ATTACHMENT E
Nevada Wetland Delineation

Prineville-to-Reno Fiber Optic Project, Nevada Reroute

Delineation of Aquatic Resources

Prepared for:

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Executive Summary

On behalf of the Zayo Group, LLC, Stantec Consulting Services Inc. (Stantec) conducted a delineation of aquatic resources for the construction of a fiber optic line from Prineville, Oregon, to Reno, Nevada (project), specifically, a 3.4 mile section of the Nevada segment of the project which was moved to the north side of U.S. Highway 395 (US 395). The study area is in Washoe County, Nevada, and encompasses approximately 108 acres. 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 (Version 2.0)* (USACE 2008a). The field delineation was conducted from November 4, 2020, to November 6, 2020. A total of 1.840 acres (ac) (1,716 linear feet [lf]) of potential waters of the United States were delineated and mapped within the study area, including riparian wetlands (1.304 ac), fresh emergent wetlands (0.012 ac) and intermittent streams (0.524 ac, 1,716 lf). Excluded features mapped in the study area total 0.412 acre (9,094 lf) and include ephemeral streams (0.162 ac, 2,219 lf) and non-vegetated ditches (0.250 ac, 6,875 lf).

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

If USACE wishes to conduct a field verification, they do not need landowner permission as the study area is within the Nevada Department of Transportation right-of-way along US 395.

Abbreviations

ac	acre
CFR	Code of Federal Regulations
ºF	degrees Fahrenheit
FAC	facultative
ft	foot/feet
lf	linear feet
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWPR	Navigable Waters Protection Rule
OHWM	ordinary high water mark
project	construction and operation of a fiber optic line from Prineville, Oregon, to Reno, Nevada
Stantec	Stantec Consulting Services Inc.
US 395	U.S. Highway 395
USACE	U.S. Army Corp of Engineers
USFWS	U.S. Fish and Wildlife Service
WETS	Wetland Station
WGS 84	World Geodetic System 1984

1.0 PROJECT LOCATION

The construction of a fiber optic line from Prineville, Oregon, to Reno, Nevada (project), specifically the new 3.4 mile section of the Nevada segment is located in the southern portion of Washoe County, Nevada. The study area encompasses approximately 108 acres (ac) and consists of a linear alignment running approximately 3.4 miles along the north side of U.S. Highway 395 (US 395) from near the west bound on ramp for exit 80 (Cold Springs Valley) to the west bound off ramp for exit 78 (Red Rock). The study is entirely within the US 395 Nevada Department of Transportation right-of-way. The study area is located within the following 7.5-minute U.S. Geological Survey quadrangles: *Reno NW* and *Verdi*.

The approximate center of the study area is located at latitude 39.635724º, longitude 119.941409º (World Geodetic System of 1984 [WGS 84]). The study area is shown in Appendix A (Figure 1).

2.0 ENVIRONMENTAL SETTING

2.1 CURRENT/RECENT LAND USE

The study area consists of and is bounded by residential, commercial, agricultural, and undeveloped properties.

2.2 SITE TOPOGRAPHY AND ELEVATION

The topography of the study area varies from flat valley floors to foothills. The study area is within Cold Spring Valley and Lemmon Valley, with the start and end of the reroute occurring along the valley floors. The majority of the reroute is within the foothills of the Granite Hills going through Dry Lake Summit. Within the study area, elevation ranges from about 5,000 feet (ft) to 5,400 ft mean sea level.

2.3 CLIMATE

Climate within the study area is based on historical weather data collected at Stead, Nevada, Wetland Station (WETS) (NOAA 2020). The WETS is located in southern Washoe County, approximately 0.35 mile north of the study area:

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

Precipitation: Precipitation in southern Washoe County occurs as both rain and snow. The average annual rainfall is approximately 10.66 inches, and the average annual snowfall is approximately 16.6 inches.

Air Temperature: Air temperatures in the study area range between an average January high of 44.2 degrees Fahrenheit (ºF) and an average July high of 89.1ºF. The annual average high is approximately 65.0ºF.

