

Wetlands and Other Waters of the U.S. Delineation Report

**California Forest Highway 89-1(1)
Inyo National Forest
Mono/Inyo Counties, California**



**Federal Highway Administration
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1.0 Introduction

1.1 Project Summary

The Central Federal Lands Highway Division (CFLHD), a division of the Federal Highway Administration (FHWA), in conjunction with the Inyo National Forest (INF) and Inyo and Mono Counties, has selected to improve 9.2 miles of California Forest Highway 89 (FH 89). FH 89 begins at the intersection with Crowley Lake Drive, just south of HWY 395, and proceeds 9.2 miles in a southerly direction to Rock Creek Lake (RCL) (see **Figure 1**). FH 89 is owned by the INF and is maintained by Inyo and Mono Counties. Traffic on FH 89 is associated with recreational use in the INF; the route serves as the only access to eleven campgrounds, two resorts, a pack station, a boat launch, and multiple trail heads.

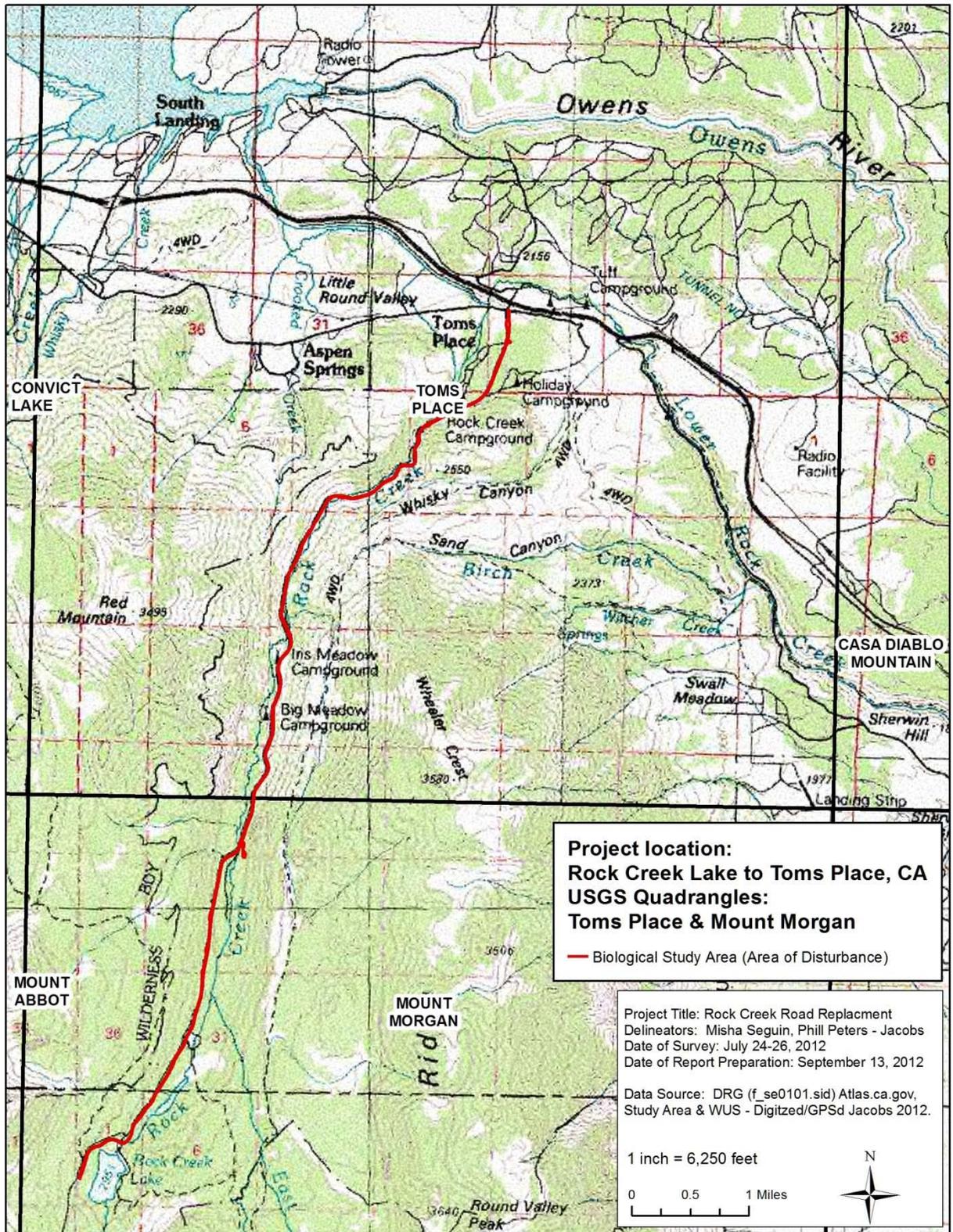
The proposed improvements would follow the existing road and will consist of widening the paved section to add a bike lane, extension/replacement of existing culverts, improvement or removal of existing pull-outs, and upgrading regulatory/warning signs to meet current standards. Widening of the roadway at the bridge locations and installation of rip-rap may require work to occur within Rock Creek. The rehabilitation efforts would prevent further deterioration of the pavement surface and would be constructed for a 20-year design life.

The purpose of completing a wetland and other waters of the U.S. delineation is to identify potentially jurisdictional wetlands and other waters of the U.S. within the Biological Survey Area (BSA). This report will be submitted to the U.S. Army Corps of Engineers (Corps), along with a request for a Jurisdictional Determination (JD), to validate the boundaries of the features delineated. The boundaries of these features will allow for the planning and design staff at the FHWA-CFLHD to incorporate avoidance and minimization measures into the proposed project design.

1.2 Project Location

The BSA is located in Inyo and Mono Counties, California. The BSA is located in Section 33 of Township 4 South and Range 30 East, Sections 4, 5, 8, 17, 19, 30, and 31 of Township 5 South and Range 30 East, and Section 1 of Township 6 South and Range 30 East. The project falls within the USGS 7.5 minute Quadrangles of Toms Place and Mount Morgan (Figure 1). The BSA represents the maximum extent of potential ground disturbing impacts anticipated from the project. The maximum extent of potential ground disturbing impacts generally includes twelve feet on either side of the proposed edge of travel way. However, the BSA extends to sixty feet from the edge of travel way where rock stabilization work is proposed and approximately 40 feet where river crossing work is proposed. Due to the variance in the BSA and difficulty in determining its exact location while in the field, the survey area was extended and waters of the U.S. (WUS) were mapped to a wider extent to ensure there would be no gaps in the data collection for the BSA. The extent of the WUS beyond mapped features is unknown.

Figure 1. Project Location



1.3 Wetland Regulations

Road construction activities along FH 89 will involve the discharge of fill material or excavation in wetlands or other WUS.

The USACE defines wetlands (33 CFR 323.2[c]) as:

“...those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”

Other WUS refers to unvegetated waterways and other water bodies with a defined bed and bank, such as tide channels, drainages, ponds, creeks, rivers, and lakes. Other waters typically lack hydrophytic vegetation and may also lack hydric soils.

The USACE and EPA are responsible for making all final jurisdictional determinations for wetlands and other waters of the U.S. Under Section 404 of the federal Clean Water Act (CWA), the USACE and the EPA reserve the right to determine jurisdiction on a case-by-case basis (CFR, Volume 41, Number 219).

On June 5, 2007 the EPA and USACE issued a joint guidance memorandum that further refined “jurisdiction over waters of the United States under the Clean Water Act” (33 U.S.C. § 1251 etseq) (EPA and USACE 2007a) with respect to the Supreme Court's decision in the consolidated cases of Rapanos v. United States and Carabell v. United States (126 S. Ct. 2208-2006 (EPA and USACE 2007a)). Table 1 below includes a summary of the joint guidance memorandum.

Table 1. Summary of key points contained in the memorandum, "EPA and COE Coordination on Jurisdictional Determinations under Clean Water Act Section 404 in Light of the SWANCC and Rapanos Supreme Court Decisions" (EPA and COE 2007a).
<p><u>The agencies will assert jurisdiction over the following waters:</u></p> <ul style="list-style-type: none"> • Traditional navigable waters • Wetlands adjacent to traditional navigable waters • Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months) • Wetlands that directly abut such tributaries
<p><u>The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:</u></p> <ul style="list-style-type: none"> • Non-navigable tributaries that are not relatively permanent • Wetlands adjacent to non-navigable tributaries that are not relatively permanent • Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary
<p><u>The agencies generally will not assert jurisdiction over the following features:</u></p> <ul style="list-style-type: none"> • Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow) • Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters
- Significant nexus includes consideration of hydrologic and ecologic factors

Wetlands are also protected by Executive Order (EO) 11990, which implements a “no net loss” wetland policy with respect to federal actions. According to Department of Transportation’s (U.S. DOT) 5660.1A, the federal policy dictating implementation of EO 11990, new construction located in wetlands is to be avoided unless there is no practicable alternative to the construction and the proposed action includes all practicable measures to minimize harm (U.S. DOT 1978). According to recent Federal Highways Administration (FHWA) guidance, EO 11990 will continue to apply to many wetlands excluded from regulation under Section 404 of the CWA by the January 2001 court ruling (Environmental Technologies Action Plan [ETAP] 2001). Such wetlands include isolated, intrastate wetlands, such as prairie potholes and vernal pools. However, FHWA has imposed limits on the extent to which EO 11990 will be applied (ETAP 2001). The guidance is as follows:

FHWA will not apply EO 11990 to drainage ditches, either highway or for other purposes, which were not originally excavated in WUS (as currently defined), or to sites exhibiting wetland characteristics which are solely caused and supported by human activities, such as but not limited to, storm water runoff which is concentrated by man-made ditches or agricultural irrigation leakage, and which are not considered jurisdictional waters of the USACE.

2.0 Methods

The methodology for this study included an office review of relevant information, a field survey of potential WUS and riparian areas, and a preliminary assessment of significant nexus connections.

2.1 Office Preparation

Before field surveys were conducted, the following information was reviewed:

- Aerial photographs – Inyo County (National Agriculture Imagery Program [NAIP], 2010, <http://atlas.ca.gov>);
- Topographic maps - Toms Place & Mount Morgan Quadrangles (USGS Mosaic SID, <http://atlas.ca.gov>);
- National Wetlands Inventory data from the U.S. Fish and Wildlife Service Wetlands Mapper database (<http://www.fws.gov/wetlands/Data/Mapper.html>);
- Custom Soil Resource Report for the BSA; (<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>)
- Hydric soils list from the NRCS (2012); and
- Climate data (<http://www.wrcc.dri.edu/>).

2.2 Field Survey

Between July 24-26, 2012 Misha Seguin, botanist and certified wetland delineator, and Phillip Peters, permit specialist and certified wetland delineator, conducted a field survey of the BSA. The wetland delineation was conducted in accordance with the *USACE 1987 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987)*, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE, 2008a)*, and the *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b)*.

The BSA was investigated for the presence of wetland hydrology, hydrophytic vegetation, and hydric soils. The wetland indicator status of plant species was obtained from the U.S. Army Corps of Engineers National Wetland Plant List Region 8 (Intermountain Region) (2012). The boundaries of wetlands were determined by a visible change in vegetation community, topographic changes, and other visible distinctions between wetlands and uplands, as well as from data from wetland and upland soil pits. Due to the variance in the BSA, as discussed in Section 1.2, and difficulty in determining its outer limits while in the field, the survey area was extended at some locations and WUS were mapped to a wider extent to ensure there would be no gaps in the data collection for the BSA. Therefore, as shown in Appendix A, the data collected for many WUS exceed the BSA boundary. The extent of the WUS beyond mapped features is unknown. Soil color was determined using a Munsell Soil Color Chart. Hydric soil criteria were based on the National Technical Committee for Hydric Soils, as recommended by Environmental Laboratory (Environmental Laboratory 1987). Data on the vegetation, soils, and hydrologic conditions were recorded at representative sites using the Regional Supplement Corps Wetland Determination Data Forms (Appendix B). These data sheets are cross-referenced to the WUS maps (Appendix A). Representative data points were taken for each type of habitat (e.g., Emergent wetland, Seep). Both wetland and upland points were recorded to support the wetland boundary determination. Photographs of the site taken during the field study are presented in Appendix C.

