that could support this species present within the BSA, however the pools are shallow and highly ephemeral. There are eight CNDDDB occurrences within 5 miles of the BSA.
FISH			
Chinook salmon – Central Valley spring-run (<i>Oncorhynchus tshawytscha</i>)	FT/ST	Sacramento River and its tributaries.	<u>Low during high flow events.</u> <u>None when the creek is dry.</u> Unspecified life stages of spring-run Chinook salmon have been observed only sporadically within Little Chico Creek upstream of the BSA during high flow years only. The Project will have no effect on Chinook.

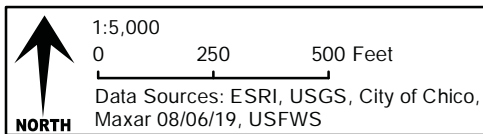
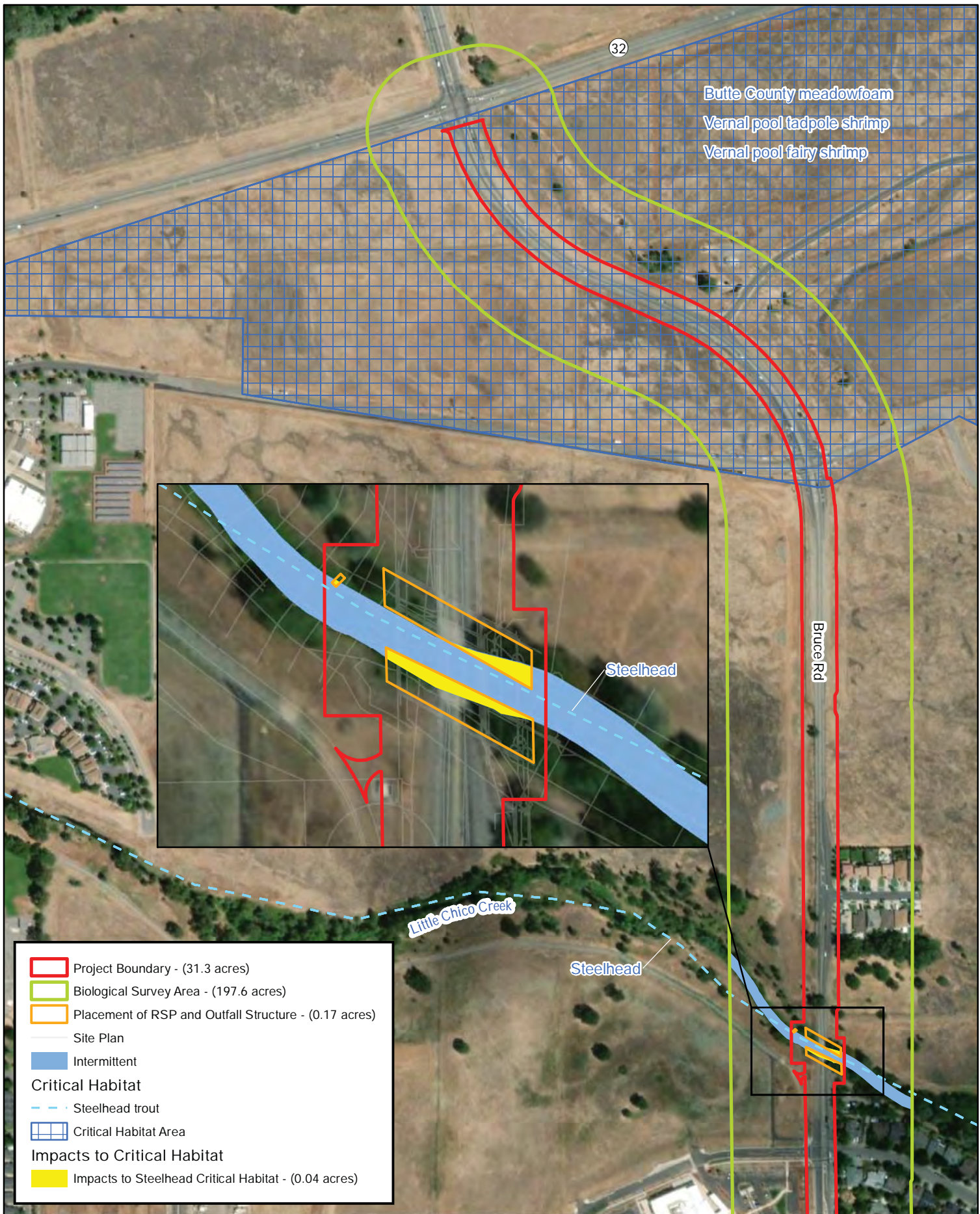
Common Name (Scientific Name)	Status	Associated Habitats	Potential for Occurrence
<p>Central Valley steelhead (<i>Oncorhynchus mykiss</i>)</p>	FT	Sacramento River and its tributaries.	<p><u>Low during high flow events.</u> <u>None when the creek is dry..</u> Steelhead have been observed only sporadically within Little Chico Creek, but only upstream of the BSA during high flow years. The Project will have no effect on steelhead.</p>
AMPHIBIANS			
<p>Foothill yellow-legged frog (<i>Rana boylei</i>)</p>	ST	Perennial and ephemeral creeks that retain water through end of summer and their associated uplands.	<p><u>None.</u> The intermittent creeks within the BSA occur outside of the foothills, are infested with bull frogs and are typically dry during the summer.</p>
<p>California red-legged frog (<i>Rana draytonii</i>)</p>	FT/SSC	Streams with consistent flow, slow side waters with cobble and boulders for oviposition.	<p><u>None.</u> The drainages present in the BSA are not perennial. California red-legged frogs have been extirpated from the Central Valley floor since the 1960s (USFWS 2002). There are no CNDDDB occurrences within 20 miles of the BSA. No effect</p>
<p>Western spadefoot (<i>Spea hammondi</i>)</p>	SSC	Occurs primarily in grassland habitats. Vernal pools and seasonal drainages are typically used for breeding and egg-laying.	<p><u>Low.</u> There is suitable breeding habitat present in the form of vernal pools, and suitable aestivation habitat present in the surrounding annual grassland areas.</p>
<p>Giant garter snake (<i>Thamnophis gigas</i>)</p>	FT/ST	Prefers freshwater marsh and low gradient streams. Has adapted to rice paddies, drainage canals, and irrigation ditches.	<p><u>None.</u> There is no suitable habitat present within the intermittent creeks in the BSA. There are no CNDDDB occurrences within 7.4 miles of the BSA. No effect.</p>
REPTILES			

Common Name <i>(Scientific Name)</i>	Status	Associated Habitats	Potential for Occurrence
Western pond turtle <i>(Emys marmorata)</i>	SSC	Perennial to intermittent bodies of water with deep pools, locations for haul out, and locations for oviposition.	Low. There is suitable habitat for this species when water is present within the intermittent creeks in the BSA.
BIRDS			
Tricolored blackbird <i>(Agelaius tricolor)</i>	ST	Colonial nester in large freshwater marshes. Forages in open habitats such as farm fields, pastures, cattle pens, large lawns.	None. There is no marsh, irrigated pastures, or suitable open water within the BSA.
Burrowing owl <i>(Athene cunicularia)</i>	SSC	Grasslands or openings with friable soils, rodent burrows, or man-made structures (e.g. culverts, debris piles).	None. There is suitable habitat present for western burrowing owl within open areas of annual grassland, none observed following 3 years of surveys.
Swainson's hawk <i>(Buteo swainsoni)</i>	ST	Valleys and low foothills. Requires tall trees for nesting and open land for foraging, preferably grasslands and grain or pasture fields.	Low. There are only a few trees within the BSA that provide potential nesting habitat and there are no known active nest trees within 10 miles of the BSA.
Bald Eagle <i>(Haliaeetus leucophaealus)</i>	FP	Coast, large lakes and river systems, with open forests with large trees and snags.	None. There is no nesting habitat within or adjacent to the BSA.
California black rail <i>(Laterallus jamaicensis coturniculus)</i>	FT/FP	Brackish and fresh emergent wetlands with dense vegetation (bulrushes and cattails).	None. There is no habitat present within the BSA.
Least Bell's vireo <i>(Vireo bellii pusillus)</i>	FE/SE	Willows and dense valley foothill riparian habitat.	None. No dense riparian habitat present within the BSA. No effect.
MAMMALS			

Common Name (Scientific Name)	Status	Associated Habitats	Potential for Occurrence
Pallid bat (<i>Antrozous pallidus</i>)	SSC	Rocky outcroppings to open, sparsely vegetated grasslands with nearby water source. Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., cavities and exfoliating bark), and various human structures (i.e. bridges).	Moderate. There are a few mature trees with sloughing bark and/or cavities that could provide suitable day roosting habitat within the BSA.
Western mastiff bat (<i>Eumops perotis californicus</i>)	SSC	Roosts in crevices on cliff faces, rock outcrops with a minimum 2 meter drop-off, bridges, and buildings.	None. No suitable roosting habitat within the BSA and the Little Chico Creek bridge does not provide crevices for bat use.

CODE DESIGNATIONS
<p>FE or FT = Federally listed Endangered or Threatened FC = Federal Candidate Threatened or Endangered SE or ST= State Listed as Endangered or Threatened SC = State Candidate Threatened or Endangered SSC = State Species of Special Concern FP = State Fully Protected Species</p> <p>Potential for Occurrence: for plants it is considered the potential to occur during the survey period; for birds and bats it is considered the potential to breed, forage, roost, or over-winter in the BSA during migration. Any bird or bat species could fly over the BSA, but this is not considered a potential occurrence. The categories for the potential for occurrence include:</p> <p>None: The species or natural community is known not to occur, and has no potential to occur in the BSA based on sufficient surveys, the lack suitable habitat, and/or the BSA is well outside of the known distribution of the species.</p> <p>Low: Potential habitat in the BSA is sub-marginal and/or the species is known to occur in the vicinity of the BSA.</p> <p>Moderate: Suitable habitat is present in the BSA and/or the species is known to occur in the vicinity of the BSA. Pre-construction surveys may be required.</p> <p>High: Habitat in the BSA is highly suitable for the species and there are reliable records close to the BSA, but the species was not observed. Pre-construction surveys required, with the exception of indicators for foraging habitat.</p> <p>Known: Species was detected in the BSA or a recent reliable record exists for the BSA.</p>

The following special-status species have potential to occur within the BSA based on the presence of suitable habitat and/or known records of species occurrence within the vicinity of the BSA.



Bruce Road Road Widening Project
Critical Habitat Impacts Map
Figure 5

Endangered, Threatened and Rare Plants

Butte County meadowfoam is known to occur within the BSA and the populations of BCM present within the BSA were mapped during the protocol-level surveys conducted in 2017 and 2018. No other special-status plant species were observed during the protocol-level surveys conducted within the BSA and no other special-status plant species were determined to have potential to occur within the BSA based on the results of the protocol-level and habitat surveys.

A list of all of the plant species observed during the surveys is provided in **Appendix D and E**.

Butte County Meadowfoam

Butte County meadowfoam is federal and State listed as endangered. Butte County meadowfoam is a winter annual herb. Butte County meadowfoam typically begins flowering in March, and if conditions are suitable may continue into April or May. Its range is restricted to a narrow 28-mile strip along the eastern margin of the Sacramento Valley from central Butte County to near the northern border of Butte County. Plants are sometimes found at the edges of vernal pools, but they are primarily found in the deepest parts of vernal swales. The extent of its range has not changed substantially since it was identified as a distinct subspecies, but the number of populations, the area occupied, and the extent of available habitat within its range have declined significantly over the last 30 years. Only 21 populations of BCM are presumed to still exist (BCAG 2015).

CNDDB Occurrences

There are numerous occurrences of BCM within 5 miles of the BSA. Two large CNDDB occurrences (#7 and #20) overlap portions of the BSA.

Status of Butte County meadowfoam occurring within the BSA

A total of 0.45 acre of BCM occupied habitat was observed in various locations throughout the survey area during the protocol-level survey conducted in 2017. These occurrences represent an approximate total of 1,170 individual plants. A second BCM survey within the BSA was conducted on March 23 and 27 and April 2, 2018. A total of 0.3 acre of BCM occurrences were observed in various locations throughout the survey area during the 2018 protocol-level survey (**Appendices D and E**). Butte County meadowfoam was also observed within the Stonegate Property and the results of those surveys were incorporated into the BCM occupied habitat totals. Combined, there is a total of 0.5 acres of BCM occupied habitat in the Project boundary, including the 250 foot buffer.

Endangered, Threatened and Special Status Wildlife

A wildlife habitat assessment was conducted within the BSA on April 9, 2019 and January 8, 2020. Suitable habitat was identified for valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, spring-run Chinook salmon, Central Valley steelhead, western spadefoot, western pond turtle, species protected under the MBTA, and bats protected under the California Fish and Game Code (CGFC).

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (VELB) is listed as threatened under the Federal ESA. The VELB is a medium sized (0.8 inch long) beetle that is endemic to the Central Valley of California. The beetle is found only in association with its host plant, elderberry shrubs. Adults feed on the foliage and flowers of elderberry shrubs and are present from March through early June. During this period the beetles mate, and females lay eggs on living elderberry plants. The first instar larvae bore to the center of elderberry stems where they feed on the pith of the plant for one to two years as they develop. Prior to forming their pupae, the elderberry wood boring larvae chew through the bark and then plug the holes with wood shavings. In the pupal chamber, the larvae metamorphose into their pupae and then into adults where upon they emerge between mid-March through June (USFWS 1991). Current threats to VELB consist primarily of riparian habitat destruction, causing extirpation, fragmentation and isolation of beetle populations (USFWS 1991).

CNDDDB Occurrences

There are five occurrences of VELB within 5 miles of the BSA (#107, #108, #183, #228, #291). These occurrences are all associated with riparian zones of creeks. The closest occurrence is within Big Chico Creek (#107) to the north of the BSA. There are no CNDDDB documented occurrences of VELB within the Little Chico Creek watershed.

Status of VELB occurring within the BSA

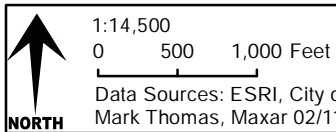
Due to the difficulty of detecting living VELB individuals within elderberry plants and detecting exit holes, presence of VELB is often assumed when the elderberry shrub has branches with a diameter of 1 inch or greater. One small elderberry shrub occurs along the rock wall on the east side of Bruce Road just opposite Banner Peak Drive (**Figure 6**). The elderberry shrub present within the BSA has several branches with a diameter greater than 1 inch, is isolated and located in uplands. No exit holes were observed on the shrub during the VELB exit hole survey conducted on January 8, 2020 by biologist, Brittany Reaves.

Vernal Pool Fairy Shrimp

Vernal pool fairy shrimp are federally listed as threatened and are widespread but not abundant. Known populations occur in California to southern Oregon. The geographic range of this species encompasses most of the Central Valley from Shasta County to Tulare County and the central coast range from northern Solano County to Santa Barbara County, California: additional disjunctive occurrences have been identified in western Riverside County, California, and in Jackson County, Oregon, near the city of Medford. The vernal pool fairy shrimp occupies a variety of different vernal pool habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. Occupied habitats range in size from rock outcrops pools as small as one square meter to large vernal pools up to 12 acres. Smaller vernal pools are the most commonly occupied and are found more frequently in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands. Vernal pool fairy shrimp have been collected from early December to early May (USFWS 2005).

CNDDDB Occurrences

There are two CNDDDB occurrences (#121, #689) within 5 miles of the BSA.



Bruce Road Road Widening Project
 Elderberry Shrub Location Map
 Figure 6

Status of vernal pool fairy shrimp occurring within the BSA

No protocol-level surveys for branchiopods were conducted within the BSA; however, known CNDDDB occurrences of vernal pool fairy shrimp occur within 5 miles of the BSA and the vernal features within the BSA provide suitable habitat. As such, vernal pool fairy shrimp are assumed to be present within the vernal pools present in the BSA.

Vernal Pool Tadpole Shrimp

Vernal pool tadpole shrimp are federally endangered species. They are a small crustacean in the Triopsidae family. The vernal pool tadpole shrimp is known from 18 populations in the Central Valley, ranging from east of Redding in Shasta County, south to the San Luis National Wildlife Refuge in Merced County, and from a single vernal pool complex on the San Francisco Bay National Wildlife Refuge in the City of Fremont, Alameda County (USFWS 1996). They inhabit vernal pools containing clear to highly turbid water, ranging in size from 54 square feet in the former Mather Air Force Base area of Sacramento County, to the 89-acre Olcott Lake at Jepson Prairie. Their diet consists of organic debris and living organisms, such as fairy shrimp and other invertebrates (USFWS 1996).

CNDDDB Occurrences

There are eight CNDDDB occurrences (#55, #58, #59, #78, #146, #157, #190, #315) within 5 miles of the BSA. One occurrence, #78, overlaps the BSA.

Status of vernal pool tadpole shrimp occurring within the BSA

No protocol-level surveys for branchiopods were conducted within the BSA. A known CNDDDB occurrence of vernal pool tadpole shrimp was identified within the BSA in 1993 (CNDDDB Occurrence #78), and the vernal features within the BSA provide suitable habitat. As such, vernal pool tadpole shrimp are assumed to be present within the vernal pools present in the BSA.

Spring-Run Chinook Salmon

Chinook salmon are an anadromous species which originate in freshwater environments, such as major streams and tributaries, before migrating to oceanic environments to grow and mature, then returning to their natal freshwater environments to spawn and eventually die. Chinook salmon are the largest of the salmon species. They range in appearance throughout their developmental stages and aquatic environments.

Central Valley spring-run (CVSR) Chinook salmon are considered an Evolutionarily Significant Unit (ESU) by NMFS and their listing status is threatened under the ESA and CESA. Critical habitat was designated later 2005 (70 FR 52488). In 2014, NMFS released a final multi-species recovery plan that addresses all three listed salmonids in the California Central Valley, including the CVSR Chinook salmon (NMFS 2014). Central Valley spring-run Chinook salmon are differentiated from the other ESUs or other “runs” of Chinook salmon due to their distinct life history strategy in which natural populations migrate from the Pacific Ocean to their natal spawning habitat in Central Valley tributaries starting in the spring; as early as February for some populations. Unlike other runs of Chinook salmon, spring-run migrate upstream early in the year and then disperse throughout the upper reaches of a river and hold there over the

summer months before spawning, instead of spawning quickly upon arrival. Juveniles will then emigrate during late fall and winter with increased flows to make their way to the Pacific Ocean. Key habitat for CVSR Chinook salmon includes moderately deep pools utilized for holding habitat over summer, small cobble or gravel substrate for spawning, and slow, off-channel water with debris or vegetation that juveniles utilize for rearing habitat and refuge. Shade and wood cover have been indicated as important for juvenile Chinook salmon holding habitat (Zajanc et al. 2012). Chinook salmon adults utilize deep pools for holding that usually have a large bubble curtain at the head, underwater rocky ledges, and shade cover throughout the day, or hold in smaller “pocket” water behind large rocks in fast water (Moyle 1995).

CNDDDB Occurrences

There are no CNDDDB documented occurrences of CVSR Chinook salmon in Little Chico Creek.