Growing Season: The growing season (i.e., 50 percent probability of air temperature 28ºF or higher) in the study area is approximately 174 days and occurs between April and October.

2.4 HYDROLOGY/HYDROLOGIC FEATURES

The primary hydrologic features in the study area include intermittent and ephemeral streams. All streams flowing through the study area west of Dry Lake Summit carry water to White Lake in Cold Springs Valley. White Lake is an alkaline lake that is usually dry throughout the year. East of Dry Lake Summit, water from the adjacent foothills flows through intermittent and ephemeral creeks to Silver Lake in Lemmon Valley, approximately 1 mile north of the study area.

2.5 SOIL MAP UNITS

Eleven soil map units occur in the study area. None of the soils are considered hydric; however, five soil map units have hydric components. They are described in the *Washoe County, Nevada, South Part Soil Survey* (NRCS 2020):

Table 1 includes the five soil map units in the study area with hydric components. Table 1 also provides the drainage class and depth to restrictive layer for the soil map units with hydric components. All soil map units within the study area are described in Appendix B and shown in Appendix A (Figures 2-1 through 2-7).

Table 1: Soil Map Units in the Study Area

Map Unit Name Taxonomy	Map Unit Reference Code	Drainage Class	Depth to Restrictive Layer (cm)	Hydric Soils
Northmore sandy loam, 4 to 8 percent slopes	202	Well drained	>200	No, except swales
Cassiro gravelly sandy loam, 2 to 4 percent slopes	250	Well drained	165	No, except swales
Cassiro gravelly sandy loam, 4 to 8 percent slopes	251	Well drained	165	No, except swales
Cassiro gravelly sandy loam, 8 to 15 percent slopes	252	Well drained	165	No, except swales
Fettic loam	831	Somewhat poorly drained	>200	No, except floodplains

Note:
cm = centimeters

2.6 VEGETATION COMMUNITIES

Vegetation communities are based on descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Four vegetation communities occur within the study area and are described below.

Montane Riparian. The montane riparian community occurs along streams throughout the study area. Within the study area, this community primarily dominated by riparian shrub species, including interior rose (*Rosa woodsii*), sandbar willow (*Salix exigua*), Lemmon's willow (*Salix lemmonii*), and Geyer's willow (*Salix geyeriana*), with the occasional Fremont cottonwood (*Populus fremontii*). Herbaceous species observed in riparian habitat include American brooklime (*Veronica americana*), willow dock (*Rumex salicifolius*), Chilean beard grass (*Polypogon australis*), and slender willow herb (*Epilobium ciliatum*).

Sagebrush. The sagebrush community occurs in a variety of topographic settings and is the most common vegetation community in the study area. This shrub community is characterized by big sagebrush (*Artemisia tridentata*) and is dominant in the shrub layer. In some stands it is the only dominant shrub species and occurs with grasses and forbs in the herbaceous layer, including crested wheatgrass (*Agropyron cristatum*), cheatgrass (*Bromus tectorum*), and curlycup gumweed (*Grindelia squarrosa*). In other stands, it co-dominates with rubber rabbitbrush (*Ericameria nauseosa*) and bitterbrush (*Purshia tridentata*).

Riverine. Riverine includes the non-vegetated portions of intermittent streams in the study area and consists of non-vegetated stream channels dominated by gravel and sand.

Barren. Under Mayer and Laudenslayer (1988), barren includes areas that naturally or artificially contains less than 2 percent herbaceous vegetation cover or less than 10 percent tree or shrub cover. In the study area, barren mainly occurs in areas that are not vegetated due to human activity and land use. These areas include roads and road shoulders.

3.0 METHODS

Stantec Consulting Services Inc. (Stantec) conducted an onsite 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). The routine delineation includes a standard 3-parameter pair of data points to determine wetland features, other waters, and uplands. This methodology is consistent with the approach outlined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a). Plant taxonomy follows *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012), including applicable errata and revisions (Jepson Flora Project 2020). Stantec confirmed wetland indicator status' for plant species using *The National Wetland Plant List* (USACE 2018), and the "50/20 Rule" or "Prevalence Index" was applied to determine plant dominance (USACE 2008a). Presence of primary and secondary wetland hydrology indicators were documented for potential aquatic resources. The OHWM was determined using the approach outlined in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b).