Perennial, Intermittent and ephemeral drainages with flowing water or characteristics of an active channel, such as an OHWM, and other erosional features were also identified. The most commonly used physical characteristics to indicate the OHWM include a clear natural scour line impressed on the bank, recent bank erosion, destruction of native terrestrial vegetation, and the presence of litter and debris.

Wetlands and other waters of the U.S. were mapped using a submeter accurate Global Positioning System (GPS) unit. All WUS acreage calculations were calculated using ArcView Geographic Information System (GIS) software based on the field collected WUS boundaries and GIS data. The features were then overlain on aerial imagery. All figures were created in ArcGIS 10.

3.0 Results

3.1 Environmental Setting

3.1.1 Physiography

The BSA falls completely within the Land Resource Region (LRR): A and Major Land Resource Area (MLRA): 22A. The northern terminus of the BSA is located just east of the town of Tom's Place, CA in the Sierra Nevada mountain range, at an elevation ranging from approximately 7,500 feet to 9,900 feet in elevation. Rock Creek Lake is located near, but outside of, the southern terminus of the BSA. Rock Creek drains from the lake following and crossing the road five times throughout the BSA until it drains into the Owens River. Vegetation changes from sagebrush scrub at the lower elevations to lodgepole pine at the upper elevations, with aspen and birch stands following at the Rock Creek crossings. Development in the BSA is limited to several campgrounds, a lodge, and a pack station located along the road.

3.1.2 Climate

Temperatures range from an average low of 15.9 degrees Fahrenheit in February to an average high of 78.1 degrees Fahrenheit in July (Mammoth Lakes Ranger Station data). The average annual precipitation is 22.97 inches and average annual snow fall is 206 inches. Snow typically covers the ground for six months of the year from November through April (WRCC 2012). The average annual precipitation during the growing season (approximately May through October depending on the elevation) is 4.45 inches. It is important to note that the BSA was subject to a rainfall event the day before field surveys were initiated. According to precipitation data, approximately 2.32 inches of rain fell on July 23, 2012, which is more than half the precipitation typically expected for the entire growing season. Daily precipitation measures in the previous days for the month of July ranged from 0.25 to 0.36 inches per day.

3.1.3 Soils

According to the U.S. Department of Agriculture Soil Conservation Service's Soil Survey, the following soil types occur within the wetland areas in the BSA:

- Rock outcrop-Big lake-Salt Chuck families complex, 30 to 60 percent slopes – This soil type is found at elevations between 7,200 to 10,600 ft elevations with a mean annual air temperature of 39 to 43 degrees Fahrenheit. It is found on moraines along the summits, faces, and sideslopes. Rock outcrop is excessively drained, with a typical profile of 0 to 10 inches of unweathered bedrock. Big lake is defined as somewhat excessively drained with a very low water capacity and a soil profile of coarse sand (0-15 inches), and very gravelly coarse sand (15-33 inches). Salt Chuck is excessively drained with a typical profile of extremely stony loamy sandy (0-33 inches). This complex is not considered hydric.
- Garlet-Stecum families complex, 2 to 15 percent slopes. This soil type is found at elevations between 7,600 to 10,500-foot elevations with a mean annual air temperature of 39 to 43

degrees Fahrenheit. Garlet is found in drainages at toeslopes. It is classified as well drained with a typical profile of gravelly sandy loam and very gravelly sandy loam (0-14 inches). Stecum is found at footslopes in drainageways and is somewhat excessively drained. Stecum has a typical profile consisting of very cobbly loamy sandy (0-24 inches). This soil type is considered partially hydric.

3.1.4 Hydrology

Hydrology in the BSA is supported by drainage from Rock Creek Lake, precipitation runoff, and groundwater seepage. Due to a heavy rainfall the day before the field surveys were initiated (see discussion above in Climate), it is important to note that data was collected when the BSA was relatively saturated and actively draining significant runoff. Results may be skewed in favor of positive hydrology indicators.

3.1.5 Vegetation

The BSA contains several vegetation types, including sagebrush scrub, water birch riparian scrub, aspen groves, mountain mahogany, ponderosa pine, and lodgepole pine forests. Sagebrush scrub grows at the lower elevations of the BSA near Tom's Place. It is dominated by sagebrush (*Artemisia tridentata*), rabbitbrush (*Chrysothamnus nauseosus*), and bitterbrush (*Purshia tridentata*). Water birch riparian scrub is dominated by river birch (*Betula occidentalis*) and is classified as a sensitive natural community in California by the CA Dept. of Fish and Game. This habitat is predominantly located along Rock Creek between Toms Place and the Iris Meadow campground (at 8,500 feet elevation). Mountain mahogany (*Cercocarpus betuloides*) habitat was located in the middle elevations of the BSA and was also dominated by wax current (*Ribes cereum*). Ponderosa pine (*Pinus ponderosa*) and lodgepole pine (*Pinus contorta* sp. *murrayana*), located at the highest elevations, included shrub and herb layers dominated by willows (*Salix orestera*, *S. planifolia*, *S. lutea*), mountain strawberry (*Fragaria virginiana*), ranger's buttons (*Sphenosciadium capitellatum*), great red paintbrush (*Castilleja miniata*) and Sierra linanthus (*Linanthus pachyphyllus*).

3.2 Waters of the U.S. Types

3.2.1 Wetland Types

Emergent Wetland. Emergent wetlands in the BSA are characterized by perennial and annual vegetation and relatively permanent hydrology from direct rain, runoff, and snowmelt. They are located at toe slopes within depressions. Emergent wetlands were found in three locations (see Appendix A). Data collected at sample points for emergent wetlands is summarized below and are presented in more detail on the Wetland Delineation Data Forms in Appendix B. Representative photographs are presented in Appendix C. See Table 2 for more detailed information.

Vegetation. Dominant vegetation found in the emergent wetland habitats include Sierra willow (*Salix orestera* [FACW]), diamond leaf willow (*Salix planifolia* [OBL]), horsetail (*Equisetum arvense* [FAC]), and sedges (*Carex* sp. [FAC-OBL]).

Hydrology. Wetland hydrology was indicated by the presence of surface water, and saturation in the soil pits.

Soils. Soils found in this wetland type are made up of muck, loamy sandy, and sandy clay loam. Primary hydric indicators include a black histic and greater than 2 cm of Muck. Soil peds have a chroma value of 2 and matrix value of 2 or 1.

Vegetated Swale. Vegetated Swales in the BSA are characterized by perennial and annual vegetation and ephemeral hydrology from runoff. They are located along the roadside in minor depressions. Vegetated swales are characterized by having less vegetation cover and more open water. Many vegetated swales with established bed and bank were delineated as “other waters” due to the lack of hydrophytic vegetation and/or hydric soil indicators. Vegetated swales were found in two locations (Appendix A). Data collected at sample points for vegetated swales is summarized below and are presented in more detail on the Wetland Delineation Data Forms in Appendix B. Representative photographs are presented in Appendix C. See Table 2 for more detailed information.

Vegetation. Dominant vegetation found in the vegetated swale habitat includes Geyer’swillow (*Salix geyeriana*[FACW]) and Sierra rush (*Juncus nevadensis*[FACW]).

Hydrology. Wetland hydrology was indicated by the presence of surface water, a high water table, and saturation in the soil pits.

Soils. Soil was determined to be a “problematic hydric soil” in this wetland type because it was made up of roadside fill material and/or solid rock and was significantly disturbed. A soil pit was not dug and a soil profile was not taken for this wetland type. Due to the presence of hydrophytic vegetation and hydrology indicators, and the location of the vegetated swales at the toe slopes, the soils is presumed to meet the hydric soils criterion.

Seep. The seep in the BSA is characterized by groundwater seeping out of moderate to steep slopes. One seep was identified in the BSA (Appendix A). Data collected at sample points for the seep is summarized below and is presented in more detail on the Wetland Delineation Data Forms in Appendix B. Representative photographs are presented in Appendix C. See Table 2 for more detailed information.

Vegetation. Dominant vegetation found in the seep habitat includes yellow willow (*Salix lutea* [OBL]) and straight leaved rush (*Juncus orthophyllus*[FACW]).

Hydrology. Wetland hydrology was indicated by the presence of surface water, a high water table, and saturation in the soil pits.

Soils. Soils found in this wetland type are made up of organic mucky mineral. Hydric indicators included the presence of Sandy Mucky Mineral. Soil peds had a chroma value of 2 and a matrix value of 1.

3.2.2 Other WUS

The following other WUS were identified within the BSA.

Non-Relatively Permanent Water. Several drainage features were identified throughout the BSA (see Table 2). Most features crossed the road via a culvert. Because a relatively substantial rainfall event occurred the day before field observations, it is difficult to distinguish if these features are ephemeral (non-relatively permanent) or intermittent (relatively permanent) drainages. Most drainages were presumed to be not relatively permanent waters (NRPW). All features appear to have a significant nexus to a Traditional Navigable Water (TNW). All NRPWs drain into Rock Creek, or drain into culverts that eventually drain into Rock Creek. All NRPWs showed signs of flow, if not contained water, and had an established bed and bank and OHWM (see Table 2).

Vegetated Swales. Several features were categorized as Vegetated swales. These features were tributaries to TNWs and contained a mix of standing water, a bed and bank, and minimal to moderate amounts of hydrophytic vegetation located both within the bed and adjacent bank of the swale. Vegetated swales were located solely along the roadside in drainage depressions and were identified as both wetlands and tributaries within the BSA. Vegetated Swales are a hybrid characterization of features with both wetland and other waters indicators (i.e., hydrophytic vegetation within channelization). In the BSA, features that did not meet all three wetland indicator criterion were delineated as “other waters”.

Ditches. Ditches were labeled separately than other features because the Corps does not typically take jurisdiction over roadside ditches that are excavated wholly in, and draining only uplands. That said, the road is cut into the face of the mountain and bisects several jurisdictional drainages, typically rerouting the drainages alongside the road into ditches until the water finds a culvert and continues to drain down slope toward Rock Creek Lake and Rock Creek. Because most of the ditches either connect two jurisdictional WUS or have a hydrologic connectivity to a TNW (Owens River via Rock Creek), and because it is believed that they do not drain solely uplands this report presumes that most ditches within the BSA are potentially jurisdictional. A few features were determined to be non-jurisdictional due to lack of connectivity and are outlined in Table 2.

Relatively Permanent Water–Rock Creek. One RPW (perennial drainage) was identified in the BSA, Rock Creek. Rock Creek crosses the BSA five times throughout the alignment of the road. It has an average OHW that spans 12 to 20 ft across and was typically 12 inches deep.

Open Water. One feature was categorized as open water (i.e., pond). It was located at the southern terminus of the BSA in a topographic depression inside Emergent Wetland 1. It was approximately ten feet across and 18 inches deep. The open water would overflow and drain into a culvert that drained downslope into Rock Creek Lake.

3.3 Riparian Areas

Riparian areas are the zones of hydrophytic vegetation that transition from the water to the upland adjacent to streams, rivers, lakes, and other aquatic systems. With regards to Corps regulation, riparian areas typically don't fall under the jurisdiction of the Corps due to lack of hydric soil and/or hydrology indicators. A riparian zone is present on both banks of Rock Creek along its entire length. The riparian area is dominated by black cottonwood (*Populus trichocarpa*), river birch, and willows. However, most of this zone is outside of the BSA and potential project impact area, with the exception of where Rock Creek Road crosses the creek.

4.0 Conclusions

The wetland delineation survey identified approximately 0.48 ac of jurisdictional WUS within the BSA, however this is subject to change per the Corps' verification. Table 2 below identifies the jurisdictional features and their size, and a note for why the features may meet current jurisdictional standards resulting from the SWANCC, Rapanos, and Carabell court decisions.

Table 2. Total Preliminary Jurisdictional WUS in the BSA.