Status of Chinook salmon occurring in the BSA

According to the NMFS, the Little Chico Creek watershed is not typically used as a migration corridor or spawning habitat for adult CVSR Chinook salmon. There have been incidental observations of CVSR Chinook salmon within the upper canyon reaches of Little Chico Creek during a few high flow years (California State University Chico 2002), but due to the habitat deterioration and flow changes that have occur within the urban zone of Little Chico Creek, where the BSA is situated, the BSA only supports habitat for migrant or spill-over CVSR Chinook salmon from the upstream reaches of Little Chico Creek and only during high flows events. There is no spawning habitat for anadromous fish in the BSA. Chinook salmon juveniles are not expected to hold or rear within the BSA due to lack of preferred habitat components. Chinook salmon adults are not expected to hold in the BSA due to lack of cover such as bubble curtains, underwater rocky ledges, shade cover, or pocket water behind large rocks in fast water. As such, there is low potential for CVSR Chinook salmon to occur within the BSA when water is present.

Central Valley Steelhead

Central Valley steelhead Distinct Population Segment (DPS) are federally listed as threatened under the ESA originally listed in 1998 and listed again under revised criteria in 2006 (71 FR 834). In 2014, NMFS released a final multi-species recovery plan that addresses all three listed salmonids in the California Central Valley, including steelhead (NMFS 2014).

Steelhead are small-bodied in general compared to their coastal counterparts and rarely exceed 60 centimeters in fork length, which may be an adaptation to the distance inland these fish migrate to reach their spawning areas in some cases (Moyle 2002). Steelhead will spend one to three years growing in a marine environment before migrating into the Sacramento and San Joaquin River systems, as well as far upstream into the tributaries of these river systems, to spawn. Steelhead generally move quickly through the main stem of the Sacramento River to their respective spawning grounds, where they then seek out suitable spawning habitat. The steelhead population is entirely a “winter-run” fish that enter the river system in November through April as fully reproductively mature adults to spawn before emigrating back to marine habitat (Moyle et al. 2008). Adult steelhead require cold, clear, relatively fast-moving water that is usually provided by snowmelt-driven stream systems at the time they are

spawning. Depths required for spawning are typically 10 to 150 cm (Moyle 2002), and optimum depth for spawning is 14 inches (Bovee 1978 cited in McEwan 2001). Juvenile steelhead may spend from just months up to seven years rearing in freshwater, with most emigrating to the ocean after one to two years (NMFS 2016). For the first year or two of life, juvenile steelhead are found in cool, fast-flowing permanent streams and rivers where riffles predominate over pools and there is ample cover from riparian vegetation or undercut banks (Moyle 2002).

CNDDB Occurrences

There are no CNDDB documented occurrences of steelhead in Little Chico Creek.

Status of Central Valley steelhead occurring in the BSA

Little Chico Creek has been designated by NMFS as critical habitat for steelhead, however, the portion of Little Chico Creek that occurs within the BSA is positioned within the urban zone of the creek which contains only intermittent flows. Steelhead have been known to spawn miles upstream of the BSA in the upper reaches of Little Chico Creek, however there is no spawning potential for steelhead in the project area (Brown and Mott 2002). During the summer months (July 1 – October 31) Little Chico Creek is dry or contains pockets of still water with warm temperatures that make Little Chico Creek within the project area unsuitable for any lifestage of anadromous salmonid (T. McReynolds, CDFW, pers. comm., 2018, Ord Ferry Bridge Replacement Biological Opinion, NMFS File No WCR-2018-11046). Due to the lack of perennial flows within the portion of Little Chico Creek within the BSA, the BSA only supports habitat for steelhead migrants and strays from the upstream portion of the creek and only during high flow events. Steelhead juveniles and adults are not expected to hold or rear within the BSA due to lack of preferred habitat components. There is low potential for steelhead to occur within the BSA when water is present and no potential when flows are absent.

Western Spadefoot

The western spadefoot is a SSC in California. It is an endemic species in California. The western spadefoot toad ranges from the northern point of the Central Valley south to the western corner of California. They are a stocky, small toad that varies in colors from gray, green and brown and typically have four irregular spots or stripes on their back. Their eyes are described as being golden with vertical pupils. The most distinguishing feature of the toad is a hardened, black spade on the hind foot. The spade is used for burrowing into moist soils. Suitable habitat consists of open grasslands with intermittent streams and vernal pools. Vernal pools are essential for breeding and depositing eggs. Current threats facing the western spadefoot toad are loss of habitat, changes in hydrological regimes, and human disturbances.

CNDDB Occurrences

There are three occurrences of western spadefoot within 5 miles of the BSA (#180, #391, #442). These occurrences are located northwest of the BSA, in areas featuring intermittent drainages and vernal pools. These occurrences are separated from the BSA by Highway 32, Bidwell Park, and extensive residential development, but contain similar habitat components to land within the BSA.

Status of Western Spadefoot occurring in the BSA

The BSA features vernal pools and ephemeral swales that could support breeding habitat for western spadefoot when water is present. Sound or vibration from vehicles can interfere with emergence patterns potentially making habitat adjacent to roadways unsuitable (Dimmitt and Ruibal 1980). There is low potential for western spadefoot to occur within the BSA when water is present.

Western Pond Turtle

The western pond turtle is a SSC in California. Western pond turtles are drab darkish colored turtles with a yellowish to cream colored head. They range from the Washington Puget Sound to the California Sacramento Valley. Suitable aquatic habitats include slow moving to stagnant water, such as backwaters and ponded areas of rivers and creeks, semi-permanent to permanent ponds and irrigation ditches. Preferred habitats include features such as hydrophytic vegetation, for foraging and cover, and basking areas to regulate body temperature. In early spring through early summer, female turtles begin to move over land in search for nesting sites. Eggs are laid on the banks of slow moving streams. The female digs a hole approximately four inches deep and lays up to eleven eggs. Afterwards the eggs are covered with sediment and are left to incubate under the warm soils. Eggs are typically laid between March and August (Zeiner et al. 1990). Current threats facing the western pond turtle include loss of suitable aquatic habitats due to rapid changes in water regimes and removal of hydrophytic vegetation.

CNDDDB Occurrences

There are two occurrences of western pond turtle within 5 miles of the BSA (#775 and #1227). One of these occurrences, #775, is located within Little Chico Creek approximately 1.7 miles downstream of the BSA.

Status of Western Pond Turtle occurring in the BSA

Little Chico Creek and the unnamed tributaries to Dead Horse Slough contain suitable habitat for western pond turtles; however, suitable habitat for western pond turtles only occurs when there is flowing water present. The stretch of Little Chico Creek that occurs within the BSA generally lacks emergent rocks and logs on which western pond turtles bask for thermoregulation; however, there is some fresh emergent vegetation for foraging and cover and open banks for basking. Western pond turtles are not expected to be present when the creeks in the BSA are dry during the summer and fall months. There is moderate potential for western pond turtle to occur when water is present.

Western Burrowing Owl

The western burrowing owl is listed as a SSC in the state of California. They are distributed throughout the western United States from Minnesota to the Pacific Coast, and into Canada and Mexico. In California, burrowing owls are distributed along the south and southeastern desert areas, throughout the Central Valley, and patchy areas around the Bay Area and southern coast lines and the north eastern high desert areas. The western burrowing owl is a small, slender owl with long tarsi, no ear tufts, and has a light to chocolate brown coloration with variable white spots. Suitable habitat includes open plains, grasslands, desert scrub and mima mound topography. Burrowing owls primarily nest in previously made mammal burrows but will also use rock crevices and other dry natural and man-made

cavities that provide cover from predators. Current threats facing the western burrowing owl include habitat loss and fragmentation, decline in burrowing rodents, and the spread of invasive plant species.

CNDDB Occurrences

The nearest occurrence (#1029) is located less than a mile to the southeast of the BSA. This occurrence was associated with a previously existing lava rock wall present in the area but has been extirpated since 2006 due to development. There are three other occurrences within 5 miles of the BSA (#304, #305, #730) that are associated with similar open annual grassland habitats.

Status of burrowing owl occurring within the BSA

The open annual grassland and existing lava rock wall that extends along Bruce Road could contain suitable habitat for burrowing owls where suitable burrows and crevices exist. No breeding burrowing owls have been observed during field surveys conducted in 2017, 2018, and 2019. Burrowing owls are not expected to occur in the BSA.

Swainson's Hawk

Swainson's hawks are listed under the CESA as threatened. They are found throughout the western part of the United States and from Canada to Mexico. Swainson's hawks are a fairly large, slender hawk with three different color morph displays. The most common morph in northern California is the dark morph which demonstrates black to dark brown under coverts and flight feathers. Suitable habitat includes open grasslands or agricultural fields that are adjacent to a riparian forest or oak woodland. Swainson's hawks primarily nest in riparian forests next to open fields that provide foraging opportunities. Nesting and courtship begin in April. Current threats facing the Swainson's hawk are loss of nesting and foraging habitat, change in agricultural regimes, pesticides, poaching and human disturbances (CDFW 1994).

CNDDB Occurrences

The nearest occurrence (#699) is located approximately 3 miles southwest of the BSA. This occurrence was a nest located in a walnut orchard at the Chico State Farm which was last observed in 1998. Other nesting occurrences within 10 miles of the BSA (#650, #492) are associated with the Sacramento River; however, none of these have been confirmed to be active within the last 20 years.

Status of Swainson's hawk occurring within the BSA

Swainson's hawks forage for small mammals and insects in open grasslands, low growing crops and pastures. Adjacent land surrounding the BSA consists of annual grassland, residential development, and a narrow strip of trees associated with the banks of the intermittent creek present in the BSA. Swainson's hawks nest in trees taller than 10 feet in wetlands and along drainages, or in windbreaks in fields and around farmsteads (Tesky 1994). There are only a few trees taller than 10 feet within the BSA, primarily located in the vicinity of Little Chico Creek that are not landscape trees planted in dense residential developments. As such, there is suitable nesting habitat for Swainson's hawks within the BSA and possible foraging habitat adjacent to the BSA. However, according to the current data in the CNDDB, there are no known active nests within 10 miles of the Project site. Swainson's hawks will forage up to 10 miles from their nest. There are suitable nest trees within the BSA, however, due to the few trees

present, the location of the BSA within residential neighborhoods and busy streets, and given that there are no active nests within 10 miles of the BSA, there is low potential for Swainson's hawks to nest or forage within the BSA.

Pallid Bat

Pallid bats are designated as a CDFW SSC. Pallid bats roost alone, in small groups (2 to 20 bats), or gregariously (hundreds of individuals). Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of coast redwoods and giant sequoias, bole cavities of oaks, exfoliating Ponderosa pine and valley oak bark, deciduous trees in riparian areas, and fruit trees in orchards), and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied as well as vacant buildings. Roosts generally have unobstructed entrances/exits, and are high above the ground, warm, and inaccessible to terrestrial predators. However, this species has also been found roosting on or near the ground under burlap sacks, stone piles, rags, and baseboards. Lewis 1996 found that pallid bats have low roost fidelity and both pregnant and lactating pallid bats changed roosts an average of once every 1.4 days throughout the summer. Overwintering roosts have relatively cool, stable temperatures and are located in protected structures beneath the forest canopy or on the ground, out of direct sunlight. In other parts of the species' range, males and females have been found hibernating alone or in small groups, wedged deeply into narrow fissures in mines, caves, and buildings. At low latitudes, outdoor winter activity has been reported at temperatures between -5 and 10 °C.

CNDDDB Occurrences

There is only one CNDDDB occurrence of pallid bat within 15 miles of the BSA (#132) dating from 1992, with the location only described as "Chico."

Status of Pallid Bats occurring in the BSA

There are a few mature trees within the BSA that have suitable habitat elements (e.g. cavities, peeling bark) and may provide suitable day roost habitat. The only suitable trees within the BSA are located in the vicinity of Little Chico Creek and the unnamed tributary to Dead Horse Slough. There is moderate potential for pallid bats to occur within the BSA.

Migratory Birds and Raptors

Nesting birds are protected under the Migratory Bird Treaty Act (MBTA) (16 USC 703) and the California Fish and Game Code (CFGF) (§3503). The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA.

The CFGF (§3503.5) states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant

thereto.” Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.”

CNDDDB Occurrences

The majority of migratory birds and raptors protected under the MBTA and CFGC are not recorded on the CNDDDB because they are abundant and widespread.

Status of Migratory Birds and Raptors occurring in the BSA

There is suitable nesting habitat for a variety of ground, shrub, and tree nesting avian species throughout the BSA.

REGULATORY FRAMEWORK

The following describes federal, state, and local environmental laws and policies that may be relevant if the BSA were to be developed or modified.

Federal

Waters of the United States, Clean Water Act, Section 404

The US Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into jurisdictional waters of the United States, under the Clean Water Act (§404). The term “waters of the United States” is an encompassing term that includes “wetlands” and “other waters.” Wetlands have been defined for regulatory purposes as follows: “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3, 40 CFR 230.3). Wetlands generally include swamps, marshes, bogs, and similar areas.” other waters of the United States are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4). The Corps may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide permits are general permits issued to cover particular fill activities. All nationwide permits have general conditions that must be met for the permits to apply to a particular project, as well as specific conditions that apply to each nationwide permit.

Clean Water Act, Section 401

The Clean Water Act (§401) requires water quality certification and authorization for placement of dredged or fill material in wetlands and Other Waters of the United States. In accordance with the Clean Water Act (§401), criteria for allowable discharges into surface waters have been developed by the State Water Resources Control Board, Division of Water Quality. The resulting requirements are used as criteria in granting National Pollutant Discharge Elimination System (NPDES) permits or waivers, which

are obtained through the Regional Water Quality Control Board (RWQCB) per the Clean Water Act (§402). Any activity or facility that will discharge waste (such as soils from construction) into surface waters, or from which waste may be discharged, must obtain an NPDES permit or waiver from the RWQCB. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

Federal Endangered Species Act

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

Under the ESA, species may be listed as either “endangered” or “threatened.” Endangered means a species is in danger of extinction throughout all or a significant portion of its range. Threatened means a species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. All species of plants and animals, except non-native species and pest insects, are eligible for listing as endangered or threatened. The USFWS also maintains a list of “candidate” species. Candidate species are species for which there is enough information to warrant proposing them for listing, but that have not yet been proposed. “Proposed” species are those that have been proposed for listing, but have not yet been listed.

The ESA makes it unlawful to “take” a listed animal without a permit. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” Through regulations, the term “harm” is defined as “an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.”

Migratory Bird Treaty Act

The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA. Thus, vegetation removal and ground disturbance in areas with breeding birds should be conducted outside of the breeding season (approximately March 1 through August 31 in the Central Valley). If vegetation removal or ground disturbance activities are conducted during the breeding season, then a qualified biologist must determine if there are any nests of bird species protected under the MBTA present in the construction area prior to commencement of construction. If active nests are located or presumed present, then appropriate avoidance measures (e.g. spatial or temporal buffers) must be implemented.

State of California

California Endangered Species Act

The CESA is similar to the ESA, but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFW when preparing documents to comply with the CEQA. The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, “species of special concern” receive consideration by CDFW. Species of special concern are those whose numbers, reproductive success, or habitat may be threatened.

California Fish and Game Code (§3503.5)

The CFGC (§3503.5) states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (all owls except barn owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.”

Lake and Streambed Alteration Agreement, CFGC (§1602)

The CDFW is a trustee agency that has jurisdiction under the CFGC (§1600 et seq.). The CFGC (§1602), requires that a state or local government agency, public utility, or private entity must notify CDFW if a proposed Project will “substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds... except when the department has been notified pursuant to Section 1601.” If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

Rare and Endangered Plants

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS California Rare Plant Rank (CRPR) plants receive consideration under CEQA review. The CNPS CRPR categorizes plants as follows:

- Rank 1A: Plants presumed extinct in California;
- Rank 1B: Plants rare, threatened, or endangered in California or elsewhere;

- Rank 2A: Plants presumed extirpated or extinct in California, but not elsewhere;
- Rank 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
- Rank 3: Plants about which we need more information; and
- Rank 4: Plants of limited distribution.

The California Native Plant Protection Act (CFGC §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed. Fish and game Code §1913 exempts from the ‘take’ prohibition “the removal of endangered or rare native plants from a canal, lateral channel, building site, or road, or other right of way.”

California Environmental Quality Act Guidelines §15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the CFGC dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (e.g. candidate species, species of concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project’s potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

CONCLUSIONS AND RECOMMENDATIONS

Endangered, Threatened and Rare Plants

Butte County meadowfoam

Butte County meadowfoam is a federal and State endangered species, and critical habitat for BCM occurs in the northern portion of the BSA between Highway 32 and Humboldt Road. Consultation with USFWS and CDFW and mitigation for impacts to this species may be required. The Bruce Road Widening Project is expected to directly impact 0.0002 acres of BCM occupied habitat (5 or fewer plants). The USFWS requires a compensation ratio of 19:1 for direct impacts to BCM, thus the City of Chico would be required to provide 0.0038 acres of compensation. The City of Chico retains a surplus of unused BCM mitigation credits that were purchased from the Dove Ridge Conservation Bank. The City will use their unused BCM credits to compensate for direct and indirect impacts to BCM as a result of the Project. To reduce the potential for additional construction related impacts, avoidance and minimization measures

recommended for vernal pool fairy shrimp and vernal pool tadpole shrimp as discussed below, will be implemented to protect BCM habitat as well.

Designated Critical Habitat

The Project occurs within USFWS designated critical habitat for BCM, vernal pool fairy shrimp, and vernal pool tadpole shrimp. USFWS critical habitat mapping is not accurate and frequently includes habitat elements that do not provide any habitat elements essential for the continued survival of federally listed species. In this case the roadway, road shoulder, and sidewalks are mapped as critical habitat but they do not provide habitat for federally listed species. No aquatic resources in USFWS designated habitat will be impacted by the proposed project, thus no impacts to USFWS critical habitat are expected as a result of the project.

The NMFS has designated Little Chico Creek as critical habitat for central valley steelhead. The Project is expected to result in a minor habitat modification and will remove approximately 0.04 acres steelhead critical habitat.

Endangered, Threatened, and Special-status Wildlife

The following minimization and mitigation measures further reduce or eliminate project associated impacts to special-status wildlife species.

Valley elderberry longhorn beetle

The VELB is a federally threatened species. Consultation with USFWS and mitigation for impacts to this species will be required if the one elderberry shrub within the BSA is directly or indirectly impacted by the Project. If the elderberry shrub cannot be avoided or indirect effects will result in the death of stems or the entire shrub, compensation for impacts to the shrub may include transplanting the shrub per section 5.2 of USFWS' *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (2017) and purchasing credits at a USFWS approved bank. Due to the shrub's isolated location in the uplands and the fact that no exit holes were observed, the USFWS will likely determine that mitigation is not required. The determination regarding mitigation will be made by the USFWS during informal or formal consultation. Should the Project propose to avoid the elderberry shrub, the following avoidance and minimization measures are recommended.

- Fencing. All areas to be avoided during construction activities will be fenced and/or flagged as close to construction limits as feasible.
- Avoidance area. Activities that may damage or kill an elderberry shrub (e.g., trenching, paving, etc.) may need an avoidance area of at least 6 meters (20 feet) from the drip-line, depending on the type of activity.
- Worker education. A qualified biologist will provide training for all contractors, work crews, and any onsite personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for noncompliance. Construction monitoring. A qualified biologist will monitor the work area at project-appropriate intervals to

assure that all avoidance and minimization measures are implemented. The amount and duration of monitoring will depend on the project specifics and should be discussed with the Service biologist.

- Trimming. Trimming may remove or destroy VELB eggs and/or larvae and may reduce the health and vigor of the elderberry shrub. In order to avoid and minimize adverse effects to VELB when trimming, trimming will occur between November and February and will avoid the removal of any branches or stems that are ≥ 1 inch in diameter. Measures to address regular and/or large scale maintenance (trimming) should be established in consultation with the Service.
- Chemical Usage. Herbicides will not be used within the drip-line of the shrub. Insecticides will not be used within 30 meters (98 feet) of an elderberry shrub. All chemicals will be applied using a backpack sprayer or similar direct application method.
- Mowing. Mechanical weed removal within the drip-line of the shrub will be limited to the season when adults are not active (August - February) and will avoid damaging the elderberry.
- Erosion Control and Re-vegetation. Erosion control will be implemented and the affected area will be re-vegetated with appropriate native plants.

