APPENDIX A

NATURAL ENVIRONMENTAL STUDY

County Road 200 Bridge (11C-0132) over Branch Salt Creek Replacement Project

Natural Environment Study

Glenn County, California
Township 22N, Range 6W, Section 3 and 4
USGS *Newville, California* 7.5-Minute Quadrangle
03-GLE-0-CR
Federal Aid No. BRLO-5911(058)

April 2019

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

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April 2019

STATE OF CALIFORNIA
Department of Transportation

Prepared by: _____ Date: 4/12/19

Chariss Femino, Project Biologist
Stantec Consulting Services Inc. (Project No. 2272004901)
2595 Ceanothus Avenue, Ste. 182
Chico, California 95973
(530) 345-4552

Caltrans
Approved By: _____ Date: 5/21/19

Brooks Taylor, Associate Environmental Planner
Local Assistance, District 3, Caltrans
(530) 741-4449

Caltrans SEP
Approved By: _____ Date: 6/20/19

Laura Loeffler, Environmental Branch Chief
District 3 North Regional Environmental Planning
California Department of Transportation
(530) 741-4592

Summary

Glenn County (County), in cooperation with California Department of Transportation - District 3 and Federal Highway Administration, is proposing to replace the existing County Road 200 Bridge (No. 11C-0132) over Branch Salt Creek. The existing County Road 200 Bridge, built in 1925 has footings that have been exposed because of scour around the piers. The purpose of the County Road 200 Bridge over Branch Salt Creek Replacement Project (proposed project) is to create a bridge that provides a safe and dependable route for traffic crossing Branch Salt Creek. The bridge structure type has not yet been determined. The existing County Road 200 alignment would be used for project access. The total area of potential effect, or biological study area (BSA), is approximately 5.40 acres.

This Natural Environment Study (NES) has been prepared by Stantec (formerly North State Resources), on behalf of the County to evaluate the potential effects of the proposed project on special-status plant and animal species, waters of the United States, and other sensitive biological resources (e.g., nesting birds). Field assessments of the BSA were conducted on November 29, 2017 and March 29, 2018.

The BSA provides marginal to good quality habitat for two special-status plant species. These species include adobe lily (*Fritillaria pluriflora*) and Stony Creek spurge (*Euphorbia ocellate* ssp. *rattanii*). The BSA provides marginal to good quality habitat for three special-status animal species. These species include burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), and western red bat (*Lasiurus blossevillii*). Potential impacts and recommended avoidance and minimization measures for special-status plant and animal species are addressed in Chapter 4 of this NES. Suitable habitat for migratory birds is present within the BSA and vicinity. Potential impacts on nesting birds and recommended avoidance and minimization measures are addressed in Chapter 4 of this NES.

A delineation of waters of the United States identified 0.366 acre of potential waters of United States within the BSA including intermittent stream (Branch Salt Creek) and ephemeral stream. Implementation of the project would result in temporary impacts on up to 0.237 acre of waters of the United States due to vegetation clearing along the roadway, grading in the channel, construction of a low water crossing, and potential water diversion structures. Bridge abutment construction and placement of rock slope protection could permanently affect approximately 0.024 acre of waters of the United States. Authorization under a Nationwide Permit (NWP) pursuant to Section 404 of the Clean Water Act would be required for placement of fill into the ephemeral and intermittent streams. The County will submit a preconstruction notification to the Corps and comply with all terms and conditions of the NWP authorization, including obtaining water quality certification under Section 401 of the Clean Water Act. Avoidance and minimization measures would be implemented during construction to protect water quality and minimize impacts on waters of the United States. A Streambed Alteration Agreement may be required from the CDFW for project-related disturbance to Branch Salt Creek. Potential impacts with recommended avoidance and minimization measures for waters of the United States are addressed in Chapter 4 of this NES.

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Chapter 1. Introduction

On behalf of Glenn County (County), Stantec (formerly North State Resources, Inc.) prepared this Natural Environment Study (NES) to evaluate the potential effects associated with implementing the proposed County Road 200 Bridge (No. 11C-0132) Replacement Project (proposed project) on sensitive biological resources. A delineation of waters of the United States was prepared for the proposed project and the results are summarized in this NES.

1.1 Project Location

The 5.40-acre biological study area (BSA) is located along a portion of County Road 200 that crosses over Branch Salt Creek, approximately 0.75 mile west of County Road 306 and approximately 22 miles west of the town of Orland in Glenn County, California. The BSA is shown on the *Newville, California* 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle: Township 22 North, Range 6 West, sections 3 and 4. The center of the BSA is near 39.793471 degrees latitude, -122.533576 degrees longitude (North American Datum 83). The location of the BSA is shown in Figure 1.

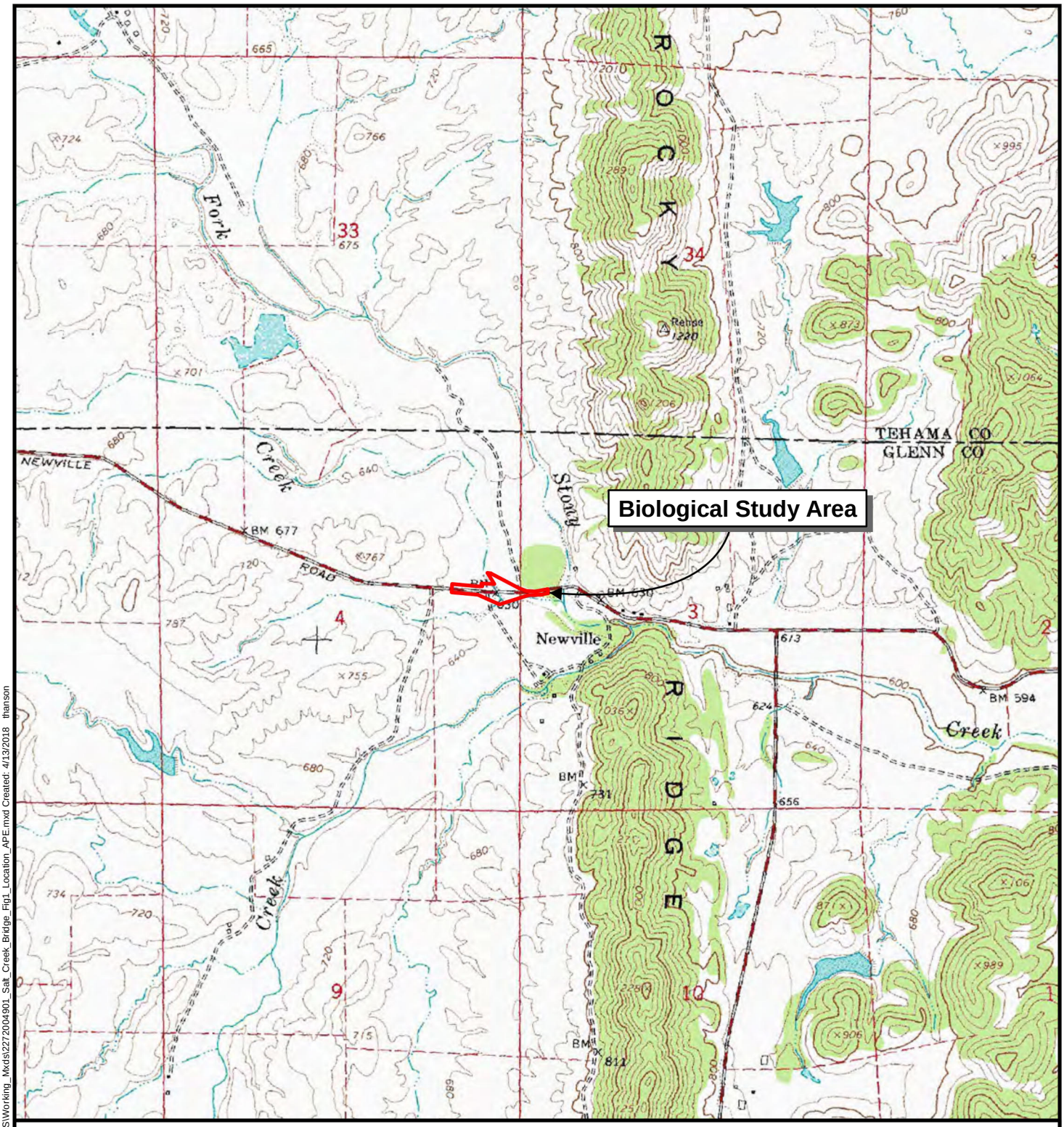
1.2 Project History

The County proposes to replace the existing bridge with a bridge of about the same size to improve roadway safety. The proposed project is included in the Federal Statewide Transportation Improvement Program and is being funded by Local Highway Bridge Program funds administered by California Department of Transportation (Caltrans). The existing bridge was determined to be structurally deficient with a rating of 33.5. The purpose of the proposed project is to improve traffic safety conditions on a public roadway and comply with current County and American Association of State Highway and Transportation Officials guidelines by: (1) replacing a structurally deficient bridge with a new structure that meets current standards and (2) reconstructing the approaching roadway to transition between the new construction and the existing roadway from both east-bound and west-bound directions.

1.3 Project Description

1.3.1 Bridge Design

The new bridge would be a standard two-lane bridge approximately 30 feet wide and 105 feet long. The bridge would have two 12-foot-wide travel lanes with 2-foot-wide shoulders on each side. The bridge would be located along the same alignment as the existing bridge. The bridge structure would consist of a cast in place, post-tensioned single-span box girder. The bridge abutments would be located along the banks of Branch Salt Creek and would not be in the active channel. Rock slope protection (RSP) may be placed around the new abutments to protect them from scouring and erosion as well as approximately 75 feet upstream and 50 feet downstream of the bridge to prevent erosion along the creek banks. It is anticipated that the excavation for the abutments would not exceed 10 feet (approximate) below the existing ground surface. Approximately 800 feet of County Road 200 would be reconstructed; 400 feet to the west and 400 to the east of the new bridge.



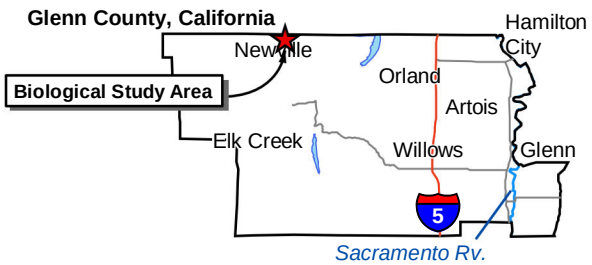
Biological Study Area (5.40 acres)

Public Land Survey:
Township 22N
Range 6W
Section 3 and 4

USGS 7.5 Quad:
Newville - 1967

N

0 500 1,000 2,000
Feet
1:24,000



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North State Resources, Inc.
now
Stantec

County Road 200 Bridge over Branch Salt Creek Replacement Project

Figure 1
Biological Study Area Location

As part of this reconstruction, cut and fill would be required along the new roadway. In addition, pavement associated with the old roadway would be removed, and the disturbed area would be restored to match adjacent conditions (e.g., grasslands).

1.3.2 Construction Methods

The proposed project would generally involve: vegetation removal; site clearing, preparation, and earthwork; demolition and removal of the existing bridge structure; construction of new bridge foundations, abutments, retaining structures, deck, and guardrails; widening of a segment of County Road 200; applying pavement overlay; and hydroseeding disturbed areas. Staging would occur in the grassland area to the north of the existing bridge (see Figure 2). Vegetation removal would be necessary in the proposed location of the new bridge, where RSP will be placed, and along the low water detour road alignment. Blasting is not expected but cannot be ruled out completely, depending on the nature of the subsurface rock that may be encountered. Demolished materials would be removed and disposed of offsite at an appropriate facility.

A temporary detour road and low water crossing would be constructed to the south of the bridge to allow for continuous traffic flow during construction. This would consist of temporarily placing rock fill over piping within Branch Salt Creek. The low water crossing would be removed after the bridge work is complete and normal stream flow would be restored. Although water is not anticipated to be present in Branch Salt Creek for most of the construction period, some construction activities (e.g., bridge removal, abutment construction) may require temporary dewatering of portions of the creek channel.

Construction is expected to start in 2021 or later, once all required approvals and funding have been obtained. The overall construction period would encompass up to one year. Construction would generally take place between April 15 and October 30. Work performed in and around the creek (e.g., low water crossing, bridge construction) would be scheduled during dry months. Other work (e.g., paving and striping the road) outside of the creek may be scheduled at any time.

1.4 Conservation Measures

Conservation measures will be incorporated into the project to minimize the potential for adverse effects on sensitive biological resources. These conservation measures are identified below.

1.4.1 Conservation Measure #1 – Erosion and Sedimentation Control

Erosion control measures will be implemented during construction of the project. These measures shall conform to the appropriate erosion/sedimentation control provisions contained in the Caltrans Standard Specifications and the Special Provisions included in the contract for the project. Such provisions shall include the preparation of a Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPCP), which describes and illustrates placement of BMPs at the project site.

Erosion control measures to be included in the SWPPP or WPCP include the following:

- To the maximum extent practicable, activities that increase the erosion potential in the project area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to surface water features (e.g. streams, ditches). If these activities must take place during the late fall, winter, or spring, temporary erosion and sediment control structures shall be in place and operational at the end of each construction day and shall be maintained until permanent erosion control structures are in place.

- Vegetation clearing and ground-disturbing activities shall be limited to the minimum area necessary for project implementation.

- Within 10 days of completion of construction in those areas where subsequent ground disturbance will not occur for 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent probability of rain within the next 24 hours, as forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas at the completion of the day's activities. Soils shall not be left exposed during the rainy season.

- Suitable BMPs shall be implemented, such as placing silt fences, straw wattles, or catch basins below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. Products with plastic monofilament or cross joints in the netting that are bound/stitched (such as found in straw wattles/fiber rolls and some erosion control blankets) which may cause entrapment of wildlife shall not be allowed.

