## APPENDIX B DELINEATION OF WATERS OF THE UNITED STATES

County Road 200 Bridge over Branch Salt Creek Replacement Project

Delineation of Waters of the United States



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

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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 5.40acre 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
ОНWM	Ordinary High Water Mark
Stantec	North State Resources, Inc. now Stantec
TNW	Traditional Navigable Water
USGS	United States Geological Survey



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## **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 39.793471°, longitude -122.533576° (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 (°F), and an average July high of 97°F. The annual average high is approximately 75°F.

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





Figure 1 Study Area Location

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## 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.





North State Resources, Inc.

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#### Figure 2 Soil Map Units

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## 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 (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



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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.



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#### Total Waters of the United States Total Linear Feet Cowardin Type<sup>1</sup> Acreage Other Waters **Ephemeral Stream** 0.023 335 R4SB3C **Intermittent Stream** 0.343 R4SB3C 360 **Total Waters of the United States** 0.366 695

#### Table 1.Waters of the United States Summary

## 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. 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.





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### 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.



#### **Potential Waters of the United States**

Contraction of the local division of the loc

	Area (ac)	Length (ft)	Latitude	Longitude
eral Stream	0.019	300	39.793610	-122.534348
eral Stream	0.004	35	39.793030	-122.533462
ttent Stream	0.343	360	39.793400	-122.533605
Waters	0.366	695		
f the U.S.	0.366	695		



39.793450 -122.53097

- 3-Parameter Data Point
- ----- Ordinary High Water Mark

1-Foot Contours

Potential Waters of the U.S. Other Waters

**Ephemeral Stream** 

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Intermittent Stream

County Road 200 Bridge over Branch Salt Creek Replacement Project

Figure 3 Potential Waters of the United States

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## 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 Stante	С		$\rho_{\rm CDM} = 0.02$
Wetland Determination Data Form–Arid We	est Regio	on	Feature Type Zphom of all
Wetland Determination Data Form-Arid Wetland Determination Data Form-Arid Wetland Determination Data Form-Arid Wetland Determination Data Form-Arid Wetland South Are stated with the state of the s	est Regic <u>Creek</u> <u>109</u> <u>109</u> <u>109</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>10</u>	City/County: () 4 PUD IC U) Section Local relief (concave Concerned Concerned Concerned	Feature Type $\frac{24}{24}$ Feature Type $\frac{2}{2}$ hom s(a) Date: $\frac{11}{29}$ Date: $\frac{11}{29}$ Date: $\frac{11}{29}$ Date: $\frac{11}{29}$ The convex, none) $\frac{24}{2000}$ re, convex, none) $\frac{24}{2000}$ re, convex, none) $\frac{24}{2000}$ re, convex, none) $\frac{24}{2000}$ Slope % 5 Slope %
eature Designation: Perennial Intermittent Ep Natural Drainage _X Artificial Drain	hemeral age	K Blue-line on USG Navigable Water	SQuad Substrate <u>Cobbles[Sen</u> dy Son 
Remarks Road side ditch that drain Filled whasphalt & old tire ainfall has been much lowe	is int	o salt cree in averag	k. heavily incised. ge so far in fall/winter 20.
'egetation (Use Scientific Names)         ree Stratum (Rlot Size:)	Absolute <u>% Cover</u>	Dominant Indicator Species? Status	Dominance Test Worksheet         Number of dominant species         that are OBL, FACW, or FAC:         Total number of dominant species         across all strata:
50%= 20%= Total Cover: apling/Shrub Stratum (Plot:)	<u>% Cover</u>	<u>Species?</u> <u>Status</u>	Percent of dominant species that are OBL, FACW, or FAC: <u>507</u> (AB) Prevalence Index Worksheet <u>Total % Cover of:</u> <u>Multiply by</u> OBL Species <u>x 1 =</u> FACW Species <u>x 2 =</u>
50%= Z0%= Total Cover: erb Stratum (Plot Size:) 	<u>% Cover</u> 5 5	<u>Species?</u> <u>Status</u> <u>V</u> <u>VPL</u> <u>V</u> <u>FAC</u>	FACW Species $\underline{5}$ $x_2 = \underline{15}$ FAC Species $\underline{5}$ $x_3 = \underline{15}$ FACU Species $\underline{5}$ $x_4 = \underline{15}$ UPL Species $\underline{5}$ $x_5 = \underline{2.5}$ Column Totals $\underline{10}$ (A) $\underline{40}$ (B) Prevalence Index = B/A = $\underline{4}$
			Hydrophytic Vegetation Indicators        Dominance Test is >50%        Prevalence Index is ≤ 3.01        Morphological Adaptations1 (provide supporting data in Remarks or on a separate sheet)        Problematic Hydrophytic Vegetation1 (Explain)         1Indicators of hydric soil and wetland hydrology must be present.
50%= 20%= Total Cover:         Bare Ground in Herb Stratum % Cover of Bio	ic Crust		Hydrophytic Vegetation? Y (N)