Vernal pool fairy shrimp and vernal pool tadpole shrimp

Vernal pool fairy shrimp are federally listed as threatened and vernal pool tadpole shrimp are federally listed as endangered, and critical habitat for both of these species occurs on the eastern side of Bruce Road in between SR 32 and Humboldt Road. Consultation with the USFWS and mitigation for impacts to this species will be required.

The Project will directly impact 0.16 acres of vernal pool habitat and will indirectly impact 0.84 acres. Indirect impacts occur whenever project activities occur within 250 feet of a vernal pool in the absence of a topographical or hydrological break. To compensate for direct impacts to vernal pools where the presence of vernal pool tadpole and fairy shrimp is assumed, the City of Chico will purchase 0.16 acres of vernal pool creation credits (1:1 ratio) and 0.32 vernal pool preservation credits (2:1). To compensate for indirect impacts the City of Chico shall purchase 0.84 acres of vernal pool preservation credits (1:1 ratio). The City will purchase these credits from agency approved conservation and/or mitigation banks.

To protect vernal habitats during construction the following avoidance and minimization measures are recommended.

- The Project proponent shall include a copy of the Biological Opinion (BO), as applicable, within its construction documents making the primary contractor responsible for implementing all requirements and obligations included within the BO, and to educate and inform all other contractors involved in the Project as to the requirements of the BO.
- The contractor will be responsible for understanding and following the guidelines set forth in the Section 404 permit and Section 401 water quality certification and the contractor will avoid and minimize potential construction-related water quality impacts through compliance with the RWQCB by preparing and submitting the following water quality permits and plans.

- A National Pollutant Discharge Elimination System (NPDES) storm water permit for general construction activities.
 - A Notice of Intent to obtain proper coverage under the State Construction General Permit.
- The contractor shall ensure, when feasible, that activities that are inconsistent with the maintenance of the suitability of vernal pool crustacean habitat and the associated on-site watershed are prohibited. These include, but are not limited to:
 - the alteration of existing topography that may alter hydrology into habitat for Federally-listed vernal pool crustaceans;
 - the placement of any equipment within suitable habitat; and
 - dumping, burning, and/or burying of rubbish, garbage, or any other wastes and fill materials within 250 feet of habitat.
- Prior to the commencement of construction activities, high visibility fencing will be erected around the habitats of the federally listed species to identify and protect these Environmentally Sensitive Areas (ESA, i.e. vernal pools) from encroachment of personnel and equipment. These areas will be avoided by all construction personnel. The fencing shall be inspected before the start of each work day and maintained by the contractor until completion of the Project. The fencing may be removed only when the construction of the Project is completed.
- Construction timing will be confined to the summer and fall months when waters of the United States and suitable habitat within the Project site are dry.
- During construction activities silt fencing will be erected as necessary to prevent dust from drifting into adjacent WOTUS and suitable habitat.
- During construction operations, the number of access routes, number and size of staging areas, and the total area of the proposed Project activity will be limited to the minimum necessary. Routes and boundaries will be clearly demarcated. Movement of heavy equipment to and from the Project site will be restricted to established roadways to minimize habitat disturbance.
- During construction operations, stockpiling of construction materials, portable equipment, vehicles and supplies will be restricted to the designated construction staging areas and exclusive of the ESAs.

Anadromous Fish Species

To avoid impacts to anadromous fish species and their habitat the following are recommended avoidance and minimization measures:

- Construction activities within Little Chico Creek shall be limited to the dry season when no flowing water is present in the channel and during daylight hours.
- All riparian vegetation to be removed as a result of Project activities will be restored onsite to pre-Project conditions.
- Channel disturbance shall be kept to a minimum during construction activities within the channel and only occur within designated areas.

- An erosion control plan that incorporates erosion BMPs shall be created and implemented prior to the wet season (October 15 – April 1) in order to avoid sediment from entering into the waters of the U.S.
- Best management practices shall be implemented that are necessary to minimize the risk of sedimentation, turbidity, and hazardous material spills. Applicable BMPs will include temporary erosion control measures, including use of straw bales, mulch or wattles, silt fences, filter fabric, spill remediation material, and ultimately seeding and revegetating.
- Avoid the removal of riparian vegetation including trees with a DBH greater than 4 inches in the stream zone of Little Chico Creek.

Western pond turtle

To minimize impacts to western pond turtle, clearance surveys should be conducted immediately prior to the initiation of work when water is present within the flowing drainages that contain suitable habitat components for western pond turtle. Should any western pond turtles be found, they will be relocated to appropriate habitat by a qualified biologist.

If work commences when all drainages are dry, western pond turtle will not be present and no avoidance and minimization measures are proposed.

Pallid Bats

To minimize impacts to bat species protected by the CFGC the following are recommended avoidance and minimization measures:

- Mature trees should be removed and/or fallen between September 16 – March 15; outside of the bat maternity season. Trees should be removed at dusk to minimize impacts to roosting bats.

Migratory Birds and Raptors

In order to avoid impacts to avian species protected under the MBTA and the CFGC, the following avoidance and minimization measures are recommended:

- Project activities including site grubbing and vegetation removal shall be initiated outside of the bird nesting season (February 1 – August 31).
- If Project activities cannot be initiated outside of the bird nesting season then the following will occur:
 - A qualified biologist will conduct a pre-construction survey within 250 feet of the BSA, where accessible, within 7 days prior to the start of Project activities.
 - If an active nest or burrow (i.e. containing egg(s) or young) is observed within the BSA or in an area adjacent to the BSA where impacts could occur, then a species protection buffer will be established. The species protection buffer will be defined by the qualified biologist based on the species, nest type, and tolerance to

disturbance. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails as determined by a qualified biologist. Nests shall be monitored by a qualified biologist once per week and a report submitted to the CEQA lead agency weekly.

Other Natural Resources

Waters of the United States

If activities occur within the ordinary high water mark and/or result in fill or discharge to any waters of the U.S which include but are not limited to, intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, vernal pools or natural ponds, then the following will need to be obtain:

- Prior to any discharge or fill material into Waters of the U.S, authorization under a Nationwide Permit or Individual Permit shall be obtained from the Corps. For fill requiring a Corps permit, a water quality certification from the Regional Water Quality Board (Clean Water Act §401) shall also be obtained prior to discharge of dredged or fill material.
- Prior to any activities that would obstruct the flow of or alter the bed, channel, or bank of any perennial, intermittent, or ephemeral creeks, notification of streambed alteration shall be submitted to the CDFW, and, if required, a Lake and Streambed Alteration Agreement (§1602) shall be obtained.

Mitigation requirements for the fill of waters of the U.S will be implemented through an onsite restoration plan, and/or an In Lieu Fund and/or a certified mitigation bank with a Service Area that covers the Project area. These agreements, certifications and permits may be contingent upon successful completion of the CEQA process.

Tree Removal

If any trees with a diameter at breast height of 6 inches or greater are present within the BSA and proposed for removal, an inventory of the trees and health assessment performed by a qualified arborist will be required by the City. The City of Chico's Municipal Code and Tree Preservation Regulations must be complied with and mitigation may be necessary.

REFERENCES

- 70 FR 52488-52627. Endangered and Threatened Species; Designation of Critical Habitat for Seven Evolutionary Significant Units of Pacific Salmon and Steelhead in California. NMFS, NOAA and Commerce. (September 2, 2005) Volume 70.
- 71 FR 834-862. Endangered and Threatened Species; Final Listing Determinations for 10 Distinct Population Segments of West Coast Steelhead; Final Rule. NMFS, NOAA and Commerce. (January 5, 2006) Volume 71, No. 3.
- 71 FR 7118. Endangered and Threatened Wildlife and Plants: Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants; Final Rule, (February 10, 2006) Volume 71.
- Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors. 2012. The Jepson Manual: vascular plants of California, second edition. University of California Press, Berkeley.
- Brown, D. L. and J. Mott. 2002. Little Chico Creek Watershed Existing Conditions Report Vegetation, Fish & Wildlife, Water Quality, Land Use. California State University Chico.
- Butte County Association of Governments (BCAG). 2015. Butte Regional Conservation Plan Formal Public Draft.
- California Department of Fish and Wildlife (CDFW). 1994. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks. CDFW. Sacramento, CA.
- California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 5 April 2019].
- California Natural Diversity Database (CNDDB). 2019. Rarefind 5. California Department of Fish and Wildlife. Sacramento, California.
- California State University Chico. 2002. Little Chico Creek Watershed Existing Conditions Report; Vegetation, Fish & Wildlife, Water Quality, Land Use. California State University, Chico, CA. December 2002.
- Dimmitt, M.A. and R. Ruibal. 1980. Environmental Correlates of Emergence in Spadefoot Toads (*Scaphiopus*). *Journal of Herpetology* 14:21-29.
- Mayer, K.E and Laudenslayer, W.F. 1988. A guide to Wildlife Habitats of California. California Department of Forestry and Fire Protection. Sacramento, California.
- McEwan, D.R. 2001. Central Valley steelhead. California Department of Fish and Game. Fish Bulletin 179:1-43. Sacramento, CA.

- Moyle, P. B., R. M. Yoshiyama, J. E. Williams, and E. D. Wikramanayake. 1995. Fish Species of Special Concern in California, Second Edition. Report # Final Report for Contract No. 2128IF. Prepared for CDFG, Inland Fisheries Division, Rancho Cordova.
- Moyle, P.B. 2002. Inland fishes of California. University of California Press, Berkeley, CA. 502 pp.
- Moyle, P.B., Israel, J.A., & Purdy, S.E. 2008. Salmon, steelhead, and trout in California. Status of an Emblematic Fauna. A report commissioned by California Trout.
- National Marine Fisheries Service. 2014. Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-run Chinook Salmon and Central Valley Spring-run Chinook Salmon and the Distinct Population Segment of California Central Valley Steelhead. California Central Valley Area Office. July 2014.
- National Marine Fisheries Service. 2016. Central Valley Recovery Domain, 5-Year Review: Summary and Evaluation, California Central Valley Steelhead Distinct Population Segment. West Coast Region.
- Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.
- Tesky, Julie L. 1994. *Buteo swainsoni*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: www.fs.fed.us/database/feis/animals/bird/busw/all.html [2019, April 10].
- United States Fish and Wildlife Service (USFWS). 1991. The Distribution, Habitat, and Status of the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). USFWS. Sacramento, California.
- USFWS. 1996. Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California. Sacramento, CA.
- USFWS. 2002. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon. viii + 173 pp.
- USFWS. 2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Portland, Oregon.

USFWS. 2007. Flow-Habitat Relationships for Spring and Fall-Run Chinook Salmon and Steelhead/Rainbow Trout Spawning in the Yuba River. Prepared by The Energy Planning and Instream Flow Branch. May 31, 2007.

USFWS. 2017. Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). U.S. Fish and Wildlife Service; Sacramento, California. 28 pp.

Western Bat Working Group 2019. Western Bat Species Accounts. Online Access.

Western Regional Climate Center (WRCC). 2019. Local Climate Data 2008 Summary for Chico, CA. Online access.

Zajanc, D., Kramer, S. H., Nur, N., and Nelson, P. A. 2012. Holding behavior of Chinook salmon (*Oncorhynchus tshawytscha*) and steelhead (*O. mykiss*) smolts, as influenced by habitat features of levee banks, in the highly modified lower Sacramento River, California. *Environmental Biology of Fishes*. 96. 245-256. 10.1007/s10641-012-0060-z. July 2012.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California.

LIST OF PREPARERS

Elena Gregg. Senior Botanist. B.S. in Environmental Biology and Management, University of California, Davis. Ms. Gregg has over 12 years' experience conducting rare plant surveys, habitat assessments, wetland delineations, and preparing reports.

Brittany Reaves. Biologist. B.S. in Parks and Natural Resources Management, California State University, Chico. Ms. Reaves has more than 2 years of experience conducting wildlife surveys and habitat assessments, field data collection, and preparing technical documents and reports.

Cate Davis. GIS Analyst and Cultural Resource Specialist. Master of Arts in Anthropology with a specialization in GIS applications and land use studies, California State University, Chico. Ms. Davis has over 5 years of experience working with GIS while incorporating surveying applications, analysis of datasets, and collection of field data in order to create professional quality graphics and reports.

Appendix A

Species Lists



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



Query Criteria: Quad IS (Chico (3912167) OR Richardson Springs (3912177))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
adobe-lily <i>Fritillaria pluriflora</i>	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2
Ahart's paronychia <i>Paronychia ahartii</i>	PDCAR0L0V0	None	None	G3	S3	1B.1
bald eagle <i>Haliaeetus leucocephalus</i>	ABNKC10010	Delisted	Endangered	G5	S3	FP
big-scale balsamroot <i>Balsamorhiza macrolepis</i>	PDAST11061	None	None	G2	S2	1B.2
burrowing owl <i>Athene cunicularia</i>	ABNSB10010	None	None	G4	S3	SSC
Butte County checkerbloom <i>Sidalcea robusta</i>	PDMAL110P0	None	None	G2	S2	1B.2
Butte County fritillary <i>Fritillaria eastwoodiae</i>	PMLIL0V060	None	None	G3Q	S3	3.2
Butte County meadowfoam <i>Limnanthes floccosa ssp. californica</i>	PDLIM02042	Endangered	Endangered	G4T1	S1	1B.1
California beaked-rush <i>Rhynchospora californica</i>	PMCYP0N060	None	None	G1	S1	1B.1
California black rail <i>Laterallus jamaicensis coturniculus</i>	ABNME03041	None	Threatened	G3G4T1	S1	FP
California linderiella <i>Linderiella occidentalis</i>	ICBRA06010	None	None	G2G3	S2S3	
California satintail <i>Imperata brevifolia</i>	PMPOA3D020	None	None	G4	S3	2B.1
chinook salmon - Central Valley spring-run ESU <i>Oncorhynchus tshawytscha pop. 6</i>	AFCHA0205A	Threatened	Threatened	G5	S1	
flagella-like atractylocarpus <i>Campylopodia stenocarpa</i>	NBMUS84010	None	None	G5	S1?	2B.2
foothill yellow-legged frog <i>Rana boylei</i>	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Great Valley Mixed Riparian Forest <i>Great Valley Mixed Riparian Forest</i>	CTT61420CA	None	None	G2	S2.2	
Great Valley Valley Oak Riparian Forest <i>Great Valley Valley Oak Riparian Forest</i>	CTT61430CA	None	None	G1	S1.1	
hoary bat <i>Lasiurus cinereus</i>	AMACC05030	None	None	G5	S4	
least Bell's vireo <i>Vireo bellii pusillus</i>	ABPBW01114	Endangered	Endangered	G5T2	S2	
North American porcupine <i>Erethizon dorsatum</i>	AMAFJ01010	None	None	G5	S3	



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/CDFW SSC or FP
Northern Volcanic Mud Flow Vernal Pool <i>Northern Volcanic Mud Flow Vernal Pool</i>	CTT44132CA	None	None	G1	S1.1	
pallid bat <i>Antrozous pallidus</i>	AMACC10010	None	None	G5	S3	SSC
Red Bluff dwarf rush <i>Juncus leiospermus var. leiospermus</i>	PMJUN011L2	None	None	G2T2	S2	1B.1
silver-haired bat <i>Lasionycteris noctivagans</i>	AMACC02010	None	None	G5	S3S4	
slender-leaved pondweed <i>Stuckenia filiformis ssp. alpina</i>	PM POT03091	None	None	G5T5	S2S3	2B.2
steelhead - Central Valley DPS <i>Oncorhynchus mykiss irideus pop. 11</i>	AFCHA0209K	Threatened	None	G5T2Q	S2	
Swainson's hawk <i>Buteo swainsoni</i>	ABNKC19070	None	Threatened	G5	S3	
tricolored blackbird <i>Agelaius tricolor</i>	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	IICOL48011	Threatened	None	G3T2	S2	
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	ICBRA03030	Threatened	None	G3	S3	
vernal pool tadpole shrimp <i>Lepidurus packardii</i>	ICBRA10010	Endangered	None	G4	S3S4	
western mastiff bat <i>Eumops perotis californicus</i>	AMACD02011	None	None	G5T4	S3S4	SSC
western pond turtle <i>Emys marmorata</i>	ARAAD02030	None	None	G3G4	S3	SSC
western spadefoot <i>Spea hammondi</i>	AAABF02020	None	None	G3	S3	SSC
white-stemmed clarkia <i>Clarkia gracilis ssp. albicaulis</i>	PDONA050J1	None	None	G5T3	S3	1B.2
woolly meadowfoam <i>Limnanthes floccosa ssp. floccosa</i>	PDLIM02043	None	None	G4T4	S3	4.2
woolly rose-mallow <i>Hibiscus lasiocarpus var. occidentalis</i>	PDMAL0HOR3	None	None	G5T3	S3	1B.2

Record Count: 37



Inventory of Rare and Endangered Plants - 7th edition interface

v7-18mar 3-19-18

Status: search results - Tue, Mar. 5, 2019, 18:13 ET b

{QUADS_123} =~ m/577A|593C|593D|576B|576C|592C|577B|577C|577D/

Tip: Want to search by habitat? Try the [Checkbox and Preset](#) search page.[\[all tips and help.\]](#)

[\[search history\]](#)

Your Quad Selection: Chico (577A) 3912167, Nord (593C) 3912178, Richardson Springs (593D) 3912177, Hamlin Canyon (576B) 3912166, Shippee (576C) 3912156, Paradise West (592C) 3912176, Ord Ferry (577B) 3912168, Llano Seco (577C) 3912158, Nelson (577D) 3912157















Hits 1 to 26 of 26

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button.