Soil pits were dug in representative wetland features, adjacent uplands, and suspect areas 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. Stantec evaluated soils for positive indicators of hydric soils in the field following the criteria outlined in *Field Indicators of Hydric Soils in the United States* (Vasilas et al. 2018). 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* (NRCS 2020).

Other waters are defined as traditional navigable waters and their tributaries (33 Code of Federal Regulations [CFR] 329). Delineation of other waters was based on presence of an OHWM as defined in U.S. Army Corps of Engineers (USACE) regulations (33 CFR 328.3 and 33 CFR 328.4). 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. These data points were used to collect information regarding the OHWM, along with dominant substrate, anthropogenic influences, and other features (floodplain, low flow channel, etc.) associated with the other waters' type.

Prior to conducting the onsite routine delineation, the U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) Wetlands Mapper (USFWS 2020) was reviewed to determine if any surface water and wetland features were previously mapped in the study area and general vicinity. Surface water and wetland features within the NWI are described by the Cowardin et al. (1979) system, as amended by subsequent updates (Federal Geographic Data Committee 2013). Non-riparian features delineated during the onsite routine delineation were classified using the Cowardin et al. (1979) system based on existing NWI mapping or assigned a Cowardin type if not previously mapped. Stantec used the U.S. Fish and

Wildlife Service's A System for Mapping Riparian Areas in the Western United States to classify riparian features (USFWS 2009). The USACE Aquatic Resources Excel spreadsheet, which includes specific information about the wetland and other waters features delineated including their Cowardin or riparian type, was completed and is included in Appendix C.

Ten data points were established in the study area and were used to characterize and document each wetland, the adjacent upland or other water feature type, and suspect areas. In situations where wetland and other water features supported similar characteristics (e.g., vegetation composition, indicators of hydrology, or OHWM indicators) one set of data points was collected and applied to similar features. The boundaries of delineated features and the associated data points were mapped using a sub-meter-accurate Arrow Global Positioning Service Unit paired with Apple iPhone loaded with Collector for ArcGIS. All spatial data were collected in the WGS 84 datum. Field data were collected from November 4, 2020 to November 6, 2020.

3.1 NAVIGABLE WATERS PROTECTION RULE AND EXCLUDED FEATURES

The Navigable Waters Protection Rule (NWPR) went into effect on June 22, 2020, in all states and jurisdictions except the State of Colorado and replaces all previous agency guidance documents, memoranda, and materials. The NWPR establishes the limit of federal regulatory authority by defining "waters of the United States" as follows:

- The territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide;
- Tributaries;
- Lakes and ponds, and impoundments of jurisdictional waters; and
- Adjacent wetlands.

The NWPR specifically clarifies that "waters of the United States" do not include the following:

- Groundwater, including groundwater drained through subsurface drainage systems;
- ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools;
- diffuse stormwater runoff and directional sheet flow over upland;
- ditches that are not traditional navigable waters, tributaries, or that are not constructed in adjacent wetlands, subject to certain limitations;
- prior converted cropland;
- artificially irrigated areas that would revert to upland if artificial irrigation ceases;

- artificial lakes and ponds that are not jurisdictional impoundments and that are constructed or excavated in upland or non-jurisdictional waters;

- water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel;

- stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater run-off;

- groundwater recharge, water reuse, and wastewater recycling structures constructed or excavated in upland or in non-jurisdictional waters; and

- waste treatment systems.

To provide further clarity the NWPR provides regulatory definitions for key terms including the following:

- Tributary – A river, stream, or similar naturally occurring surface water channel that contributes surface water flow to a water of the United States in a typical year either directly or through one or more “waters of the United States”. A tributary must be perennial or intermittent in a typical year. The alteration or relocation of a tributary does not modify its jurisdictional status as long as it continues to satisfy the flow conditions of this definition. A tributary does not lose its jurisdictional status if it contributes surface water flow to a downstream jurisdictional water in a typical year through a channelized non-jurisdictional surface water feature, through a subterranean river, through a culvert, dam, tunnel, or similar artificial feature, or through a debris pile, boulder field, or similar natural feature. The term tributary includes a ditch that either relocates a tributary, is constructed in a tributary, or is constructed in an adjacent wetland as long as the ditch satisfies the flow conditions of this definition.