Mostly upland registation living banks of channel. Some upland reg. @ bottom of channel within other also.

Data Point

	5VR 518 5 C P	<u>c lexture Remarks</u> L LOW
		·
es: C = Concentration D = Depletion RN	1 = Reduced Matrix <sup>2</sup> Location: PL = Por	e Lining M = Matrix
ic Soil Indicators: (Applicable to all I	_RRs, unless otherwise noted)	Indicators for Problematic Hydric Soils <sup>3</sup>
Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vetric (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Materials (TF21)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Vegetated Sand/Gravel Bars
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	2
Thick Dark Surface (A12)	Redox Depressions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	wettand hydrology must be present.
Sandy Gleyed Matrix (S4)		
	Depth (Inches)	Hydric Soil? Y /N
marks ome minor redox f Vicate hydric g drology tland Indicators	Ceatures present. NG. Soil @ Huis location	t strong enorgh to
marks ome minor redox f Vicate hydric g drology tland Indicators mary Indicators (Any one indicator is suf	ficient.)	Secondary Indicators (2 or more required)
marks pme minor redox f Jicate Mydric g drology tland Indicators mary Indicators (Any one indicator is suf 	eatures present, NG, Soil @ Huis location 	Secondary Indicators (2 or more required)Water Marks (B1) (Riverine)
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marks pme minor redox f yicate hydric g drology tland Indicators mary Indicators (Any one indicator is suf 	Features present, NG Soll @ Huis Iscation <u>ficient.)</u> Salt Crust (B11) Salt Crust (B12) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) K Drainage Patterns (B10)
marks ome minor redox f drology tland Indicators mary Indicators (Any one indicator is suf Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	Features present, NG Socil & Huis Iocation (ficient.) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres (C3)	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)
marks <i>ME MINOY VEDOX</i> ( <i>JiCale Mydric 5</i> drology <u>stland Indicators</u> mary Indicators (Any one indicator is suf 	Eachures present, MG Socil @ Mis location ficient.) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Crayfish Burrows (C8)
marks ome minor redox f bicate hydric g drology tand Indicators mary Indicators (Any one indicator is sui 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)	Frenchards present, MG Godi & Huis Iocathie (ficient.) Salt Crust (B11) Salt Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in	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
marks <i>pME MINOY VEDOX</i> ( <i>JiCale Mydric g</i> drology <u>stland Indicators</u> mary Indicators (Any one indicator is suf 	Sectives present, MG Socil & Huis location ficient.) Salt Crust (B11) Salt Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
marks <i>ME MINOY VEDOX</i> + <i>Vicate Mydric 5</i> drology <u>tland Indicators</u> mary Indicators (Any one indicator is suf 	Sectures present, NG Secti & Huis Iscarti (ficient.) Salt Crust (B11) Salt 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)	Secondary Indicators (2 or more required)  Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)
marks ome minor redox f yicade hydric g drology tland Indicators mary Indicators (Any one indicator is suf 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)	Sectures present, NG Secti & Mis Iscarti (ficient.) Salt Crust (B11) Salt 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)  Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)
marks <i>ME MINOY VEDOX</i> ( <i>JiCate Mydric g</i> drology tland Indicators mary Indicators (Any one indicator is suf Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Id Observations	Present, Min         South & Huis Tocathia         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)
marks       intermediate         ome       minor         vicade       hydric         drology         stland Indicators         mary Indicators (Any one indicator is suited         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Surface Soil Cracks (B6)         Inundation Visible on         Aerial Imagery (B7)         Water-Stained Leaves (B9)	Present, MG         Setil @ Huis location         Salt Crust (B11)	Secondary Indicators (2 or more required)  Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Driv-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)
Imarks	Ceachures present, MG         Socil @ Huis location         ficient.)	Secondary Indicators (2 or more required) Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) stand Hydrology? Y (N)
marks       intermediate         pme       Minor Vedox f         picade       Mydric         grology       itand Indicators         mary Indicators (Any one indicator is sufficient of the second	Cartwes       present, Min         Soff       Soff         Soff       Soff <t< td=""><td>Secondary Indicators (2 or more required)  Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  tland Hydrology? Y (N)  apillary fringe)</td></t<>	Secondary Indicators (2 or more required)  Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  tland Hydrology? Y (N)  apillary fringe)