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
	<input type="checkbox"/>	1	<u>Astragalus tener var. ferrisiae</u>	Ferris' milk-vetch	Fabaceae	List 1B.1
	<input type="checkbox"/>	1	<u>Balsamorhiza macrolepis</u>	big-scale balsamroot	Asteraceae	List 1B.2
	<input type="checkbox"/>	1	<u>Brasenia schreberi</u>	watershield	Cabombaceae	List 2B.3
	<input type="checkbox"/>	1	<u>Campylopodia stenocarpa</u>	flagella-like atractylocarpus	Dicranaceae	List 2B.2
	<input type="checkbox"/>	1	<u>Cardamine pachystigma var. dissectifolia</u>	dissected-leaved toothwort	Brassicaceae	List 1B.2
	<input type="checkbox"/>	1	<u>Castilleja rubicundula var. rubicundula</u>	pink creamsacs	Orobanchaceae	List 1B.2
	<input type="checkbox"/>	1	<u>Clarkia gracilis ssp. albicaulis</u>	white-stemmed clarkia	Onagraceae	List 1B.2
	<input type="checkbox"/>	1	<u>Cryptantha crinita</u>	silky cryptantha	Boraginaceae	List 1B.2
	<input type="checkbox"/>	1	<u>Delphinium recurvatum</u>	recurved larkspur	Ranunculaceae	List 1B.2
	<input type="checkbox"/>	1	<u>Euphorbia hooveri</u>	Hoover's spurge	Euphorbiaceae	List 1B.2
	<input type="checkbox"/>	1	<u>Fritillaria eastwoodiae</u>	Butte County fritillary	Liliaceae	List 3.2
	<input type="checkbox"/>	1	<u>Fritillaria pluriflora</u>	adobe-lily	Liliaceae	List 1B.2
	<input type="checkbox"/>	1	<u>Hibiscus lasiocarpus var. occidentalis</u>	woolly rose-mallow	Malvaceae	List 1B.2
	<input type="checkbox"/>	1	<u>Imperata brevifolia</u>	California satintail	Poaceae	List 2B.1
	<input type="checkbox"/>	1	<u>Juncus leiospermus var. leiospermus</u>	Red Bluff dwarf rush	Juncaceae	List 1B.1
	<input type="checkbox"/>	1	<u>Limnanthes floccosa ssp. californica</u>	Butte County meadowfoam	Limnanthaceae	List 1B.1
	<input type="checkbox"/>	1	<u>Monardella venosa</u>	veiny monardella	Lamiaceae	List 1B.1
	<input type="checkbox"/>	1	<u>Orcuttia pilosa</u>	hairy Orcutt grass	Poaceae	List 1B.1

	<input type="checkbox"/>	1	<u>Paronychia ahartii</u> 	Ahart's paronychia	Caryophyllaceae	List 1B.1
	<input type="checkbox"/>	1	<u>Rhynchospora californica</u> 	California beaked-rush	Cyperaceae	List 1B.1
	<input type="checkbox"/>	1	<u>Rhynchospora capitellata</u> 	brownish beaked-rush	Cyperaceae	List 2B.2
	<input type="checkbox"/>	1	<u>Sidalcea robusta</u> 	Butte County checkerbloom	Malvaceae	List 1B.2
	<input type="checkbox"/>	1	<u>Stuckenia filiformis ssp. alpina</u>	slender-leaved pondweed	Potamogetonaceae	List 2B.2
	<input type="checkbox"/>	1	<u>Trifolium jokerstii</u> 	Butte County golden clover	Fabaceae	List 1B.2
	<input type="checkbox"/>	1	<u>Tuctoria greenei</u> 	Greene's tuctoria	Poaceae	List 1B.1
	<input type="checkbox"/>	1	<u>Wolffia brasiliensis</u>	Brazilian watermeal	Araceae	List 2B.3

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press

check all

check none

Selections will appear in a new window.

No more hits.



Elena Gregg

From: Elena Gregg
Sent: Tuesday, March 05, 2019 4:24 PM
To: 'nmfswcrca.specieslist@noaa.gov'
Subject: Bruce Road At Little Chico Creek Bridge Replacement Project, Chico, Butte Co., CA

Search Results:

Quad Name **Chico**
Quad Number **39121-F7**

ESA Anadromous Fish

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

ESA Anadromous Fish Critical Habitat

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

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -

Fin Whale (E) -

Humpback Whale (E) -

Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH -

X

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

Agency Name:

Caltrans District 3

Point of Contact:

Elena Gregg
Gallaway Enterprises
117 Meyers Street, Suite 120
Chico, CA 95928
530.332.9909

Elena Gregg
Gallaway Enterprises
530.332.9909



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:

March 05, 2019

Consultation Code: 08ESMF00-2019-SLI-1272

Event Code: 08ESMF00-2019-E-04049

Project Name: Bruce Road At Little Chico Creek Bridge Replacement Project

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/comtow.html>.

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 08ESMF00-2019-SLI-1272

Event Code: 08ESMF00-2019-E-04049

Project Name: Bruce Road At Little Chico Creek Bridge Replacement Project

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: Replacement of an existing functionally obsolete bridge

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.73343881698656N121.7876932598107W>



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 Fisheries¹, 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. [NOAA Fisheries](#), 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: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

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

Fishes

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

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final 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	Threatened

Crustaceans

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

Flowering Plants

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

Critical habitats

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

Appendix B

Observed Wildlife Species List

Plant Species Observed within the Bruce Road Widening Project April 5 & 6, 2017

Scientific Name	Common Name
<i>Achyrachaena mollis</i>	Blow-wives
<i>Acmispon brachycarpus</i>	Foothill lotus
<i>Aesculus californica</i>	California buckeye
<i>Agapanthus sp.</i>	Lily of the Nile
<i>Aira caryophylla</i>	Silver hairgrass
<i>Allium amplexans</i>	Clasping onion
<i>Alopecurus saccatus</i>	Vernal pool foxtail
<i>Amsinkia intermedia</i>	Common fiddleneck
<i>Avena barbata</i>	Wild oats
<i>Blenospermma nana</i>	Yellow carpet
<i>Brassica nigra</i>	Black mustard
<i>Briza minor</i>	Lesser quaking-grass
<i>Bromus diandrus</i>	Rip-gut brome
<i>Bromus hordeaceus</i>	Soft chess
<i>Callitriche heterophylla</i>	Water starwort
<i>Cardamine oligosperma</i>	Western bittercress
<i>Castilleja attenuata</i>	Valley tassels
<i>Centaurea solstitialis</i>	Yellow star thistle
<i>Cerastium glomeratum</i>	Mouse-eared chickweed
<i>Chlorogalum pomeridianum var. pomeridianum</i>	Wavyleaf soap-plant
<i>Cicendia quadrangularis</i>	Timwort
<i>Clarkia purpurea</i>	Winecup clarkia
<i>Claytonia perfoliata</i>	Miner's lettuce
<i>Convolvulus arvensis</i>	Bindweed
<i>Crassula aquatica</i>	Aquatic pygmyweed
<i>Crassula tillaea</i>	Moss pygmyweed
<i>Croton setiger</i>	Turkey-mullein
<i>Cuscuta sp.</i>	Dodder
<i>Deschampsia danthonoides</i>	Annual hairgrass
<i>Dichelostemma capitatum</i>	Blue dicks
<i>Eleocharis acicularis</i>	Needle spike rush
<i>Eleocharis macrostachya</i>	Pale spike-rush
<i>Elymus caput-medusae</i>	Medusahead
<i>Elymus glaucus</i>	Blue wildrye
<i>Epilobium brachycarpum</i>	Tall willowherb
<i>Eriogonum nudum var. pubiflorum</i>	Naked buckwheat
<i>Erodium botrys</i>	Long-beaked stork's-bill
<i>Erodium cicutarium</i>	Cut-leaf filaree
<i>Eryngium castrense</i>	Coyote thistle
<i>Eschscholzia lobbii</i>	Fryingpans
<i>Eucalyptus sp.</i>	Blue gum
<i>Festuca myuros</i>	Rattail fescue
<i>Festuca perennis</i>	Rye-grass
<i>Galium aparine</i>	Bedstraw

Scientific Name	Common Name
<i>Geranium dissectum</i>	Cut-leaved geranium
<i>Gnaphalium palustre</i>	Western marsh cudweed
<i>Gratiola ebracteata</i>	Common hedge hyssop
<i>Grindelia hirsutula</i> var. <i>davyi</i>	Foothill gumplant
<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley
<i>Hordeum murinum</i>	Wall hare barley
<i>Hypochaeris glabra</i>	Smooth cat's ear
<i>Juncus bufonius</i>	Toadrush
<i>Juncus capitatus</i>	Leafy bracted dwarf rush
<i>Juncus xiphioides</i>	Iris-leaved rush
<i>Lactuca serriola</i>	Prickly lettuce
<i>Lamium amplexicaule</i>	Giraffehead
<i>Lasthenia fremontia</i>	Goldfields
<i>Layia fremontii</i>	Tidy-tips
<i>Leontodon saxatilis</i>	Hawkbit
<i>Lepidium nitidum</i>	Shinning pepperweed
<i>Leptosiphon bicolor</i>	True babystars
<i>Limnanthes douglasii</i> ssp. <i>rosea</i>	Rosy meadowfoam
<i>Limnanthes floccosa</i> ssp. <i>californica</i>	Butte County meadowfoam
<i>Logfia gallica</i>	Narrowleaf cottonrose
<i>Lomatium caruifolium</i> var. <i>denticulatum</i>	Foothill lomatium
<i>Lupinus nanus</i>	Sky lupine
<i>Lythrum hyssopifolia</i>	Hyssop loosestrife
<i>Malva</i> sp.	Bull mallow
<i>Medicago polymorpha</i>	Common bur-clover
<i>Micropus californicus</i> var. <i>californicus</i>	Q tips
<i>Microseris acuminata</i>	Sierra foothill silverpuff
<i>Mimulus guttatus</i>	Seep monkeyflower
<i>Montia fontana</i>	Water montia
<i>Morus</i> sp.	Mulberry
<i>Muhlenbergia rigens</i>	Deergrass
<i>Navarretia leucocephala</i>	White pin-cushion
<i>Nemophila pedunculata</i>	Meadow nemophila
<i>Petrorhgia dubia</i>	Grass-pink
<i>Pinus sabiniana</i>	Gray pine
<i>Plagiobothrys fulvus</i>	Common popcorn flower
<i>Plagiobothrys stipitatus</i> var. <i>micranthus</i>	Small-flowered popcornflower
<i>Plantago coronopus</i>	Cut-leaf plantain
<i>Plantago elongata</i>	Prairie plantain
<i>Plantago erecta</i>	Erect plantain
<i>Plantago lanceolata</i>	English plantain
<i>Platanus racemosa</i>	Western sycamore
<i>Poa bulbosa</i>	Bulbous bluegrass
<i>Pogogyne zizyphoroides</i>	Sacramento Valley pogogyne
<i>Populus fremontii</i>	Fremont's cottonwood

Scientific Name	Common Name
<i>Primula clevelandii ssp patula</i>	Lowland shootingstar
<i>Prunus dulcis</i>	Almond
<i>Quercus douglasii</i>	Blue oak
<i>Quercus lobata</i>	Valley oak
<i>Ranunculus arvensis</i>	Field buttercup
<i>Ranunculus muricatus</i>	Prickle-seeded buttercup
<i>Raphanus sativus</i>	Radish
<i>Rubus armeniacus</i>	Himalayan blackberry
<i>Rumex crispus</i>	Curly dock
<i>Salix exigua</i>	Sandbar willow
<i>Salix gooddingii</i>	Goodding's black willow
<i>Salix lasiolepis</i>	Arroyo willow
<i>Sambucus nigra ssp. caerulea</i>	Blue elderberry
<i>Sedella pumila</i>	Dwarf-stonecrop
<i>Senecio vulgare</i>	Old-man-in-the-Spring
<i>Sherardia arvensis</i>	Field-madder
<i>Sidalcea calycosa ssp. calycosa</i>	Annual checkerbloom
<i>Silybum marianum</i>	Milk thistle
<i>Sonchus asper</i>	Sow thistle
<i>Stipa pulchra</i>	Purple needlegrass
<i>Torilis arvensis</i>	Hedge parsley
<i>Trifolium ciliolatum</i>	Foothill clover
<i>Trifolium depauperatum</i>	Cowbag clover
<i>Trifolium dubium</i>	Shamrock clover
<i>Trifolium hirtum</i>	Rose clover
<i>Trifolium microcephalum</i>	Maiden clover
<i>Trifolium varigatum</i>	White-tipped clover
<i>Trifolium wildenovii</i>	Wildcat clover
<i>Triteleia hyacinthina</i>	Wild hyacinth
<i>Triteleia laxa</i>	Ithurial's spear
<i>Tryphisaria ericaria</i>	Johnnytuck
<i>Veronica anagallis-aquatica</i>	Water speedwell
<i>Veronica peregrina ssp. xalapensis</i>	Purslane speedwell
<i>Vicia sativa</i>	Garden vetch
<i>Vicia villosa</i>	Winter vetch
<i>Vitis californica</i>	Wild grape

Plant Species Observed within the Bruce Road Widening Project March 23&27, and April 2, 2018

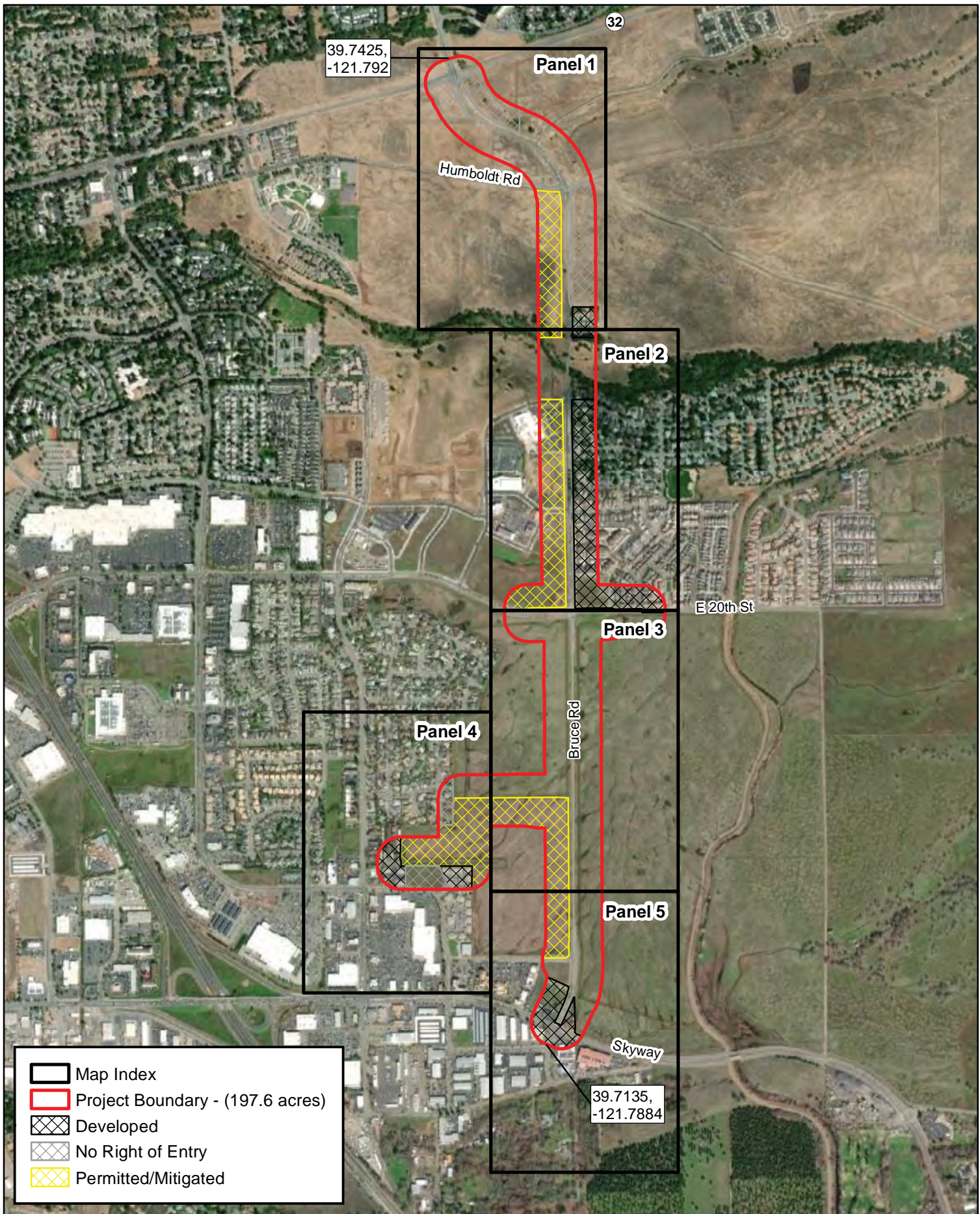
Scientific Name	Common Name
<i>Achyrachaena mollis</i>	Blow-wives
<i>Aesculus californica</i>	California buckeye
<i>Aira caryophyllea</i>	Silver hairgrass
<i>Allium amplexans</i>	Clasping onion
<i>Alopecurus saccatus</i>	Vernal pool foxtail
<i>Amsinkia intermedia</i>	Common fiddleneck
<i>Avena barbata</i>	Wild oats
<i>Blenospermma nana</i>	Yellow carpet
<i>Brassica nigra</i>	Black mustard
<i>Bromus diandrus</i>	Rip-gut brome
<i>Bromus hordeaceus</i>	Soft chess
<i>Bromus madritensis ssp. rubens</i>	Red brome
<i>Calandrinia ciliata</i>	Redmaids
<i>Callitriche heterophylla</i>	Water starwort
<i>Capsella bursa-pastoris</i>	Shepard's purse
<i>Castilleja attenuata</i>	Valley tassels
<i>Centaurea solstitialis</i>	Yellow star thistle
<i>Cerastium glomeratum</i>	Mouse-eared chickweed
<i>Chlorogalum pomeridianum var. pomeridianum</i>	Wavyleaf soap-plant
<i>Cicendia quadrangularis</i>	Timwort
<i>Clarkia purpurea</i>	Winecup clarkia
<i>Claytonia perfoliata</i>	Miner's lettuce
<i>Crassula aquatica</i>	Aquatic pygmyweed
<i>Crassula tillaea</i>	Moss pygmyweed
<i>Croton setiger</i>	Turkey-mullein
<i>Delphinium variegatum ssp. variegatum</i>	Royal larkspur
<i>Deschampsia danthonoides</i>	Annual hairgrass
<i>Dichelostemma capitatum</i>	Blue dicks
<i>Draba verna</i>	Spring draba
<i>Eleocharis macrostachya</i>	Pale spike-rush
<i>Elymus caput-medusae</i>	Medusahead
<i>Epilobium spp.</i>	Willowherb
<i>Eriogonum nudum var. pubiflorum</i>	Naked buckwheat
<i>Erodium botrys</i>	Long-beaked stork's-bill
<i>Erodium brachycarpum</i>	Foothill filaree
<i>Erodium cicutarium</i>	Cut-leaf filaree
<i>Erodium moschatum</i>	Whitestem filaree
<i>Eryngium castrense</i>	Coyote thistle
<i>Eschscholzia lobbii</i>	Fryingpans
<i>Eucalyptus sp.</i>	Blue gum
<i>Festuca bromoides</i>	Six week fescue
<i>Festuca myuros</i>	Rattail fescue
<i>Festuca perennis</i>	Rye-grass
<i>Galium aparine</i>	Bedstraw

Scientific Name	Common Name
<i>Geranium dissectum</i>	Cut-leaved geranium
<i>Grindelia hirsutula</i> var. <i>davyi</i>	Foothill gumplant
<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley
<i>Hordeum murinum</i>	Wall hare barley
<i>Hypochaeris glabra</i>	Smooth cat's ear
<i>Juncus bufonius</i>	Toadrush
<i>Juncus xiphioides</i>	Iris-leaved rush
<i>Lactuca serriola</i>	Prickly lettuce
<i>Lamium amplexicaule</i>	Giraffehead
<i>Lasthenia fremontia</i>	Goldfields
<i>Layia fremontii</i>	Tidy-tips
<i>Leontodon saxatilis</i>	Hawkbit
<i>Lepidium nitidum</i>	Shinning pepperweed
<i>Limnanthes douglasii</i> ssp. <i>rosea</i>	Rosy meadowfoam
<i>Limnanthes floccosa</i> ssp. <i>californica</i>	Butte County meadowfoam (CNPS Rank 1B)
<i>Logfia gallica</i>	Narrowleaf cottonrose
<i>Lomatium caruifolium</i> var. <i>denticulatum</i>	Foothill lomatium
<i>Lupinus nanus</i>	Sky lupine
<i>Marah fabacea</i>	California manroot
<i>Marrubium vulgare</i>	Horehound
<i>Medicago polymorpha</i>	Common bur-clover
<i>Micropus californicus</i> var. <i>californicus</i>	Q tips
<i>Microseris</i> spp.	Silverpuff
<i>Mimulus guttatus</i>	Seep monkeyflower
<i>Montia fontana</i>	Water montia
<i>Muhlenbergia rigens</i>	Deergrass
<i>Navarretia leucocephala</i>	White pin-cushion
<i>Pinus sabiniana</i>	Gray pine
<i>Plagiobothrys austinae</i>	Austin's popcorn flower
<i>Plagiobothrys fulvus</i>	Common popcorn flower
<i>Plagiobothrys stipitatus</i> var. <i>micranthus</i>	Small-flowered popcornflower
<i>Plantago elongata</i>	Prairie plantain
<i>Plantago erecta</i>	Erect plantain
<i>Plantago lanceolata</i>	English plantain
<i>Poa bulbosa</i>	Bulbous bluegrass
<i>Pogogyne zizyphoroides</i>	Sacramento Valley pogogyne
<i>Populus fremontii</i>	Fremont's cottonwood
<i>Primula clevelandii</i> ssp. <i>patula</i>	Lowland shootingstar
<i>Prunus dulcis</i>	Almond
<i>Quercus lobata</i>	Valley oak
<i>Quercus wislizeni</i>	Live oak
<i>Ranunculus arvensis</i>	Field buttercup
<i>Ranunculus muricatus</i>	Prickle-seeded buttercup
<i>Raphanus sativus</i>	Radish
<i>Rubus armeniacus</i>	Himalayan blackberry