- Ephemeral – surface water flowing or pooling only in direct response to precipitation, such as rain or snow fall.

- Intermittent – surface water flowing continuously during certain times of the year and more than in direct response to precipitation (e.g., seasonally when the groundwater table is elevated or when snowpack melts). Where “certain times of the year” means extended periods (i.e., weeks or months) of predictable, continuous surface flow occurring in the same geographic feature year after year.

- Perennial – surface water flowing continuously year-round.

- Ditch – a constructed or excavated channel used to convey water.

4.0 RESULTS AND DISCUSSION

Potential waters of the United States occur in the study area as wetlands and other waters. Wetlands include riparian wetland and fresh emergent wetland. Other waters include intermittent streams.

The boundaries and areas of potential waters of the United States occurring in the study area are illustrated in Appendix A (Figure 3). A total of 1.841 ac of potential waters of the United States were delineated. A summary of the delineated potential waters of the United States is presented in Table 2. Routine wetland and OHWM determination data forms are presented in Appendix D. A plant list is provided in Appendix E. Representative photographs of the delineated features and data point locations are presented in Appendix F.

Table 2: Potential Waters of the United States Summary

Potential Waters of the United States	Total Acres	Total Linear Feet	Cowardin Type[1]
Wetlands			
Riparian Wetland	1.304	N/A	RP1SS
Fresh Emergent Wetland	0.012	N/A	RP1EM
Other Waters			
Intermittent Stream	0.524	1,716	R4SB
Total Potential Waters of the United States	**1.840**	**1,716**	**N/A**

Notes:
1. Cowardin et al. 1979; USFWS 2009
N/A = not applicable
RP1EM = Palustrine Emergent
RP1SS = Palustrine Scrub-Shrub
R4SB = Riverine Intermittent, Streambed

4.1 WETLANDS

4.1.1 Riparian Wetland

Riparian wetlands occur along intermittent streams within the study area. These features generally include a shrub stratum and an herbaceous stratum within the stream channel. Dominant plant species occurring in these features include sandbar willow, Lemmon's willow, Geyer's willow, willow dock, Chilean beard grass, and slender willow herb which collectively satisfy the hydrophytic vegetation criterion. Wetland hydrology is provided by evidence of frequent flooding including sediment deposits (B2), drift

deposits (B3) drainage patterns (B10) and long-duration saturation indicated by facultative (FAC)-neutral test (D5). Hydric soils are problematic in that these features occur within the OHWM of intermittent streams and the soils lacked typical hydric soil indicators likely due to the seasonal and annual depositions of new soil material, low iron and manganese content, and low organic matter content.

4.1.2 Fresh Emergent Wetland

One fresh emergent wetlands occurs within an intermittent stream channel. It is dominated by one species that satisfies the hydrophytic vegetation criterion: broad-leaf cattail (*Typha latifolia*). Primary indicators of wetland hydrology include a high water table at 6 inches (A2) and saturation at the soil surface (A3). Other indicators observed provide evidence of frequent flooding including sediment deposits (B2), drift deposits (B3) and long-duration saturation indicated by FAC-neutral test (D5). The hydric soil criterion is met through the observation of a depleted matrix (F3).

4.2 OTHER WATERS

4.2.1 Intermittent Stream

Intermittent streams include natural drainages that exhibit an OHWM and convey waters intermittently during the late fall, winter, and spring months. Hydrology is provided by both precipitation and groundwater discharge. Larger intermittent streams may support a well-developed riparian corridor. Unnamed intermittent streams occur throughout the study area and are characterized as bed and bank features that exhibit indicators of an OHWM, including a break in bank slope; water marks on rocks; and change in average sediment texture, vegetation species, and vegetation cover. Dominant substrate ranges from sand to cobbles. OHWM width ranges from 1 to 14 ft and depth ranges from 0.4 to 6 ft.