LABEL	FEATURE TYPE	STATIONING	WIDTH AT OHW (INCHES)	AREA (SQ FT)	RAPANOS/CARABELL/SWANCC COMMENTS	PRESUMED CONNECTIVITY
WETLANDS						
1	Emergent Wetland	1480+00	N/A	1,469	Wetland	Tributary to Rock Creek Lake (RCL).
3	Vegetated Swale	1435+00	N/A	567	NRPW	Tributary to Rock Creek.
4	Wetland Seep	1335+00	N/A	118	NRPW	Tributary to Rock Creek.
5	Vegetated Swale	1475+00	N/A	141	NRPW	Tributary to Rock Creek.
5	Vegetated Swale	1475+00	N/A	41	NRPW	Tributary to Rock Creek.
48	Emergent Wetland	1290+00	N/A	210	Wetland	Tributary to Rock Creek.
<i>Total Jurisdictional Wetlands</i>			<i>2,546ft² (0.06 ac)</i>			
OTHER WATERS						
1	Open Water	1480+00	120	259	NRPW	Tributary to Rock Creek Lake.
1	Open Water	1480+00	120	12	NRPW	Tributary to Rock Creek Lake.
2	Intermittent	1475+00	5	72	NRPW	Tributary to Rock Creek Lake.
3	Ephemeral	1475+00	12	26	NRPW	Tributary to Rock Creek Lake.
3	Ephemeral	1475+00	12	12	NRPW	Tributary to Rock Creek Lake.
4	Ditch	1470+00	12	90	NRPW	Tributary to Rock Creek Lake.
5	Seep	1465+00	24	92	NRPW	Tributary to Rock Creek Lake.
6	Ephemeral	1455+00	24	67	NRPW	Tributary to Rock Creek.
6	Ephemeral	1455+00	24	2	NRPW	Tributary to Rock Creek.
7	Ditch	1435+00	12	335	NRPW	Tributary to Rock Creek.
8	Ditch	1425+00	18	450	NRPW	Tributary to Rock Creek.

LABEL	FEATURE TYPE	STATIONING	WIDTH AT OHW (INCHES)	AREA (SQ FT)	RAPANOS/CARABELL/SWANCC COMMENTS	PRESUMED CONNECTIVITY
9	Ephemeral	1425+00	36	23	NRPW	Tributary to Rock Creek.
10	Ditch	1425+00	6	69	NRPW	Tributary to Rock Creek.
10	Ditch	1425+00	6	92	NRPW	Tributary to Rock Creek.
10	Culvert	1420+00	8	1	NRPW	Tributary to Rock Creek.
11	Seep	1425+00	120	74	NRPW	Tributary to Rock Creek.
12	Ditch	1420+00	12	240	NRPW	Tributary to Rock Creek.
13	Ephemeral	1425+00	6	6	NRPW	Tributary to Rock Creek.
14	Vegetated Swale	1415+00	48	142	NRPW	Tributary to Rock Creek.
15	Ditch	1415+00	12	175	NRPW	Tributary to Rock Creek.
16	Ephemeral	1415+00	1	1	NRPW	Tributary to Rock Creek.
16	Ephemeral	1415+00	4	2	NRPW	Tributary to Rock Creek.
17	Ephemeral	1415+00	18	295	NRPW	Tributary to Rock Creek.
17	Vegetated Swale	1410+00	18	272	NRPW	Tributary to Rock Creek.
18	Vegetated Swale	1415+00	14	13	NRPW	Tributary to Rock Creek.
19	Ephemeral	1410+00	4	3	NRPW	Tributary to Rock Creek.
20	Vegetated Swale	1410+00	8	260	NRPW	Tributary to Rock Creek.
21	Vegetated Swale	1405+00	8	125	NRPW	Tributary to Rock Creek.
21	Vegetated Swale	1405+00	8	117	NRPW	Tributary to Rock Creek.
22	Seep	1395+00	108	655	NRPW	Tributary to Rock Creek.
23	Vegetated Swale	1395+00	18	218	NRPW	Tributary to Rock Creek.
24	Vegetated Swale	1390+00	36	4	NRPW	Tributary to Rock Creek.
25	Vegetated Swale	1385+00	8	63	NRPW	Tributary to Rock Creek.
25	Vegetated Swale	1385+00	8	5	NRPW	Tributary to Rock Creek.
25	Vegetated Swale	1385+00	8	2	NRPW	Tributary to Rock Creek.
26	Vegetated Swale	1385+00	9	1,008	NRPW	Tributary to Rock Creek.
26	Vegetated Swale	1380+00	8	83	NRPW	Tributary to Rock Creek.
27	Vegetated Swale	1380+00	10	286	NRPW	Tributary to Rock Creek.
27	Ephemeral	1380+00	2	2	NRPW	Tributary to Rock Creek.
29	Ephemeral	1365+00	24	61	NRPW	Tributary to Rock Creek.
30	Vegetated Swale	1365+00	10	180	NRPW	Tributary to Rock Creek.
30	Vegetated Swale	1365+00	10	27	NRPW	Tributary to Rock Creek.

LABEL	FEATURE TYPE	STATIONING	WIDTH AT OHW (INCHES)	AREA (SQ FT)	RAPANOS/CARABELL/SWANCC COMMENTS	PRESUMED CONNECTIVITY
30	Ephemeral	1365+00	12	20	NRPW	Tributary to Rock Creek.
31	Ephemeral	1360+00	24	42	NRPW	Tributary to Rock Creek.
32	Ephemeral	1350+00	10	64	NRPW	Tributary to Rock Creek.
33	Seep	1340+00	10	123	NRPW	Tributary to Rock Creek.
34	Ephemeral	1335+00	24	173	NRPW	Tributary to Rock Creek.
36	Ephemeral	1335+00	24	33	NRPW	Tributary to Rock Creek.
38	Vegetated Swale	1320+00	12	43	NRPW	Tributary to Rock Creek.
38	Ephemeral	1320+00	3	5	NRPW	Tributary to Rock Creek.
39	Ditch	1320+00	8	55	NRPW	Tributary to Rock Creek.
39	Ditch	1320+00	36	204	NRPW	Tributary to Rock Creek.
40	Ephemeral	1315+00	30	42	NRPW	Tributary to Rock Creek.
41	Ditch	1315+00	14	427	NRPW	Tributary to Rock Creek.
42	Ephemeral	1310+00	48	54	NRPW	Tributary to Rock Creek.
44	RPW	1300+00	240	1,067	RPW	RC, tributary to a TNW (Owens River).
44	RPW	1300+00	240	1,275	RPW	RC, tributary to a TNW (Owens River)
44	RPW	1200+00	204	1,064	RPW	RC, tributary to a TNW (Owens River)
44	RPW	1200+00	204	1,290	RPW	RC, tributary to a TNW (Owens River)
44	RPW	1125+00	180	169	RPW	RC, tributary to a TNW (Owens River)
44	RPW	1100+00	300	163	RPW	RC, tributary to a TNW (Owens River)
44	RPW	1080+00	144	1,644	RPW	RC, tributary to a TNW (Owens River)
44	RPW	1080+00	144	274	RPW	RC, tributary to a TNW (Owens River)
44	RPW	1070+00	180	2,243	RPW	RC, tributary to a TNW (Owens River)
44	RPW	1070+00	240	595	RPW	RC, tributary to a TNW (Owens River)
46	Ephemeral	1290+00	24	4	NRPW	Tributary to Rock Creek.
49	Intermittent	1290+00	60	228	NRPW	Tributary to Rock Creek.
49	Intermittent	1285+00	72	402	NRPW	Tributary to Rock Creek.
49	Intermittent	1285+00	72	347	NRPW	Tributary to Rock Creek.
54	Vegetated Swale	1190+00	12	70	NRPW	Tributary to Rock Creek.
55	Ditch	1190+00	12	70	NRPW	Tributary to Rock Creek.
56	Seep	1165+00	18	36	NRPW	Tributary to Rock Creek.
<i>Total Jurisdictional Waters</i>				<i>18,144 ft² (0.42 ac)</i>		
<i>Non-Jurisdictional Features</i>						
28	Ditch	1380+00	8	264	Ditch	No connectivity

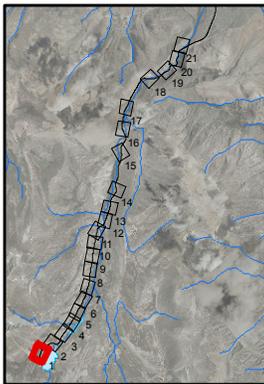
LABEL	FEATURE TYPE	STATIONING	WIDTH AT OHW (INCHES)	AREA (SQ FT)	RAPANOS/ CARABELL/ SWANCC COMMENTS	PRESUMED CONNECTIVITY
30	Vegetated Swale	1365+00	10	48	NRPW	No connectivity (overflow from culvert)
34	Vegetated Swale	1340+00	10	47	NRPW	No connectivity (overflow from culvert)
43	Ditch	1305+00	24	550	NRPW	Drains uplands into RC
<i>Total Non-Jurisdictional Features</i>				<i>908 ft² (0.02 ac)</i>		
<i>Total Jurisdictional Waters and Wetlands</i>				20,690 ft² (0.48 ac)		

This report presents the results of the preliminary determination of jurisdictional WUS, as identified in the BSA, at the time of the field survey visit and is subject to change per the Corps' verification.