Scientific Name	Common Name
<i>Rumex crispus</i>	Curly dock
<i>Salix gooddingii</i>	Goodding's black willow
<i>Salix lasiolepis</i>	Arroyo willow
<i>Sambucus nigra ssp. caerulea</i>	Blue elderberry
<i>Sedella pumila</i>	Dwarf-stonecrop
<i>Senecio vulgaris</i>	Old-man-in-the-Spring
<i>Sherardia arvensis</i>	Field-madder
<i>Sidalcea calycosa ssp. calycosa</i>	Annual checkerbloom
<i>Silybum marianum</i>	Milk thistle
<i>Stellaria media</i>	Common chickweed
<i>Stipa pulchra</i>	Purple needlegrass
<i>Thysanocarpus curvipes</i>	Hairy lacepod
<i>Torilis arvensis</i>	Hedge parsley
<i>Trifolium depauperatum</i>	Cowbag clover
<i>Trifolium hirtum</i>	Rose clover
<i>Trifolium subterraneum</i>	Sub clover
<i>Trifolium variegatum</i>	White-tipped clover
<i>Trifolium wildenovii</i>	Wildcat clover
<i>Triteleia hyacinthina</i>	Wild hyacinth
<i>Tryphisaria ericaria</i>	Johnnytuck
<i>Veronica peregrina ssp. xalapensis</i>	Purslane speedwell
<i>Vicia sativa</i>	Garden vetch
<i>Vicia villosa</i>	Winter vetch
<i>Vitis californica</i>	Wild grape

Appendix C

Draft Delineation of Waters of the United States Map



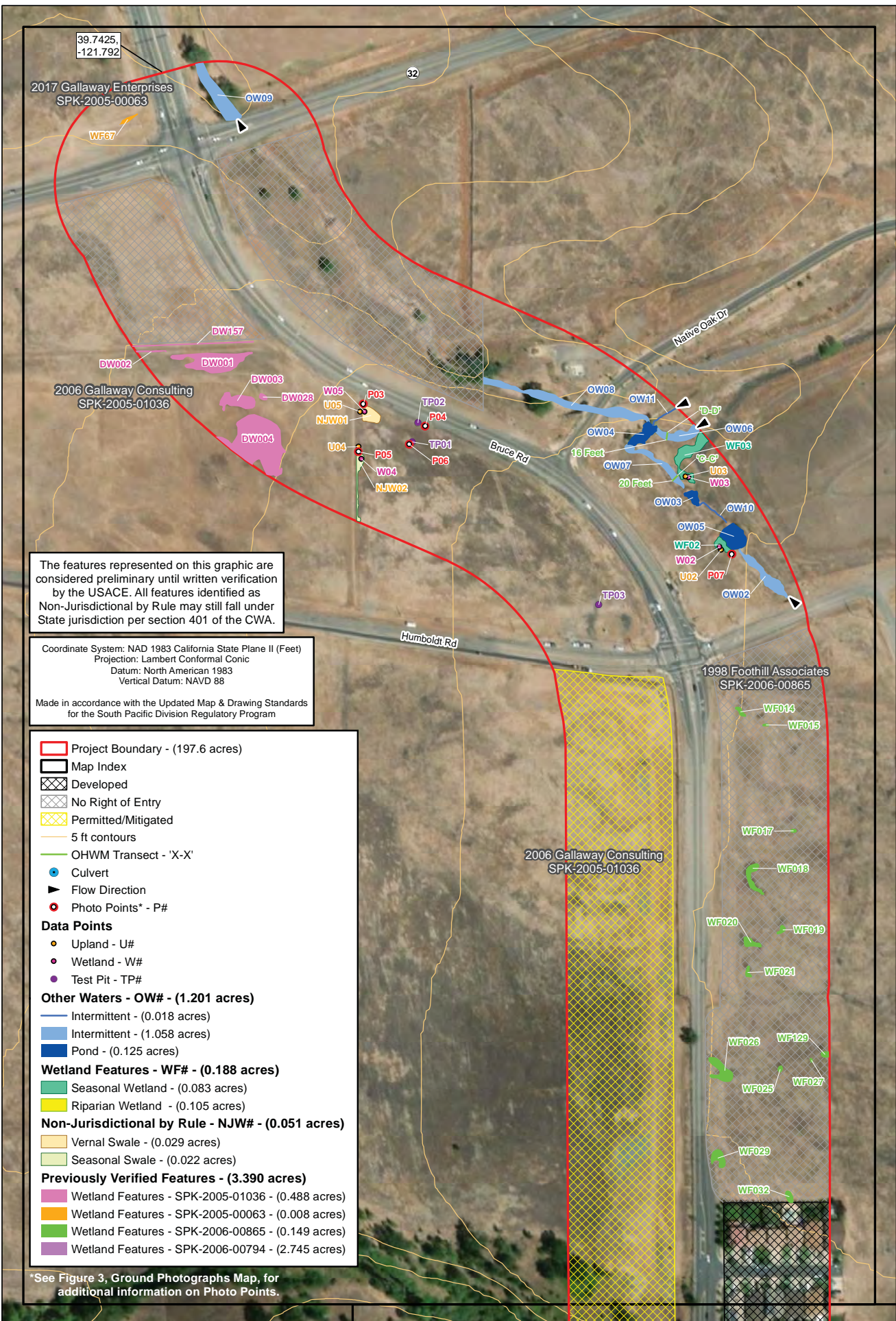
Map Index
 Project Boundary - (197.6 acres)
 Developed
 No Right of Entry
 Permitted/Mitigated

1:16,000
 0 500 1,000 Feet
 Data Sources: ESRI, USGS,
 City of Chico, Maxar 02/11/19 & 08/06/19

Bruce Road Road Widening Project
Draft Delineation of Waters of the U.S. Map Index
Exhibit A



GE: #17-014b Map Date: 07/21/20



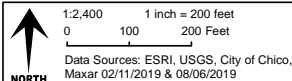
The features represented on this graphic are considered preliminary until written verification by the USACE. All features identified as Non-Jurisdictional by Rule may still fall under State jurisdiction per section 401 of the CWA.

Coordinate System: NAD 1983 California State Plane II (Feet)
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 Vertical Datum: NAVD 88

Made in accordance with the Updated Map & Drawing Standards for the South Pacific Division Regulatory Program

- Project Boundary - (197.6 acres)
 - Map Index
 - Developed
 - No Right of Entry
 - Permitted/Mitigated
 - 5 ft contours
 - OHWM Transect - 'X-X'
 - Culvert
 - Flow Direction
 - Photo Points* - P#
- Data Points**
- Upland - U#
 - Wetland - W#
 - Test Pit - TP#
- Other Waters - OW# - (1.201 acres)**
- Intermittent - (0.018 acres)
 - Intermittent - (1.058 acres)
 - Pond - (0.125 acres)
- Wetland Features - WF# - (0.188 acres)**
- Seasonal Wetland - (0.083 acres)
 - Riparian Wetland - (0.105 acres)
- Non-Jurisdictional by Rule - NJV# - (0.051 acres)**
- Vernal Swale - (0.029 acres)
 - Seasonal Swale - (0.022 acres)
- Previously Verified Features - (3.390 acres)**
- Wetland Features - SPK-2005-01036 - (0.488 acres)
 - Wetland Features - SPK-2005-00063 - (0.008 acres)
 - Wetland Features - SPK-2006-00865 - (0.149 acres)
 - Wetland Features - SPK-2006-00794 - (2.745 acres)

*See Figure 3, Ground Photographs Map, for additional information on Photo Points.



Bruce Road Widening Project
 Draft Delineation of Waters of the U.S. (Panel 1)
 Exhibit A

Delineation by: E. Gregg
 Map by: B. Reaves
 GE: #17-014b Map Date: 07/22/20





The features represented on this graphic are considered preliminary until written verification by the USACE. All features identified as Non-Jurisdictional by Rule may still fall under State jurisdiction per section 401 of the CWA.

Coordinate System: NAD 1983 California State Plane II (Feet)
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 Vertical Datum: NAVD 88

Made in accordance with the Updated Map & Drawing Standards for the South Pacific Division Regulatory Program

- Project Boundary - (197.6 acres)
- Map Index
- Developed
- No Right of Entry
- Permitted/Mitigated
- 5 ft contours
- OHWM Transect - 'X-X'
- Culvert
- ▶ Flow Direction
- Photo Points* - P#
- Data Points**
- Upland - U#
- Wetland - W#
- Test Pit - TP#
- Other Waters - OW# - (1.201 acres)**
- Intermittent - (0.018 acres)
- Intermittent - (1.058 acres)
- Pond - (0.125 acres)
- Wetland Features - WF# - (0.188 acres)**
- Seasonal Wetland - (0.083 acres)
- Riparian Wetland - (0.105 acres)
- Non-Jurisdictional by Rule - NJW# - (0.051 acres)**
- Vernal Swale - (0.029 acres)
- Seasonal Swale - (0.022 acres)
- Previously Verified Features - (3.390 acres)**
- Wetland Features - SPK-2005-01036 - (0.488 acres)
- Wetland Features - SPK-2005-00063 - (0.008 acres)
- Wetland Features - SPK-2006-00865 - (0.149 acres)
- Wetland Features - SPK-2006-00794 - (2.745 acres)

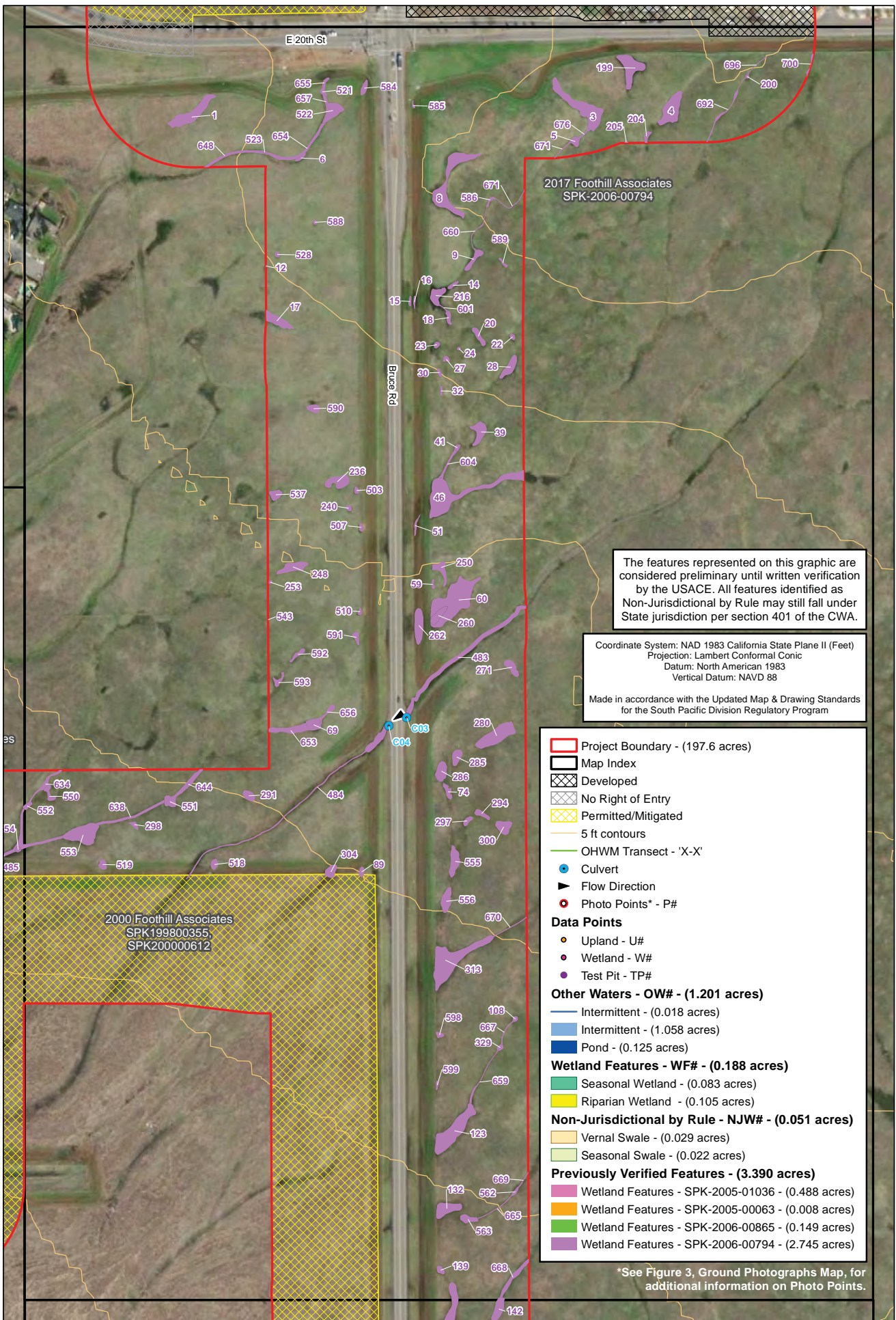
See Figure 3, Ground Photographs Map, for additional information on Photo Points.

1:2,400 1 inch = 200 feet
 0 100 200 Feet
 Data Sources: ESRI, USGS, City of Chico,
 Maxar 02/11/2019 & 08/06/2019

Bruce Road Widening Project
 Draft Delineation of Waters of the U.S. (Panel 2)
 Exhibit A

Delineation by: E. Gregg
 Map by: B. Reaves
 GE: #17-014b Map Date: 07/22/20





The features represented on this graphic are considered preliminary until written verification by the USACE. All features identified as Non-Jurisdictional by Rule may still fall under State jurisdiction per section 401 of the CWA.

Coordinate System: NAD 1983 California State Plane II (Feet)
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 Vertical Datum: NAVD 88

Made in accordance with the Updated Map & Drawing Standards for the South Pacific Division Regulatory Program

- Project Boundary - (197.6 acres)
- Map Index
- Developed
- No Right of Entry
- Permitted/Mitigated
- 5 ft contours
- OHWM Transect - 'X-X'
- Culvert
- ▶ Flow Direction
- Photo Points* - P#
- Data Points**
- Upland - U#
- Wetland - W#
- Test Pit - TP#
- Other Waters - OW# - (1.201 acres)**
- Intermittent - (0.018 acres)
- Intermittent - (1.058 acres)
- Pond - (0.125 acres)
- Wetland Features - WF# - (0.188 acres)**
- Seasonal Wetland - (0.083 acres)
- Riparian Wetland - (0.105 acres)
- Non-Jurisdictional by Rule - NJW# - (0.051 acres)**
- Vernal Swale - (0.029 acres)
- Seasonal Swale - (0.022 acres)
- Previously Verified Features - (3.390 acres)**
- Wetland Features - SPK-2005-01036 - (0.488 acres)
- Wetland Features - SPK-2005-00063 - (0.008 acres)
- Wetland Features - SPK-2006-00865 - (0.149 acres)
- Wetland Features - SPK-2006-00794 - (2.745 acres)

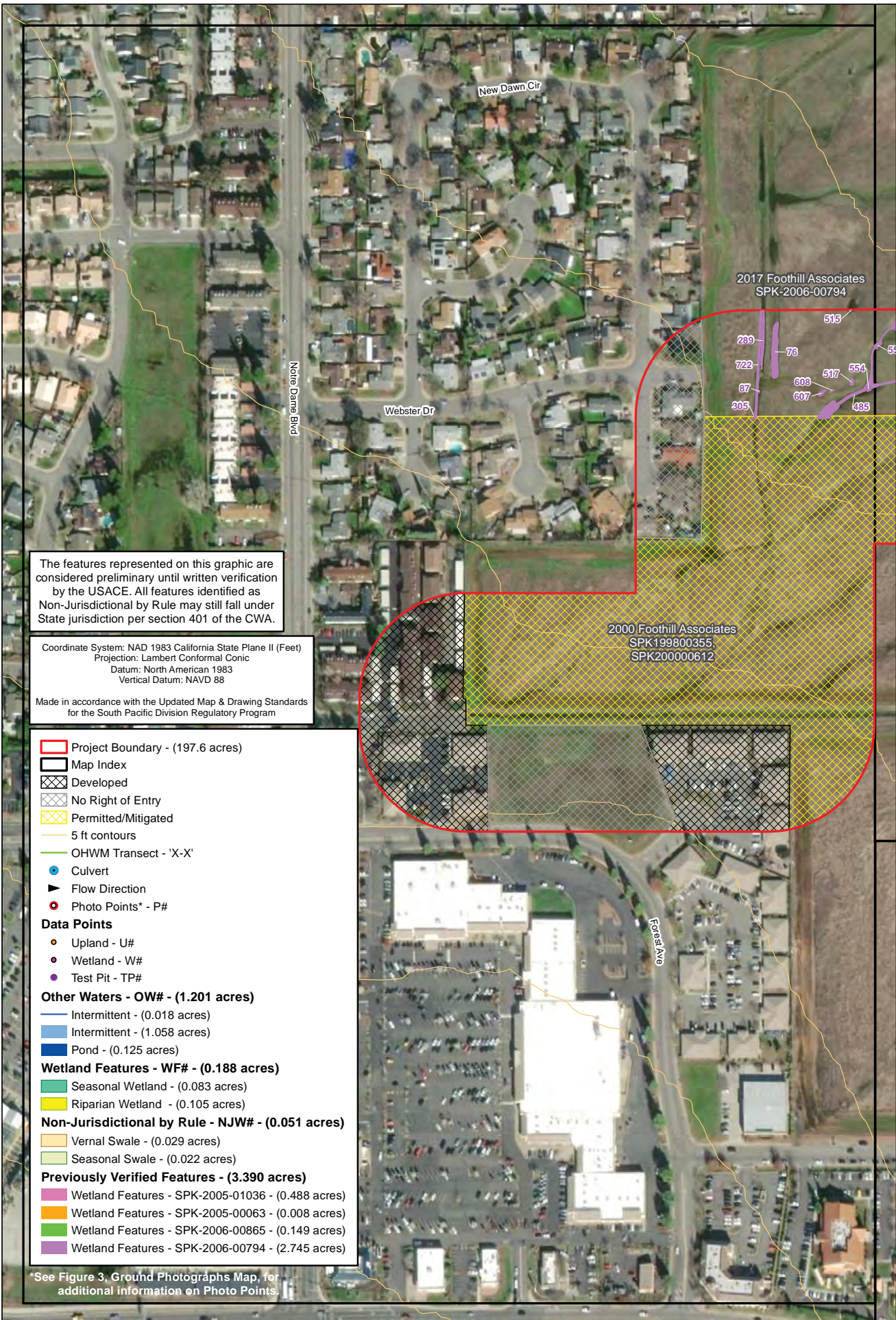
*See Figure 3, Ground Photographs Map, for additional information on Photo Points.