	С			a = b = 7
Wetland Determination Data Form–Arid We	est Regio	on		Data Point 19 Feature Type
Project/Site: (D) (20, 200 Salt Creck Applicant/Owner: (D) (A) (D) (D) (D) (D) (D) (D) (D) (D) (D) (D	<u>7930</u> <u>7930</u> <u>ndy 10</u> me of year? ntly disturbe problematic ling point loc	City/County $\mu b l_1 C$ Local relie b D 3 $2 \mu V$ Y (N) (If no d? Are norm c? (If needed pations, trans	: <u><u><u></u><u></u><u><u></u><u></u><u><u></u><u></u><u><u></u><u><u></u><u></u><u><u></u><u></u><u></u><u></u><u><u></u><u></u><u><u></u><u></u></u></u></u></u></u></u></u></u></u>	$\frac{COACO}{KS} = \frac{CA}{Date:} = \frac{11/29/17}{Date:} $
Evaluation of features designated "Other Wate	ers of the	United St	ates"	
Indicators: Defined bed and bank Scour _ Feature Designation: Perennial Intermittent Ep Natural Drainage Artificial Drain	Ordin hemeral lage	ary High Wa Blue-line Navigable V	ter Mark M e on USGS Vater	apped Stream Width QuadC Substrate/
Remarks       Op taken Ocdat B othem. Or         OP taken Ook to where Es         Painfall has been much low         Vegetation (Use Scientific Names)         Tree Stratum (Plot Size:)         1.         2.         3.         4.         50%=         20%=         Total Cover:         Sapling/Shrub Stratum (Plot:)         1.         2.         3.         4.         50%=         20%=         Total Cover:         Sapling/Shrub Stratum (Plot:)         1.         2.         3.         4.         50%=         20%=         Total Cover:         Herb Stratum (Plot Size;)         1.         1.         1.         1.         1.         2.         3.         3.         4.         5.         5.         6.	if to to       -1       Absolute       % Cover       % Cover       % Cover       % Cover       % Cover	Addits	Prese i Vito Mera Indicator Status Status Status Status DPL	ent an nearby trees creek of Huis fall/winter 2017, 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:(AB) Prevalence Index Worksheet Total % Cover of:(AB) Prevalence Index Worksheet Total % Cover of:(AB) Prevalence Index Worksheet Total % Cover of:(AB) OBL Species(A =
o.	25 <u>% Cover</u> 			<ul> <li>Prevalence index is ≤ 3.0°</li> <li>Morphological Adaptations<sup>1</sup> (provide supporting data in Remarks or on a separate sheet)</li> <li>Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</li> <li><sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.</li> <li>Hydrophytic Vegetation? Y (N)</li> </ul>

Remarks

)