4.3 EXCLUDED FEATURES

This delineation report was prepared to support an Approved Jurisdictional Determination from the USACE. As such, aquatic resources that meet wetland criteria or exhibit an OHWM but that do not meet the definition of waters of the United States as defined by the NWPR were classified and mapped as excluded features.

Excluded features occur in the study area as ephemeral streams and non-vegetated ditches and occupy a total of 0.412 ac. Table 3 provides a summary of excluded features and their locations are shown on Figure 3, Appendix A.

Table 3: Excluded Features Summary

Excluded Features	Total Acres	Total Linear Feet	Cowardin Type[1]
Ephemeral Stream	0.162	2,219	R4
Non-Vegetation Ditch	0.250	6,263	R4
Total Excluded Features	**0.412**	**9,094**	**N/A**

Notes:
1. Cowardin et al. 1979
R4 = Riverine Intermittent

4.3.1 Ephemeral Stream

Ephemeral streams include natural drainages that exhibit an OHWM and convey waters during and directly after precipitation events. These drainage channels are usually located above the groundwater reservoir and lack a well-developed riparian corridor. Ephemeral streams occur throughout the study area and are characterized as bed and bank features that exhibit indicators of an OHWM, including a break in bank slope and change in average sediment texture, vegetation species, and vegetation cover. Dominant substrate ranges from cobble and pebbles to sand. OHWM and top of bank width ranges from 1 to 8 ft, and depth ranges from 0.4 to 1.5 ft.

4.3.2 Non-Vegetated Ditch

Non-vegetated ditches are human-made linear features that support ephemeral or intermittent flow but lack hydrophytic vegetation within the ditch. Non-vegetated ditches occur throughout the study area and are characterized as a bed and bank feature that exhibit indicators of an OHWM, including break in bank slope, and change in average sediment texture and vegetation cover. Dominant substrate ranges from gravel, sand, and hardscape (i.e., asphalt from old road bed). OHWM width ranges from 1 to 3 ft, and depth ranges from 0.25 to 3 ft. These ditches receive roadside runoff from US 395 or were constructed to intercept sheet flow from eroding the road cut for US 395.

5.0 CONCLUSION

Potential waters of the United States delineated within the study area occupy a total of 1.840 ac, 1,716 lf and include wetlands and other waters. Excluded features occupy a total of 0.412 ac, 9094 lf and include other waters. Table 4 provides a summary of all aquatic resources.

Table 4: Aquatic Resources Summary Table

Potential Waters of the United States	Total Acres	Total Linear Feet
Wetlands	1.316	N/A
Other Waters	0.524	1,716
Total Potential Waters of the United States	**1.840**	**1,716**
Excluded Features		
Other Waters	**0.412**	**9,094**