1:2,400 1 inch = 200 feet
 0 100 200 Feet
 Data Sources: ESRI, USGS, City of Chico,
 Maxar 02/11/2019 & 08/06/2019

Bruce Road Widening Project
 Draft Delineation of Waters of the U.S. (Panel 3)
 Exhibit A

Delineation by: E. Gregg
 Map by: B. Reaves
 GE: #17-014b Map Date: 07/22/20





The features represented on this graphic are considered preliminary until written verification by the USACE. All features identified as Non-Jurisdictional by Rule may still fall under State jurisdiction per section 401 of the CWA.

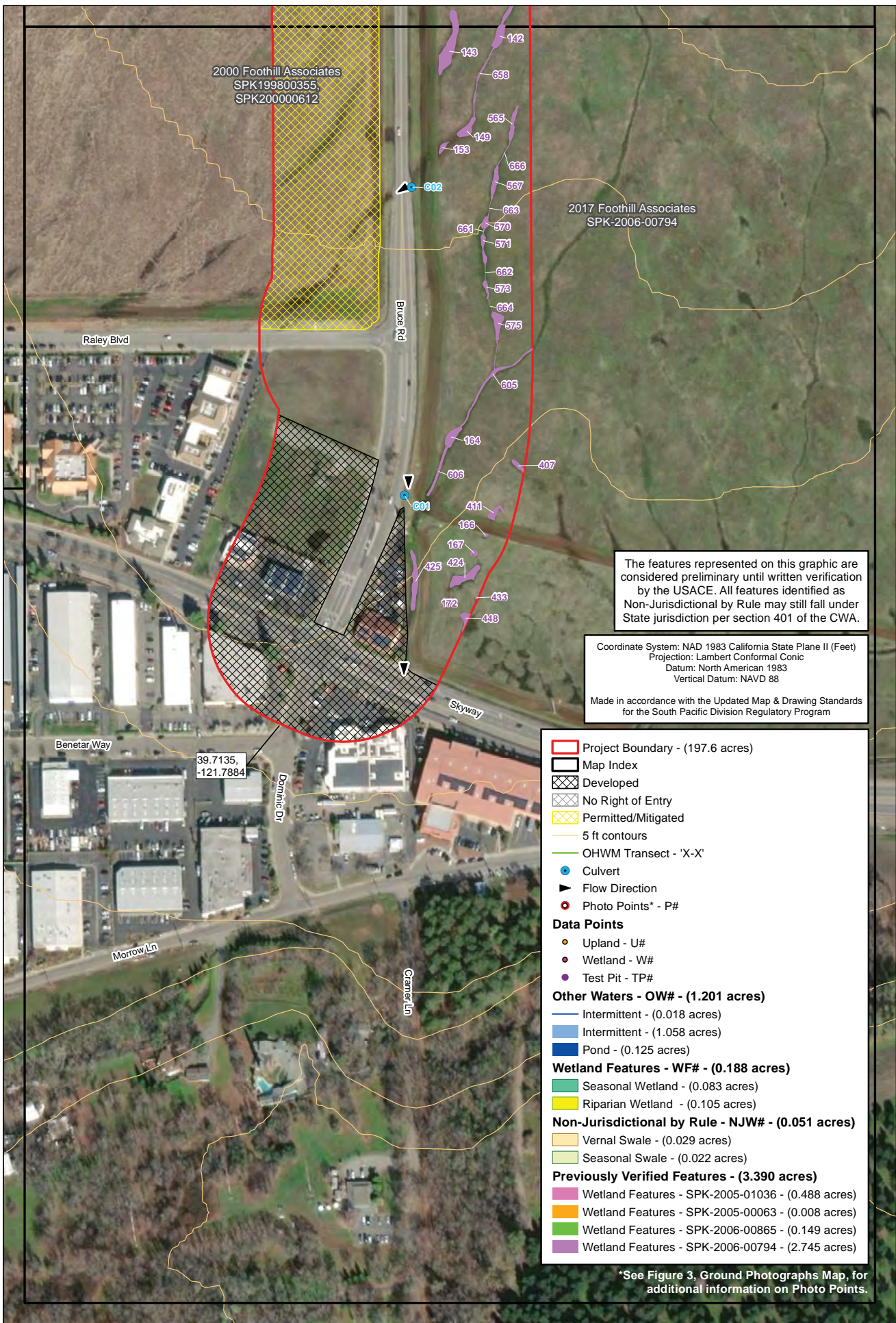
Coordinate System: NAD 1983 California State Plane II (Feet)
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 Vertical Datum: NAVD 88

Made in accordance with the Updated Map & Drawing Standards for the South Pacific Division Regulatory Program

- Project Boundary - (197.6 acres)
- Map Index
- Developed
- No Right of Entry
- Permitted/Mitigated
- 5 ft contours
- OHWM Transect - 'X-X'
- Culvert
- ▶ Flow Direction
- Photo Points* - P#
- Data Points**
- Upland - U#
- Wetland - W#
- Test Pit - TP#
- Other Waters - OW# - (1.201 acres)**
- Intermittent - (0.018 acres)
- Intermittent - (1.058 acres)
- Pond - (0.125 acres)
- Wetland Features - WF# - (0.188 acres)**
- Seasonal Wetland - (0.083 acres)
- Riparian Wetland - (0.105 acres)
- Non-Jurisdictional by Rule - NJW# - (0.051 acres)**
- Vernal Swale - (0.029 acres)
- Seasonal Swale - (0.022 acres)
- Previously Verified Features - (3.390 acres)**
- Wetland Features - SPK-2005-01036 - (0.488 acres)
- Wetland Features - SPK-2005-00063 - (0.008 acres)
- Wetland Features - SPK-2006-00865 - (0.149 acres)
- Wetland Features - SPK-2006-00794 - (2.745 acres)

*See Figure 3, Ground Photographs Map, for additional information on Photo Points.





The features represented on this graphic are considered preliminary until written verification by the USACE. All features identified as Non-Jurisdictional by Rule may still fall under State jurisdiction per section 401 of the CWA.

Coordinate System: NAD 1983 California State Plane II (Feet)
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 Vertical Datum: NAVD 88
 Made in accordance with the Updated Map & Drawing Standards for the South Pacific Division Regulatory Program

- Project Boundary - (197.6 acres)
- Map Index
- Developed
- No Right of Entry
- Permitted/Mitigated
- 5 ft contours
- OHWM Transect - 'X-X'
- Culvert
- ▶ Flow Direction
- Photo Points* - P#
- Data Points**
- Upland - U#
- Wetland - W#
- Test Pit - TP#
- Other Waters - OW# - (1.201 acres)**
- Intermittent - (0.018 acres)
- Intermittent - (1.058 acres)
- Pond - (0.125 acres)
- Wetland Features - WF# - (0.188 acres)**
- Seasonal Wetland - (0.083 acres)
- Riparian Wetland - (0.105 acres)
- Non-Jurisdictional by Rule - NJW# - (0.051 acres)**
- Vernal Swale - (0.029 acres)
- Seasonal Swale - (0.022 acres)
- Previously Verified Features - (3.390 acres)**
- Wetland Features - SPK-2005-01036 - (0.488 acres)
- Wetland Features - SPK-2005-00063 - (0.008 acres)
- Wetland Features - SPK-2006-00865 - (0.149 acres)
- Wetland Features - SPK-2006-00794 - (2.745 acres)

*See Figure 3, Ground Photographs Map, for additional information on Photo Points.

1:2,400 1 inch = 200 feet
 0 100 200 Feet
 Data Sources: ESRI, USGS, City of Chico, Maxar 02/11/2019 & 08/06/2019

Bruce Road Widening Project
 Draft Delineation of Waters of the U.S. (Panel 5)
 Exhibit A

Delineation by: E. Gregg
 Map by: B. Reaves
 GE: #17-014b Map Date: 07/22/20



Appendix D

2017 Rare Plant Survey Letter

gallaway ENTERPRISES

117 Meyers Street • Suite 120 • Chico CA 95928 • 530-332-9909

July 6, 2017

City of Chico
Public Works Department
Attn: Tracy Bettencourt
P.O. Box 3420
Chico, CA 95927

Dear Ms. Bettencourt;

As requested, Gallaway Enterprises conducted protocol-level botanical surveys for Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*, BCM), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*, CNPS Rank 1B.1), Ahart's paronychia (*Paronychia ahartii*, CNPS Rank 1B.1), and Butte County golden clover (*Trifolium jokerstii*, CNPS Rank 1B.2) within the Bruce Road Widening Project (Project) survey area (survey area) on April 5 and 6, 2017. All of these plants are a California Native Plant Society (CNPS) Rank 1B¹ species and BCM is federally and state listed as endangered, therefore, the survey was conducted per California Department of Fish and Wildlife (DFW) guidelines as well as US Fish and Wildlife Service (USFWS) guidelines.

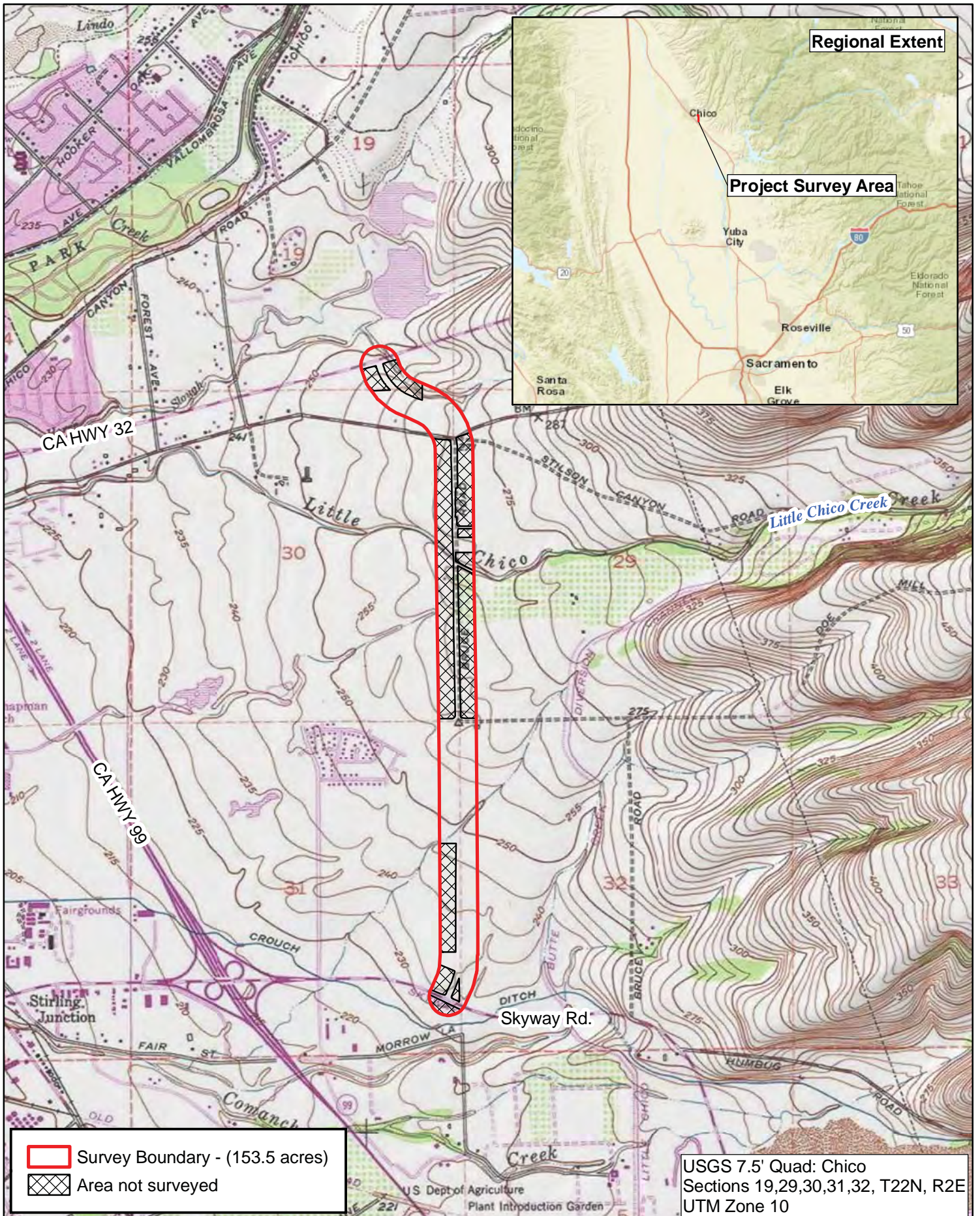
Location

The Project is located in the City of Chico, Butte County, CA, within the USGS Chico Quadrangle, Sections 19, 20, and 29 through 32, Township 22N, Range 2E. The Project occurs along both sides of the segment of Bruce Road between Skyway, to the south, and Highway 32, to the north (**Figure 1**). The survey area for the Project included the City's right-of-way and a 250 foot buffer from the existing edge of pavement. However, surveys were not conducted within existing developed land, private property where projects have already been permitted or where right-of-entry was not granted (**Exhibit A**). Currently, the area surveyed is composed of open land and disturbed roadsides dominated by annual grassland habitat. The soil map units occurring within the Project survey area are primary soil map units known to support BCM populations (e.g. soil map unit 302 and 614). Further, past known California Natural Diversity Database (CNDDDB) occurrences of BCM have been identified within the survey area and USFWS designated critical habitat for BCM is located in the northern most portion of the Project.

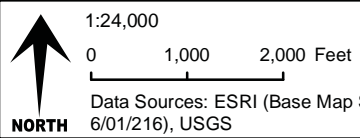
Methodology

The surveys for the 4 special-status plants species identified above were conducted on April 5 and 6, 2017, during the appropriate flowering window of the target species, by botanist Elena Gregg (see **Attachment A** for Botanist Qualifications) and assisted by biologist Matthew Clark. All wetlands present

¹ According to the CNPS Inventory of Rare and Endangered Plants, 1B plants are species that are rare, threatened, or endangered in California and elsewhere.



USGS 7.5' Quad: Chico
 Sections 19,29,30,31,32, T22N, R2E
 UTM Zone 10



1:24,000
 Data Sources: ESRI (Base Map Sourced:
 6/01/216), USGS

Bruce Road Widening Project
 Regional Location
 Figure 1

gallaway
ENTERPRISES

GE# 16-042 Map Date: 06/01/16

were surveyed and meandering transects were conducted in the upland portions of the survey area on foot. A Trimble Geo Explorer 6000 Series GPS Receiver was on hand to record any special-status plant occurrences observed.

Surveys were conducted in accordance with the November 2009 DFW *Protocols for Surveying and Evaluation Impacts to Special Status Native Plant Populations and Natural Communities* and the September 1996 USFWS *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants*. Rainfall and inundation during the winter of 2016/2017 was considered above average by the National Oceanic and Atmospheric Administration (NOAA), and moisture in the soil had been sufficient to allow for germination of the four special-status plants based on visits to California Natural Diversity Database (CNDDDB) documented reference populations. A reference population of Ahart's paronychia at the Stone Ridge Ecological Reserve in Chico, CA was visited on March 17, 2017, a reference population of Butte County golden clover along Cottonwood Road in Butte County, CA was visited on March 21, 2017, and a reference population of BCM at the Meriam Park Preserve in Chico, CA was visited on March 21, 2017 to verify the blooming status of these species. During the reference site visits, all of these plants were observed in the flowering stage. An additional reference site visit to Meriam Park Preserve was conducted on April 1, 2017 to verify BCM was still observable. During this visit, it was identified that BCM was in the seeding stage and was still observable. Additionally, a voucher specimen of Red Bluff dwarf rush held at the Gallaway Enterprises office was reviewed prior to the field surveys.

Results

A total of 0.45 acre of BCM occurrences were observed in various locations throughout the survey area during the protocol-level survey conducted. These occurrences represent an approximate total of 1,170 individual plants. The locations of these occurrences are depicted in **Exhibit A**. No other special-status plant species were observed within the survey area during the protocol-level surveys conducted. A list of all of the plant species observed during the survey is provided as **Attachment B**.

This 2017 protocol level survey for BCM completes two consecutive years of BCM surveys within the Project survey area in compliance with the USFWS survey requirements.

Should you have any questions, please do not hesitate to contact me at (530) 332-9909 or via email at elena@gallawayenterprises.com.

Sincerely,



Elena Gregg, Senior Botanist
Gallaway Enterprises

Attachment A
Surveyor Qualifications

Elena Gregg, Senior Botanist / ISA Certified Arborist

EDUCATION

- **B.S., Environmental Biology and Management, 2004**
University of California, Davis

EXPERIENCE

11 Years

- **Gallaway Enterprises (2013-Current)**
Senior Botanist, ISA Certified Arborist
- **NorthStar Engineering (2009-2013)**
Senior Botanist, ISA Certified Arborist
- **Gallaway Consulting, Inc. (2006-2008)**
Botanist, ISA Certified Arborist
- **Jones and Stokes (2005)**
On-call Field Botanist
- **U.S. Forest Service, Truckee and Sierraville Ranger Districts (2004 and 2005)**
Botanical Technician

AREAS OF EXPERTISE

- Rare Plant Surveys
- Wetland Delineations
- Habitat Assessments
- Tree Inventories
- State and Federal permit Facilitation
- Endangered Species Act Documentation
- Mitigation Monitoring
- CRAM Assessments
- Arborist Construction Monitoring
- Habitat Restoration
- Environmental Awareness Training

Elena has over eleven years of professional experience conducting rare plant surveys, wetland delineations, and habitat assessments in California. She has a working knowledge of CNPS, CDFW, and USFWS survey protocols and holds a CDFW collection permit for listed plant species. Through her ample field experience in a wide array of habitats and eco-regions in Northern California, Mrs. Gregg has gained knowledge of locally invasive plants species as well as rare species. In particular, Mrs. Gregg has surveyed extensively for Butte County meadowfoam, a locally endangered plant species. Mrs. Gregg has a working knowledge of the Clean Water Act regulations and facilitation of local and federal environmental permits. She regularly prepares Caltrans documentation for projects receiving Caltrans Local Assistance. In 2007 Mrs. Gregg gained her Professional Arborist Certification from the International Society of Arboriculture. As a Certified Arborist, Mrs. Gregg conducts tree inventories, tree health assessments, and heritage tree surveys. She also prepares tree preservation plans and has been called upon to monitor trees during construction. Her experience with habitat restoration includes preparing wetland restoration plans, mitigation and monitoring plans, and reclamation plans. Mrs. Gregg also conducts annual monitoring associated with mitigation and re-vegetation projects, and in 2012 was trained in using CRAM to assess riverine and vernal pool systems.