Data Point DP2

nes) Color (moist) % C	olor (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks
1 5/R 3/1 10/2		Toany Sand
		ining M - Metrix
ic Soil Indicators: (Applicable to all LRR	s unless otherwise noted)	Indicators for Problematic Hydric Soils <sup>3</sup>
Histosol (A1)	Sandy Reday (S5)	1 cm Muck (A9) (LRR C)
Histic Eningdon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Plack Histic (A2)	Loomy Muchy Mineral (E1)	Beduced Vetric (E18)
Black Filstic (A3)	Loomy Gloved Matrix (F2)	Reduced Vetric (F10) Red Parent Materials (TE21)
Hydrogen Sunde (A4)	Deploted Matrix (F2)	Vegetated Sand/Gravel Bars
Stratilieu Layers (A3) (LRR C)	Depleted Matrix (F3)	Other (Evaluation in Remarka)
	Depleted Dark Surface (F0)	
Depleted Below Dark Sufface (A11)	Depreseione (F/)	<sup>3</sup> Indicators of hydrophytic vegetation and
TRICK Dark Surface (A12)	κeaox Depressions (Fδ)	wetland hydrology must be present.
Sandy Mucky Mineral (S1)	vernai Pools (F9)	
Sanay Gleyed Matrix (S4)		
narks Bedrock present 4	ale Depair (incluss) "down at DP 10	cation
emarks Bedrock present): Type:G Sh Sedrock present 4 /drology etland Indicators	ale Depur (inclus)	Secondary Indicators (2 or more required)
emarks Bedrock present: Type: Ydrology etland Indicators imary Indicators (Any one indicator is sufficie	ale Depart (inclos)	Secondary Indicators (2 or more required)
emarks Bedrock present): Type: SA generative Layer (if present): Type: Marks SA ydrology etland Indicator present): Type: ydrology etland Indicators imary Indicators (Any one indicator is sufficie Surface Water (A1)	ale "diwn at DP 12 ent.) Salt Crust (B11)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
emarks Bedrock present): Type: Marks Bedrock present 4 ydrology etland Indicators imary Indicators (Any one indicator is sufficie Surface Water (A1) High Water Table (A2)	<u>ale</u> <i>"down at DP 16</i> <u>ent.)</u> <u>Salt Crust (B11)</u> <u>Biotic Crust (B12)</u>	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
emarks Bedrock present): Type: Wardology etland Indicators imary Indicators (Any one indicator is sufficient Surface Water (A1) High Water Table (A2) Saturation (A3)	ent.) Salt Crust (B11) Aquatic Invertebrates (B13)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Drift Deposits (B2) (Riverine)
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emarks Bedrock present): Type: ydrology etland Indicators imary Indicators (Any one indicator is sufficie Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	ent.) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres (C3)	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)
emarks Bedrock present): Type: grand and the second sec	ent.) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres (C3) Presence of Reduced Iron (C4)	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)
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strictive Layer (if present): Type: genarks Bedrock present 4 ydrology etland Indicators imary Indicators (Any one indicator is sufficie  imary Indicators (Any one indicator is sufficie imary Indicators (Any one indicator is sufficie  imary Indicators (Any one indicator is sufficie  imary Indicators (Any one indicator is sufficie  Surface Water (A1)   	Action and DP 12     Action and DP 12     Action and DP 12     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)	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)
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strictive Layer (if present): Type: genarks Bedrock present 4 ydrology etland Indicators imary Indicators (Any one indicator is sufficie 	Action and DP 1/2	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
emarks Bedrock present): Type: ydrology etland Indicators imary Indicators (Any one indicator is sufficie 	Image: Depth (inclus)       Image: Depth (inclus)         ade       Image: Depth (inclus)         Image: Depth (inclus)       Image: Depth (inclus)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Water Marks (B1) (Riverine) Drift Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) and Hydrology? Y / (N)
strictive Layer (if present): Type:	Image: Depth (inclus)       Image: Depth (inclus)	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) and Hydrology? Y (N)
setrictive Layer (if present): Type:	Image: Septiment (inclusion)       Image: Septiment (inclusion)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) and Hydrology? Y (N) illary fringe)