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

6.0 REFERENCES

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APPENDIX A
FIGURES

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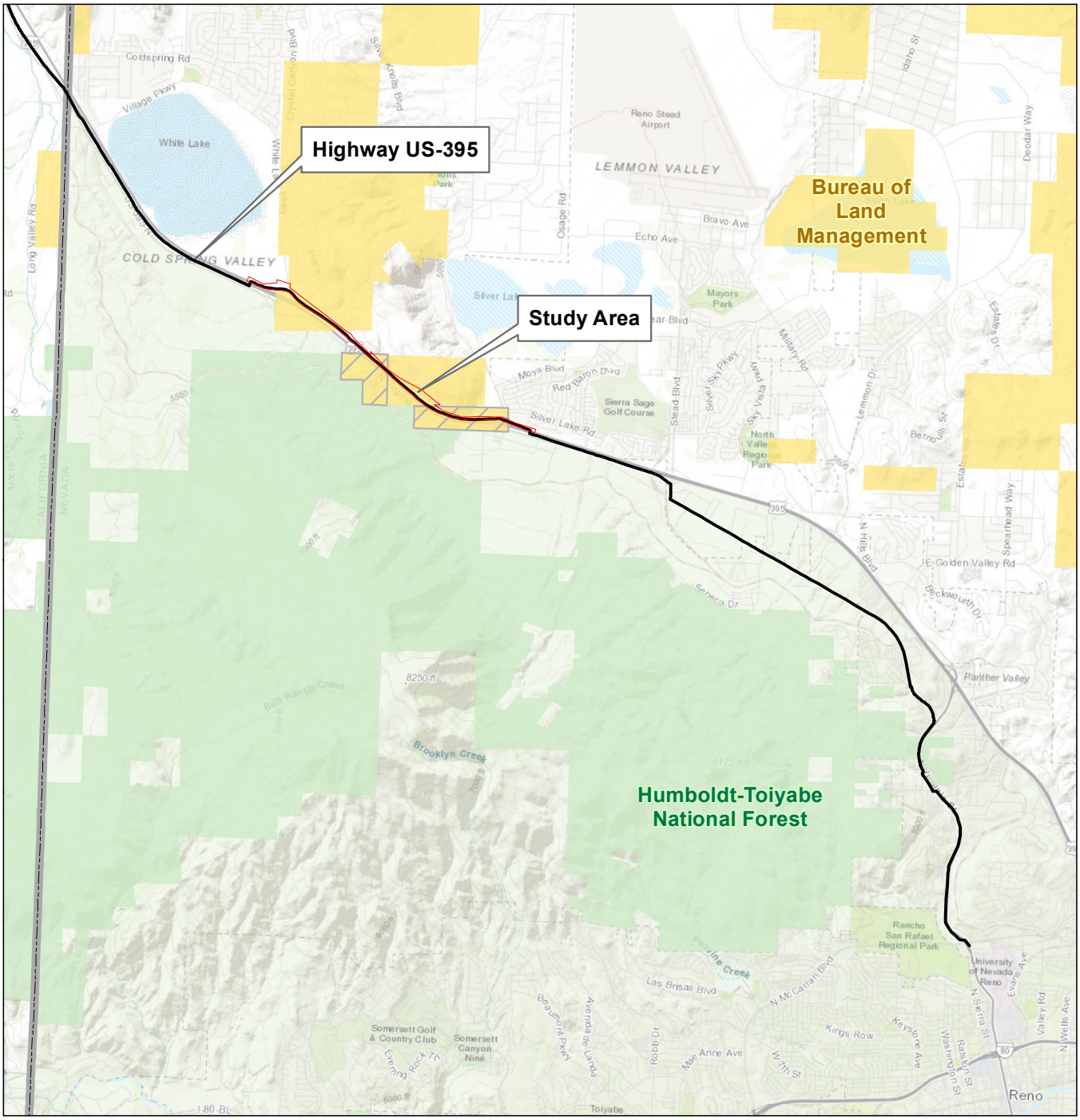
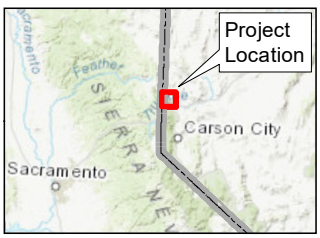




- CA/NV Border - Reno Alignment
- Study Area
- Humboldt-Toiyabe National Forest
- Bureau of Land Management (BLM)
- BLM Uncertain
- Private or Undefined

0 3,500 7,000 Feet

1:100,000 (at original document size of 8.5x11)