Attachment B
Plant Species Observed

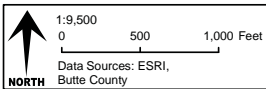
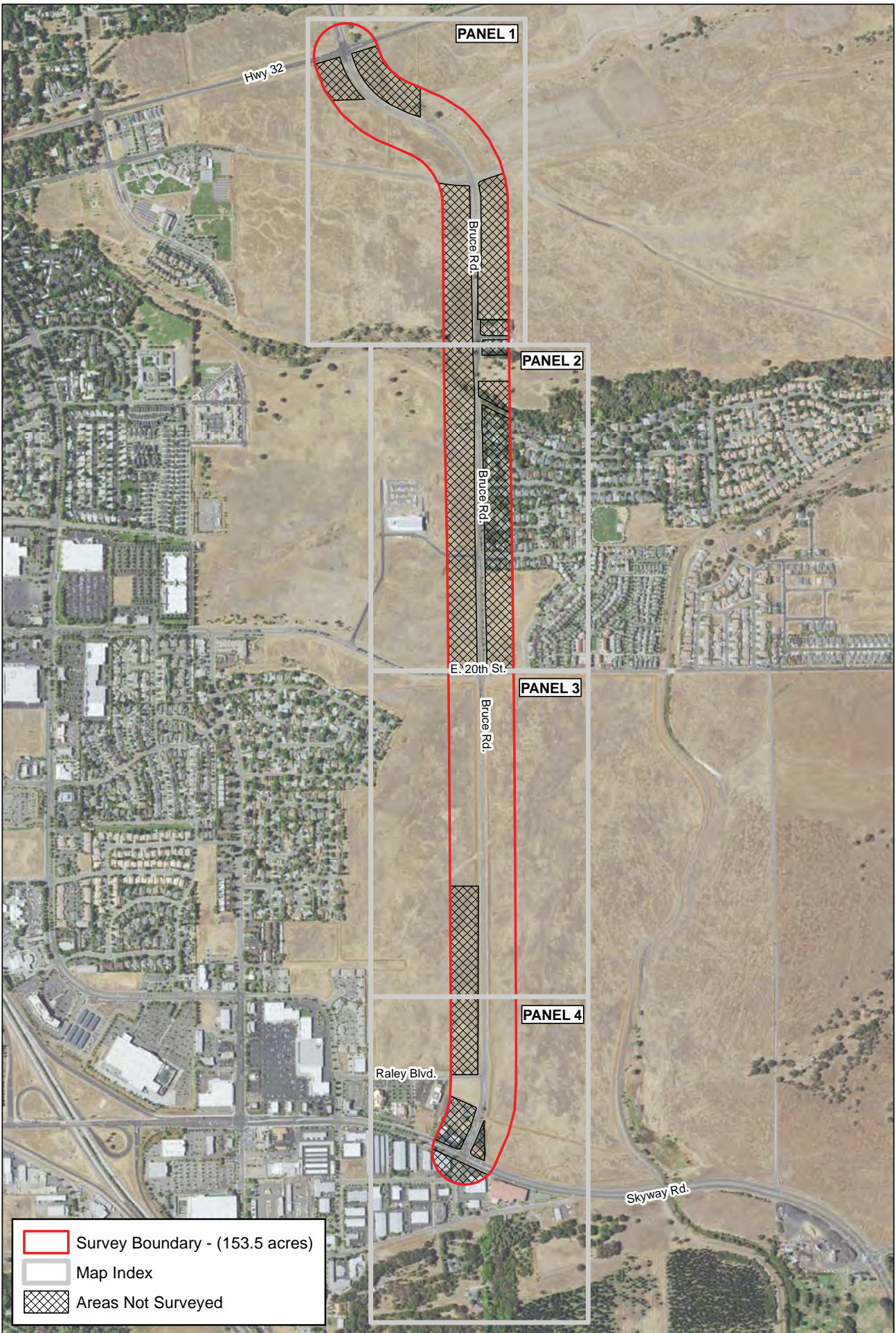
Plant Species Observed within the Bruce Road Widening Project April 5 & 6, 2017

Scientific Name	Common Name
<i>Achyrachaena mollis</i>	Blow-wives
<i>Acmispon brachycarpus</i>	Foothill lotus
<i>Aesculus californica</i>	California buckeye
<i>Agapanthus sp.</i>	Lily of the Nile
<i>Aira caryophylla</i>	Silver hairgrass
<i>Allium amplexans</i>	Clasping onion
<i>Alopecurus saccatus</i>	Vernal pool foxtail
<i>Amsinkia intermedia</i>	Common fiddleneck
<i>Avena barbata</i>	Wild oats
<i>Blenospermma nana</i>	Yellow carpet
<i>Brassica nigra</i>	Black mustard
<i>Briza minor</i>	Lesser quaking-grass
<i>Bromus diandrus</i>	Rip-gut brome
<i>Bromus hordeaceus</i>	Soft chess
<i>Callitriche heterophylla</i>	Water starwort
<i>Cardamine oligosperma</i>	Western bittercress
<i>Castilleja attenuata</i>	Valley tassels
<i>Centaurea solstitialis</i>	Yellow star thistle
<i>Cerastium glomeratum</i>	Mouse-eared chickweed
<i>Chlorogalum pomeridianum var. pomeridianum</i>	Wavyleaf soap-plant
<i>Cicendia quadrangularis</i>	Timwort
<i>Clarkia purpurea</i>	Winecup clarkia
<i>Claytonia perfoliata</i>	Miner's lettuce
<i>Convolvulus arvensis</i>	Bindweed
<i>Crassula aquatica</i>	Aquatic pygmyweed
<i>Crassula tillaea</i>	Moss pygmyweed
<i>Croton setiger</i>	Turkey-mullein
<i>Cuscuta sp.</i>	Dodder
<i>Deschampsia danthonoides</i>	Annual hairgrass
<i>Dichelostemma capitatum</i>	Blue dicks
<i>Eleocharis acicularis</i>	Needle spike rush
<i>Eleocharis macrostachya</i>	Pale spike-rush
<i>Elymus caput-medusae</i>	Medusahead
<i>Elymus glaucus</i>	Blue wildrye
<i>Epilobium brachycarpum</i>	Tall willowherb
<i>Eriogonum nudum var. pubiflorum</i>	Naked buckwheat
<i>Erodium botrys</i>	Long-beaked stork's-bill
<i>Erodium cicutarium</i>	Cut-leaf filaree
<i>Eryngium castrense</i>	Coyote thistle
<i>Eschscholzia lobbii</i>	Fryingpans
<i>Eucalyptus sp.</i>	Blue gum
<i>Festuca myuros</i>	Rattail fescue
<i>Festuca perennis</i>	Rye-grass
<i>Galium aparine</i>	Bedstraw

Scientific Name	Common Name
<i>Geranium dissectum</i>	Cut-leaved geranium
<i>Gnaphalium palustre</i>	Western marsh cudweed
<i>Gratiola ebracteata</i>	Common hedge hyssop
<i>Grindelia hirsutula</i> var. <i>davyi</i>	Foothill gumplant
<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley
<i>Hordeum murinum</i>	Wall hare barley
<i>Hypochaeris glabra</i>	Smooth cat's ear
<i>Juncus bufonius</i>	Toadrush
<i>Juncus capitatus</i>	Leafy bracted dwarf rush
<i>Juncus xiphioides</i>	Iris-leaved rush
<i>Lactuca serriola</i>	Prickly lettuce
<i>Lamium amplexicaule</i>	Giraffehead
<i>Lasthenia fremontia</i>	Goldfields
<i>Layia fremontii</i>	Tidy-tips
<i>Leontodon saxatilis</i>	Hawkbit
<i>Lepidium nitidum</i>	Shinning pepperweed
<i>Leptosiphon bicolor</i>	True babystars
<i>Limnanthes douglasii</i> ssp. <i>rosea</i>	Rosy meadowfoam
<i>Limnanthes floccosa</i> ssp. <i>californica</i>	Butte County meadowfoam
<i>Logfia gallica</i>	Narrowleaf cottonrose
<i>Lomatium caruifolium</i> var. <i>denticulatum</i>	Foothill lomatium
<i>Lupinus nanus</i>	Sky lupine
<i>Lythrum hyssopifolia</i>	Hyssop loosestrife
<i>Malva</i> sp.	Bull mallow
<i>Medicago polymorpha</i>	Common bur-clover
<i>Micropus californicus</i> var. <i>californicus</i>	Q tips
<i>Microseris acuminata</i>	Sierra foothill silverpuff
<i>Mimulus guttatus</i>	Seep monkeyflower
<i>Montia fontana</i>	Water montia
<i>Morus</i> sp.	Mulberry
<i>Muhlenbergia rigens</i>	Deergrass
<i>Navarretia leucocephala</i>	White pin-cushion
<i>Nemophila pedunculata</i>	Meadow nemophila
<i>Petrorhgia dubia</i>	Grass-pink
<i>Pinus sabiniana</i>	Gray pine
<i>Plagiobothrys fulvus</i>	Common popcorn flower
<i>Plagiobothrys stipitatus</i> var. <i>micranthus</i>	Small-flowered popcornflower
<i>Plantago coronopus</i>	Cut-leaf plantain
<i>Plantago elongata</i>	Prairie plantain
<i>Plantago erecta</i>	Erect plantain
<i>Plantago lanceolata</i>	English plantain
<i>Platanus racemosa</i>	Western sycamore
<i>Poa bulbosa</i>	Bulbous bluegrass
<i>Pogogyne zizyphoroides</i>	Sacramento Valley pogogyne
<i>Populus fremontii</i>	Fremont's cottonwood

Scientific Name	Common Name
<i>Primula clevelandii ssp patula</i>	Lowland shootingstar
<i>Prunus dulcis</i>	Almond
<i>Quercus douglasii</i>	Blue oak
<i>Quercus lobata</i>	Valley oak
<i>Ranunculus arvensis</i>	Field buttercup
<i>Ranunculus muricatus</i>	Prickle-seeded buttercup
<i>Raphanus sativus</i>	Radish
<i>Rubus armeniacus</i>	Himalayan blackberry
<i>Rumex crispus</i>	Curly dock
<i>Salix exigua</i>	Sandbar willow
<i>Salix gooddingii</i>	Goodding's black willow
<i>Salix lasiolepis</i>	Arroyo willow
<i>Sambucus nigra ssp. caerulea</i>	Blue elderberry
<i>Sedella pumila</i>	Dwarf-stonecrop
<i>Senecio vulgare</i>	Old-man-in-the-Spring
<i>Sherardia arvensis</i>	Field-madder
<i>Sidalcea calycosa ssp. calycosa</i>	Annual checkerbloom
<i>Silybum marianum</i>	Milk thistle
<i>Sonchus asper</i>	Sow thistle
<i>Stipa pulchra</i>	Purple needlegrass
<i>Torilis arvensis</i>	Hedge parsley
<i>Trifolium ciliolatum</i>	Foothill clover
<i>Trifolium depauperatum</i>	Cowbag clover
<i>Trifolium dubium</i>	Shamrock clover
<i>Trifolium hirtum</i>	Rose clover
<i>Trifolium microcephalum</i>	Maiden clover
<i>Trifolium varigatum</i>	White-tipped clover
<i>Trifolium wildenovii</i>	Wildcat clover
<i>Triteleia hyacinthina</i>	Wild hyacinth
<i>Triteleia laxa</i>	Ithurial's spear
<i>Tryphisaria ericaria</i>	Johnnytuck
<i>Veronica anagallis-aquatica</i>	Water speedwell
<i>Veronica peregrina ssp. xalapensis</i>	Purslane speedwell
<i>Vicia sativa</i>	Garden vetch
<i>Vicia villosa</i>	Winter vetch
<i>Vitis californica</i>	Wild grape

Exhibit A
Butte County Meadowfoam Occurrence Maps



Bruce Road Widening Project
 BCM Survey (Index)
 Exhibit A



Survey Boundary - (153.5 acres)
 Map Index
Area Not Surveyed
 Developed
 No Right of Entry
 Permitted/Mitigated
BCM Occurrences - (0.45 acres)
 BCM Occurrence
 BCM Occurrence

1:2,400
 0 100 200 Feet
 NORTH
 Data Sources: ESRI, Butte County
 Surveyed by: E.G., April 6, 2017

Bruce Road Widening Project
 BCM Survey (Panel 1)
 Exhibit A



- Survey Boundary - (153.5 acres)
- Map Index
- Area Not Surveyed**
- Developed
- No Right of Entry
- Permitted/Mitigated
- BCM Occurrences - (0.45 acres)**
- BCM Occurrence
- BCM Occurrence

1:2,400
 0 100 200 Feet
 Data Sources: ESRI, Butte County Surveyed by: E.G., April 6, 2017

Bruce Road Widening Project
 BCM Survey (Panel 2)
 Exhibit A

E. 20th St.



- Survey Boundary - (153.5 acres)
- Map Index
- Area Not Surveyed**
- Developed
- No Right of Entry
- Permitted/Mitigated
- BCM Occurrences - (0.45 acres)**
- BCM Occurrence
- BCM Occurrence



- Survey Boundary - (153.5 acres)
- Map Index
- Area Not Surveyed**
- Developed
- No Right of Entry
- Permitted/Mitigated
- BCM Occurrences - (0.45 acres)**
- BCM Occurrence
- BCM Occurrence

1:2,400
 0 100 200 Feet
 Data Sources: ESRI, Butte County Surveyed by: E.G. April 4, 2017

Bruce Road Widening Project
 BCM Survey (Panel 4)
 Exhibit A

Appendix E

2018 Rare Plant Survey Letter

gallaway ENTERPRISES

117 Meyers Street • Suite 120 • Chico CA 95928 • 530-332-9909

April 16, 2018

City of Chico
Public Works Department
Attn: Tracy Bettencourt
P.O. Box 3420
Chico, CA 95927

Dear Ms. Bettencourt;

As requested, Gallaway Enterprises conducted a focused protocol-level botanical survey for Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*, BCM) within the Bruce Road Widening Project (Project) survey area (survey area) on March 23 and 27 and April 2, 2018. Butte County meadowfoam is a California Native Plant Society (CNPS) Rank 1B¹ species and is federally and state listed as endangered, therefore, the survey was conducted per California Department of Fish and Wildlife (DFW) guidelines as well as US Fish and Wildlife Service (USFWS) guidelines.

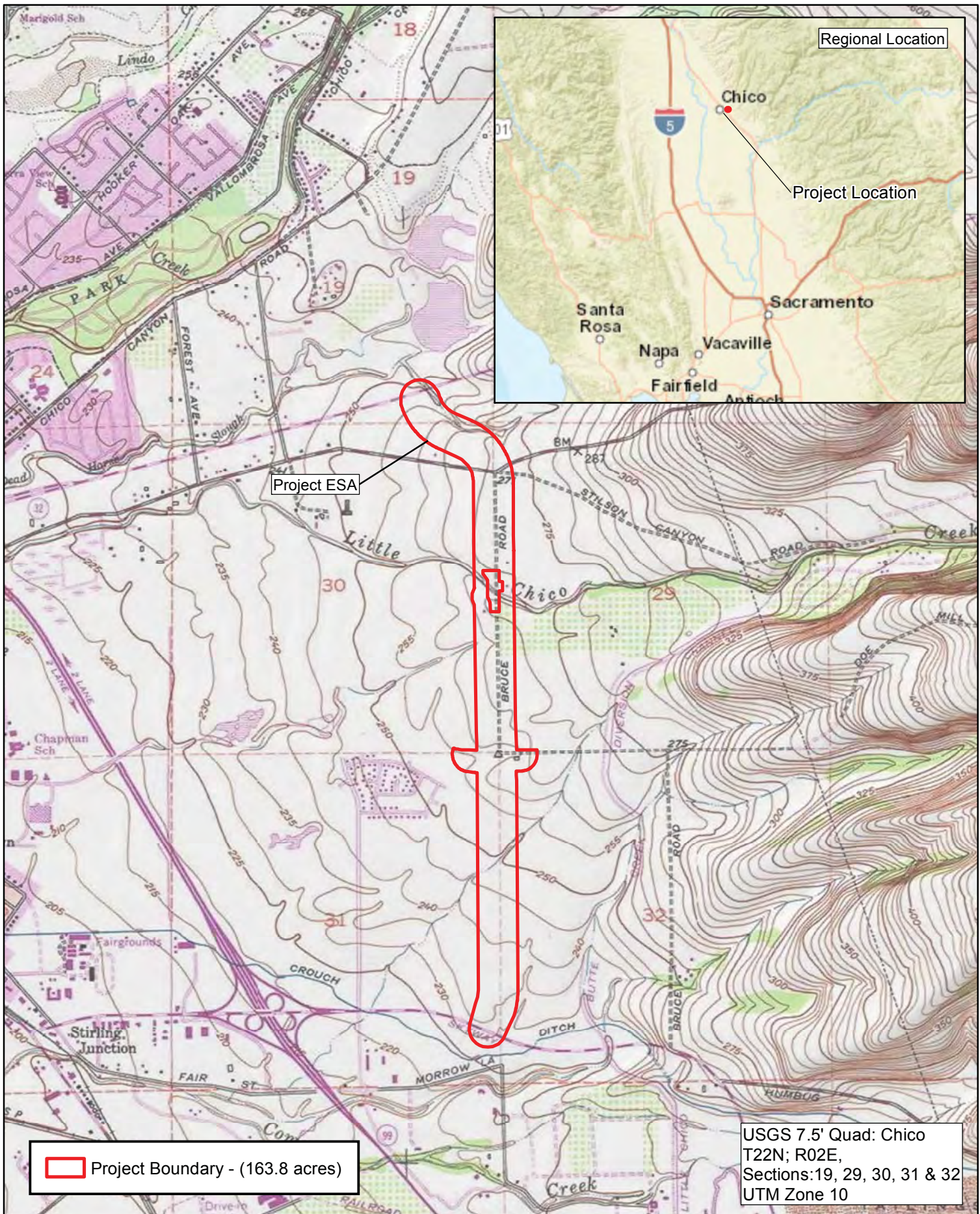
Location

The Project is located in the City of Chico, Butte County, CA, within the USGS Chico Quadrangle, Sections 19, 20, and 29 through 32, Township 22N, Range 2E. The Project occurs along both sides of the stretch of Bruce Road between Skyway, to the south, and Highway 32, to the north (**Figure 1**). The survey area for the Project included the City's right-of-way and a 250 foot buffer from the existing edge of pavement. However, surveys were not conducted within existing developed land, private property where projects have already been permitted or where right-of-entry was not granted (**Exhibit A**). Currently, the area surveyed is composed of open land and disturbed roadsides dominated by annual grassland habitat. Two of the soil map units occurring within the Project survey area are primary soil map units known to support BCM populations, including soil map unit 302 and 614. Further, past known California Natural Diversity Database (CNDDDB) occurrences of BCM have been identified within the survey area and USFWS designated critical habitat for BCM is located in the northern most portion of the Project.

Methodology

The surveys for BCM were conducted on March 23 and 27 and April 2, 2018, during the appropriate flowering window of the target species, by botanist Elena Gregg (see **Attachment A** for Botanist Qualifications). All wetlands present were surveyed and meandering transects were conducted in the upland portions of the survey area on foot.

¹ According to the CNPS Inventory of Rare and Endangered Plants, 1B plants are species that are rare, threatened, or endangered in California and elsewhere.



Regional Location

Project Location

Project ESA

Project Boundary - (163.8 acres)

USGS 7.5' Quad: Chico
T22N; R02E,
Sections: 19, 29, 30, 31 & 32
UTM Zone 10

1:24,000
0 500 1,000 Feet
Data Sources: ESRI, USGS,
NorthStar, Butte County

Bruce Road Road Widening Project
Project Location Map
Figure 1

gallaway
ENTERPRISES

GE: #17-014 Map Date: 08/01/17

A Trimble Geo Explorer 6000 Series GPS Receiver was on hand to record any special-status plant occurrences observed.

Surveys were conducted in accordance with the November 2009 DFW *Protocols for Surveying and Evaluation Impacts to Special Status Native Plant Populations and Natural Communities* and the September 1996 USFWS *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants*. Rainfall and inundation during the winter of 2017/2018 was considered below average by the National Oceanic and Atmospheric Administration (NOAA), however, moisture in the soil had been sufficient to allow for germination of BCM based on visits to a reference population. A visit to the BCM reference population at the Meriam Park Preserve in Chico, CA was conducted on March 12, 2018. The vast majority of BCM was observed in the flowering stage during the reference site visit with a small percentage still in the budding stage. A second visit to the Meriam Park Preserve was conducted on March 27, 2018 during which approximately half of the BCM was in the flowering stage and the other half in the seeding stage.