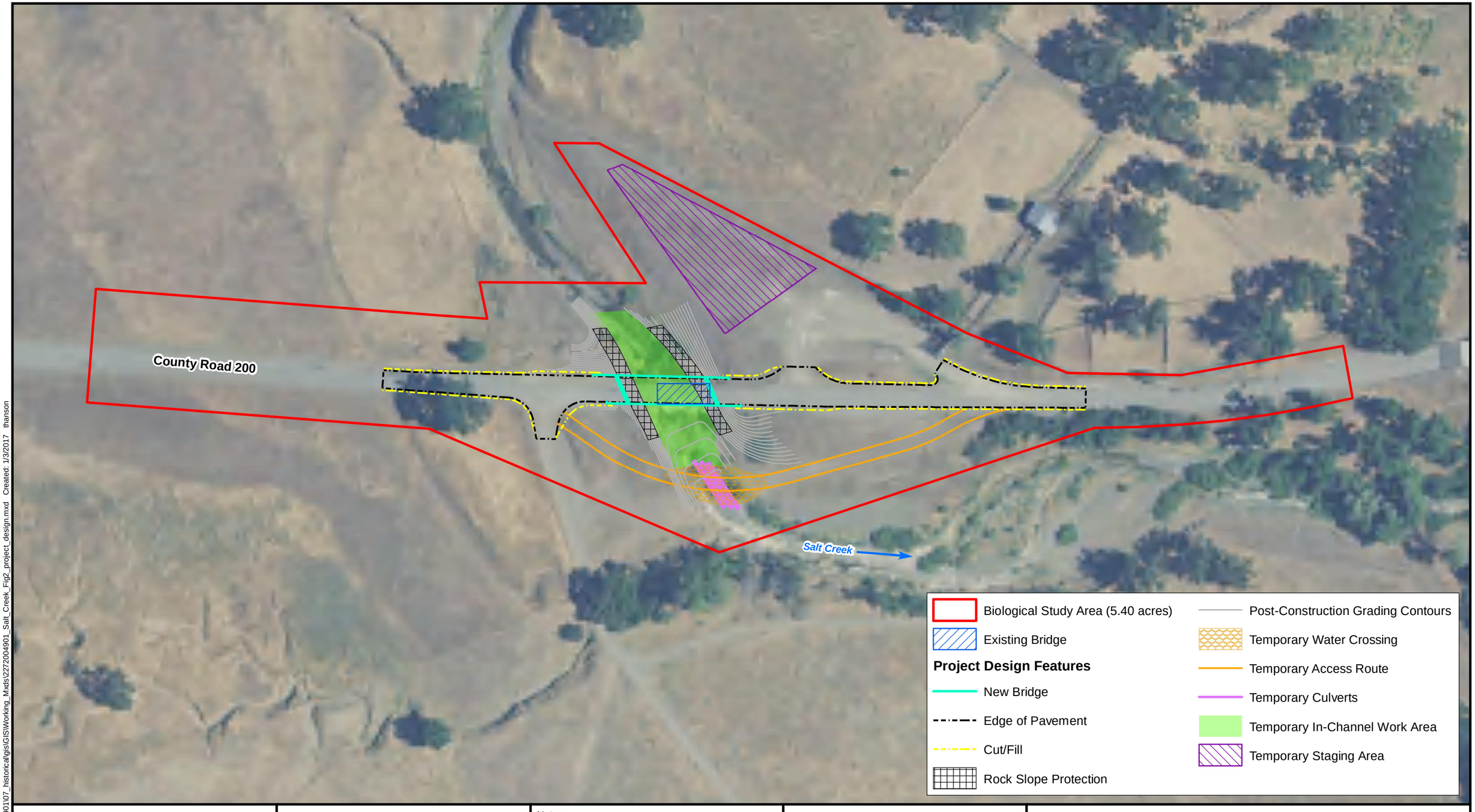
- If spoil sites are used, they shall be placed where they do not drain directly into a surface water feature (to the maximum extent practicable). If a spoil site would drain into a surface water feature, appropriate BMPs shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded to reduce the potential for erosion.

- Sediment control measures shall be in place prior to any rain event and shall be monitored and maintained in good working condition until disturbed areas have been revegetated.

1.4.2 Conservation Measure #2 – Prevention of Accidental Spills

Construction specifications shall include the following measures to minimize the potential for adverse effects resulting from accidental spills of pollutants (e.g., fuel, oil, grease):

- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.



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Prepared by:

North State Resources, Inc.
now
Stantec

2595 Ceanothus Avenue Suite 182
Chico, CA 95973 Phone (530) 345-4552
Fax (530) 345-4805 www.nsrnet.com

Prepared for:

Glenn County Public Works Agency
777 No. Colusa Street
Willows, CA 95988

Notes:
Locations of all proposed project features are approximate.

Aerial Photograph: NAIP 2016

Coordinate System: NAD 1983 UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983

N

1 inch = 100 feet

0 50 100 200

Feet

County Road 200 Bridge over Branch Salt Creek Replacement Project

Figure 2
Project Design Features

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1.4.3 Conservation Measure #3 – Air Quality/Dust Control

The construction bid documents shall include provisions that the contractor shall implement a dust control program to limit fugitive dust emissions. The dust control program shall include, but not be limited to, the following elements, as appropriate:

- Water inactive construction sites and exposed stockpiles at least twice daily or until soils are stable.
- Pursuant to California Vehicle Code, all trucks hauling soil and other loose material to and from the construction site shall be covered or should maintain at least 6 inches of freeboard (i.e., minimum vertical distance between the top of the load and the trailer).
- Any topsoil removed during construction shall be stored on-site in piles no higher than 4 feet to allow development of microorganisms prior to replacing the soil in the construction area. The topsoil piles shall be clearly marked and flagged. Topsoil piles that will not immediately be used in the construction area shall be covered or revegetated with a non-persistent erosion control mixture.
- All stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces shall be watered, as necessary, to reduce airborne dust.

1.4.4 Conservation Measure #4 – Prevention of Spread of Invasive Species

The following measures shall be implemented to reduce the potential for the spread of invasive plants:

- All equipment used for off-road construction activities shall be weed-free prior to entering the project area.
- Any mulches or fill used shall be weed free.
- Any seed mixes or other vegetative material used for revegetation of disturbed sites shall consist of locally adapted native plant materials to the extent practicable.

1.4.5 Conservation Measure #5 – General Measures for Protection of Special-Status Wildlife Species

The following general conservation measures shall be implemented to avoid or minimize the potential for adverse effects on special-status wildlife species:

- Construction access and equipment will be located on existing roads or previously disturbed parking areas.
- Disturbance of soil, vegetation, naturally occurring debris piles (including fallen trees or dead tree snags), and wildlife burrows will be avoided or minimized to the extent practicable.

- To the extent practicable, all holes or trenches will be covered at the end of each workday to prevent wildlife from becoming trapped. All holes and trenches will be inspected before each work day to facilitate the release of any trapped wildlife. A qualified biologist will be consulted if work crews are unable to safely assist in the release of trapped wildlife.

- To minimize attractants to wildlife, trash will be stored in containers that can be closed and latched or locked to prevent access by wildlife. All loose trash will be cleaned up daily.

Chapter 2. Study Methods

2.1 Federal Regulatory Requirements

2.1.1 Federal Endangered Species Act

Section 9 of the federal Endangered Species Act of 1973 (ESA) prohibits acts of disturbance that result in the "take" of threatened or endangered species. As defined by the ESA, "endangered" refers to any species that is in danger of extinction throughout all or a significant portion of its current range. The term "threatened" is applied to any species likely to become endangered within the foreseeable future throughout all or a significant portion of its current range. "Take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Violation of this section can result in penalties of up to $50,000 and up to 1 year of imprisonment.

Sections 7 and 10 of the ESA provide a method for permitting an action that may result in "incidental take" of a federally listed species. Incidental take refers to take of a listed species that is incidental to, but not the primary purpose of, an otherwise lawful activity. Incidental take is permitted under Section 7 for projects on federal land or involving a federal action, while Section 10 provides a method for permitting incidental take resulting from a state or private action.

2.1.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance essential fish habitat (EFH) for those species regulated under a federal fisheries management plan. The MSA requires federal agencies to consult with National Marine Fisheries Service (NMFS) on all actions, or proposed actions, authorized, funded, or undertaken by the agencies that may adversely affect EFH (MSA section 305[b][2]). A component of this consultation process is the preparation and submittal of an Essential Fish Habitat Assessment (EFHA).

The EFH mandate applies to all species managed under a fisheries management plan. For the Pacific coast (excluding Alaska), there are three fisheries management plans covering groundfish, coastal pelagic species, and Pacific salmon.

2.1.3 Federal Clean Water Act Section 404

The objective of the Clean Water Act (CWA) of 1977, as amended, is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. In 1987, the U.S. Army Corps of Engineers (Corps) published a manual standardizing the manner in which wetlands are to be delineated nationwide. To determine whether areas that appear to be wetlands are subject to Corps jurisdiction (i.e., are "jurisdictional" wetlands), a wetlands delineation must be performed and the resulting map of the wetland boundaries verified in writing by the Corps. Wetlands generally include

riparian areas, swamps, marshes, bogs, and similar areas. In addition to verifying wetlands for potential jurisdiction, the Corps is responsible for the issuance of permits for projects that include the filling of wetlands. Any permanent loss of a jurisdictional wetland as a result of project construction activities is considered a significant impact.

Permits under Section 404 of the CWA, as amended, are required for the placement of dredged or fill materials into all waters of the United States, including wetlands and "other waters" (e.g., streams). Projects are permitted under either individual or general (e.g., nationwide) permits.

2.1.4 Federal Clean Water Act Section 401

The California Regional Water Quality Control Board (RWQCB), Central Valley Region, is responsible for enforcing water quality criteria and protecting water resources in the project area. The RWQCB is responsible for controlling discharges to surface waters of the state by issuing waste discharge requirements.

Section 401 of the CWA requires that a project proponent obtain a water quality certification for projects requiring a federal permit (e.g., Corps Section 404 permits) to authorize discharge into waters of the United States.

2.1.5 Federal Migratory Bird Treaty Act

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703–711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21).

2.1.6 Executive Order 11990 (Wetlands)

Executive Order 11990 is an overall wetlands policy for all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state or local projects. It requires federal agencies to follow avoidance, mitigation, and preservation procedures and request public input before proposing new construction in wetlands.

2.1.7 Executive Order 13112 (Invasive Species)

Executive Order 13112 directs federal agencies to use relevant programs and authorities to:

- Prevent the introduction of invasive species.
- Detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner.
- Monitor invasive species populations accurately and reliably.
- Provide for restoration of native species and habitat conditions in ecosystems that have been invaded.

- Conduct research on invasive species, develop technologies to prevent their introduction, and provide for environmentally sound control of invasive species.
- Promote public education on invasive species and the means to address them.
- Not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all practicable and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

2.1.8 Executive Order 11988 (Floodplain Management)

Executive Order 11988 requires federal agencies to avoid the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and avoid direct and indirect support of floodplain development.

2.2 California Regulatory Requirements

2.2.1 Fish and Game Code Section 2081, California Endangered Species Act

Under the California Endangered Species Act (CESA), the California Department of Fish and Wildlife (CDFW) is responsible for maintaining a list of threatened and endangered species (California Fish and Game Code 2070). Additionally, the CDFW maintains a list of "candidate species," which are species that the CDFW has formally recognized as being under review for inclusion on the state's list of endangered or threatened species. The CDFW also maintains lists of "species of special concern," which serve as "watch lists." Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on the species. In addition, the CDFW encourages informal consultation on any proposed project that may affect a candidate species. Project-related impacts on species listed as threatened or endangered under CESA would be considered significant. Take of protected species incidental to otherwise lawful management activities may be authorized under Section 2081 of the Fish and Game Code.

2.2.2 Fish and Game Code Section 3503, Birds of Prey

Under Section 3503.5 of the Fish and Game Code, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) 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.

2.2.3 Fish and Game Code Section 3513, Migratory Birds

Migratory birds are also protected in California. Fish and Game Code Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

2.2.4 Fish and Game Code, "Fully Protected" Species

California statutes also accord "fully protected" status to a number of specifically identified birds, mammals, reptiles, amphibians, and fish. These species cannot be taken, even with an incidental take permit (Fish and Game Code, Sections 3505, 3511, 4700, 5050, and 5515).

2.2.5 Fish and Game Code Section 1600, Lake or Streambed Alteration

Any entity proposing an activity that 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 CDFW may need a Streambed Alteration Agreement from the CDFW prior to proceeding with the activity. As a general rule, this requirement may also apply to any work undertaken within the floodplain of a stream or river containing fish or wildlife.

2.3 Studies Required

2.3.1 Background Research

Special-status plant and animal species and sensitive habitats that may occur in the BSA were determined, in part, by reviewing natural resource agency databases, literature, and other relevant sources. The following information sources were reviewed:

- USGS *Newville, California* 7.5-minute quadrangle;
- Aerial photography of the BSA and vicinity;
- USFWS list of endangered and threatened species that may occur in the vicinity of the proposed project (Appendix A);
- California Natural Diversity Data Base (CNDDB) and California Native Plant Society (CNPS) records for the *Newville, California* 7.5-minute quadrangle and the eight surrounding quadrangles (Appendix B);
- California Wildlife Habitat Relationships (CWHR) System (California Department of Fish and Wildlife 2013);
- Other pertinent databases and literature, including the online *Inventory of Rare and Endangered Vascular Plants of California* (California Native Plant Society 2018) and *The Jepson manual: vascular plants of California* (Baldwin et. al. 2012).

A list of special-status species that could occur or are known to occur in the BSA and vicinity was developed based on background research. The list was further refined based on a field assessment to identify those species that could occur in the BSA.

2.3.2 Studies Conducted

Biological surveys were conducted on November 29, 2017 and March 29, 2018; including botanical surveys in general accordance with the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (California Department of Fish and Game 2009). Per the CDFW guidelines, a target list of special-status plant species with the potential to occur within the BSA was developed prior to the surveys through review of the USFWS list (Appendix A), and CNDDB and CNPS query results (Appendix B). A list of all plant species observed is provided in Appendix C. The botanical survey included surveying for invasive plants listed with a rating of High or Moderate in the California Invasive Plant Inventory (California Invasive Plant Council 2017) and plants listed as noxious by the California Department of Food and Agriculture (California Department of Food and Agriculture 2010).

On November 29, 2017, a delineation of waters of the United States was performed according to methodology described in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps Wetland Delineation Manual: Arid West Region (U.S. Army Corps of Engineers 2008). A copy of the delineation report is provided in Appendix D.