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Appendix A. Figures



Potential WUS within BSA

- Other Waters
- Wetland
- Other Waters
- Culvert
- Data Point

Potential WUS adjacent & outside BSA

- Other Waters
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- Other Waters
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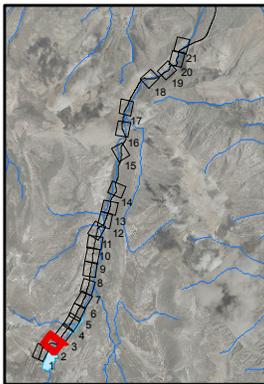
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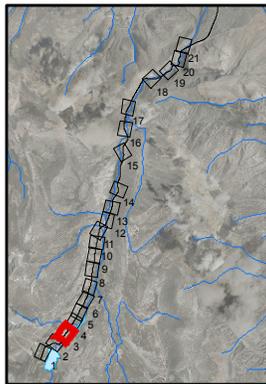
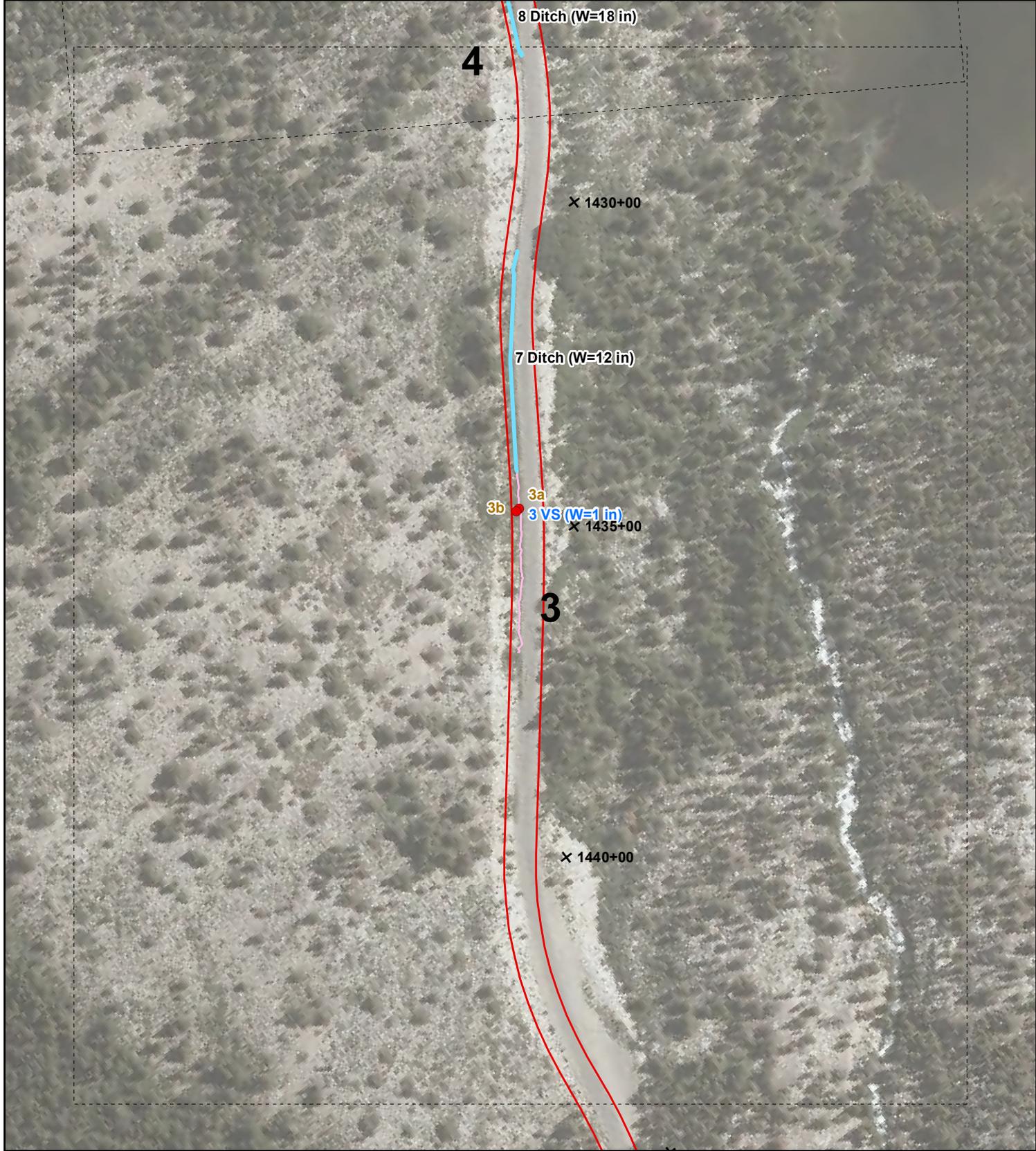
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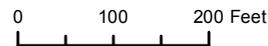
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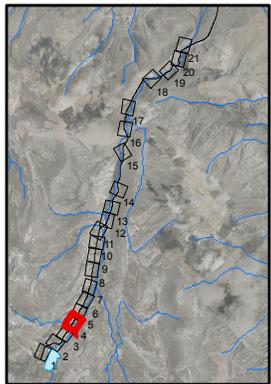
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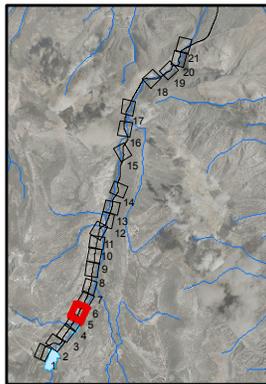
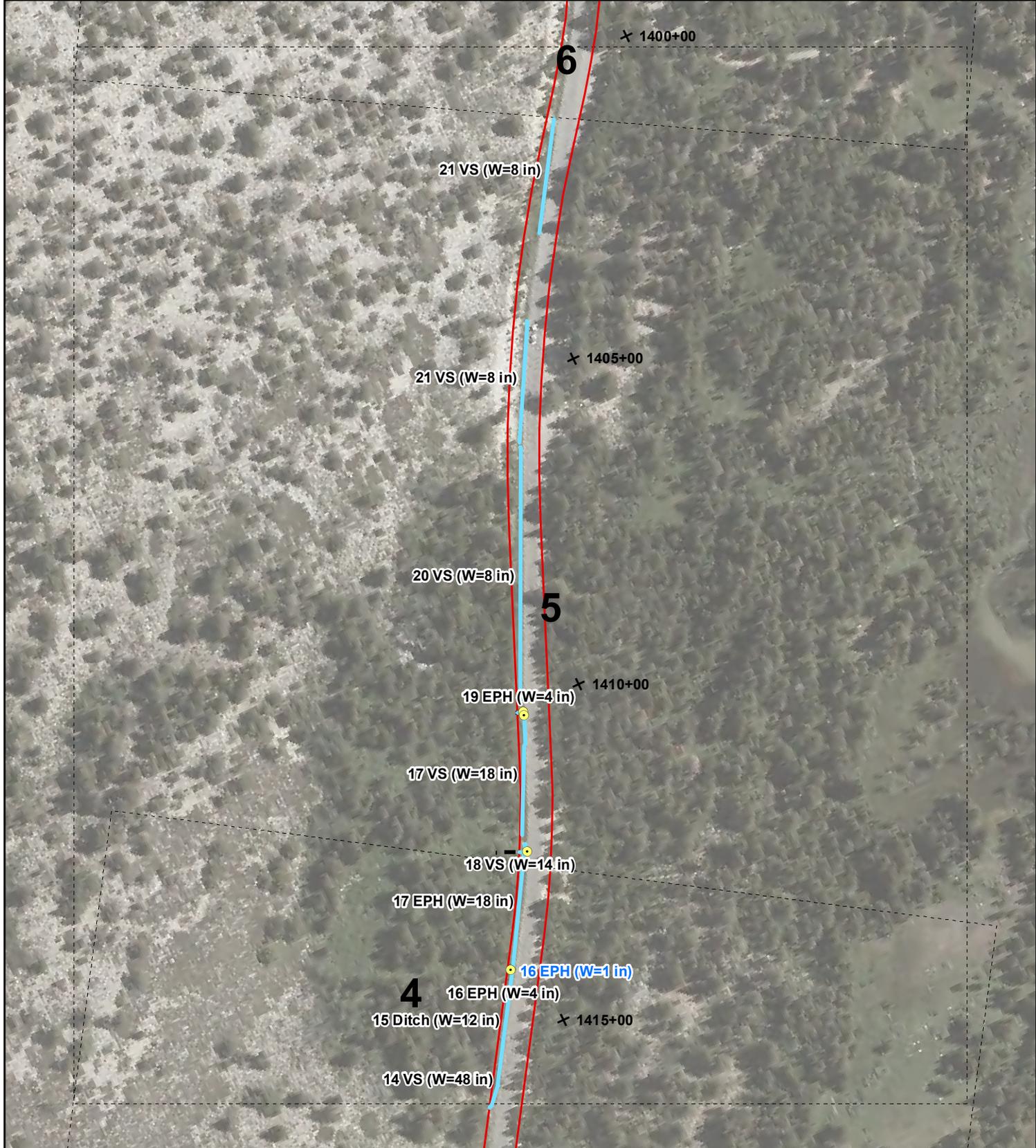
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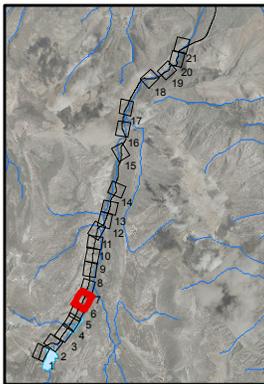
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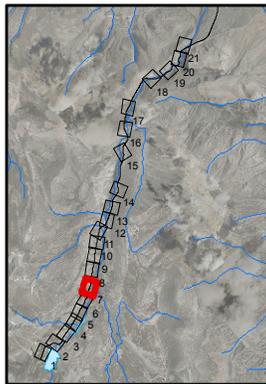
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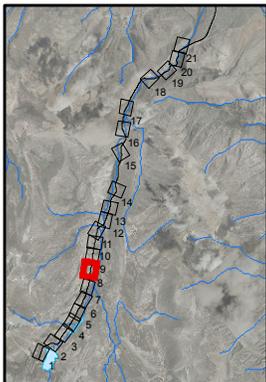
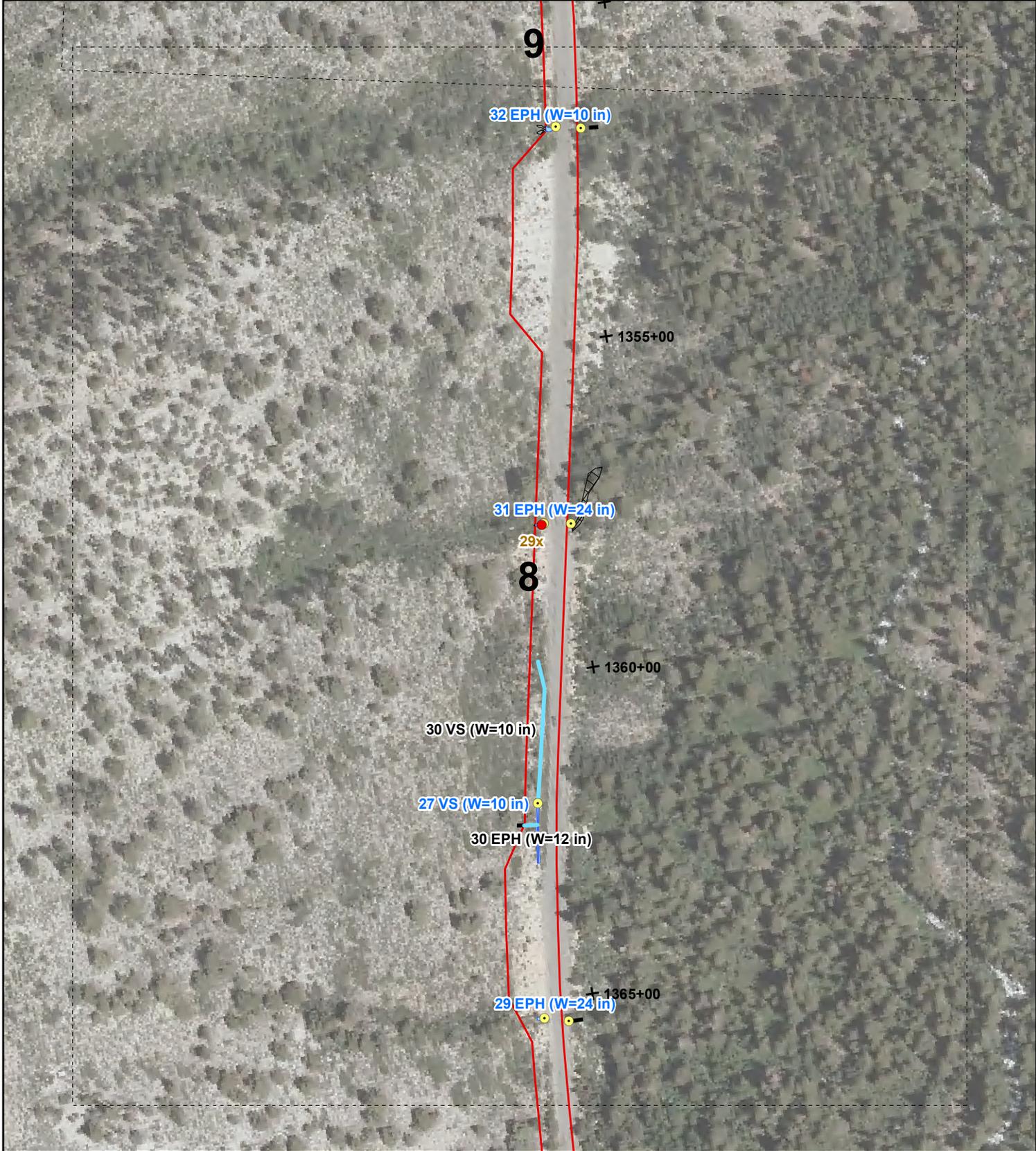
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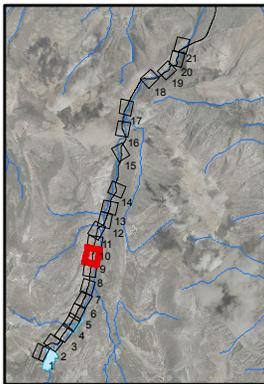