Results

A total of 0.3 acre of BCM occurrences were observed in various locations throughout the survey area during the protocol-level survey conducted. The locations of these occurrences are depicted in **Exhibit A**. No other special-status plant species were observed within the survey area during the protocol-level surveys conducted. A list of all of the plant species observed during the survey is provided as **Attachment B**.

This 2018 protocol level survey for BCM completes three consecutive years of BCM surveys within the Project survey area in compliance with the USFWS survey requirements.

Should you have any questions, please do not hesitate to contact me at (530) 332-9909 or via email at elena@gallawayenterprises.com.

Sincerely,



Elena Gregg, Senior Botanist
Gallaway Enterprises

Attachment A
Surveyor Qualifications

Elena Gregg, Senior Botanist / ISA Certified Arborist

EDUCATION

- **B.S., Environmental Biology and Management, 2004**
University of California, Davis

EXPERIENCE

12 Years

- **Gallaway Enterprises (2013-Current)**
Senior Botanist, ISA Certified Arborist
- **NorthStar Engineering (2009-2013)**
Senior Botanist, ISA Certified Arborist
- **Gallaway Consulting, Inc. (2006-2008)**
Botanist, ISA Certified Arborist
- **Jones and Stokes (2005)**
On-call Field Botanist
- **U.S. Forest Service, Truckee and Sierraville Ranger Districts (2004 and 2005)**
Botanical Technician

AREAS OF EXPERTISE

- Rare Plant Surveys
- Wetland Delineations
- Habitat Assessments
- Tree Inventories
- State and Federal permit Facilitation
- Endangered Species Act Documentation
- Mitigation Monitoring
- CRAM Assessments
- Arborist Construction Monitoring
- Habitat Restoration
- Environmental Awareness Training

Elena has over twelve years of professional experience conducting rare plant surveys, wetland delineations, and habitat assessments in California. She has a working knowledge of CNPS, CDFW, and USFWS survey protocols and holds a CDFW collection permit for listed plant species. Through her ample field experience in a wide array of habitats and eco-regions in Northern California, Mrs. Gregg has gained knowledge of locally invasive plants species as well as rare species. In particular, Mrs. Gregg has surveyed extensively for Butte County meadowfoam, a locally endangered plant species. Mrs. Gregg has a working knowledge of the Clean Water Act regulations and facilitation of local and federal environmental permits. She regularly prepares Caltrans documentation for projects receiving Caltrans Local Assistance. In 2007 Mrs. Gregg gained her Professional Arborist Certification from the International Society of Arboriculture. As a Certified Arborist, Mrs. Gregg conducts tree inventories, tree health assessments, and heritage tree surveys. She also prepares tree preservation plans and has been called upon to monitor trees during construction. Her experience with habitat restoration includes preparing wetland restoration plans, mitigation and monitoring plans, and reclamation plans. Mrs. Gregg also conducts annual monitoring associated with mitigation and re-vegetation projects, and in 2012 was trained in using CRAM to assess riverine and vernal pool systems.

Attachment B
Plant Species Observed

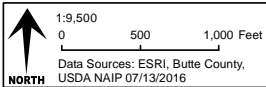
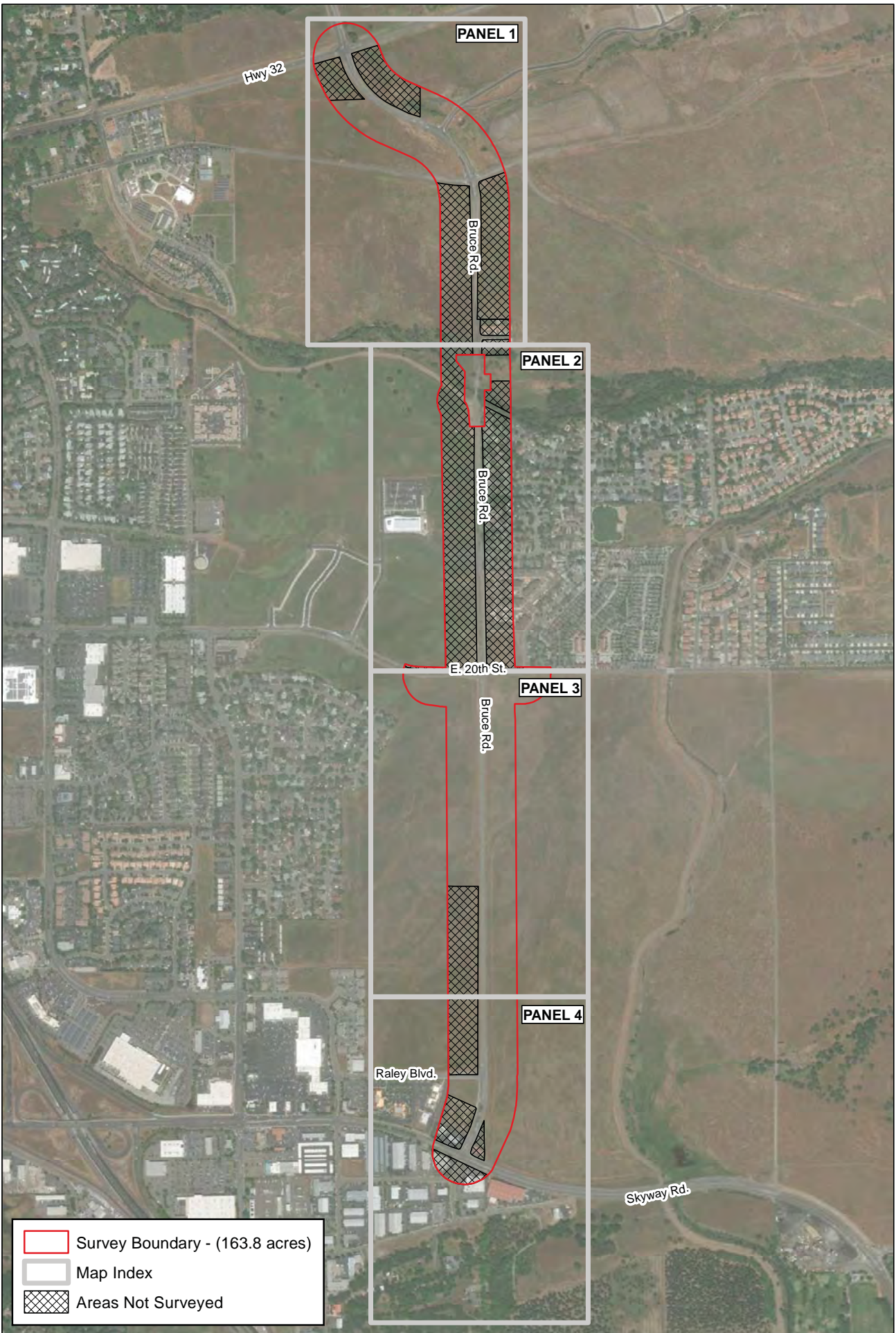
Plant Species Observed within the Bruce Road Widening Project March 23&27, and April 2, 2018

Scientific Name	Common Name
<i>Achyrachaena mollis</i>	Blow-wives
<i>Aesculus californica</i>	California buckeye
<i>Aira caryophylla</i>	Silver hairgrass
<i>Allium amplexans</i>	Clasping onion
<i>Alopecurus saccatus</i>	Vernal pool foxtail
<i>Amsinkia intermedia</i>	Common fiddleneck
<i>Avena barbata</i>	Wild oats
<i>Blenospermma nana</i>	Yellow carpet
<i>Brassica nigra</i>	Black mustard
<i>Bromus diandrus</i>	Rip-gut brome
<i>Bromus hordeaceus</i>	Soft chess
<i>Bromus madritensis ssp. rubens</i>	Red brome
<i>Calandrinia ciliata</i>	Redmaids
<i>Callitriche heterophylla</i>	Water starwort
<i>Capsella bursa-pastoris</i>	Shepard's purse
<i>Castilleja attenuata</i>	Valley tassels
<i>Centaurea solstitialis</i>	Yellow star thistle
<i>Cerastium glomeratum</i>	Mouse-eared chickweed
<i>Chlorogalum pomeridianum var. pomeridianum</i>	Wavyleaf soap-plant
<i>Cicendia quadrangularis</i>	Timwort
<i>Clarkia purpurea</i>	Winecup clarkia
<i>Claytonia perfoliata</i>	Miner's lettuce
<i>Crassula aquatica</i>	Aquatic pygmyweed
<i>Crassula tillaea</i>	Moss pygmyweed
<i>Croton setiger</i>	Turkey-mullein
<i>Delphinium variegatum ssp. variegatum</i>	Royal larkspur
<i>Deschampsia danthonoides</i>	Annual hairgrass
<i>Dichelostemma capitatum</i>	Blue dicks
<i>Draba verna</i>	Spring draba
<i>Eleocharis macrostachya</i>	Pale spike-rush
<i>Elymus caput-medusae</i>	Medusahead
<i>Epilobium spp.</i>	Willowherb
<i>Eriogonum nudum var. pubiflorum</i>	Naked buckwheat
<i>Erodium botrys</i>	Long-beaked stork's-bill
<i>Erodium brachycarpum</i>	Foothill filaree
<i>Erodium cicutarium</i>	Cut-leaf filaree
<i>Erodium moschatum</i>	Whitestem filaree
<i>Eryngium castrense</i>	Coyote thistle
<i>Eschscholzia lobbii</i>	Fryingpans
<i>Eucalyptus sp.</i>	Blue gum
<i>Festuca bromoides</i>	Six week fescue
<i>Festuca myuros</i>	Rattail fescue
<i>Festuca perennis</i>	Rye-grass
<i>Galium aparine</i>	Bedstraw

Scientific Name	Common Name
<i>Geranium dissectum</i>	Cut-leaved geranium
<i>Grindelia hirsutula</i> var. <i>davyi</i>	Foothill gumplant
<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley
<i>Hordeum murinum</i>	Wall hare barley
<i>Hypochaeris glabra</i>	Smooth cat's ear
<i>Juncus bufonius</i>	Toadrush
<i>Juncus xiphioides</i>	Iris-leaved rush
<i>Lactuca serriola</i>	Prickly lettuce
<i>Lamium amplexicaule</i>	Giraffehead
<i>Lasthenia fremontia</i>	Goldfields
<i>Layia fremontii</i>	Tidy-tips
<i>Leontodon saxatilis</i>	Hawkbit
<i>Lepidium nitidum</i>	Shinning pepperweed
<i>Limnanthes douglasii</i> ssp. <i>rosea</i>	Rosy meadowfoam
<i>Limnanthes floccosa</i> ssp. <i>californica</i>	Butte County meadowfoam (CNPS Rank 1B)
<i>Logfia gallica</i>	Narrowleaf cottonrose
<i>Lomatium caruifolium</i> var. <i>denticulatum</i>	Foothill lomatium
<i>Lupinus nanus</i>	Sky lupine
<i>Marah fabacea</i>	California manroot
<i>Marrubium vulgare</i>	Horehound
<i>Medicago polymorpha</i>	Common bur-clover
<i>Micropus californicus</i> var. <i>californicus</i>	Q tips
<i>Microseris</i> spp.	Silverpuff
<i>Mimulus guttatus</i>	Seep monkeyflower
<i>Montia fontana</i>	Water montia
<i>Muhlenbergia rigens</i>	Deergrass
<i>Navarretia leucocephala</i>	White pin-cushion
<i>Pinus sabiniana</i>	Gray pine
<i>Plagiobothrys austinae</i>	Austin's popcorn flower
<i>Plagiobothrys fulvus</i>	Common popcorn flower
<i>Plagiobothrys stipitatus</i> var. <i>micranthus</i>	Small-flowered popcornflower
<i>Plantago elongata</i>	Prairie plantain
<i>Plantago erecta</i>	Erect plantain
<i>Plantago lanceolata</i>	English plantain
<i>Poa bulbosa</i>	Bulbous bluegrass
<i>Pogogyne zizyphoroides</i>	Sacramento Valley pogogyne
<i>Populus fremontii</i>	Fremont's cottonwood
<i>Primula clevelandii</i> ssp. <i>patula</i>	Lowland shootingstar
<i>Prunus dulcis</i>	Almond
<i>Quercus lobata</i>	Valley oak
<i>Quercus wislizeni</i>	Live oak
<i>Ranunculus arvensis</i>	Field buttercup
<i>Ranunculus muricatus</i>	Prickle-seeded buttercup
<i>Raphanus sativus</i>	Radish
<i>Rubus armeniacus</i>	Himalayan blackberry

Scientific Name	Common Name
<i>Rumex crispus</i>	Curly dock
<i>Salix gooddingii</i>	Goodding's black willow
<i>Salix lasiolepis</i>	Arroyo willow
<i>Sambucus nigra ssp. caerulea</i>	Blue elderberry
<i>Sedella pumila</i>	Dwarf-stonecrop
<i>Senecio vulgaris</i>	Old-man-in-the-Spring
<i>Sherardia arvensis</i>	Field-madder
<i>Sidalcea calycosa ssp. calycosa</i>	Annual checkerbloom
<i>Silybum marianum</i>	Milk thistle
<i>Stellaria media</i>	Common chickweed
<i>Stipa pulchra</i>	Purple needlegrass
<i>Thysanocarpus curvipes</i>	Hairy lacepod
<i>Torilis arvensis</i>	Hedge parsley
<i>Trifolium depauperatum</i>	Cowbag clover
<i>Trifolium hirtum</i>	Rose clover
<i>Trifolium subterraneum</i>	Sub clover
<i>Trifolium variegatum</i>	White-tipped clover
<i>Trifolium wildenovii</i>	Wildcat clover
<i>Triteleia hyacinthina</i>	Wild hyacinth
<i>Tryphisaria ericaria</i>	Johnnytuck
<i>Veronica peregrina ssp. xalapensis</i>	Purslane speedwell
<i>Vicia sativa</i>	Garden vetch
<i>Vicia villosa</i>	Winter vetch
<i>Vitis californica</i>	Wild grape

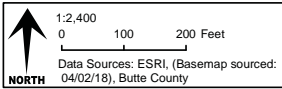
Exhibit A
Butte County Meadowfoam Occurrence Maps



Bruce Road Widening Project
2018 BCM Survey
Map Index



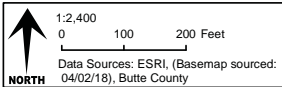
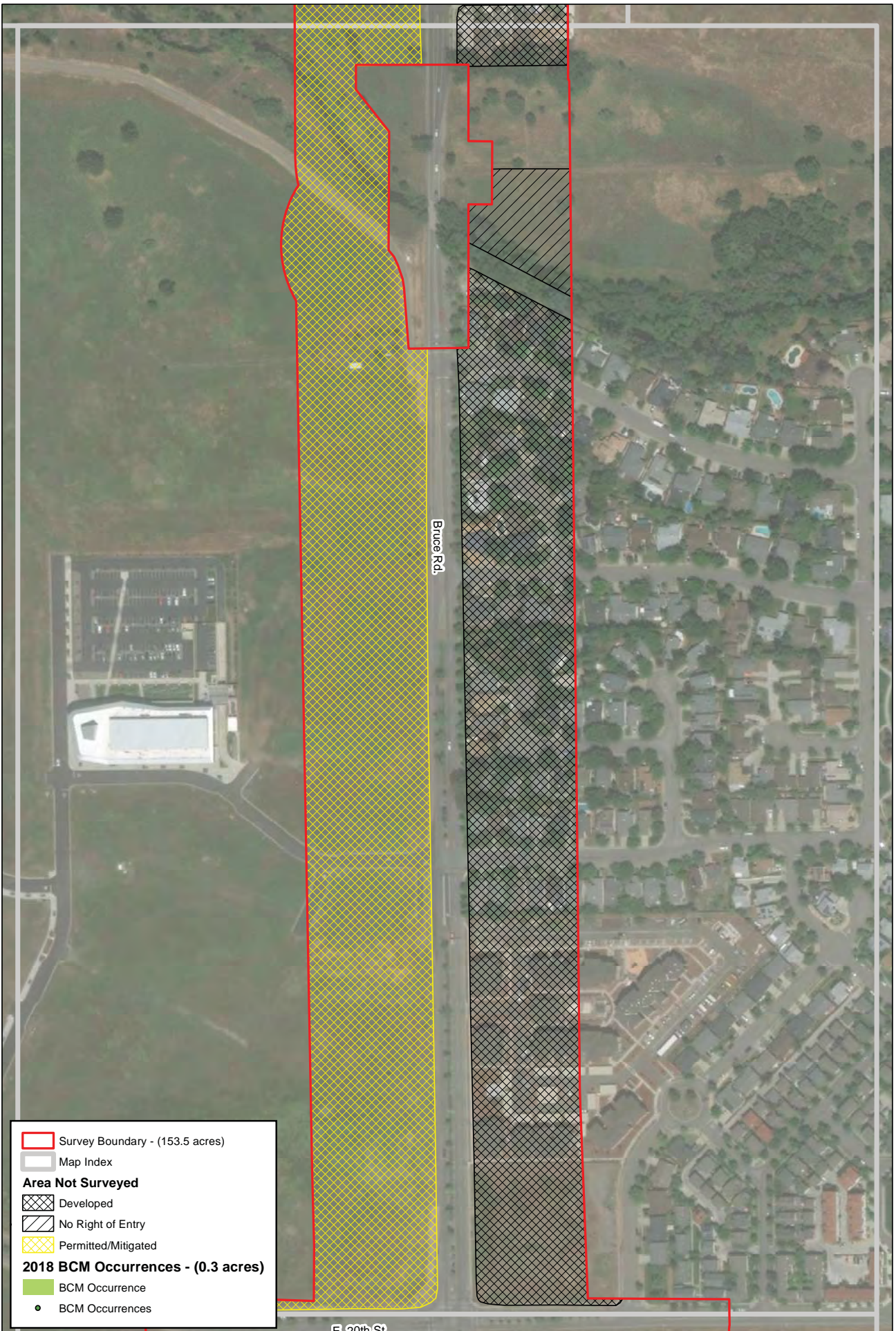
Survey Boundary - (153.5 acres)
 Map Index
Area Not Surveyed
 Developed
 No Right of Entry
 Permitted/Mitigated
2018 BCM Occurrences - (0.3 acres)
 BCM Occurrence
 BCM Occurrences



Surveyed by: E.G.,
 April 6, 2017

Bruce Road Widening Project
 2018 BCM Survey (Panel 1)
 Exhibit A





Surveyed by: E.G.,
April 6, 2017

Bruce Road Widening Project
2018 BCM Survey (Panel 2)
Exhibit A

galloway
ENTERPRISES

GE# 17-014 Map Date: 04/10/18



Survey Boundary - (153.5 acres)
 Map Index
Area Not Surveyed
 Developed
 No Right of Entry
 Permitted/Mitigated
2018 BCM Occurrences - (0.3 acres)
 BCM Occurrence
 BCM Occurrences



- Survey Boundary - (153.5 acres)
- Map Index
- Area Not Surveyed**
- Developed
- No Right of Entry
- Permitted/Mitigated
- 2018 BCM Occurrences - (0.3 acres)**
- BCM Occurrence
- BCM Occurrences

1:2,400
 0 100 200 Feet
 Data Sources: ESRI, (Basemap sourced: 04/02/18), Butte County

Surveyed by: E.G.,
 April 6, 2017

Bruce Road Widening Project
2018 BCM Survey (Panel 4)
Exhibit A