2.4 Personnel and Survey Dates

Chariss Femino, Project Biologist, Stantec
Biological survey and delineation of potential waters of the United States, Nov. 29, 2017.
Botanical survey, Mar. 29, 2018.

2.5 Agency Coordination and Professional Contacts

On April 19, 2018 a list (Appendix A) of federally listed species with the potential to occur in Glenn County was obtained from the USFWS Sacramento Fish and Wildlife Office.

2.6 Limitations That May Influence Results

All field studies were conducted in accordance with applicable protocols. Therefore, no limitations that may influence the results of field studies associated with this project are known to have occurred.

Chapter 3. Results: Environmental Setting

3.1 Description of Existing Physical and Biological Conditions

3.1.1 Study Area

All the land adjacent to the BSA is annual grassland, grazed by cattle. There are two rural residences in the vicinity along County Road 200, one located approximately 0.3 mile south of the BSA and one located approximately 0.5 mile east of the BSA.

3.1.2 Physical Conditions

The primary topographic feature in the BSA is the channel of Branch Salt Creek, which bisects the BSA from northwest to southeast. The elevation in the BSA ranges from 613 feet along the channel bottom downstream of the existing County Road 200 Bridge to 640 feet on the terrace to the northwest of the bridge.

Precipitation in the BSA primarily falls as rain, and the average annual rainfall is approximately 20 inches. Air temperatures range from an average January high of 55 degrees Fahrenheit (ºF) to an average July high of 97 ºF. The year-round average high temperature is approximately 75 ºF (Western Regional Climate Center 2017).

Soil map units in the vicinity of the BSA are described in the Soil Survey Geographic Database for Glenn County, California (U.S. Department of Agriculture and Natural Resources Conservation Service 2007). Three soil map units occur within the BSA, and these are described in Table 1.

Table 1. Soil Map Units

Map Unit Name	Map Unit Code	Drainage Class	Depth to Restrictive Layer	Hydric Soil
Cortina coarse sandy loam, MRLA 17	Czh	Excessively Drained	60 inches	No
Hillgate gravelly loam, 2 to 8 percent slopes	HmB	Well to Moderately Well Drained	73 inches	No
Wyo silt loam	Wn	Well Drained	60 inches	No

3.1.3 Biological Conditions

Habitat Types

Habitat types in the BSA were classified based on habitat descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988) and the results of the field survey. The habitat

types in the BSA include annual grassland, barren, riparian scrub, and riverine (see Figure 3). Descriptions of these habitats are provided below.

Annual Grassland

Annual grassland habitat is located throughout the BSA. Annual grassland habitat is characterized as a dense herbaceous layer and is dominated by introduced annual grasses and forbs, including wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), rose clover (*Trifolium hirtum*), and yellow star-thistle (*Centaurea solstitialis*).

Riverine

Riverine habitat in the BSA consists of Branch Salt Creek. Branch Salt Creek flows south easterly through the BSA and consists of run and riffle habitats dominated by cobble, gravel, and bedrock substrates. Vegetation within the stream channel is sparse, with scattered black willow (*Salix gooddingii*) and Freemont cottonwood (*Populus fremontii*) north of the bridge and invasive tamarisk (*Tamarix parviflora*) south of the bridge.

Riparian Scrub

Riparian scrub habitat occurs adjacent to County Road 200 at the eastern end of the BSA. Unlike valley foothill riparian habitat, riparian scrub is mainly dominated by shrubs and herbaceous plants instead of trees. Dominant species include tree-of-heaven (*Ailanthus altissima*), black walnut (*Juglans nigra*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*).

Barren/Ruderal

Barren/ruderal habitat includes the dirt and paved roads and their associated road shoulders within the BSA. Vegetation is usually not present, although sparse opportunistic gasses and forbs or weedy species may occur.

Habitat Connectivity

Habitat corridors are segments of land that provide linkages between different habitats while also providing cover. On a broader level, corridors also function as avenues along which wide-ranging animals can travel, plants can propagate, genetic interchange can occur, populations can move in response to environmental changes and natural disasters, and threatened species can be replenished from other areas. Habitat corridors often consist of riparian areas along streams, rivers, or other natural features. Additionally, the rivers and streams themselves may serve as migration corridors for anadromous fish. In the BSA, Branch Salt Creek provides a migration corridor for fish and wildlife species.

Invasive Species

Invasive plants (i.e., noxious weeds) are undesirable, non-native plants that commonly invade disturbed sites. Most species have been introduced from Europe and Asia and are known to degrade native wildlife habitat and plant communities. When disturbance results in the creation of habitat openings or in the loss of intact native vegetation, invasive plants may colonize the site and spread,

often out-competing native species. Once established, they are very difficult to eradicate and could pose a threat to native species.

All non-native plant species were reviewed to determine their status as invasive plants according to the ratings in the California Invasive Plant Inventory produced by California Invasive Plant Council (Cal-IPC 2006). Cal-IPC categorizes non-native invasive plants into three categories of overall negative ecological impact in California: High, Moderate, and Limited. Occurrences of invasive species found in the BSA with a Cal-IPC rating of "High" include tamarisk (*Tamarix parviflora*), medusa head (*Elymus caput-medusae*), and yellow star-thistle (*Centaurea solstitialis*).

3.2 Habitats and Natural Communities of Concern and Regional Species

3.2.1 Habitats and Natural Communities of Concern

Rare Natural Communities

In addition to inventorying reported occurrences of special-status species, the CNDDB serves to inventory locations of rare natural communities. Rare natural communities are those communities that are of highly limited distribution, and may or may not contain rare, threatened, or endangered species. The CNDDB ranks natural communities according to their rarity and endangerment in California. The CNDDB contains no records of rare natural communities within the BSA (California Department of Fish and Wildlife 2014). The portion of Branch Salt Creek in the BSA does not support extensive areas of riparian vegetation, although scattered riparian trees and shrubs are present in low abundance.

Waters of the United States

Potential waters of the United States in the BSA include intermittent stream (Branch Salt Creek) and ephemeral stream (Appendix D).

3.2.2 Special-Status Plants

For the purpose of this evaluation, special-status plant species include plants that are (1) listed as threatened or endangered under the CESA or the ESA; (2) designated as rare by the CDFW; (3) identified as state or federal candidate or proposed species for listing as threatened or endangered; and/or (4) have a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, or 2B.

Regionally occurring special-status plant species were identified based on a review of pertinent literature, the USFWS species list, CNDDB and CNPS database records, and the field survey results. The status of each special-status plant species was verified using the *Special Vascular Plants, Bryophytes, and Lichens List* (California Department of Fish and Wildlife 2018c) and the *State and Federally Listed Endangered, Threatened and Rare Plants of California* (California Department of Fish and Wildlife 2018d). For each species, habitat requirements were assessed and compared to the habitats in the BSA and immediate vicinity to determine if potential habitat occurs in the BSA. Based on the habitat assessment, the BSA provides potential habitat for two special-status plant species

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Prepared by:
North State Resources, Inc.
now
Stantec
2595 Ceanothus Avenue Suite 182
Chico, CA 95973 Phone (530) 345-4552
Fax (530) 345-4805 www.nsrnet.com

Prepared for:
Glenn County Public Works Agency
777 No. Colusa Street
Willows, CA 95988

Notes:
Locations of all proposed project features are approximate.

Aerial Photograph: NAIP 2016

Coordinate System: NAD 1983 UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983

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1 inch = 100 feet
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County Road 200 Bridge over Branch Salt Creek Replacement Project

Figure 3
Habitat Types

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(Table 2). For the purposes of this review, all regionally occurring plant species listed under ESA or CESA are included in Table 2, regardless of whether the BSA provides potential habitat.

Table 2. Special-Status Plants Potentially Occurring in the BSA

Common Name *Scientific Name*	Status[1] (Fed/State/ CRPR)	General Habitat Description	Habitat Assessment[2]	Rationale
Federal or State Listed Species				
Indian Valley brodiaea *Brodiaea rosea*	—/SE/1B.1	Closed-cone coniferous forests, chaparral, cismontane woodland, and valley and foothill grassland with serpentine soils. Elevation 1,100–4,760 feet. Blooms from May–June.	A	The BSA is not within elevational range for this species and no serpentine soils are present.
Other Special-Status Species				
Stony Creek spurge *Euphorbia ocellata* ssp. *rattanii*	—/—/1B.2	Chaparral, Riparian scrub (streambank), Valley and foothill grassland (sandy or rocky). Elevation 210–2,620 feet. Blooms from May–October.	HP	Potential habitat is present in the valley and foothill grassland and streambank throughout the BSA. Several CNDDB occurrences are present within 5 miles of the BSA.
Adobe lily *Fritillaria pluriflora*	—/—/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland/often adobe. Elevation 200–2,310 feet. Blooms from February–April.	HP	Potential habitat is present in the valley and foothill grassland throughout the BSA. Several CNDDB occurrences are present within 5 miles of the BSA.

[1] Status Codes: Federal Endangered (FE); State Endangered (SE); State Rare (SR)
1 CRPR Codes and Extensions:
1A Plants presumed extirpated in California and either rare or extinct elsewhere.
1B Plants rare, threatened, or endangered in California and elsewhere.
xx.3 Not very endangered in California
xx.2 Fairly endangered in California
xx.1 Seriously endangered in California

[2] Assessment Codes. Absent (A): No habitat present and no further work needed. Habitat Present (HP): Habitat is or may be present. The species may be present.

3.2.3 Special-Status Wildlife

Special-status wildlife species include species that are (1) listed as threatened or endangered under the CESA or the ESA; (2) proposed for federal listing as threatened or endangered; (3) identified as state or federal candidates for listing as threatened or endangered; and/or (4) identified by the CDFW as Species of Special Concern or California Fully Protected Species.

Regionally occurring special-status wildlife species were identified based on a review of pertinent literature, the USFWS species list, CNDDB database records, a query of the California Wildlife Habitats Relationship system, and the field survey results. The status for each special-status wildlife species was verified using the *Special Animals List* (California Department of Fish and Wildlife 2018e) and the *State and Federally Listed Endangered and Threatened Animals of California* (California Department of Fish and Wildlife 2018f). For each species, habitat requirements were assessed and compared to the habitats in the BSA and immediate vicinity to determine the species' potential to occur in or near the BSA. Based on the habitat assessment, two special-status wildlife species were determined to potentially occur in the BSA (Table 3). These special-status wildlife species are further discussed in Chapter 4. For the purposes of this review, all regionally occurring wildlife species listed under ESA or CESA are included in Table 3, regardless of whether the BSA provides potential habitat.

Table 3. Special-Status Wildlife Potentially Occurring or Known to Occur in the BSA

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Habitat Assessment[2]	Rationale
Federal or State Listed Species				
Invertebrate				
Vernal pool fairy shrimp *Branchinecta lynchi*	T/—	Vernal and intermittent freshwater pools.	A	The BSA does not contain vernal or intermittent pools.
Vernal pool tadpole shrimp *Lepidurus packardi*	E/—	Vernal and intermittent freshwater pools.	A	The BSA does not contain vernal or intermittent pools.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/—	Elderberry shrubs (*Sambucus mexicana*), which are typically associated with riparian forests that occur along rivers and streams.	A	Elderberry shrubs were present along CR 200 at the eastern end of the BSA. However, the BSA is outside of the known range for this species.
Fish				
Delta smelt *Hypomesus transpacificus*	T/E	Inhabits the Sacramento-San Joaquin Delta estuary.	A	The BSA is not within the current known range of this species.

Table 3. Special-Status Wildlife Potentially Occurring or Known to Occur in the BSA				
Common Name ***Scientific Name***	**Status[1] (Fed/State)**	**General Habitat Description**	**Habitat Assessment[2]**	**Rationale**
Central Valley DPS steelhead *Oncorhynchus mykiss*	T/—	Spawn and rear in the Sacramento River and its tributaries. Require cool, swift shallow water; clean, loose gravel for spawning.	A	The BSA does not contain suitable rearing or migration habitat for this species.
Amphibians				
Foothill yellow-legged frog *Rana boylii*	—/CT	Requires perennial partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg laying.	A	The BSA does not contain suitable perennial aquatic habitat for this species.
California red-legged frog *Rana draytonii*	T/—	Requires perennial or near perennial aquatic habitats, especially for breeding: streams, freshwater pools, and ponds over 1 foot deep with overhanging vegetation.	A	The BSA does not contain suitable aquatic habitat for this species.
Birds				
Northern spotted owl *Strix occidentalis caurina*	T/—	Breeds in dense, dark, old growth or mixed coniferous forests.	A	The BSA does not contain suitable breeding habitat for this species.
Other Special-Status Species				
Western burrowing owl *Athene cunicularia*	—/SSC	Grasslands and ruderal habitats.	HP	The BSA contains grassland and ruderal areas with suitable nesting and foraging habitats.
Loggerhead shrike *Lanius ludovicianus*	—/SSC	Forages in open grassland habitats throughout the Central Valley of California; often breeds in open areas dominated by grasses and/or forbs, interspersed with shrubs, trees, and bare ground.	HP	The BSA contains annual grassland suitable for nesting and foraging habitat for the species.

Table 3. Special-Status Wildlife Potentially Occurring or Known to Occur in the BSA

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Habitat Assessment[2]	Rationale
Western red bat *Lasiurus blossevillii*	—/SSC	Typically roost solitarily in dense tree foliage, particularly in willows, cottonwoods, and sycamores. Strongly associated with riparian habitats, particularly mature stands of cottonwood/sycamore.	HP	The BSA contains suitable trees and bridge for roosting habitat. Bat guano and urine stained concrete was observed under the Branch Salt Creek bridge during the November 29, 2017 survey.

[1] Status Codes: Federal Endangered (FE); Federal Threatened (FT); State Endangered (SE); State Candidate Threatened (CT); State Species of Special Concern (SSC).
[2] Assessment Codes. Absent (A): No habitat present and no further work needed. Habitat Present (HP): Habitat is or may be present. The species may be present.

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

4.1 Habitats and Natural Communities of Concern

4.1.1 Waters of the United States

Survey Results

Stantec conducted a delineation of potential waters of the United States within the BSA on November 29, 2017. A total of 0.366 acre (695 linear feet) of potential waters of the United States was delineated. Potential waters of the United States occur as intermittent stream (Branch Salt Creek) (0.343 acre, 360 linear feet) and ephemeral stream (0.023 acre, 335 linear feet); the waters of the United States delineation report is included as Appendix D.