Wetland Determination Data Form-Arid West Region     Feature Type Intractant Applements       Projectslef PA DDD     Sath Creater     child Child Particle Partinter Particle Particle Particle Particle Particle Particle Partic		C				
ProjectS& 2.4.200 S.4.4. Cover chords characterized by the section township and the section town	Wetland Determination Data Form–Arid We	est Regio	n		Data Point Feature Type	Internitient
Projection Construction Construction       Date (1/24)       for the construction of the construc	200 d 200 Sult Pearly			Iden	n PD	- uladio
Application (International International	Applicant/Ourser Calgoon / Bandard Plana in a	Dihi	Sity/County:	Nes	nu la	Date: $\frac{n}{2}$
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Application owner: $\underline{OPP11}$ \underline{OPP11} $\underline{OPP11}$ $\underline{OPP11}$ $\underline{OPP11}$ \underline{OPP11} $\underline{OPP11}$ $\underline{OPP11}$ \underline{OPP11} $\underline{OPP11}$ \underline{OPP11} \underline{OPP11} $\underline{OPP11}$ $\underline{OPP11}$ $\underline{OPP11}$ $\underline{OPP11}$ $\underline{OPP11}$ $\underline{OPP11}$ \underline{OPP11} \underline{OPP11} $\underline{OPP11}$ \underline{OPP11} \underline{OPP11} \underline{OPP11} \underline{OPP11} OPP1	FUD		<u>Castian</u>	Tourship Donas 3+4 T2	2 AL PIAL)
Statemark       Statemark       Statemark       Statemark       Statemark         Statemark       Statemark       Statemark       Statemark       Statemark         Solid Napion Link       Statemark       Statemark       Statemark         Solid Napion Link       Statemark       Statemark       Statemark         Are vagatation       Y (Doit 1/10ke trydicious)       Y (Doit 1/10ke trydicious)       Y (Doit 1/10ke trydicious)         Statemark       Statemark       Interview       Statemark       Statemark         Statemark       Statemark       Statemark       Statemark       Statemark       Statemark         Statemark       Sta	Landform (hillslone terrace atc.) Structure		L ocol rolio	_ Section,	convox nono)	Slopp & 25
Sont App Lin Name       Control Contrel Control Control Control Contrel Contrel Control Contrel Contro	Subregion (I BR):	7930	R2	l (concave,	-122,532444 Datur	$\sim NAN 82$
Are eliminatelyylatolic conditions on the site typical or this time of year? Y (D) find, a cyclain in Ramarks.)         Are vegatation Y (D) of Y (D) trybridgy Y (R) activity obtainants?, (Innoads.), capabin in Ramarks.)         Summary of Findings (Allech site mo elsowing sampling pain tocations, transoots, important features, etc.)         Hydrophylic vegatation? Y (D) Virth or and Y (D) Weitand hydrology? (D) N. Is sampled zone a watan?? Y (D) Other waters? (D) N.         Production of footures designated "Other Waters of the United States"         Indicators:       Define tail and back         Source DSP (C)	Soil Map Unit Name: Cortina Corres Sol	John To	am	Long NV	VI Classification: <u>R4SBC</u>	
Are vegetation Y (D) Dot hydrology Y (Q) anticarity obtainants? (If normal data aquain in Ramaks).         Are vegetation Y (D) Dit Y (Q) hydrology Y (Q) hydrolarativy obtainants? (If nordad, aquain in Ramaks).         Summary of Findings (hatch share must having sampling point locations, transacts, important features, etc.).         Hydrophytic vegetation Y (D) hydrols ant? Y (D) Wetland hydrology (Q) N. Is sampled area a wetland? Y (D) Other wetland (C) (D) (D) (D) (D) (D) (D) (D) (D) (D) (D	Are climatic/hydrologic conditions on the site typical for this ti	me of year?	Y (N)(If no	o, explain ir	n Remarks.)	
Are vegatalion Y (A) Set Y (A) Polytoriosy Y (A) Balurally problematic? (If needed, explain in Romarks)         Summary of Findings (Attach als map showing sampling point location, transacts, important features, etc.)         Hydrophylic vegatalion Y (A) Vide Sol Y (A) Wollaw I by Nay (A) Mark Napped         Evaluation of features designated "Other Waters of the United States"         Indicators       Defined bad and bank         Solution       Solution (A) Mark Napped         Steam Width 25       Steam Width 25         Particle Designation (A) Mark Napped (A)	Are vegetation Y /(N)soil Y / (N)or hydrology Y / A) signification	ntly disturbed	? Are norm	nal circums	tances present(? Y) N	