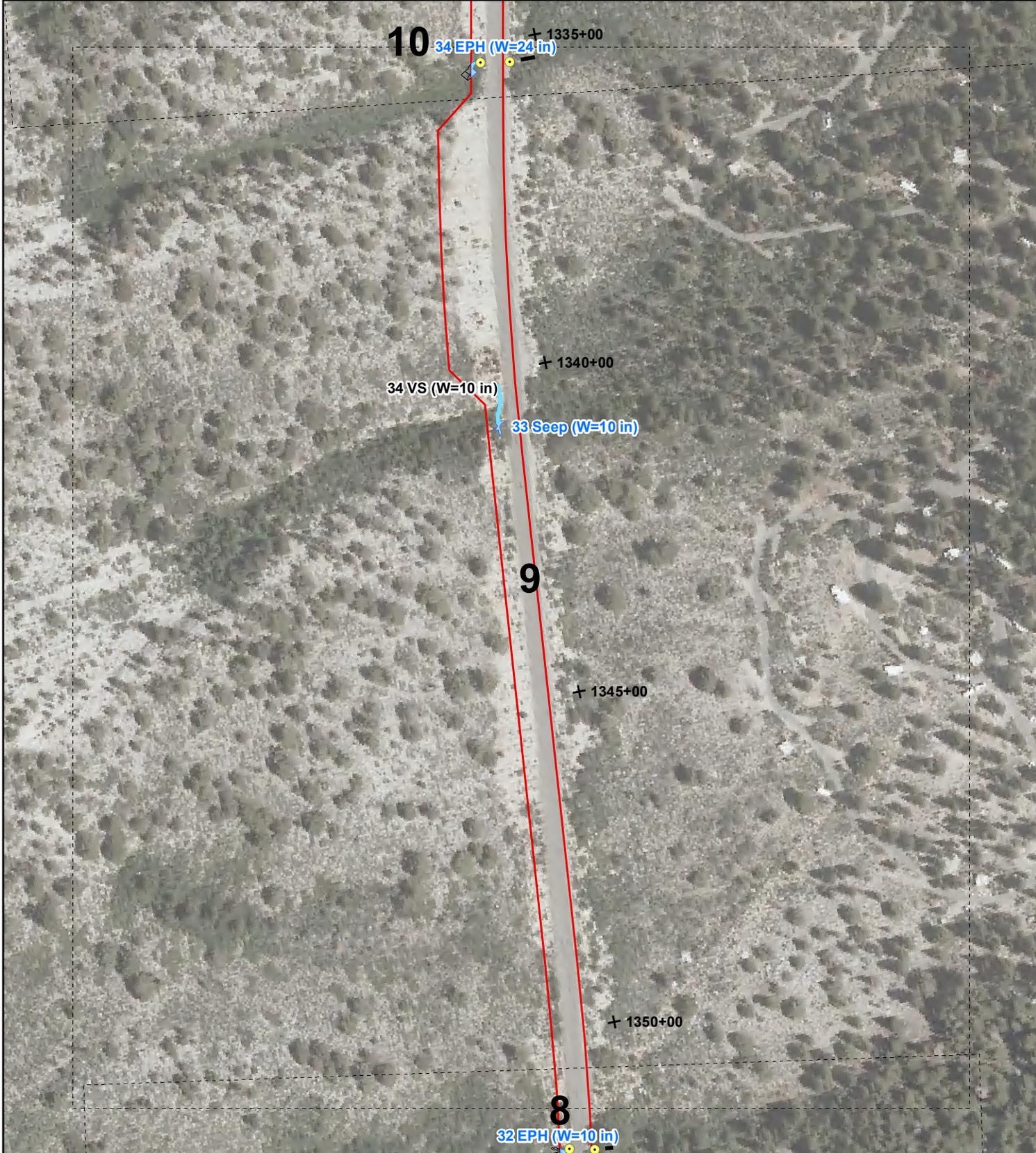
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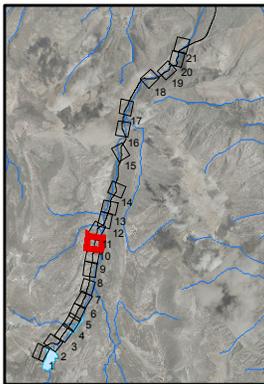
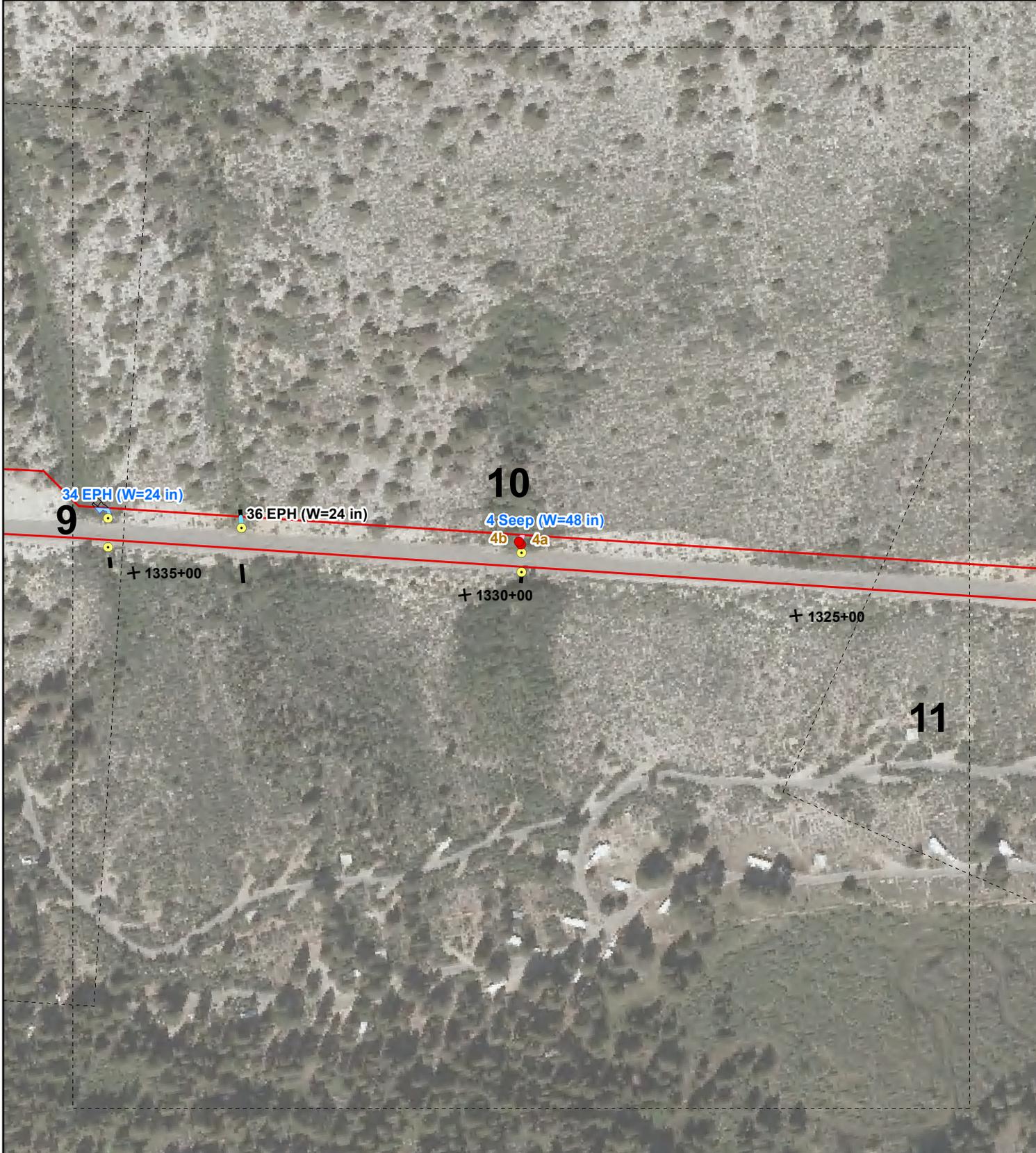
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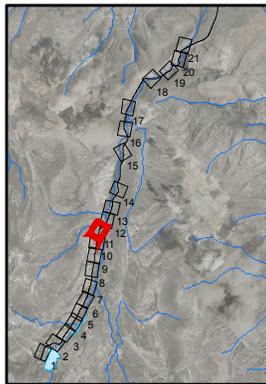
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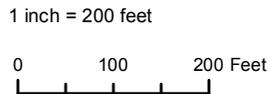
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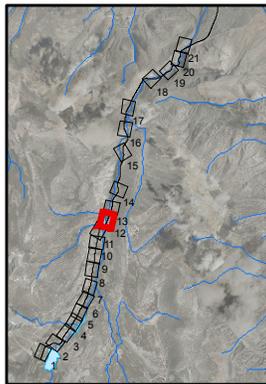
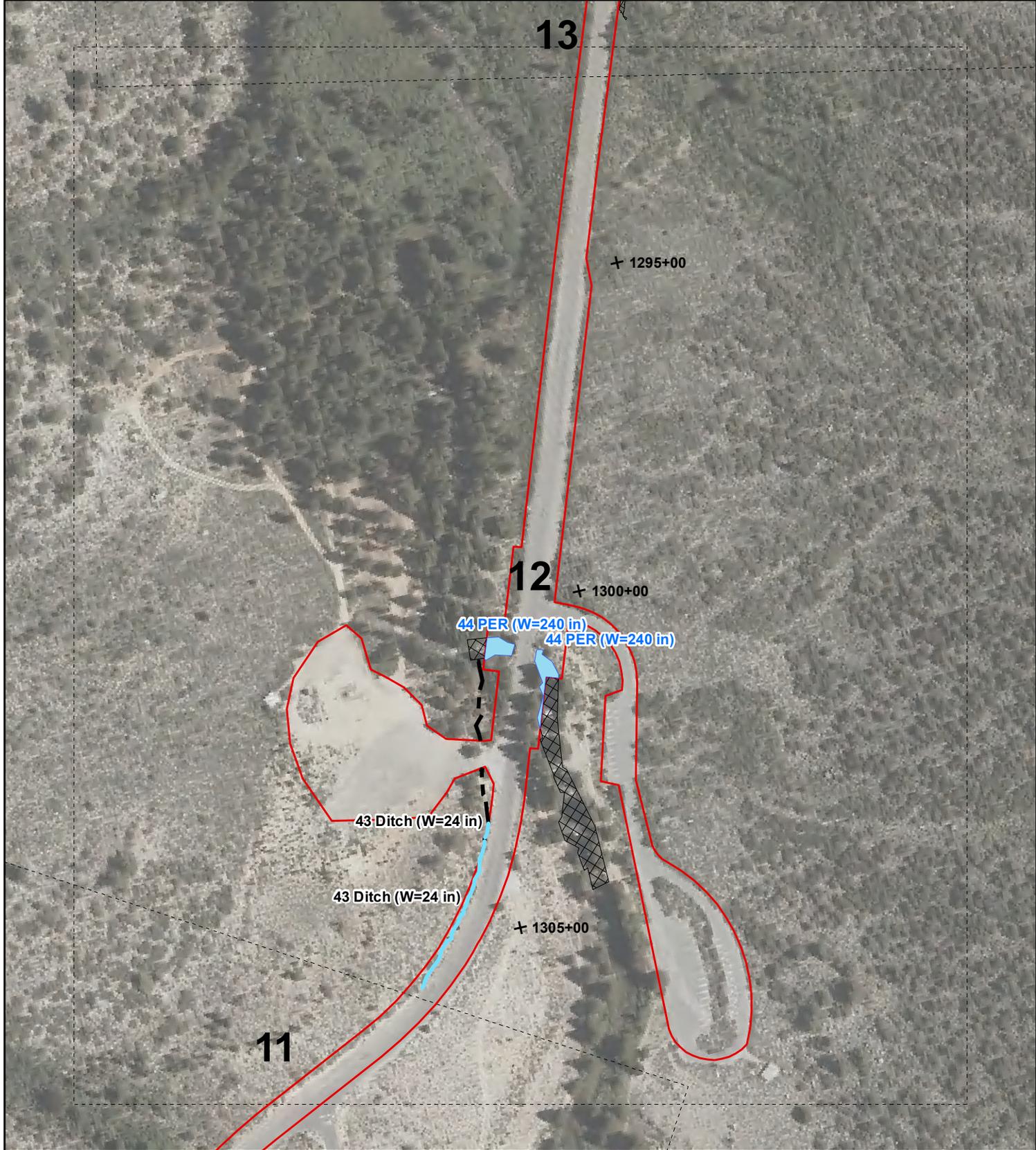
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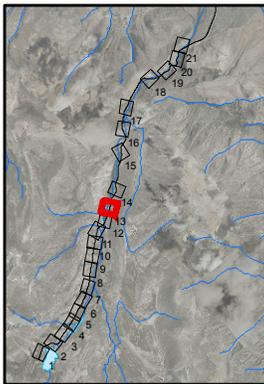
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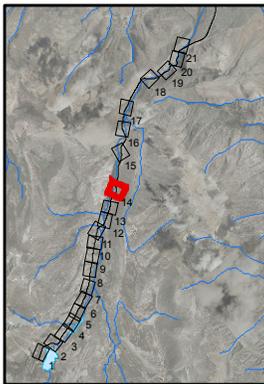
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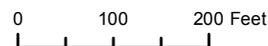
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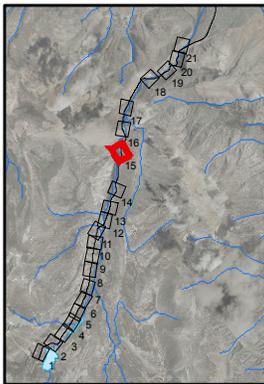
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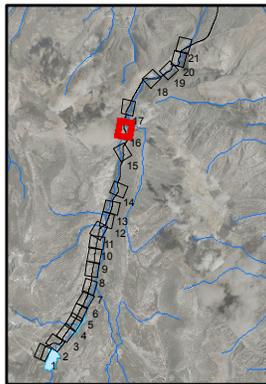
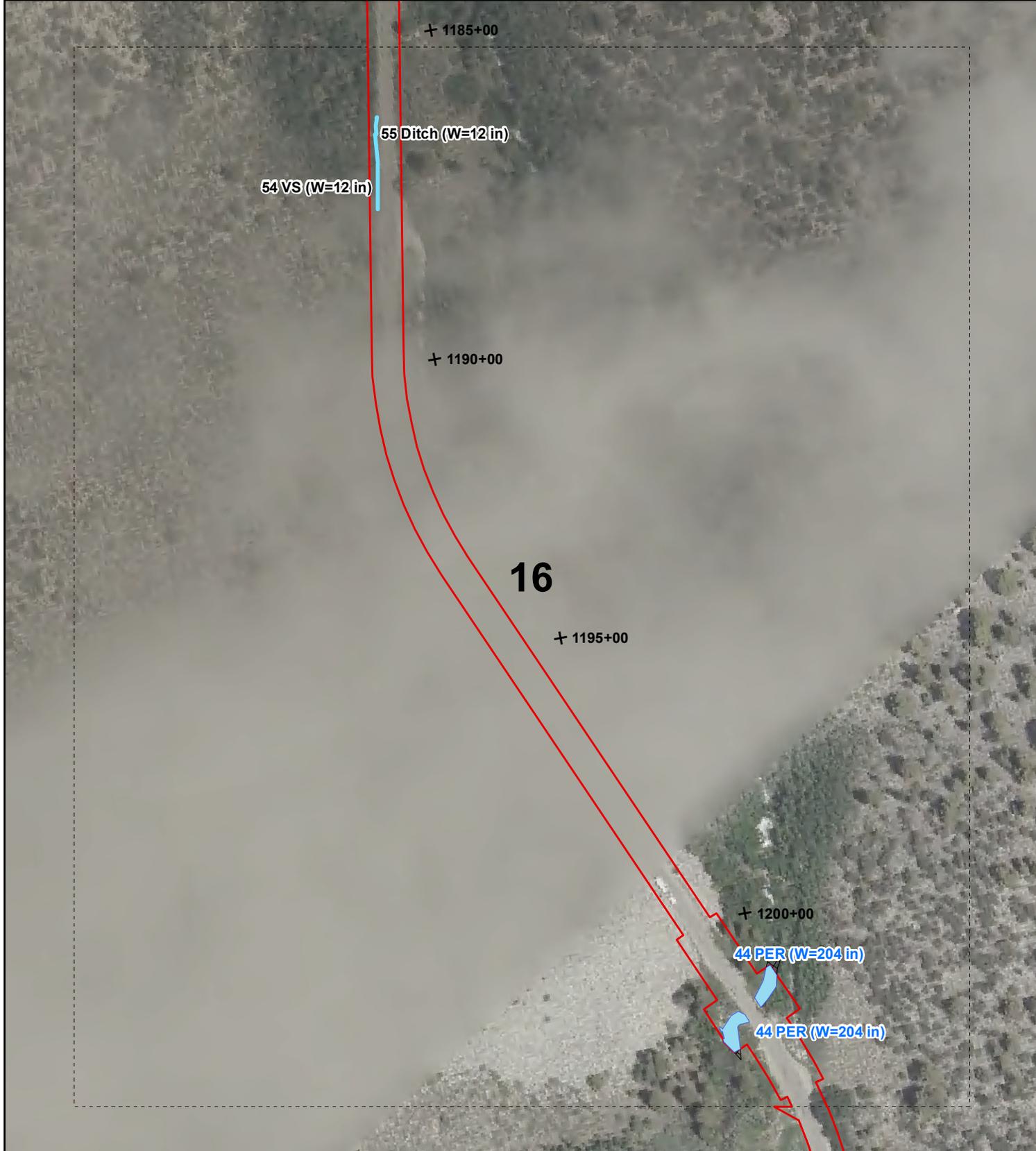
Project Title: Rock Creek Road Replacement
 Delineators: Misha Seguin, Phill Peters - Jacobs
 Date of Survey: July 24-26, 2012
 Date of Report Preparation: September 13, 2012
 Data Source: Orthophoto - NAIP Inyo Co. 2010,
 Study Area & WUS - Digitized/GPSd Jacobs 2012.