Potential Impacts

Based on existing project detail, implementation of the project would result in temporary impacts on approximately 0.237 acre (289 linear feet) of waters of the United States The majority of the temporary impacts result from channel grading in the immediate vicinity of the new bridge and construction of the low water detour within the ordinary high water mark of Branch Salt Creek. These activities in the channel would impact up to 0.235 acre (251 linear feet) of intermittent stream and 0.002 acre (38 linear feet) of ephemeral stream. Placement of RSP and construction of the eastern bridge abutment would result in permanent impacts on approximately 0.023 acre (108 linear feet) of intermittent stream and 0.001 acre (14 linear feet) of ephemeral stream (see Figure 4).

Avoidance and Minimization Efforts

In addition to the conservation measures provided in Chapter 1, the following measures shall be implemented to avoid or minimize the potential for adverse impacts on waters of the United States

Mitigation Measure 1 Prior to any discharge of dredge or fill material into Branch Salt Creek or the ephemeral stream, the required permits/authorizations shall be obtained from the Corps and the RWQCB. All terms and conditions of the required permits/authorizations shall be implemented.

Mitigation Measure 2 Prior to any activities that would obstruct the flow of, or alter the bed, channel, or bank of Branch Salt Creek or the ephemeral channel, notification of streambed alteration shall be submitted to the CDFW. If required, a streambed alteration agreement shall be

obtained from CDFW and all conditions of the agreement shall be implemented.

Mitigation Measure 3 All waters of the United States that are temporarily affected by project construction shall be restored as close as practicable to their original contour and conditions within 10 days of the completion of construction activities.

Compensatory Mitigation

None required.

Cumulative Impacts

With implementation of the avoidance and minimization measures, the project would not result in cumulatively considerable adverse effects on waters of the United States

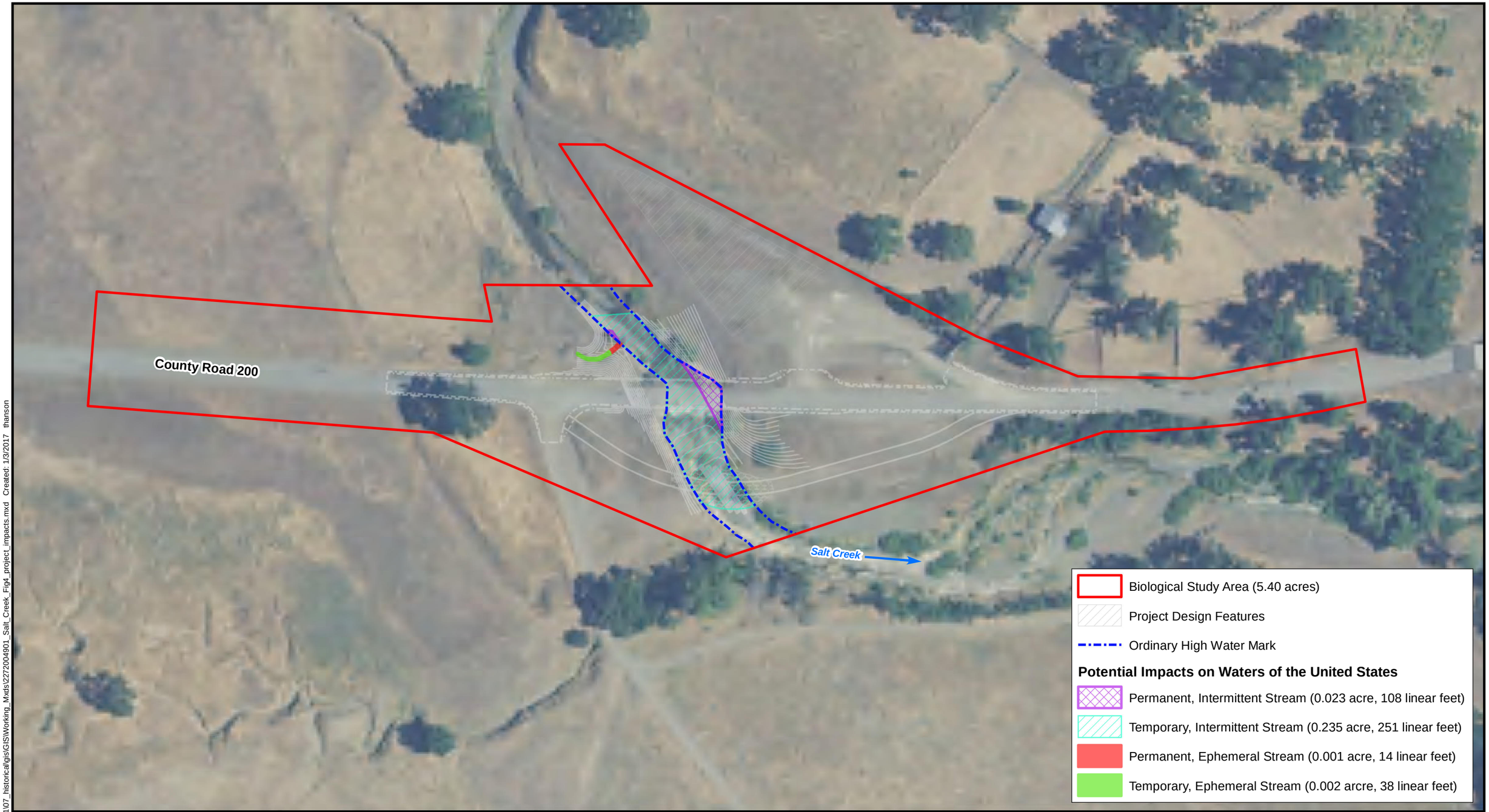
4.2 Special-Status Plant Species

Survey Results

There is potential habitat for adobe lily (*Fritillaria pluriflora*) and Stony Creek spurge (*Euphorbia ocellate* ssp. *rattanii*) within the BSA. Adobe lily could potentially be present in the annual grassland and Stony Creek spurge could be present in the annual grassland and dry streambank of Branch Salt Creek. No special-status plant species were detected within the BSA during the botanical survey conducted on March 29, 2018, which is inclusive of the blooming period for adobe lily. Therefore, adobe lily is determined to be absent from the BSA. The botanical survey was conducted outside of the blooming period for Stony Creek spurge, and the presence or absence of this species within the BSA could not be determined. A list of all plants observed in the BSA is provided as Appendix C.

Project Impacts

Ground-disturbing activities for the road grading and the preparation of the work area for the staging of equipment and materials is expected to temporarily impact annual grassland and riverine habitat. Permanent impacts on riverine habitat would occur from the placement of the RSP. These activities could affect Stony Creek spurge if this species is present in the areas subject to ground disturbance.



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Prepared by:
North State Resources, Inc.
now
Stantec
2595 Ceanothus Avenue Suite 182
Chico, CA 95973 Phone (530) 345-4552
Fax (530) 345-4805 www.nsrnet.com

Prepared for:
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County Road 200 Bridge over Branch Salt Creek Replacement Project

Figure 4
Potential Impacts on Waters of the United States

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Avoidance and Minimization Efforts

In addition to the conservation measures provided in Chapter 1, the following measures shall be implemented to avoid or minimize the potential for adverse effects on special-status plants.

Mitigation Measure 4 A botanical survey for Stony Creek spurge shall be conducted prior to construction activities to determine the presence or absence of this species in the project area. The survey should be conducted in general accordance with the *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities* (California Department of Fish and Wildlife 2009) and shall be timed appropriately to coincide with the blooming period for Stony Creek spurge (May–October).

Mitigation Measure 5 In the event that Stony Creek spurge or other special-status plant species are found during the botanical survey, the locations of the special-status plants should be marked as avoidance areas both in the field, using flagging, staking, fencing, or similar devices, and on construction plans. If avoidance of the special-status plant species is not practicable, additional minimization efforts (e.g., top soil stockpiling after the plants have gone to seed) shall be developed by a qualified biologist to minimize impacts on the extent practicable.

Compensatory Mitigation

The proposed project would result in a negligible impact on special-status plants; therefore, compensatory mitigation is not proposed.

Cumulative Impacts

Other bridge replacement projects in the Branch Salt Creek watershed and road improvement projects along County Road 200 may be undertaken by the County or Caltrans in the future. These projects have the potential to result in cumulative impacts on special-status plants. The County would be expected to implement similar measures as those described above to avoid direct impacts on individuals and protect special status plant habitat, to the extent practicable. With implementation of the avoidance and minimization measures identified above, the proposed project would not result in cumulatively considerable impacts on special-status plants.

4.3 Special-Status Animal Species

Three special-status animal species were determined to have the potential to use habitat in the BSA or immediate vicinity. These species include: loggerhead shrike, western burrowing owl, and western red bat. During the November 29, 2017 site visit, unidentified bat guano and urine stained concrete was observed under the Branch Salt Creek bridge.

A discussion of the regulatory status, habitat requirements, potential for occurrence, potential project-related impacts, avoidance and minimization measures, and cumulative effects for each species

determined to have the potential to use habitat in the BSA or immediate vicinity is provided below. With implementation of the avoidance and minimization measures presented below, the project is not expected to adversely affect any special-status animal species.

4.3.1 Loggerhead Shrike

Survey Results

Loggerhead shrike may utilize the trees and shrubs near open woodland and grassland habitats for nesting and foraging purposes.

Project Impacts

Construction disturbance during the breeding season could result in the loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, may adversely affect these species. The project may also result in a small, temporary reduction of foraging or roosting habitat for these species. However, due to the regional abundance of similar habitats, temporary habitat loss is not expected to result in an adverse effect on this species

Avoidance and Minimization Efforts

In addition to the conservation measures provided in Chapter 1, the following measures shall be implemented to avoid or minimize the potential for adverse effects on loggerhead shrike.

Mitigation Measure 6 Vegetation removal, grading, and other construction activities shall be scheduled to avoid the breeding season for nesting raptors and other special-status birds (generally February 15 through August 31, depending on the species) to the extent practicable. If construction occurs outside of the breeding season, no further mitigation is necessary. If the breeding season cannot be completely avoided, then mitigation measure 7 will be implemented.

Mitigation Measure 7 A qualified biologist shall conduct a minimum of one pre-construction survey for nesting migratory birds and raptors within the BSA and a 250-foot buffer around the BSA. The survey should be conducted no more than 15 days prior to the initiation of construction. If an active nest is found, appropriate conservation measures (as determined by a qualified biologist) shall be implemented. These measures may include, but are not limited to, establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged.

Compensatory Mitigation

The proposed project would result in a negligible impact on breeding and foraging habitat for special-status and migratory bird species; therefore, compensatory mitigation is not proposed.

Cumulative Impacts

Other bridge replacement projects in the Branch Salt Creek watershed and road improvement projects along County Road 200 may be undertaken by the County or Caltrans in the future. These projects have the potential to result in cumulative impacts on special-status and migratory birds and their habitat. The County would be expected to implement similar measures as those described above to avoid direct impacts on individuals and protect special status and migratory bird habitat, to the extent practicable. With implementation of the avoidance and minimization measures identified above, the proposed project would not result in cumulatively considerable impacts on special-status and migratory birds.

4.3.2 Migratory Birds and Raptors

Survey Results

All migratory birds and their nests are protected from take under the federal MBTA. All raptor species, including relatively common species and their nests, are protected from take according to California Fish and Game Code.

The annual grasslands, trees, shrubs, and other features (e.g., the existing bridge) in and near the BSA provide potential nesting and foraging habitat for various bird species. Protected avian species that could use habitats in and near the BSA include loggerhead shrike (*Lanius ludovicianus*), Nuttall's woodpecker (*Picoides nuttallii*), cliff swallow (*Petrochelidon pyrrhonota*), and other migratory birds and raptors. Old (inactive) cliff swallow nests were observed on the underside of the Branch Salt Creek bridge. In addition, numerous other migratory birds and raptors were identified during the field survey.

Project Impacts

Construction activities (e.g., vegetation removal and equipment noise) may be scheduled during the avian breeding season (generally February 15 through August 31, depending on the species) and could disturb nesting birds in or adjacent to the BSA. Construction-related disturbance could result in the incidental loss of fertile eggs or nestlings or nest abandonment, which could affect local or regional populations of affected birds. Impacts on nesting birds could result from:

- Tree and shrub removal along County Road 200 and Branch Salt Creek, which will be necessary to accommodate the new bridge and roadway modifications;
- Ground-disturbing activities (e.g., grubbing and grading) in annual grasslands that could affect ground-nesting birds (e.g., killdeer [*Charadrius vociferous*] and western meadowlark [*Sturnella neglecta*]);

- Noise from construction activities; and
- Removal of the bridge and other construction activities near the existing bridge that could disturb or remove active cliff swallow nests if they are present.

Avoidance and Minimization Efforts

The proposed project has been designed to minimize removal of annual grassland habitat to the greatest extent practicable. In addition to the conservation measures provided in Chapter 1 and mitigation measures 6 and 7, the following measure shall be implemented to minimize the potential for adverse effects on nesting migratory birds:

Mitigation Measure 8 To deter cliff swallows from nesting and bats from roosting under the existing bridge, the County will install an exclusionary device (e.g., netting) around the bridge prior to the initiation of the avian breeding season (before February 15) during the same year as bridge removal is proposed and after a qualified biologist has determined no nesting activity is present. The exclusionary device will remain in place until August 15 or until the bridge is demolished. The exclusionary device will be anchored such that swallows cannot attach their nests to the structure through gaps. If swallows begin building nests on the structure after installation of the exclusionary device, the County will coordinate with CDFW and will remove the nesting material in the presence of a qualified biologist to ensure the destruction of an active nest does not occur. Bridge removal may be delayed until the nests are no longer active.

Compensatory Mitigation

The proposed project would result in a negligible impact on breeding and foraging habitat for special-status and migratory bird or bat species; therefore, compensatory mitigation is not proposed.

Cumulative Impacts

No future projects near the current proposed project are known at this time. The bridge replacement project would not result in a change of road use along the adjacent roads, and cumulative effects are not anticipated.