Summary of Findings (what is an eps browing sampling point location; transacts, important features, etc.)         Hydrophytic wajstation? Y (B) Hydro sol? Y (B) Wetland hydrolog? (B) N is sampled area aveitand? (B) Other waters? (F) N         Evaluation of features designated         Peature Designation: Presented       Intermitted X: Eptember and Bits Allina on USOS Quad       Substrate       Substrate <td>Are vegetation Y/N, soil Y/N, br hydrology Y/N haturally</td> <td>problematic?</td> <td>? (If neede</td> <td>d, explain i</td> <td>n Remarks.)</td> <td></td>	Are vegetation Y/N, soil Y/N, br hydrology Y/N haturally	problematic?	? (If neede	d, explain i	n Remarks.)	
Hydrophylic vegetation? Y (K) Hydric sol? Y (K) Wedand hydrology/(G) N       Is sampled area a weland? Y (K) Other wales?         Evaluation of features designated "Other Waters of the United States" Indicators: Defined bid and back (L) Equilibrium (L) Epinemeral Blue-line on USGS Duad (L) Strature (Dela/CL) (CoDDTel/GYdV)         Remarks Of Laben Declage C Ollinum near vShare IS-2 (H) Store Bained Declage C Ollinum near vShare IS-2 (H) Store Blue line on USGS Duad (L) Store Tools Statum (Plot Store)       Note International Microsoft (L) Store Statum (Plot Store)         2       Dominant species for Bolls, Statum (Plot Store)       Total Cover: Scover Scover Statum       Societar Statum         3       Total Cover: Scover Scover Scover Statum       Societar Statum       Multiply Vision         4       20%=       Total Cover: Scover Scover Scover Statum       Societar Scover Sc	Summary of Findings (Attach site map showing sample	ing point loca	ations, trans	ects, impor	tant features, etc.)	<u></u>
Evaluation of features designated "Other Waters of the United States"       Stream Width 25 - 40         Indicators:       Defined bed and bank       Stour       Ordinary High Water Mark Mapped       Stream Width 25 - 40         Feature Designation:       Intermittent IX, Stour       Ordinary High Water       Stream Width 25 - 40         Feature Designation:       Intermittent IX, Stour       Ordinary High Water       Stream Width 25 - 40         Feature Designation:       Intermittent IX, Stour       Intermittent IX, Stour       Intermittent IX, Stour         Feature Designation:       Intermittent IX, Stour       Intermittent IX, Stour       Intermittent IX, Stour         Vegetation (Use Scientific Names)       Absolute       Dominant Indicator       Number of dominant species         1       Stour       Stour       Species? Status       Intermittent Stream Width Store:       (A)         2       Intermittent IX, Stour       Stour       Species? Status       Intermittent Stream Vidth IV       Intermittent Stream Vidth IV         4       Intermittent Vidther       Stour       Species? Status       Intermittent Stream Vidth IV       Intermittent Vidther         5       Spongerthy Stratum (Plot Stee       Total Cover:       Scour       Species       x 1 =       Intermittent Vidther         2       Intermittent Vidther <t< td=""><td>Hydrophytic vegetation? Y / (N) Hydric soil? Y / N) Wetland</td><td>hydrology?(</td><td>Ŷ)N lss</td><td>ampled are</td><td>a a wetland? Y <math>(N)</math> Other waters?</td><td>Э́м</td></t<>	Hydrophytic vegetation? Y / (N) Hydric soil? Y / N) Wetland	hydrology?(	Ŷ)N lss	ampled are	a a wetland? Y $(N)$ Other waters?	Э́м
Remarks DF Liken Decker Offwurth new rocks in creectebed nearby,         Gibit Crest present in rocks in creectebed nearby,         Gibit Crest present in rocks in creectebed nearby,         Vegetation (Use Scientific Names)         Tree Stratum (Plot Size:	Evaluation of features designated "Other Wate Indicators: Defined bed and bank <u>Scour</u> Feature Designation: Perennial <u>Intermittent</u> Ep Natural Drainage <u>Artificial Drain</u>	rs of the U Ordinar hemeral lage N	Inited Sta ry High Wat Blue-line Vavigable W	ates" ter Mark Ma e on USGS /ater	apped Stream Width QuadX Substrate	-40 ktcobbte/gravel