1 inch = 200 feet

0 100 200 Feet

Note: During field surveys, the survey area for WUS exceeded the BSA in some areas to ensure there would be no gaps in the data collection for the BSA. The extent of the WUS beyond mapped features is unknown.

EPH - Ephemeral Drainage
 EW - Emergent Wetland
 CULV - Culvert (Ephem)
 ditch - Roadside ditch
 INT - Intermittent Drainage
 OW - Open Water
 PER- Perennial Drainage
 Seep - Seep Drainage
 VS - Vegetated Swale
 #a - Wetland data point
 #b - Upland data point
 #x - Data point - no WUS
 W - Width at OHWM
 (if W=0, then N/A)



Potential WUS within BSA

- Other Waters
- Wetland
- Other Waters
- Culvert
- Data Point

Potential WUS adjacent & outside BSA

- Other Waters
- Wetland
- Other Waters
- Biological Study Area (BSA)

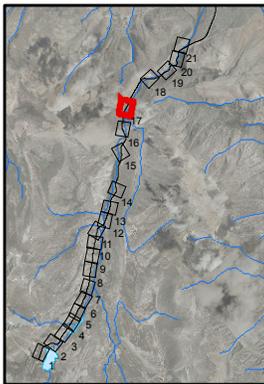
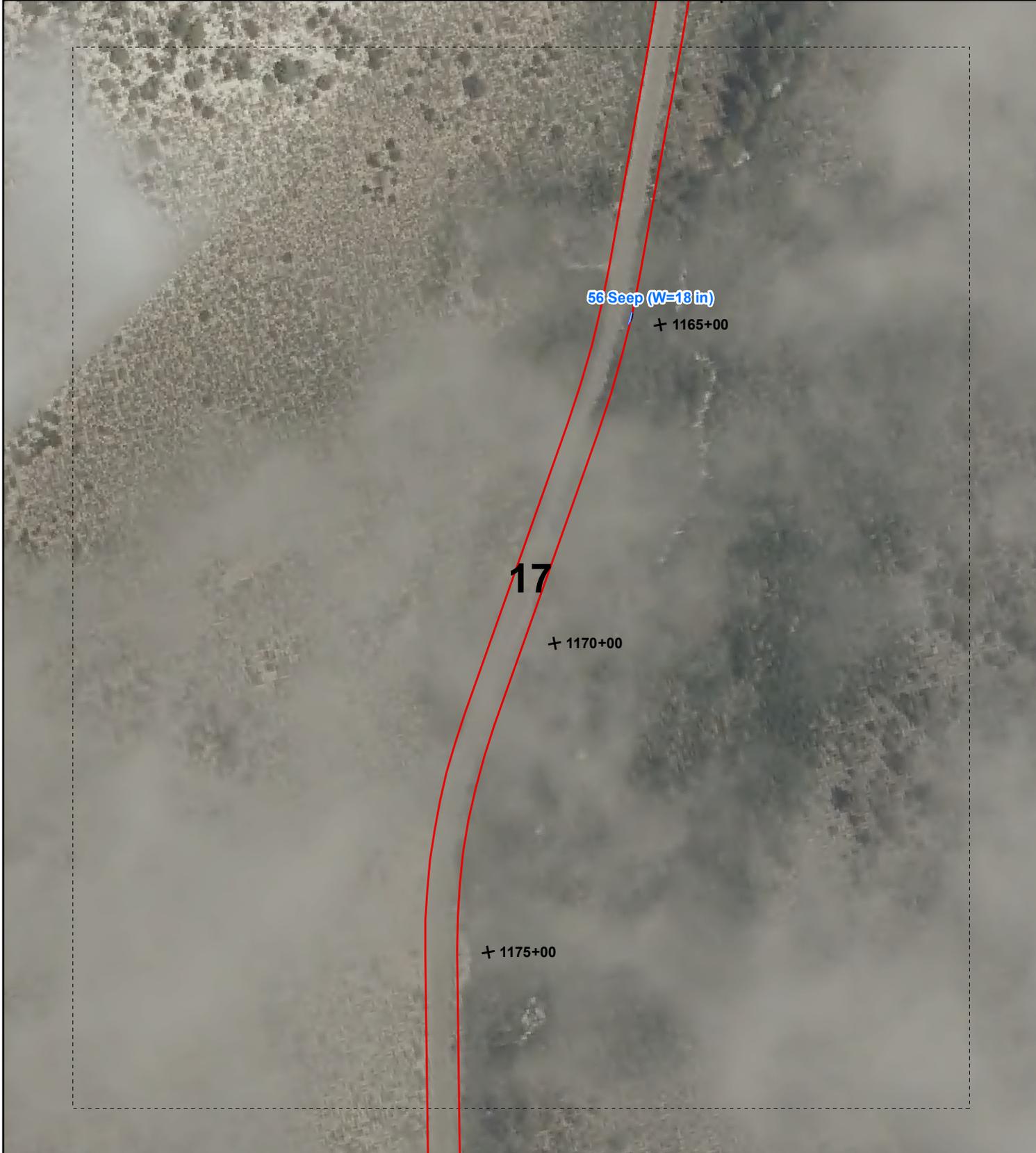
Project Title: Rock Creek Road Replacement
 Delineators: Misha Seguin, Phill Peters - Jacobs
 Date of Survey: July 24-26, 2012
 Date of Report Preparation: September 13, 2012
 Data Source: Orthophoto - NAIP Inyo Co. 2010,
 Study Area & WUS - Digitized/GPSd Jacobs 2012.

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 VS - Vegetated Swale
 #a - Wetland data point
 #b - Upland data point
 #x - Data point - no WUS
 W - Width at OHWM
 (if W=0, then N/A)



Potential WUS within BSA

- Other Waters
- Wetland
- Other Waters
- Culvert
- Data Point

Potential WUS adjacent & outside BSA

- Other Waters
- Wetland
- Other Waters
- Biological Study Area (BSA)

Project Title: Rock Creek Road Replacement
 Delineators: Misha Seguin, Phill Peters - Jacobs
 Date of Survey: July 24-26, 2012
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 Data Source: Orthophoto - NAIP Inyo Co. 2010,
 Study Area & WUS - Digitized/GPSd Jacobs 2012.

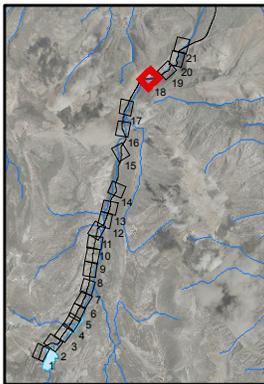
1 inch = 200 feet

0 100 200 Feet

Note: During field surveys, the survey area for WUS exceeded the BSA in some areas to ensure there would be no gaps in the data collection for the BSA. The extent of the WUS beyond mapped features is unknown.