4.3.3 Burrowing Owl

Survey Results

The burrowing owl is designated as a species of special concern by CDFW. This species prefers open grasslands and ruderal habitats with barren or low growing vegetation. Burrowing owls use mammal burrows or other suitable underground cavities and/or crevices to nest and roost. Burrows must be of

sufficient size (at least 3 to 4 inches across) to be utilized by this species. Burrows created by ground squirrels are typically preferred. Burrowing owls forage primarily for insects and often use fence posts or other erect structures to perch and hunt (California Department of Fish and Game 2012).

Ground squirrel burrows that could be utilized as habitat are scattered throughout the BSA. Foraging habitat is present in and around the BSA. No burrowing owls or owl sign (white wash, feathers, pellets, etc.) were observed during the site visit. There are no CNDDB records for burrowing owl within a 5-mile radius of the BSA.

Project Impacts

The project could result in temporary loss of habitat and displacement due to project activities affecting potential burrow sites. Direct disturbance from construction activities, such as operation of vehicles, heavy equipment operation, and earth moving operations around burrows could result in stress, injury, or mortality to individuals or destruction of their burrows.

Avoidance and Minimization

In addition to the conservation measures provided in Chapter 1, the following measure shall be implemented to avoid or minimize the potential for significant impacts on burrowing owls.

Mitigation Measure 9 A minimum of one pre-construction survey for occupied burrowing owl burrows within 300 feet of the BSA will be conducted by a qualified biologist within 15 days prior to the initiation of construction activities, regardless of the timing of construction. If any occupied burrows are identified, appropriate conservation measures (as determined by a qualified biologist) will be implemented. No disturbance will occur within 150 feet of occupied burrows during the non-breeding season (September 1–January 31) or within 250 feet during the breeding season (February 1–August 31). These measures may also include establishing a construction free buffer zone around the active nest site in coordination with the CDFW, biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged.

Compensatory Mitigation

The proposed project would result in a negligible impact on breeding and foraging habitat for burrowing owl; therefore, compensatory mitigation is not proposed.

Cumulative Effects

Other bridge replacement projects in the Branch Salt Creek watershed and road improvement projects along County Road 200 may be undertaken by the County or Caltrans in the future. These projects

have the potential to result in cumulative impacts on burrowing owls and their habitat. The County would be expected to implement similar measures as those described above to avoid direct impacts on individuals and protect special status and migratory bird habitat, to the extent practicable. With implementation of the avoidance and minimization measures identified above, the proposed project would not result in cumulatively considerable impacts on burrowing owl.

4.3.4 Western Red Bat

Survey Results

Bat species may roost individually or in small groups in tree cavities, in rock crevices, in riparian vegetation, or in man-made structures (e.g., bridges). Western red bats typically roost in dense riparian tree foliage. The existing bridge contains suitable night roosting habitat. The BSA contains trees that may contain suitable roosting habitat (e.g., cavities, exfoliating bark) for bats.

Project Impacts

Due to the ability of individual bats to move away from disturbance, direct impacts on bats are not expected when the bats are not in a maternity colony. Bats may form maternity colonies in tree cavities in the BSA. If a tree is removed that contains a bat colony, the disturbance could result in bat mortality or injury. Indirect impacts may occur from construction disturbances if a maternity colony is present in or adjacent to the BSA. Significant noise disturbance could result in adults temporarily or permanently leaving the maternity colony.

Avoidance and Minimization

In addition to the conservation measures discussed in section 1.4 and Mitigation Measure 8, the following measures shall be implemented to avoid or minimize the potential for adverse effects on western red bat and other bat species.

Mitigation Measure 10 To the extent practicable, removal of large trees with cavities shall occur before maternity colonies form (i.e., prior to March 1) or after young are volant (i.e., after August 15).

Mitigation Measure 11 If construction (including the removal of large trees) occurs during the non-volant season (March 1 through August 15), a qualified biologist shall conduct a pre-construction survey of the BSA for maternity colonies. The pre-construction survey will be performed no more than 14 days prior to the implementation of construction activities (including staging and equipment access). If a lapse in construction activities for 14 days or longer occurs between those dates, another pre-construction survey will be performed. If any maternity colonies are detected, appropriate conservation measures (as determined by a qualified biologist) shall be implemented. These measures may include but are not limited to: establishing a

construction-free buffer zone around the maternity colony site, biological monitoring of the maternity colony, and delaying construction activities in the vicinity of the maternity site.

Compensatory Mitigation

None required.

Cumulative Impacts

Other bridge replacement projects in the Branch Salt Creek watershed and road improvement projects along County Road 200 may be undertaken by the County or Caltrans in the future. These projects have the potential to result in cumulative impacts on western red bat and other bat species. The County would be expected to implement similar measures as those described above to avoid direct impacts on individuals and protect habitat for roosting bats to the extent practicable. With implementation of the avoidance and minimization measures identified above, the proposed project would not result in cumulatively considerable impacts on western red bat or other bat species.

Chapter 5. Results: Conclusions and Regulatory Determinations

5.1 Federal Endangered Species Act Consultation Summary

The proposed project is not likely to adversely affect any federally listed species. No consultation with United States Fish and Wildlife Service is anticipated to be required.

5.2 Essential Fish Habitat Consultation Summary

No Essential Fish Habitat would be affected by the project. No Magnuson-Stevens Fishery Conservation and Management Act consultation with the National Marine Fisheries Service is anticipated to be required.

5.3 Wetlands and Other Waters Coordination Summary

To ensure compliance with the terms and conditions of Section 404 of the CWA, the County will submit a Pre-Construction Notification to the Corps requesting verification of authorization to proceed with construction of the project under the Nationwide Permit (NWP) program (likely NWP Permit 14 – Linear Transportation Crossings). The Pre-Construction Notification will be submitted to the Corps prior to any discharge of dredged or fill material into waters of the United States

Section 401 of the CWA requires that a Water Quality Certification be obtained from the RWQCB prior to any discharge of dredged or fill material into waters of the United States. The County will obtain a Water Quality Certification from the RWQCB prior to any discharge of dredged or fill material into waters of the United States

5.4 Migratory Bird Treaty Act

With implementation of measures identified in Chapter 4 to avoid impacts on nesting migratory birds, the project would comply with the MBTA and not adversely affect migratory birds.

5.5 California Endangered Species Act Consultation Summary

The BSA does not provides suitable habitat for any species listed under the California Endangered Species Act. Therefore, consultation with the CDFW under CESA is not expected to be required.

5.6 California Fish and Game Code

The project would involve work within the banks of Branch Salt Creek, an intermittent stream. Prior to any activities that would obstruct the flow of, or alter the bed, channel, or bank of any streams, the County will provide notification of streambed alteration to the CDFW. If required by the CDFW, the County will obtain a streambed alteration agreement and will ensure that all conditions of the agreement are implemented.

The proposed project would comply with other sections of the Fish and Game Code (i.e., birds of prey, migratory birds, fully protected species) with implementation of avoidance and minimization measures.

5.7 Invasive Species

Implementation of Conservation Measure #4 – Prevention of Spread of Invasive Species (provided in Chapter 1) will avoid or minimize the potential for the spread of invasive species, as required by Executive Order 13112.

5.8 Floodplain Management

The proposed bridge would maintain floodway conveyance in the BSA. Therefore, the project complies with Executive Order 11988.

Chapter 6. References

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Appendix A USFWS List

IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

IPaC resource list

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

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

Location

Glenn County, California

Local office

Sacramento Fish And Wildlife Office

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

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

Endangered species

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

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

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

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

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

Listed species

[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. 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.

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

Birds

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1123	Threatened

Amphibians

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

Fishes

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

Crustaceans

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

Critical habitats

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

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

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

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE"

	INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
White Headed Woodpecker Picoides albolarvatus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9411	Breeds May 1 to Aug 15

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

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

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

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

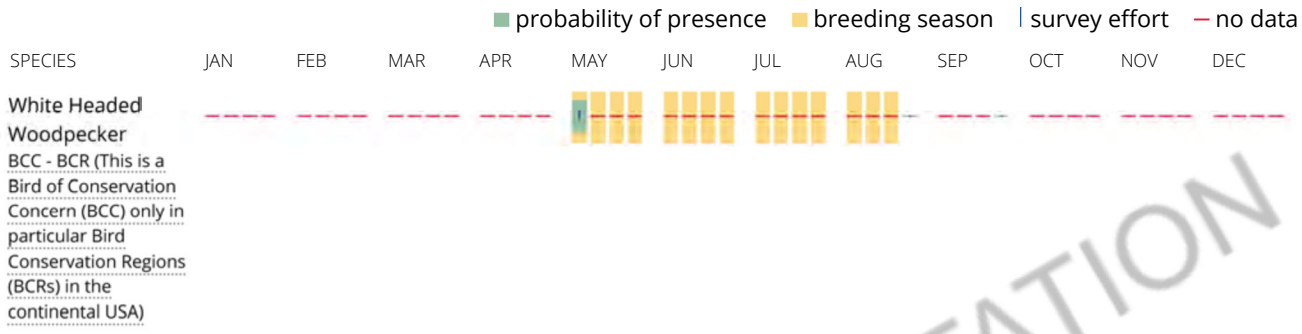
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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

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

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

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

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

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

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

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

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

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

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey

effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

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

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

Appendix B CNDDB and CNPS Queries

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Newville (3912275) OR Riley Ridge (3912286) OR Paskenta (3912285) OR Flournoy (3912284) OR Hall Ridge (3912276) OR Sehorn Creek (3912274) OR Alder Springs (3912266) OR Chrome (3912265) OR Julian Rocks (3912264))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Accipiter gentilis northern goshawk	G5 S3	None None	BLM_S-Sensitive CDF_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	3,200 3,200	432 S:1	0	0	0	0	0	1	1	0	1	0	0
Acmispon rubriflorus red-flowered bird's-foot trefoil	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	1,050 1,050	8 S:1	0	0	0	0	0	1	0	1	1	0	0
Antirrhinum subcordatum dimorphic snapdragon	G3 S3	None None	Rare Plant Rank - 4.3 USFS_S-Sensitive	920 2,000	49 S:18	1	1	0	0	1	15	18	0	17	1	0
Arctostaphylos manzanita ssp. elegans Konocti manzanita	G5T3 S3	None None	Rare Plant Rank - 1B.3	750 5,300	69 S:9	0	0	0	0	0	9	6	3	9	0	0
Astragalus rattanii var. jepsonianus Jepson's milk-vetch	G4T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	620 1,475	51 S:5	0	1	0	0	0	4	3	2	5	0	0
Balsamorhiza macrolepis big-scale balsamroot	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	2,700 2,700	51 S:2	2	0	0	0	0	0	1	1	2	0	0
Bombus crotchii Crotch bumble bee	G3G4 S1S2	None None		800 800	234 S:1	0	0	0	0	0	1	1	0	1	0	0
Brodiaea rosea Indian Valley brodiaea	G2Q S2	None Endangered	Rare Plant Rank - 3.1 BLM_S-Sensitive USFS_S-Sensitive	2,170 3,910	21 S:4	1	2	1	0	0	0	0	4	4	0	0
Chlorogalum pomeridianum var. minus dwarf soaproot	G5T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	1,200 4,000	31 S:14	9	2	0	0	0	3	10	4	14	0	0
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T2 S2	Threatened None		725 725	271 S:1	0	0	1	0	0	0	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Erethizon dorsatum North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	768 802	508 S:2	0	0	0	0	0	2	0	2	2	0	0
Eriastrum tracyi Tracy's eriastrum	G3Q S3	None Rare	Rare Plant Rank - 3.2 USFS_S-Sensitive	1,100 1,482	119 S:5	0	1	1	0	0	3	4	1	5	0	0
Euphorbia ocellata ssp. rattanii Stony Creek spurge	G4T2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	400 1,600	39 S:17	1	0	0	0	0	16	13	4	17	0	0
Falco mexicanus prairie falcon	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	1,000 1,640	460 S:6	0	0	0	0	0	6	6	0	6	0	0
Fritillaria pluriflora adobe-lily	G2G3 S2S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	680 1,250	113 S:11	0	1	0	0	0	10	11	0	11	0	0
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	G2 S2.1	None None		460 460	56 S:1	0	0	0	0	0	1	1	0	1	0	0
Harmonia stebbinsii Stebbins' harmonia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	1,563 2,900	21 S:4	0	2	0	0	0	2	2	2	4	0	0
Hesperolinon tehamense Tehama County western flax	G2 S2	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive	1,200 3,800	16 S:15	8	1	0	0	0	6	6	9	15	0	0
Layia septentrionalis Colusa layia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	2,360 2,360	57 S:1	0	0	0	0	0	1	1	0	1	0	0
Rana boylii foothill yellow-legged frog	G3 S3	None Candidate Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	641 4,328	2366 S:16	0	1	0	0	0	15	12	4	16	0	0
Spea hammondii western spadefoot	G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	541 684	818 S:2	0	0	0	0	0	2	2	0	2	0	0
Streptanthus hesperidis green jewelflower	G2 S2	None None	Rare Plant Rank - 1B.2	2,500 2,500	19 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Viburnum ellipticum	G4G5	None	Rare Plant Rank - 2B.3	1,000	38	0	0	0	0	0	2	2	0	2	0	0
oval-leaved viburnum	S3?	None		3,000	S:2											

CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

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

Search Criteria

Found in Quads 3912286, 3912285, 3912284, 3912276, 3912275, 3912274, 3912266 3912265 and 3912264;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Acmispon rubriflorus	red-flowered bird's-foot trefoil	Fabaceae	annual herb	Apr-Jun	1B.1	S2	G2
Allium siskiyouense	Siskiyou onion	Alliaceae	perennial bulbiferous herb	(Apr)May-Jul	4.3	S4	G4
Androsace elongata ssp. acuta	California androsace	Primulaceae	annual herb	Mar-Jun	4.2	S3S4	G5? T3T4
Antennaria suffrutescens	evergreen everlasting	Asteraceae	perennial stoloniferous herb	Jan-Jul	4.3	S3	G4
Antirrhinum subcordatum	dimorphic snapdragon	Plantaginaceae	annual herb	Apr-Jul	4.3	S3	G3
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Ericaceae	perennial evergreen shrub	(Jan)Mar-May(Jul)	1B.3	S3	G5T3
Asclepias solanoana	serpentine milkweed	Apocynaceae	perennial herb	May-Jul (Aug)	4.2	S3	G3
Astragalus clevelandii	Cleveland's milk-vetch	Fabaceae	perennial herb	Jun-Sep	4.3	S4	G4
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S3	G4T3
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Boechera serpenticola	serpentine rockcress	Brassicaceae	perennial herb	Mar-Jun	1B.2	S1	G1
Brodiaea rosea ssp. rosea	Indian Valley brodiaea	Themidaceae	perennial bulbiferous herb	May-Jun	3.1	S2	G2
Calyptridium quadripetalum	four-petaled pussypaws	Montiaceae	annual herb	Apr-Jun	4.3	S4	G4
Chlorogalum pomeridianum var. minus	dwarf soaproot	Agavaceae	perennial bulbiferous herb	May-Aug	1B.2	S3	G5T3