Vegetation (Use Scientific Names)       Absolue       Dominant       Indicator         7ree Stratum (Plot Size:	Remarks DP taken Dedge of OHWM Biotic crust present m roc. Rainfall has been much lower to	near ks in han ave	isher creek craal 4	e 25. Lebed his f	-2 flows into cri nearby, Illwinter 2017	eek,
Production (Pol Size:	Vegetation (Use Scientific Names)	Absoluto	Dominant	Indicator	Deminence Test Werkshest	
1.	Tree Stratym (Plot Size:)	<u>% Cover</u>	Species?	Status	Number of dominant species	
2	1	·			that are OBL, FACW, or FAC:	(A)
3.	2				Total number of dominant energies	
4.	3			<u></u>	across all strata:	(B)
50%=	4	. <u> </u>			Demonstration of demots on the section of the	• •
Sapling/Shrub Stratum (Plot:	50%= 20%= Total Cover:				are OBL, FACW, or FAC:	(AB)
1.       Prevalence Index Worksheet         2.          3.          4.          50%=	Sapling/Shrub Stratum (Plot:)	<u>% Cover</u>	Species?	<u>Status</u>		( - )
2	1		<u> </u>		Prevalence Index Worksheet	Multiply by
3.	2		·		$\frac{10 \text{ km} \times 1000 \text{ km}}{1000 \text{ km}} = \frac{10 \text{ km} \times 1000 \text{ km}}{1000 \text{ km}}$	
4.	3		<u> </u>	<u> </u>	FACW Species x 2 =	
50% = $20% =$ Total Cover:	4			<u> </u>	FAC Species x 3 =	
Herr Stratum (Hold Size:)       % Cover       Species?       Status       (A +	50%= 20%= Total Cover:			<b>0</b>	FACIL Species v 4 =	
1.	Herb Stratum (Plot Size:)	<u>% Cover</u>	Species?	Status	LIPI Species v 5 -	
2.	2			<u></u>	Column Totale (A)	(P)
3.	2	<u> </u>	·		$\frac{1}{2} \frac{1}{2} \frac{1}$	(D)
5.	4	·				
6.	5				Hydrophytic Vegetation Indicator	s
7.	6.	·			Dominance Test is >50% Prevalence Index is < 3.01	
8 data in Remarks or on a separate sheet) 50%= 20%= Total Cover: Woody/Vine Stratum (Plot:) <u>% Cover</u> <u>Species?</u> <u>Status</u> 1 2 Total Cover: 50%= 20%= Total Cover: % Bare Ground in Herb Stratum [00] % Cover of Biotic Crust Remarks N 14 barre ground present at OP /ocation. No hydro puttic Vegetation present, No hydro puttic Vegetation puttic put	7.				Morphological Adaptations <sup>1</sup> (	provide supporting
50%= 20%= Total Cover: Woody/Vine Stratum (Plot:) <u>% Cover</u> <u>Species?</u> <u>Status</u> 1 <u>% Cover</u> <u>Species?</u> <u>Status</u> 2 <u>50%=</u> 20%= Total Cover: % Bare Ground in Herb Stratum <u>IDD</u> % Cover of Biotic Crust % Bare Ground in Herb Stratum <u>IDD</u> % Cover of Biotic Crust <i>Remarks</i> <i>Mare ground present at OP /ocation</i> . <i>Ny bare ground present at OP /ocation</i> .	8		······································		data in Remarks or on a sep Broblematic Hudronbutic Ver	arate sheet)
Woody/Vine Stratum (Plot:) <u>% Cover</u> <u>Species? Status</u> 1 2 50%= 20%= Total Cover: % Bare Ground in Herb Stratum [DD % Cover of Biotic Crust] % Bare Ground in Herb Stratum [DD % Cover of Biotic Crust] Remarks Vn Iy bare ground present at OP /bcation. No hydrophylic Vegetation present,	50%= 20%= Total Cover:				<sup>1</sup> Indicators of hydric soil and wetland	d hydrology must
1	Woody/Vine Stratum (Plot:)	% Cover	Species?	Status	be present.	, ,,
2	1				Hydrophytic Vegetation? Y / N	り
50%= 20%= Total Cover: % Bare Ground in Herb Stratum 100 % Cover of Biotic Crust Remarks Unity bare ground present at OP Iocation. No hydrophytic Vegetation present,	2					
% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust	50%= 20%= Total Cover:					
Remarks Unity bare ground present at OP location. No hydrophytic vegetation present,	% Bare Ground in Herb Stratum $\underline{IDD}$ % Cover of Bio	tic Crust				
Premarks Unly bare ground present at OP location. No hydrophytic vegetation present,						
No hydrophytic vegetation present,	Remarks	ent.	nd.	$\wedge D$	lass 1 losa	
No hydrophytic vegetation present,	Vnig eure gionna prese	377 0	rs b	Ur	IDCAMON.	
produced provides	No hydrophatic vegeta to	im 1	W & <. 6	nt		
		wer f		1 1 1		