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 Seep - Seep Drainage
 VS - Vegetated Swale
 #a - Wetland data point
 #b - Upland data point
 #x - Data point - no WUS
 W - Width at OHWM
 (if W=0, then N/A)

Sheet 17 of 21



Potential WUS within BSA

- Other Waters
- Wetland
- Other Waters
- Culvert
- Data Point

Potential WUS adjacent & outside BSA

- Other Waters
- Wetland
- Other Waters
- Biological Study Area (BSA)

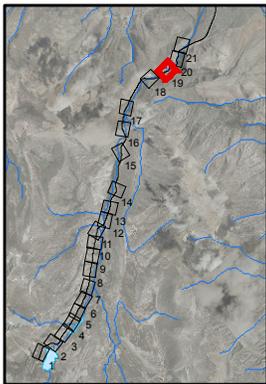
Project Title: Rock Creek Road Replacement
 Delineators: Misha Seguin, Phill Peters - Jacobs
 Date of Survey: July 24-26, 2012
 Date of Report Preparation: September 13, 2012
 Data Source: Orthophoto - NAIP Inyo Co. 2010,
 Study Area & WUS - Digitized/GPSd Jacobs 2012.

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 VS - Vegetated Swale
 #a - Wetland data point
 #b - Upland data point
 #x - Data point - no WUS
 W - Width at OHWM
 (if W=0, then N/A)



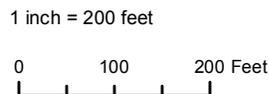
Potential WUS within BSA

- Other Waters
- Wetland
- Other Waters
- Culvert
- Data Point

Potential WUS adjacent & outside BSA

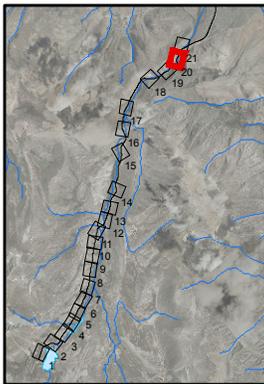
- Other Waters
- Wetland
- Other Waters
- Biological Study Area (BSA)

Project Title: Rock Creek Road Replacement
 Delineators: Misha Seguin, Phill Peters - Jacobs
 Date of Survey: July 24-26, 2012
 Date of Report Preparation: September 13, 2012
 Data Source: Orthophoto - NAIP Inyo Co. 2010,
 Study Area & WUS - Digitized/GPSd Jacobs 2012.



Note: During field surveys, the survey area for WUS exceeded the BSA in some areas to ensure there would be no gaps in the data collection for the BSA. The extent of the WUS beyond mapped features is unknown.

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 (if W=0, then N/A)



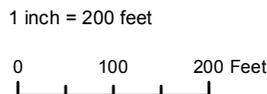
Potential WUS within BSA

- Other Waters
- Wetland
- Other Waters
- Culvert
- Data Point

Potential WUS adjacent & outside BSA

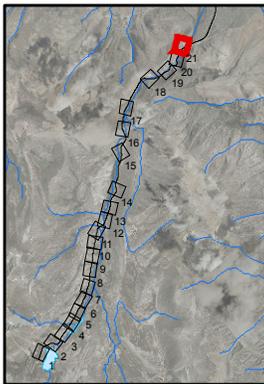
- Other Waters
- Wetland
- Other Waters
- Biological Study Area (BSA)

Project Title: Rock Creek Road Replacement
 Delineators: Misha Seguin, Phill Peters - Jacobs
 Date of Survey: July 24-26, 2012
 Date of Report Preparation: September 13, 2012
 Data Source: Orthophoto - NAIP Inyo Co. 2010,
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 #a - Wetland data point
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 #x - Data point - no WUS
 W - Width at OHWM
 (if W=0, then N/A)



Potential WUS within BSA

- Other Waters
- Wetland
- Other Waters
- Culvert
- Data Point

Potential WUS adjacent & outside BSA

- Other Waters
- Wetland
- Other Waters
- Biological Study Area (BSA)

Project Title: Rock Creek Road Replacement
 Delineators: Misha Seguin, Phill Peters - Jacobs
 Date of Survey: July 24-26, 2012
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 Data Source: Orthophoto - NAIP Inyo Co. 2010,
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Note: During field surveys, the survey area for WUS exceeded the BSA in some areas to ensure there would be no gaps in the data collection for the BSA. The extent of the WUS beyond mapped features is unknown.

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 Seep - Seep Drainage
 VS - Vegetated Swale
 #a - Wetland data point
 #b - Upland data point
 #x - Data point - no WUS
 W - Width at OHWM
 (if W=0, then N/A)

Appendix B. Data Forms

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rock Creek Road City/County: Tom's Place, CA Mono/Inyo Co. Sampling Date: 7/24/12
 Applicant/Owner: US DOT Central Federal Lands State: CA Sampling Point: 1a
 Investigator(s): Misha Seguin, Phill Peters - Jacobs Section, Township, Range: T6S R30E
 Landform (hillslope, terrace, etc.): Depression/Ditch Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): MLRA-22A Lat: 37°27'9.288"N Long: 118°44'31.089"W Datum: UTM NAD 83
 Soil Map Unit Name: Rock outcrop-Biglake-Salt Chuck families complex, 30-60% slopes NWI classification: non-hydric
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: There was a substantial rainfall event the day prior to the field visit, resulting in 2.3 inches of rain on 7/23/12. During the three weeks prior, averages ranged from 0.25"-0.36 inches of total daily precipitation. Hydrology may be naturally problematic because there was so much run-off as well as standing water during the field survey.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>10</u>)				
1. <u>Salix orestera</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Salix planifolia planifolia</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>70</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Carex sp.</u>	<u>95</u>	<u>Y</u>	<u>FAC-OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>95</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks:				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rock Creek Road City/County: Tom's Place, CA Mono/Inyo Co. Sampling Date: 7/24/12
 Applicant/Owner: US DOT Central Federal Lands State: CA Sampling Point: 2a
 Investigator(s): Misha Seguin, Phill Peters - Jacobs Section, Township, Range: T6S R30E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 15
 Subregion (LRR): MLRA-22A Lat: 118°44'30.25"W Long: 37°27'9.374"N Datum: UTM NAD 83
 Soil Map Unit Name: Rock outcrop-Biglake-Salt Chuck families complex, 30-60% slopes NWI classification: non-hydric
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: There was a substantial rainfall event the day prior to the field visit, resulting in 2.3 inches of rain on 7/23/12. During the three weeks prior, averages ranged from 0.25"-0.36 inches of total daily precipitation. Hydrology may be naturally problematic because there was so much run-off as well as standing water during the field survey.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	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 = _____
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Salix orestera</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Herb Stratum (Plot size: _____)				
1. <u>Equisetum arvense</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Chamerion angustifolium</u>	<u>10</u>	_____	<u>FACU</u>	
3. <u>Stellaria umbellatum</u>	<u>5</u>	_____	<u>FACW</u>	
4. <u>Carex sp.</u>	<u>25</u>	<u>Y</u>	<u>FAC-OBL</u>	
5. <u>mimulus tilingii</u>	<u>1</u>	_____	<u>OBL</u>	
6. <u>unidentifiable forbs (no inflorescence)</u>	<u>20</u>	_____	<u>-</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rock Creek Road City/County: Tom's Place, CA Mono/Inyo Co. Sampling Date: 7/24/12
 Applicant/Owner: US DOT Central Federal Lands State: CA Sampling Point: 2b
 Investigator(s): Misha Seguin, Phill Peters - Jacobs Section, Township, Range: T6S R30E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 15
 Subregion (LRR): MLRA-22A Lat: 118°44'30.284"W Long: 37°27'9.314"N Datum: UTM NAD 83
 Soil Map Unit Name: Rock outcrop-Biglake-Salt Chuck families complex, 30-60% slopes NWI classification: non-hydric
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks: There was a substantial rainfall event the day prior to the field visit, resulting in 2.3 inches of rain on 7/23/12. During the three weeks prior, averages ranged from 0.25"-0.36 inches of total daily precipitation. Hydrology may be naturally problematic because there was so much run-off as well as standing water during the field survey.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	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 = _____
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Salix orestera</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
= Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Carex sp.</u>	<u>95</u>	<u>Y</u>	<u>FAC-OBL</u>	
2. <u>Chamerion angustifolium</u>	<u>5</u>		<u>FACU</u>	
3. <u>Achillea millefolium</u>	<u>1</u>		<u>FACU</u>	
4. <u>unidentifiable forbs</u>	<u>4</u>			
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks:				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rock Creek Road City/County: Tom's Place, CA Mono/Inyo Co. Sampling Date: 7/24/12
 Applicant/Owner: US DOT Central Federal Lands State: CA Sampling Point: 3a
 Investigator(s): Misha Seguin, Phill Peters - Jacobs Section, Township, Range: T6S R30E
 Landform (hillslope, terrace, etc.): Roadside ditch/toe slope Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): MLRA-22A Lat: 37°27'38.237"N Long: 118°43'56.491"W Datum: UTM NAD 83
 Soil Map Unit Name: Garlet-Stecum families complex, 2 to 15 percent slopes NWI classification: partially hydric
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: There was a substantial rainfall event the day prior to the field visit, resulting in 2.3 inches of rain on 7/23/12. During the three weeks prior, averages ranged from 0.25"-0.36 inches of total daily precipitation. Hydrology may be naturally problematic because there was so much run-off as well as standing water during the field survey.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____				
_____ = Total Cover				Prevalence Index worksheet:
Total % Cover of: _____ Multiply by: _____				OBL species _____ x 1 = _____
Sapling/Shrub Stratum (Plot size: _____)				FACW species _____ x 2 = _____
1. _____				FAC species _____ x 3 = _____
2. _____				FACU species _____ x 4 = _____
3. _____				UPL species _____ x 5 = _____
4. _____				Column Totals: _____ (A) _____ (B)
5. _____				Prevalence Index = B/A = _____
_____ = Total Cover				Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: _____)				<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
1. <u>Juncus nevadensis</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
2. <u>Salix geyeriana</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
3. <u>Platanthera dilatata</u>	<u>2</u>		<u>FACW</u>	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Carex sp.</u>	<u>5</u>		<u>FAC-OBL</u>	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
5. <u>Moss (Dicranum scoparium?)</u>	<u>20</u>	<u>Y</u>		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>13</u>				
Remarks: Adjacent to road with rocky fill material. Open water ditch. wet.				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rock Creek Road City/County: Tom's Place, CA Mono/Inyo Co. Sampling Date: 7/24/12
 Applicant/Owner: US DOT Central Federal Lands State: CA Sampling Point: 3b
 Investigator(s): Misha Seguin, Phill Peters - Jacobs Section, Township, Range: T6S R30E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 30
 Subregion (LRR): MLRA-22A Lat: 37°27'38.237"N Long: 118°43'56.491"W Datum: UTM NAD 83
 Soil Map Unit Name: Garlet-Stecum families complex, 2 to 15 percent slopes NWI classification: partially hydric
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks: There was a substantial rainfall event the day prior to the field visit, resulting in 2.3 inches of rain on 7/23/12. During the three weeks prior, averages ranged from 0.25"-0.36 inches of total daily precipitation. Hydrology may be naturally problematic because there was so much run-off as well as standing water during the field survey.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Pinus contorta ssp. murayana</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Salix geyeriana</u>	<u>7</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Juncus nevadensis</u>	<u>7</u>	_____	<u>FACW</u>	
2. <u>lupinus argenteus</u>	<u>5</u>	_____	<u>NL</u>	
3. <u>Castilleja miniata ssp. miniata</u>	<u>2</u>	_____	<u>FAC</u>	
4. <u>Gentianopsis holopetala</u>	<u>1</u>	_____	<u>OBL</u>	
5. <u>Fragaria virginiana</u>	<u>1</u>	_____	<u>FACU</u>	
6. <u>moss (Dicranum scoparium?)</u>	<u>70</u>	<u>Y</u>	_____	
7. <u>Potentilla flabellifolia</u>	<u>1</u>	_____	<u>FAC</u>	
8. <u>Trifolium monanthum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: located upslope of wet vegetated swale.				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rock Creek Road City/County: Tom's Place, CA Mono/Inyo Co. Sampling Date: 7/24/12
 Applicant/Owner: US DOT Central Federal Lands State: CA Sampling Point: 4a
 Investigator(s): Misha Seguin, Phill Peters - Jacobs Section, Township, Range: T6S R30E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 45
 Subregion (LRR): MLRA-22A Lat: 37°29'15.863"N Long: 118°43'18.094"W Datum: UTM NAD 83
 Soil Map Unit Name: Rock outcrop-Biglake family complex, 30-70 percent slopes NWI classification: not hydric
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: There was a substantial rainfall event the day prior to the field visit, resulting in 2.3 inches of rain on 7/23/12. During the three weeks prior, averages ranged from 0.25"-0.36 inches of total daily precipitation. Hydrology may be naturally problematic because there was so much run-off as well as standing water during the field survey.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)	
1. _____	_____	_____	_____		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 = _____
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Sapling/Shrub Stratum (Plot size: _____)	1. <u>Salix lutea</u>	15	Y		OBL
2. _____	_____	_____	_____		_____
3. _____	_____	_____	_____		_____
4. _____	_____	_____	_____		_____
5. _____	_____	_____	_____		_____
_____ = Total Cover					
Herb Stratum (Plot size: _____)	1. <u>Juncus orthophyllus</u>	40	Y		FACW
2. <u>Allium validum</u>	15	_____	_____		OBL
3. <u>Platanthera dilatata</u>	15	_____	_____		FACW
4. <u>Aquilegia formosa</u>	1	_____	_____		FAC
5. <u>Perideridia parishii</u>	1	Y	_____	FAC	
6. <u>unidentifiable grass</u>	30	Y	_____	?	
7. <u>Senecio triangularis</u>	1	_____	_____	FACW	
8. <u>Castilleja sp. miniata</u>	1	_____	_____	FAC	
9. _____	_____	_____	_____	_____	
10. _____	_____	_____	_____	_____	
11. _____	_____	_____	_____	_____	
_____ = Total Cover					
Woody Vine Stratum (Plot size: _____)	1. _____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rock Creek Road City/County: Tom's Place, CA Mono/Inyo Co. Sampling Date: 7/24/12
 Applicant/Owner: US DOT Central Federal Lands State: CA Sampling Point: 4b
 Investigator(s): Misha Seguin, Phill Peters - Jacobs Section, Township, Range: T6S R30E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 45
 Subregion (LRR): MLRA-22A Lat: 37°29'15.824"N Long: 118°43'18.144"W Datum: UTM NAD 83
 Soil Map Unit Name: Rock outcrop-Biglake family complex, 30-70 percent slopes NWI classification: not hydric
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