Clarkia gracilis ssp. tracyi	Tracy's clarkia	Onagraceae	annual herb	Apr-Jul	4.2	S3	G5T3
Collomia diversifolia	serpentine collomia	Polemoniaceae	annual herb	May-Jun	4.3	S4	G4
Cryptantha rostellata	red-stemmed cryptantha	Boraginaceae	annual herb	Apr-Jun	4.2	S3	G4
Eriastrum tracyi	Tracy's eriastrum	Polemoniaceae	annual herb	May-Jul	3.2	S3	G3Q
Eriogonum strictum var. greenei	Greene's buckwheat	Polygonaceae	perennial herb	Jul-Sep	4.3	S4	G5T4
Eriogonum tripodum	tripod buckwheat	Polygonaceae	perennial deciduous shrub	May-Jul	4.2	S4	G4
Euphorbia ocellata ssp. rattanii	Stony Creek spurge	Euphorbiaceae	annual herb	May-Oct	1B.2	S2?	G4T2?
Fritillaria pluriflora	adobe-lily	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2S3	G2G3
Harmonia stebbinsii	Stebbins' harmonia	Asteraceae	annual herb	May-Jun	1B.2	S2	G2
Helianthus exilis	serpentine sunflower	Asteraceae	annual herb	Jun-Nov	4.2	S3	G3
Hesperolinon tehamense	Tehama County western flax	Linaceae	annual herb	May-Jul	1B.3	S2	G2
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	Apr-May	1B.2	S2	G2
Orobanche valida ssp. howellii	Howell's broomrape	Orobanchaceae	perennial herb (parasitic)	Jun-Sep	4.3	S3	G4T3
Stipa lemmonii var. pubescens	pubescent needle grass	Poaceae	perennial herb	May-Jul	3.2	S1?	G5T1?Q
Streptanthus drepanoides	sickle-fruit jewelflower	Brassicaceae	annual herb	Apr-Jun	4.3	S4	G4
Streptanthus hesperidis	green jewelflower	Brassicaceae	annual herb	May-Jul	1B.2	S2	G2
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

Suggested Citation

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The California Lichen Society
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The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments

rareplants@cnps.org

Appendix C Plant Species Observed

Plant species observed during the November 29, 2017 and March 29, 2018 field surveys for the County Road 200 Bridge (11C-0132) over Branch Salt Creek Replacement Project.

Scientific Name	Common Name
Agrostis avenacea	Pacific bent grass
Ailanthus altissima	tree-of-heaven
Amsinckia douglasiana	Douglas' fiddleneck
Athysanus pusillus	common sandweed
Artemisia vulgaris	mugwort
Avena fatua	wild oat
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft chess
Calandrinia menziesii	redmaids
Capsella bursa-pastoris	shepherd's purse
Castilleja exserta ssp. *exserta*	owl clover
Centaurea solstitialis	yellow star-thistle
Clarkia sp.	clarkia
Claytonia parviflora	miner's lettuce
Croton setigerus	turkey mullein
Dichelostemma capitatum	blue dicks
Eleocharis sp.	spikerush
Elymus caput-medusae	medusahead
Erodium botrys	storksbill
Galium aparine	bedstraw
Gilia tricolor ssp. *tricolor*	bird's-eye gilia
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley
Juglans hindsii	black walnut
Lupinus bicolor	bicolor lupine
Marrubium vulgare	white horehound
Micropus californicus	slender cottonweed
Panicum capillare	witch grass
Plagiobothrys nothofulvus	rusty popcorn flower
Plagiobothrys sp.	popcorn flower
Plantago erecta	California plantain
Poa bulbosa	bulbous bluegrass
Populus fremontii	cottonwood
Primula hendersonii	mosquito bill
Rumex crispus	curly dock
Salix gooddingii	Goodding's black willow
Sambucus mexicana ssp. *caerulea*	blue elderberry
Silybum marianum	blessed milk thistle
Tamarix parviflora	four stamen tamarisk
Thysanocarpus curvipes	fringe pod
Toxicodendron diversilobum	poison oak

Scientific Name	Common Name
Trifolium depauperatum var. *depauperatum*	cowbag clover
Trifolium hirtum	rose clover
Triphysaria eriantha	butter and eggs
Vicia sp.	vetch

Appendix D Delineation of Waters of the United States

County Road 200 Bridge over Branch Salt Creek Replacement Project

Delineation of Waters of the United States

North State Resources, Inc. now Stantec

Prepared for:
Willdan Engineering
Attn: Gary Gordon
Project Manager
2400 Washington Ave., Suite 101
Redding, CA 9600

On behalf of:
Glenn County
Public Works Agency
777 No. Colusa Street
Willows, CA 95988

Prepared by:
2595 Ceanothus Avenue, Ste. 182
Attn: Mark Wuestehube, Project Manager
(530) 345-4552 ext. 203
FAX: (530) 345-4805
Email: wuestehube@nsrnet.com
Project No 2272004901

March 13, 2018

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Executive Summary

On behalf of the Glenn County Public Works Agency (County), North State Resources, Inc., now Stantec (Stantec) conducted a delineation of waters of the United States occurring in the 5.40-acre County Road 200 Bridge over Branch Salt Creek Replacement Project study area in Glenn County, California. The delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (U.S. Army Corps of Engineers 2008). The field delineation was conducted on November 29, 2017. A total of 0.366 acre of potential waters of the United States were mapped within the study area and include ephemeral stream (0.023 acre, 335 linear feet) and intermittent stream (0.343 acre, 360 linear feet).

The purpose of this delineation of waters of the United States is to document and describe waters of the United States to support a Preliminary Jurisdictional Determination from the United States Army Corps of Engineers (Corps). This delineation is subject to verification by the Corps, Sacramento District. Stantec, advises all parties to treat the information contained herein as preliminary until the Corps provides written verification of the boundaries of its jurisdiction.

If the Corps wishes to conduct a field verification, the County requests that the Corps contact Sam Lee, Engineering Technician, Glenn County Public Works Agency by telephone at (530) 934-6530 or by email at engineer@countyofglenn.net to schedule a date and time to access the study area.

Abbreviations

County	Glenn County Public Works
Corps	United States Army Corps of Engineers
GCID	Glenn-Colusa Irrigation District
GPS	Global Positioning System
NWI	National Wetlands Inventory
OHWM	Ordinary High Water Mark
Stantec	North State Resources, Inc. now Stantec
TNW	Traditional Navigable Water
USGS	United States Geological Survey

1.0 PROJECT LOCATION

The study area is in a rural area west of the city of Orland in Glenn County, California and it consists of a 1,352-foot alignment along County Road 200. This location can be found on the *Newville, California* 7.5-minute U.S. Geological Survey (USGS) quadrangle in Township 22N, Range 6W, Sections 3 and 4. The approximate center of the study area is located at latitude 39.793471º, longitude -122.533576º (North American Datum 83). The study area location is shown in Figure 1.

To access the study area, from Interstate 5, travel 21.8 miles west on County Road 200/Newville Road to the study area where the County Road 200 Bridge crosses over Salt Creek (Figure 1).

2.0 ENVIRONMENTAL SETTING

2.1 CURRENT/RECENT LAND USE

The study area is bounded by annual grassland which is grazed by cattle. There are two rural residences in the vicinity along County Road 200, one located approximately 0.3 mile south of the study area and one located approximately 0.5 mile east of the study area.

2.2 SITE TOPOGRAPHY AND ELEVATION

The topography of the study area immediately adjacent to Salt Creek ranges from nearly level terraces to steep slopes. All adjacent land drains into Salt Creek. The study area generally runs perpendicular to Salt Creek and occurs at elevations between 613 and 640 feet.

2.3 CLIMATE

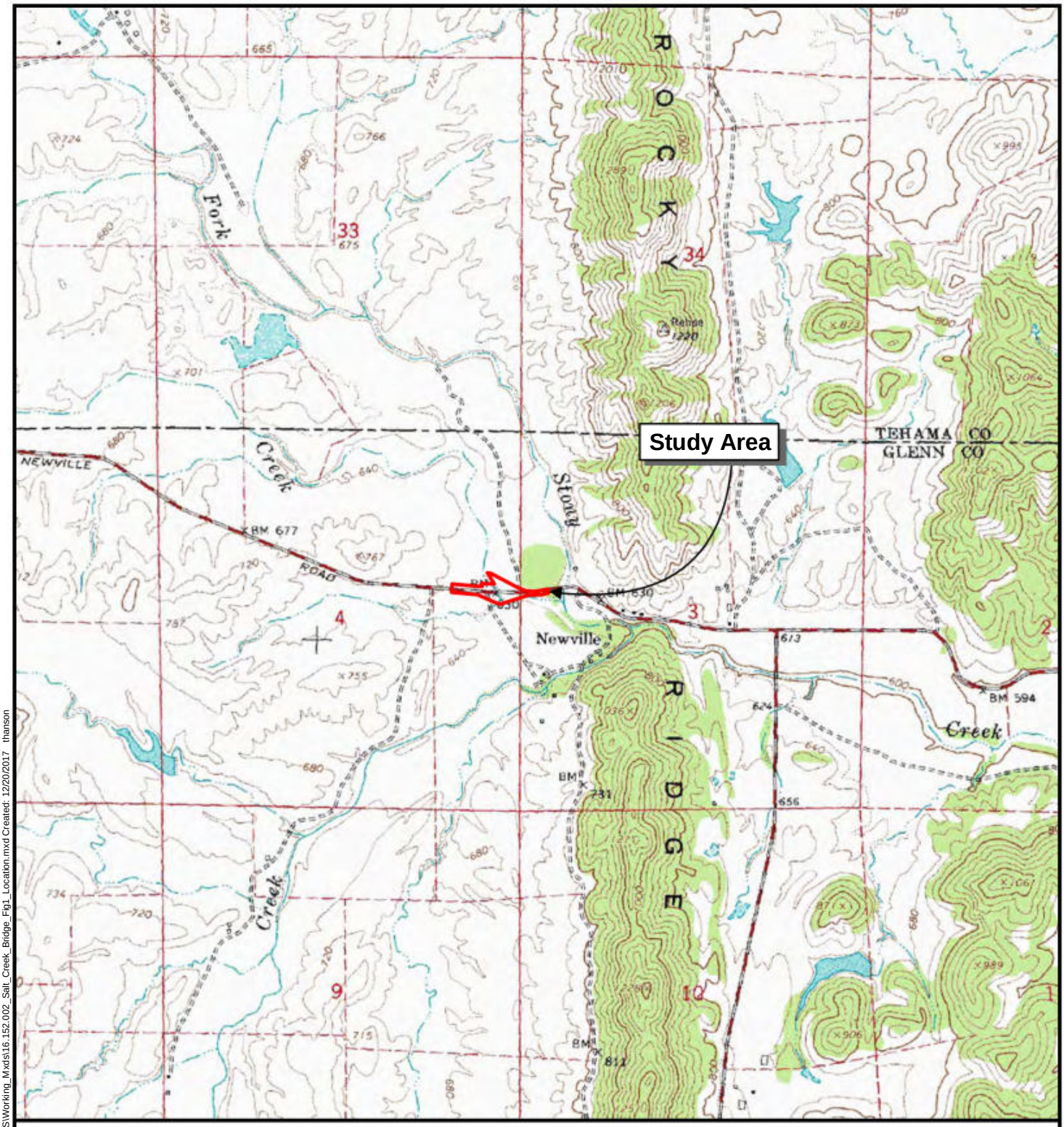
Historical data used to describe the climate are collected at Stony Gorge Reservoir, California approximately 17 miles south of the study area (Western Regional Climate Center 2016). The climate data are described below:

Type: The climate of the area is characterized as Mediterranean with moderate winters and hot, dry summers.

Precipitation: Precipitation in the study area primarily occurs as rain. The average annual rainfall is approximately 20 inches.

Air Temperature: Air temperatures in the study area range between an average January high of 55 degrees Fahrenheit (ºF), and an average July high of 97ºF. The annual average high is approximately 75ºF.

Growing Season: The growing season (i.e., 50% probability of air temperature 28 ºF or higher) in the study area is approximately 280 days and occurs between March and November.



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North State Resources, Inc.
now
Stantec

County Road 200 Bridge over Salt Creek Replacement Project

Figure 1
Study Area Location

2.4 HYDROLOGY/HYDROLOGIC FEATURES

The hydrologic features in the study area include ephemeral stream and intermittent stream (Salt Creek). Hydrology for these features is generally provided by sheet flow, snow melt, springs, and groundwater originating in the mountains to the west of the study area. Drainage in the study area is primarily from west to east. Salt Creek flows to North Fork Stony Creek approximately 800 feet downstream of the study area. North Fork Stony Creek flows approximately 8.25 river miles to Black Butte Lake which flows into Stony Creek. Stony Creek flows approximately 26 river miles to the Sacramento River, a traditional navigable water (TNW).