Data Point\_3

Soils	
Profile Description: (Describe to the depth needed to document the ind Depth Matrix Redox Features	licator or confirm the absence of indicators.
$\frac{(\text{inches})}{2} \xrightarrow{\text{Color}(\text{moist})} \frac{\%}{2} \xrightarrow{\text{Color}(\text{moist})} \frac{\%}{2} \xrightarrow{\text{Color}(\text{moist})} \frac{\%}{2}$	ype <sup>1</sup> Loc <sup>2</sup> Texture Remarks
<u>1-3 1.5 4K 2.51 90 51K 916 10 _</u>	C M DAA
<sup>1</sup> Types: C = Concentration D = Depletion RM = Reduced Matrix <sup>2</sup> Loc	ation: PL = Pore Lining M = Matrix
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted	) Indicators for Problematic Hydric Soils <sup>3</sup>
Histosol (A1) Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2) Stripped Matrix (S6	2 cm Muck (A10) (LRR B)
Black Histic (A3) Loamy Mucky Mine	ral (F1) Reduced Vetric (F18)
Hydrogen Sulfide (A4) Loamy Gleyed Matr	ix (F2) Red Parent Materials (TF21)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3	) Vegetated Sand/Gravel Bars
1 cm Muck (A9) (LRR D) Redox Dark Surface	e (F6) Other (Explain in Remarks)
Depleted Below Dark Surface (A11) Depleted Dark Surface	ace (F7)
Thick Dark Surface (A12) Redox Depressions	(F8) <sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Vernal Pools (F9)	wetland hydrology must be present.
Sandy Gleyed Matrix (S4)	
Restrictive Layer (if present): Type: Bellock Depth (Inch	es) Hydric Soil? Y (N)
DP locacfi M.	Į /
Primary Indicators (Any one indicator is sufficient.)	Secondary Indicators (2 or more required)
Surface Mater (A1)	V Water Marka (P1) (Pivarina)
Ligh Water Table (A2)	
High Water Table (A2) Diolic Clust (B12)	2 (P12) Sediment Deposits (B2) (Riverine)
Saturation (AS)Aquatic invertebrate	ter (Cd)
vvaler iviarks (B1) (Nonriverine) Hydrogen Suilide O	dor (C1)Drainage Patterns (B10)
Sediment Deposits (B2) (Nonriverine) Oxidized Rhizosphe	res (C3) Dry-Season Water Table (C2)
Drift Deposits (B3) (Nonriverine) Presence of Reduce	co Iron (C4) Crayfish Burrows (C8)
Surface Soil Cracks (Bb) Recent Iron Reduct	on in Saturation Visible on
X_ Inundation Visible on Thoward Const (CO)	C7) Shallow Aquitard (D3)
Water-Stained Leaves (B9) Other (Explain in Bo	marke) EAC Noutral Toot (D5)
	$\frac{111}{110} \text{ FAC-Neutral Test} (D5)$
Field Observations	<u>A</u>
Surface Water Present? Yes No <u>V</u> Depth (inches)	_ Wetland Hydrology? (Y)/ N
Water Table Present? Yes No Depth (inches)	
Saturation Present? Yes No K Depth (inches)	(includes capillary fringe)
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, and previous inspections), if available:
_ · · ·	- 
Remarks Very Strong hydrological indi	cators present.
$\mathcal{I}$	

# 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.