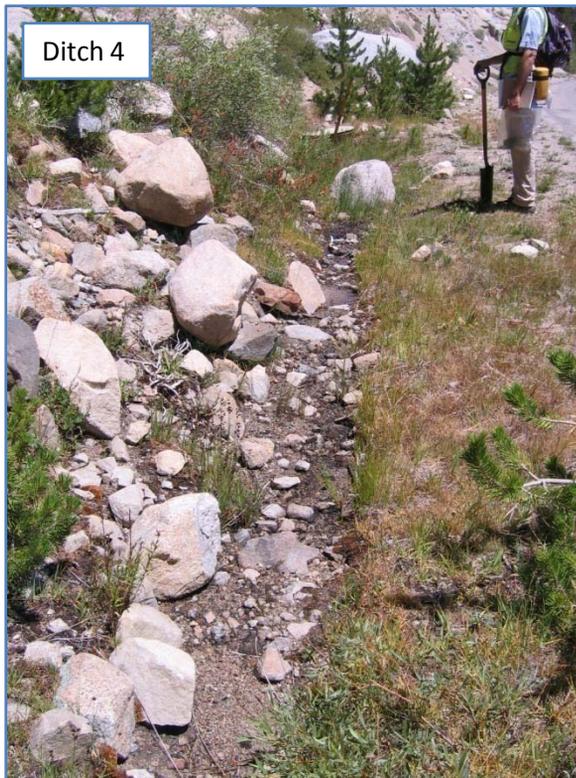
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks: There was a substantial rainfall event the day prior to the field visit, resulting in 2.3 inches of rain on 7/23/12. During the three weeks prior, averages ranged from 0.25"-0.36 inches of total daily precipitation. Hydrology may be naturally problematic because there was so much run-off as well as standing water during the field survey.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Populus tremuloides</u>	40	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. <u>Salix sp.</u>	10	Y	FACW	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)
4. _____				
	50	= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____
1. <u>Pinus contorta</u>	5	Y	FAC	OBL species _____ x 1 = _____
2. <u>Populus tremuloides</u>	10	Y	FACU	FACW species _____ x 2 = _____
3. _____				FAC species _____ x 3 = _____
4. _____				FACU species _____ x 4 = _____
5. _____				UPL species _____ x 5 = _____
	15	= Total Cover		Column Totals: _____ (A) _____ (B)
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = _____
1. <u>Juncus orthophyllus</u>	1		FACW	Hydrophytic Vegetation Indicators:
2. <u>Verbascum thapsus</u>	1		FACU	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
3. <u>fragaria virginiana</u>	5		FACU	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
4. <u>Trifolium monanthum</u>	30	Y	FAC	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
5. <u>Perideridia parishii</u>	1		FAC	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6. <u>Castilleja sp. miniata</u>	1		?	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
7. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
8. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
9. _____				
10. _____				
11. _____				
	39	= Total Cover		Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
% Bare Ground in Herb Stratum <u>61</u>				
Remarks:				

Appendix C. Photographs

NRPWs – Roadside Ditches.

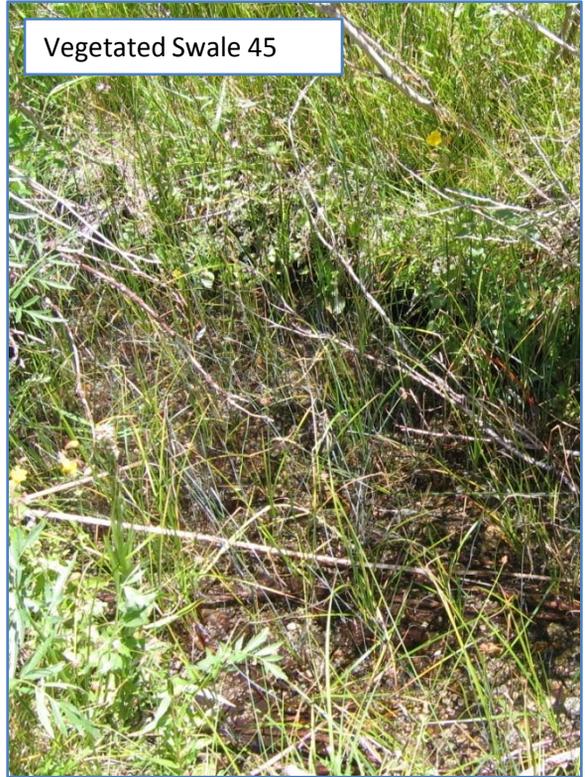


NRPWs – Vegetated Swales

Vegetated Swale 20



Vegetated Swale 45

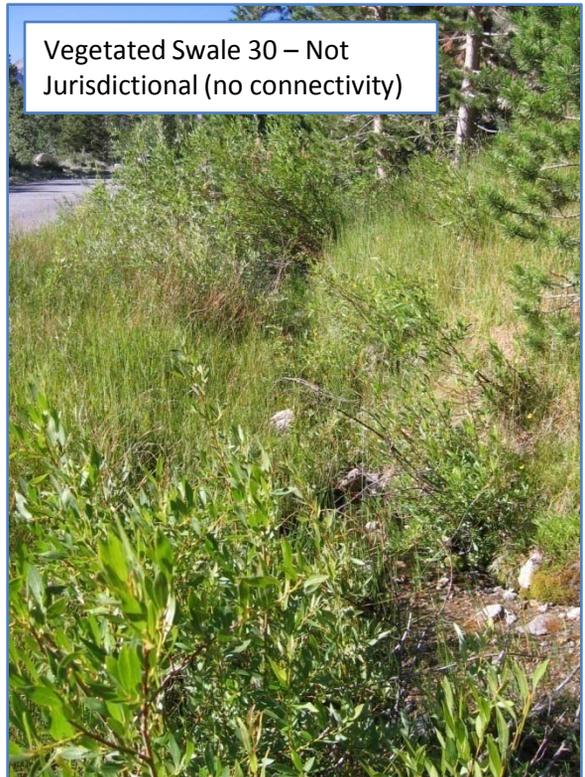


Wetlands – Vegetated Swales.

Vegetated Swale 3



Vegetated Swale 30 – Not Jurisdictional (no connectivity)



Emergent Wetlands & Soils



Emergent Wetland 1 & Open Water 1



Emergent Wetland 48



Data Point 1a High Water Table



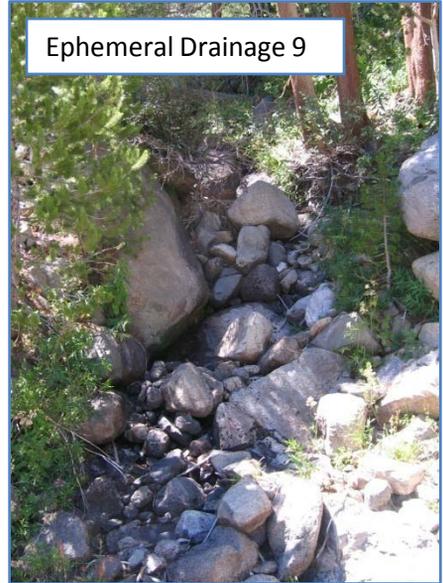
Data Point 1a Soil Profile

NRPWs – Ephemeral Drainages.

Ephemeral Drainage 6



Ephemeral Drainage 9



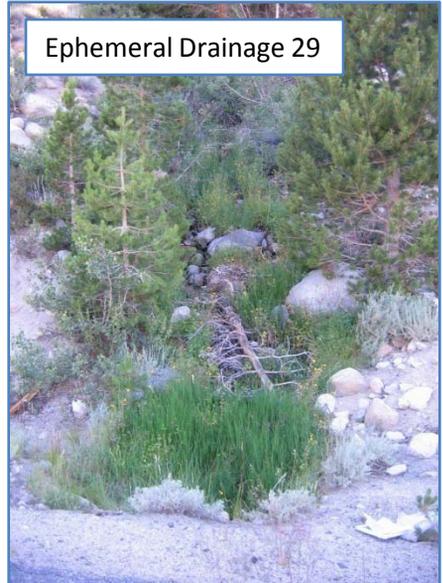
Ephemeral Drainage 13



Ephemeral Drainage 16



Ephemeral Drainage 29



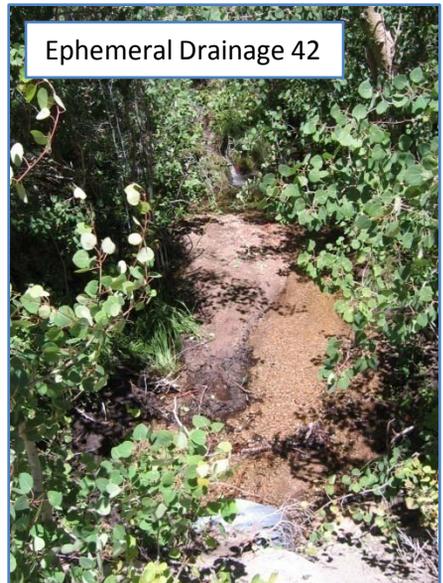
Ephemeral Drainage 31



Ephemeral Drainage 32



Ephemeral Drainage 42



NRPWs – Intermittent Drainages & Seeps.

Intermittent Drainage 13



Ephemeral Drainage 49



Seep 11



Seep 33



Seep 56



Seep 4 & Data Point 4a



RPW 44 – Rock Creek.