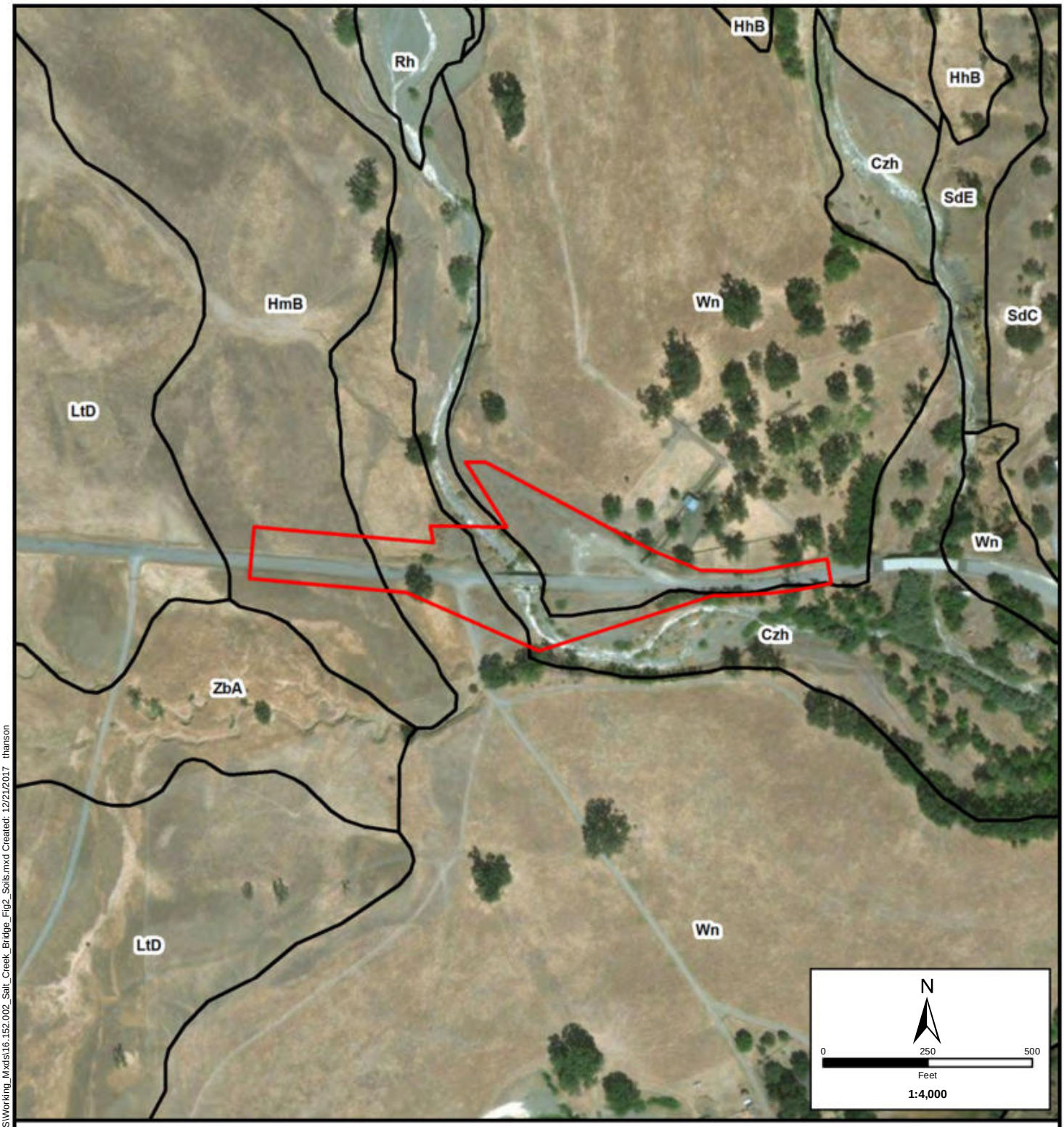
2.5 SOIL MAP UNITS

Soil map units in and around the study area are shown in Figure 2. Three soil map units occur within the study area and are described below:

- **Cortina coarse sandy loam, MRLA 17 (Czh**). This is a non-hydric, somewhat excessively drained soil with negligible to low runoff and rapid permeability. Cortina soils were formed in alluvium. The depth to a restrictive layer is 60 inches.

- **Hillgate gravelly loam, 2 to 8 percent slopes (HmB).** This is a non-hydric, well to moderately well drained soil with negligible to very high runoff and very slow permeability. Hillgate soils were formed in alluvium. The depth to a restrictive layer is 73 inches.

- **Wyo silt loam (Wn).** This is a non-hydric, well-drained soil formed in alluvium. The depth to a restrictive layer is 60 inches.



Study Area (5.41 acres)

Soil Map Units

Czh - Cortina coarse sandy loam, MLRA 17
HhB - Hillgate loam, moderately deep, 0 to 10 percent slopes
HmB - Hillgate gravelly loam, 2 to 8 percent slopes
LtD - Lodo-Tehama-Gullied land complex, 10 to 30 percent slopes
Rh - Riverwash
SdC - Sehorn-Millsholm association, 8 to 15 percent slopes
SdE - Sehorn-Millsholm association, 30 to 65 percent slopes
Wn - Wyo silt loam
ZbA - Zamora silty clay loam, 0 to 2 percent slopes

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North State Resources, Inc.

now

Stantec

County Road 200 Bridge over Salt Creek Replacement Project

Figure 2
Soil Map Units

2.6 VEGETATION COMMUNITIES

Vegetation communities are based on descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Three vegetation communities or other habitats occur in the study area: annual grassland, riverine, and barren/ruderal.

Annual Grassland. Annual grassland habitat is located throughout the study area. Annual grassland habitat is characterized by a dense herbaceous layer and is dominated by introduced annual grasses and forbs, including wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), rose clover (*Trifolium hirtum*), and yellow star-thistle (*Centaurea solstitialis*).

Riverine. Riverine habitat in the BSA consists of Salt Creek. Salt Creek flows south easterly through the study area and is comprised of run and riffle habitats and is dominated by cobble, gravel, and bedrock substrates. Vegetation within the stream channel is sparse, with scattered black willow (*Salix gooddingii*) and cottonwood (*Populus fremontii*) to the north of the bridge and invasive tamarisk (*Tamarix parviflora*) to the south of the bridge.

Barren/Ruderal. Barren/ruderal habitat occurs as dirt and paved roads and their associated road shoulders. Vegetation is usually not present, although sparse opportunistic grasses and forbs or weedy species may occur.

3.0 METHODS

Stantec conducted an on-site routine delineation of wetlands and "other waters" of the United States based on field observations of positive indicators for wetland vegetation, hydrology, and soils; and indicators of an ordinary high water mark (OHWM). This methodology is consistent with the approach outlined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (U.S. Army Corps of Engineers 2008). Plant taxonomy follows *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012). Wetland indicator status for plant species was confirmed using *The National Wetland Plant List* (Lichvar et al. 2016), and the "50/20 Rule" or "Prevalence Index" was applied to determine plant dominance (U.S. Army Corps of Engineers 2008). Presence of primary and secondary wetland hydrology indicators were documented for each wetland feature.

Soil pits were dug in representative wetland features to a depth sufficient to document the presence or confirm the absence of hydric soil or wetland hydrology indicators. Soils were examined to assess field indicators of hydric soils. Positive indicators of hydric soils were observed in the field following the criteria outlined in *Field Indicators of Hydric Soils in the United States* (Vasilas et al. 2017). Soil colors were determined using a Munsell® soil color chart. The hydric status of each soil map unit occurring in the study area was reviewed using the *Web Soil Survey* (Natural Resources Conservation Service 1998). At least one set of data points was

selected to best represent the wetland feature type and the adjacent uplands. Data points were also placed in suspect areas to confirm wetland or upland status.

Other waters are defined as traditional navigable waters and their tributaries (33 CFR 329). Delineation of other waters was based on presence of an OHWM as defined in Corps regulations (33 CFR 328.3 and 33 CFR 328.4) and whether the feature qualified as tributary to waters of the United States. Physical characteristics of an OHWM include, but are not limited to the following conditions: a natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, presence of litter and debris, leaf litter disturbed or washed away, scour, deposition, presence of bed and bank, and water staining. At least one data point was selected to best represent the OHWM of other waters for each other waters type.

Prior to conducting the on-site routine delineation, the U.S. Fish and Wildlife Service's, National Wetlands Inventory (NWI) Wetlands Mapper (U.S. Fish and Wildlife Service 2017) was reviewed to determine if any wetlands or deepwater habitats as described by Cowardin et al. (1979) were previously mapped in the study area and general vicinity. Features delineated during the on-site routine delineation were classified using Cowardin (1979) based on existing NWI mapping, or assigned a Cowardin type if not previously mapped.

Three data points were used to characterize and document each other water feature type, and the adjacent upland. Field observations were conducted on November 30, 2017.

The boundaries of delineated features and the associated data points were mapped using a Trimble Mapping Grade Global Positioning System (GPS) capable of sub-foot accuracy. Where the use of the GPS was not practicable or satellites were not available, the features were delineated by hand onto ortho-rectified color aerial photographs. The GPS and hand-drawn location data were overlaid onto an aerial photograph of the study area to develop the delineation map.

4.0 RESULTS AND DISCUSSION

Potential waters of the United States occur in the study area as other waters and include ephemeral stream and intermittent stream.

The boundaries and area of potential waters of the United States occurring in the study area are illustrated in Figure 3. A total of 0.366 acre of waters of the United States was delineated. A summary of the delineated features is presented in Table 1. Routine wetland determination data forms are presented in Appendix A. Representative photographs of the delineated features and data point locations are presented in Appendix B.

Table 1. Waters of the United States Summary

Waters of the United States	Total Acreage	Total Linear Feet	Cowardin Type[1]
Other Waters			
Ephemeral Stream	0.023	335	R4SB3C
Intermittent Stream	0.343	360	R4SB3C
Total Waters of the United States	**0.366**	**695**	

4.1 CHARACTERIZATION OF DELINEATED FEATURES

4.1.1 Ephemeral Stream

Ephemeral streams exhibit indicators of scour and deposition, minor drift lines, and sediment deposits, but lack indication of a ground water component. Hydrology is provided by sheet flow during precipitation events. The poorly defined hydrology indicators, close proximity to the headwaters, and the small size of the ephemeral streams indicate short duration flow and the lack of a groundwater component. Two ephemeral streams (ES-1 and ES-2) occur in the study area. ES-1 is located to the north of County Road 200. It ranges from 1 to 2 feet wide, is deeply incised, and devoid of vegetation in the streambed. Gravel and cobble dominate the substrate, with patches of broken asphalt and old tires present. ES-2 is located to the south of County Road 200. It ranges from 3 to 4 feet wide, is deeply incised, and devoid of vegetation in the streambed. Gravel and cobble dominate the substrate. Both ephemeral streams in the study area flow into the intermittent stream (IS-1) which conveys water ultimately to the Sacramento River.

4.1.2 Intermittent Stream (Salt Creek)

Intermittent streams flow seasonally, but are fed by a groundwater component in addition to precipitation and sheet flow from adjacent slopes. One intermittent stream (Salt Creek; IS-1) occurs in the study area and is characterized as a bed and bank feature that exhibits indicators of scour, deposition, watermarks, and drift lines. The intermittent stream ranges from 30 to 60 feet wide. Cobble, gravel, sand, and bedrock dominate the stream substrate. Salt Creek flows into North Fork Stony Creek which conveys water ultimately to the Sacramento River.

[1] Cowardin et al. 1979

Coordinate System: NAD 1983 UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983

Potential Waters of the United States

Other Waters

Label	Type	Area (ac)	Length (ft)	Latitude	Longitude
ES-1	Ephemeral Stream	0.019	300	39.793610	-122.534348
ES-2	Ephemeral Stream	0.004	35	39.793030	-122.533462
IS-1	Intermittent Stream	0.343	360	39.793400	-122.533605
Total Other Waters		**0.366**	**695**		
Total Waters of the U.S.		**0.366**	**695**		

39.793800,
-122.535884

County Road 200

1

ES-1

2

IS-1

3

ES-2

Salt Creek

39.793450,
-122.530971

Study Area (5.40 acres)
3-Parameter Data Point
Ordinary High Water Mark
1-Foot Contours

Potential Waters of the U.S.

Other Waters

Ephemeral Stream
Intermittent Stream

Path: G:\Projects\16.152.002_Co. Rd_200_Bridge\GIS\Working_Mxds\16.152.002_Salt_Creek_Fig3_WUS.mxd Created: 1/3/2017 thanson

Prepared by:
North State Resources, Inc.
now
Stantec
2595 Ceanothus Avenue Suite 182
Chico, CA 95973 Phone (530) 345-4552
Fax (530) 345-4805 www.nsrnet.com

Prepared for:
Glenn County Public Works Agency
777 No. Colusa Street
Willows, CA 95988

Notes:
Delineator: Chariss Femino
Delineation Dates: November 29, 2017
Orthophotography provided by ArcGIS Online.

This delineation of waters of the United States is subject to verification by the U.S. Army Corps of Engineers (Corps). NSR advises all parties that the delineation is preliminary until the Corps provides a written verification.

N
1 inch = 150 feet
0 75 150
Feet

County Road 200 Bridge over Branch Salt Creek Replacement Project

Figure 3
Potential Waters of the United States

5.0 CONCLUSION

Potential waters of the United States delineated within the study area occupy a total of 0.366 acre (695 linear feet) and occur as ephemeral stream and intermittent stream.

Determinations of waters of the United States, including wetlands, are based on current conditions, (i.e., normal circumstances) and made in accordance with relevant U.S. Environmental Protection Agency and Corps guidance. Determinations are subject to verification by the Corps. Stantec advises all interested parties to treat the information contained herein as preliminary pending written verification of jurisdictional boundaries by the Corps.

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APPENDIX A
ROUTINE WETLAND DETERMINATION DATA FORMS

North State Resources, Inc. now Stantec

Data Point DP 1
Feature Type Ephemeral

Wetland Determination Data Form–Arid West Region

Project/Site: Co. Rd. 200 / Salt Creek City/County: Glenn Co. Date: 11/29/17
Applicant/Owner: Glenn County Planning & Public Works State: CA
Investigator(s): Chariss Femino Section, Township, Range 3&4, T22N, R6W
Landform (hillslope, terrace, etc.) Terrace Local relief (concave, convex, none) Concave Slope % 5
Subregion (LRR): C Lat: 39.793605 Long: -122.534839 Datum: NAD 83
Soil Map Unit Name: Wyo silt loam NWI Classification: 0
Are climatic/hydrologic conditions on the site typical for this time of year? Y / (N) *(If no, explain in Remarks.)*
Are vegetation Y / (N) soil Y / (N) or hydrology Y / (N) significantly disturbed? Are normal circumstances present? (Y) / N
Are vegetation Y / (N) soil Y / (N) or hydrology Y / (N) naturally problematic? *(If needed, explain in Remarks.)*

Summary of Findings (Attach site map showing sampling point locations, transects, important features, etc.)
Hydrophytic vegetation? Y / (N) Hydric soil? Y / (N) Wetland hydrology? (Y) / N Is sampled area a wetland? Y / (N) Other waters? (Y) / N

Evaluation of features designated "Other Waters of the United States"
Indicators: Defined bed and bank ____ Scour ____ Ordinary High Water Mark Mapped ____ Stream Width 12" - 24"
Feature Designation: Perennial ____ Intermittent ____ Ephemeral X Blue-line on USGS Quad ____ Substrate cobbles / sandy soil
Natural Drainage X Artificial Drainage ____ Navigable Water ____

Remarks Road side ditch that drains into salt creek. heavily incised. filled w/asphalt & old tires. Rainfall has been much lower than average so far in fall/winter 2017.

Vegetation (Use Scientific Names)

Tree Stratum (Plot Size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50%= ____ 20%= ____ Total Cover:			
Sapling/Shrub Stratum (Plot: ____)	**% Cover**	**Species?**	**Status**
1.			
2.			
3.			
4.			
50%= ____ 20%= ____ Total Cover:			
Herb Stratum (Plot Size: ____)	**% Cover**	**Species?**	**Status**
1. Avena fatua	5	Y	UPL
2. Hordeum sp.	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
50%= ____ 20%= ____ Total Cover: 10			
Woody/Vine Stratum (Plot: ____)	**% Cover**	**Species?**	**Status**
1.			
2.			
50%= ____ 20%= ____ Total Cover:			

% Bare Ground in Herb Stratum ____ **% Cover of Biotic Crust** ____

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 1 (A)
Total number of dominant species across all strata: 2 (B)
Percent of dominant species that are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by	
OBL Species		x 1 =	
FACW Species		x 2 =	
FAC Species	5	x 3 =	15
FACU Species		x 4 =	
UPL Species	5	x 5 =	25
Column Totals	10 (A)		40 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators
____ Dominance Test is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)
[1]*Indicators of hydric soil and wetland hydrology must be present.*

Hydrophytic Vegetation? Y / (N)

Remarks
Mostly upland vegetation lining banks of channel. Some upland veg. @ bottom of channel within ottwum also.

Data Point 1

Soils

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	2.5Y 3/2	95	7.5YR 5/8	5	C	PL	Loam	

[1]Types: C = Concentration D = Depletion RM = Reduced Matrix [2]Location: PL = Pore Lining M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]

- ____ 1 cm Muck (A9) (LRR C)
- ____ 2 cm Muck (A10) (LRR B)
- ____ Reduced Vetric (F18)
- ____ Red Parent Materials (TF21)
- ____ Vegetated Sand/Gravel Bars
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (Inches) _____ Hydric Soil? Y / (N)

Remarks
Some minor redox features present. Not strong enough to indicate hydric soil @ this location.

Hydrology

Wetland Indicators

Primary Indicators (Any one indicator is sufficient.)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (Nonriverine)
- ____ Sediment Deposits (B2) (Nonriverine)
- ____ Drift Deposits (B3) (Nonriverine)
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (Riverine)
- ____ Sediment Deposits (B2) (Riverine)
- ____ Drift Deposits (B3) (Riverine)
- X Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

Field Observations

Surface Water Present? Yes ____ No X Depth (inches) _____ Wetland Hydrology? Y / (N)

Water Table Present? Yes ____ No X Depth (inches) _____

Saturation Present? Yes ____ No X Depth (inches) _____ *(includes capillary fringe)*

Describe Recorded Data (stream gauge, monitoring well, aerial photos, and previous inspections), if available:

Remarks Only 1 secondary indicator present. Point taken @ edge of feature where starts to have defined bed + bank. Drains road + adjacent uplands to Salt Creek.

North State Resources, Inc. now Stantec

Data Point DP-7
Feature Type Upland

Wetland Determination Data Form–Arid West Region

Project/Site: Co. Rd. 200/Salt Creek City/County: Glenn Co. Date: 11/29/17
Applicant/Owner: Glenn County Planning + Public Works State: CA
Investigator(s): Charissa Femino J Section, Township, Range S3+4, T22N, R6W
Landform (hillslope, terrace, etc.) Hillslope Local relief (concave, convex, none) Convex Slope % <5
Subregion (LRR): C Lat: 39.793603 Long: -122.533839 Datum: NAD 83
Soil Map Unit Name: Cortina coarse sandy loam NWI Classification:
Are climatic/hydrologic conditions on the site typical for this time of year? Y / (N) *(If no, explain in Remarks.)*
Are vegetation Y / (N) soil Y / (N) or hydrology Y / (N) significantly disturbed? Are normal circumstances present? (Y) / N
Are vegetation Y / (N) soil Y / (N) or hydrology Y / (N) naturally problematic? *(If needed, explain in Remarks.)*

Summary of Findings (Attach site map showing sampling point locations, transects, important features, etc.)
Hydrophytic vegetation? Y / (N) Hydric soil? Y / (N) Wetland hydrology? (Y) / N Is sampled area a wetland? Y / (N) Other waters? Y / (N)

Evaluation of features designated "Other Waters of the United States"
Indicators: Defined bed and bank ____ Scour ____ Ordinary High Water Mark Mapped ____ Stream Width ____
Feature Designation: Perennial ____ Intermittent ____ Ephemeral ____ Blue-line on USGS Quad ____ Substrate ____
Natural Drainage ____ Artificial Drainage ____ Navigable Water ____

Remarks
DP taken @ edge of otwm. Drift deposits present on nearby trees
DP taken close to where ES-1 drains into creek
Rainfall has been much lower than average so far this fall/winter 2017.

Vegetation (Use Scientific Names)

Tree Stratum (Plot Size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50%=____ 20%=____ Total Cover:			
Sapling/Shrub Stratum (Plot:____)	**% Cover**	**Species?**	**Status**
1.			
2.			
3.			
4.			
50%=____ 20%=____ Total Cover:			
Herb Stratum (Plot Size: ____)	**% Cover**	**Species?**	**Status**
1. Avena fatua	25	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50%=____ 20%=____ Total Cover:	25		
Woody/Vine Stratum (Plot:____)	**% Cover**	**Species?**	**Status**
1.			
2.			
50%=____ 20%=____ Total Cover:			

% Bare Ground in Herb Stratum 75 % Cover of Biotic Crust ____

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: ____ (A)
Total number of dominant species across all strata: ____ (B)
Percent of dominant species that are OBL, FACW, or FAC: ____ (AB)

Prevalence Index Worksheet

Total % Cover of:		Multiply by	
OBL Species	____	x 1 =	____
FACW Species	____	x 2 =	____
FAC Species	____	x 3 =	____
FACU Species	____	x 4 =	____
UPL Species	____	x 5 =	____
Column Totals	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators
____ Dominance Test is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation? Y / (N)

Remarks

Data Point DP2

Soils

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	5YR 3/1	100					Loamy Sand	

[1]Types: C = Concentration D = Depletion RM = Reduced Matrix [2]Location: PL = Pore Lining M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]

- ____ 1 cm Muck (A9) (LRR C)
- ____ 2 cm Muck (A10) (LRR B)
- ____ Reduced Vetric (F18)
- ____ Red Parent Materials (TF21)
- ____ Vegetated Sand/Gravel Bars
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: Rock Shale Depth (Inches) 4 Hydric Soil? Y / (N)

Remarks

Bedrock present 4" down at DP location

Hydrology

Wetland Indicators

Primary Indicators (Any one indicator is sufficient.)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (Nonriverine)
- ____ Sediment Deposits (B2) (Nonriverine)
- ____ Drift Deposits (B3) (Nonriverine)
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (Riverine)
- ____ Sediment Deposits (B2) (Riverine)
- ____ Drift Deposits (B3) (Riverine)
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

Field Observations

Surface Water Present? Yes ____ No X Depth (inches) ____ Wetland Hydrology? Y / (N)

Water Table Present? Yes ____ No X Depth (inches) ____

Saturation Present? Yes ____ No X Depth (inches) ____ *(includes capillary fringe)*

Describe Recorded Data (stream gauge, monitoring well, aerial photos, and previous inspections), if available:

Remarks

Upland point taken just outside of ordinary of Salt Creek.

North State Resources, Inc. now Stantec

Data Point DP 3
Feature Type Intermittent

Wetland Determination Data Form–Arid West Region

Project/Site: CR 200 / Salt Creek City/County: Glenn Co. Date: 11/29/17
Applicant/Owner: Glenn County Planning + Public Works State: CA
Investigator(s): Chariss Feminou Section, Township, Range S3+4, T22N, R6W
Landform (hillslope, terrace, etc.) Streambed Local relief (concave, convex, none) concave Slope % <5
Subregion (LRR): C Lat: 39.793082 Long: -122.522444 Datum: NAD 83
Soil Map Unit Name: Cortina coarse sandy loam NWI Classification: R4SBC
Are climatic/hydrologic conditions on the site typical for this time of year? Y (N) *(If no, explain in Remarks.)*
Are vegetation Y / (N) soil Y / (N) or hydrology Y / (N) significantly disturbed? Are normal circumstances present? (Y) / N
Are vegetation Y / (N) soil Y / (N) or hydrology Y / (N) naturally problematic? *(If needed, explain in Remarks.)*

Summary of Findings (Attach site map showing sampling point locations, transects, important features, etc.)
Hydrophytic vegetation? Y / (N) Hydric soil? Y / (N) Wetland hydrology? (Y) / N Is sampled area a wetland? Y / (N) Other waters? (Y) / N

Evaluation of features designated "Other Waters of the United States"
Indicators: Defined bed and bank V Scour ____ Ordinary High Water Mark Mapped ____ Stream Width 35 - 40
Feature Designation: Perennial ____ Intermittent X Ephemeral ____ Blue-line on USGS Quad X Substrate bedrock / cobble / gravel
Natural Drainage X Artificial Drainage ____ Navigable Water ____

Remarks DP taken @ edge of ditch near where ES-2 flows into creek. Biotic crust present on rocks in creekbed nearby. Rainfall has been much lower than average this fall/winter 2017.

Vegetation (Use Scientific Names)

Tree Stratum (Plot Size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50%= ____ 20%= ____ Total Cover:			

Sapling/Shrub Stratum (Plot: ____)	% Cover	Species?	Status
1.			
2.			
3.			
4.			
50%= ____ 20%= ____ Total Cover:			

Herb Stratum (Plot Size: ____)	% Cover	Species?	Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50%= ____ 20%= ____ Total Cover:			

Woody/Vine Stratum (Plot: ____)	% Cover	Species?	Status
1.			
2.			
50%= ____ 20%= ____ Total Cover:			

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust ____

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: ____ (A)
Total number of dominant species across all strata: ____ (B)
Percent of dominant species that are OBL, FACW, or FAC: ____ (AB)

Prevalence Index Worksheet

Total % Cover of:		Multiply by	
OBL Species	____	x 1 =	____
FACW Species	____	x 2 =	____
FAC Species	____	x 3 =	____
FACU Species	____	x 4 =	____
UPL Species	____	x 5 =	____
Column Totals	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators
____ Dominance Test is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation? Y / (N)

Remarks
Only bare ground present at DP location. No hydrophytic vegetation present.

Data Point 3

Soils

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 2.5/1	90	5YR 4/6	10	C	M	Sand	

[1]Types: C = Concentration D = Depletion RM = Reduced Matrix [2]Location: PL = Pore Lining M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]

- ____ 1 cm Muck (A9) (LRR C)
- ____ 2 cm Muck (A10) (LRR B)
- ____ Reduced Vetric (F18)
- ____ Red Parent Materials (TF21)
- ____ Vegetated Sand/Gravel Bars
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: Bedrock Depth (Inches) 3 Hydric Soil? Y (N)

Remarks Shallow bedrock - only 3" down. No hydric present @ this DP location.

Hydrology

Wetland Indicators

Primary Indicators (Any one indicator is sufficient.)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (Nonriverine)
- ____ Sediment Deposits (B2) (Nonriverine)
- ____ Drift Deposits (B3) (Nonriverine)
- ____ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- X Salt Crust (B11)
- X Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- X Water Marks (B1) (Riverine)
- X Sediment Deposits (B2) (Riverine)
- X Drift Deposits (B3) (Riverine)
- X Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

Field Observations

Surface Water Present? Yes ____ No X Depth (inches) ____ Wetland Hydrology? (Y) / N

Water Table Present? Yes ____ No X Depth (inches) ____

Saturation Present? Yes ____ No X Depth (inches) ____ *(includes capillary fringe)*

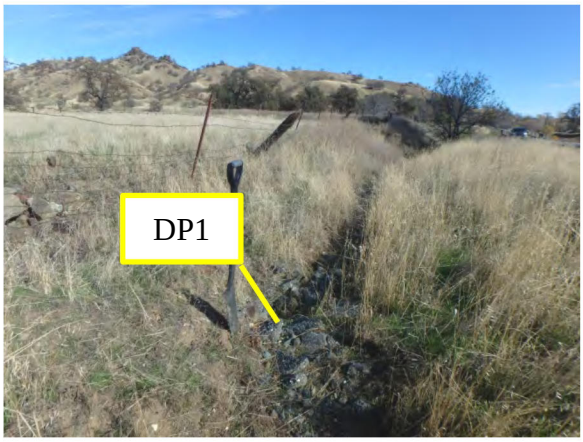
Describe Recorded Data (stream gauge, monitoring well, aerial photos, and previous inspections), if available:

Remarks Very strong hydrological indicators present.

APPENDIX B
REPRESENTATIVE PHOTOGRAPHS

County Road 200 over Branch Salt Creek
Bridge Replacement Project
Delineation of Waters of the United States

Photographs Taken November 29, 2017



Photograph 1. Ephemeral Stream (ES)-1. Data point (DP) 1 documents the OHWM of the feature. Orientation: east.

Photograph 2. IS-1. DP3 documents the OHWM of the feature. Orientation: southeast.

Photograph 3. Connection between ES-1 and Intermittent Stream (IS)-1. DP2 documents the uplands adjacent to IS-1. Orientation: northwest.

Photograph 4. ES-2 looking upstream from near IS-1. Orientation: west.