N

Stantec

Project Location
Prineville, OR to Reno, NV

227202001
Prepared by JC on 2020-11-25
Technical Review by ST on 2020-11-25
Independent Review by GY on 2020-11-25

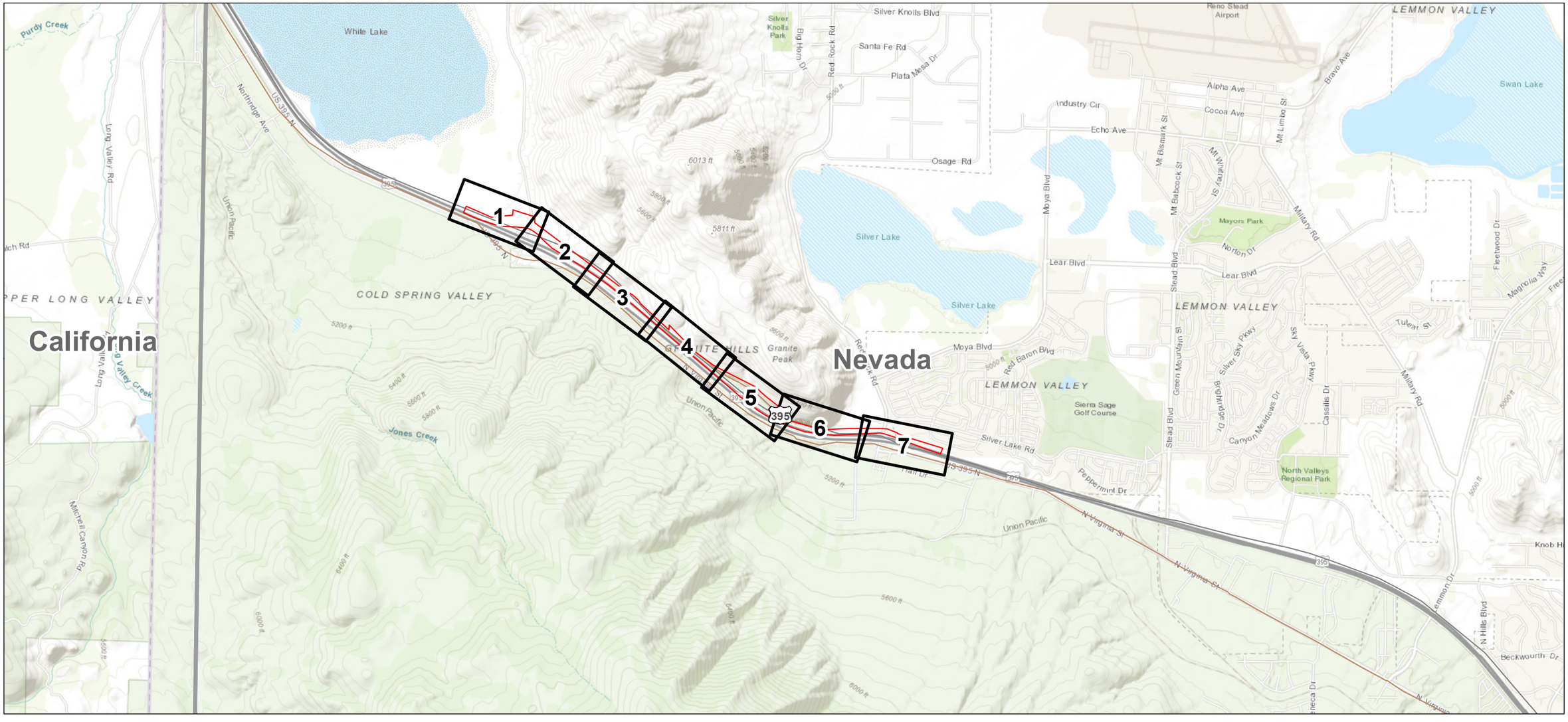
Client/Project

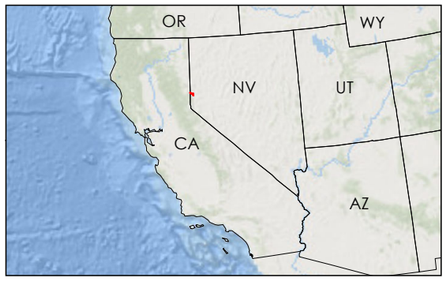
Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
1

Title
Project Location

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community





Map Index

Study Area (107.566 ac)

0 0.5 1

Miles

(At original document size of 11x17)
1 in = 1 miles

N

Notes

1. Coordinate System: NAD 1983 StatePlane Nevada West FIPS 2703 Feet
2. Background: ESRI World Topographic Map web mapping service
3. Sources: Stantec, ESRI, USDA-NRCS

Stantec

Project Location
Washoe County, Nevada

Prepared by JC on 2020-11-24
TR by ST on 2020-11-24
IR by NE on 2020-11-24

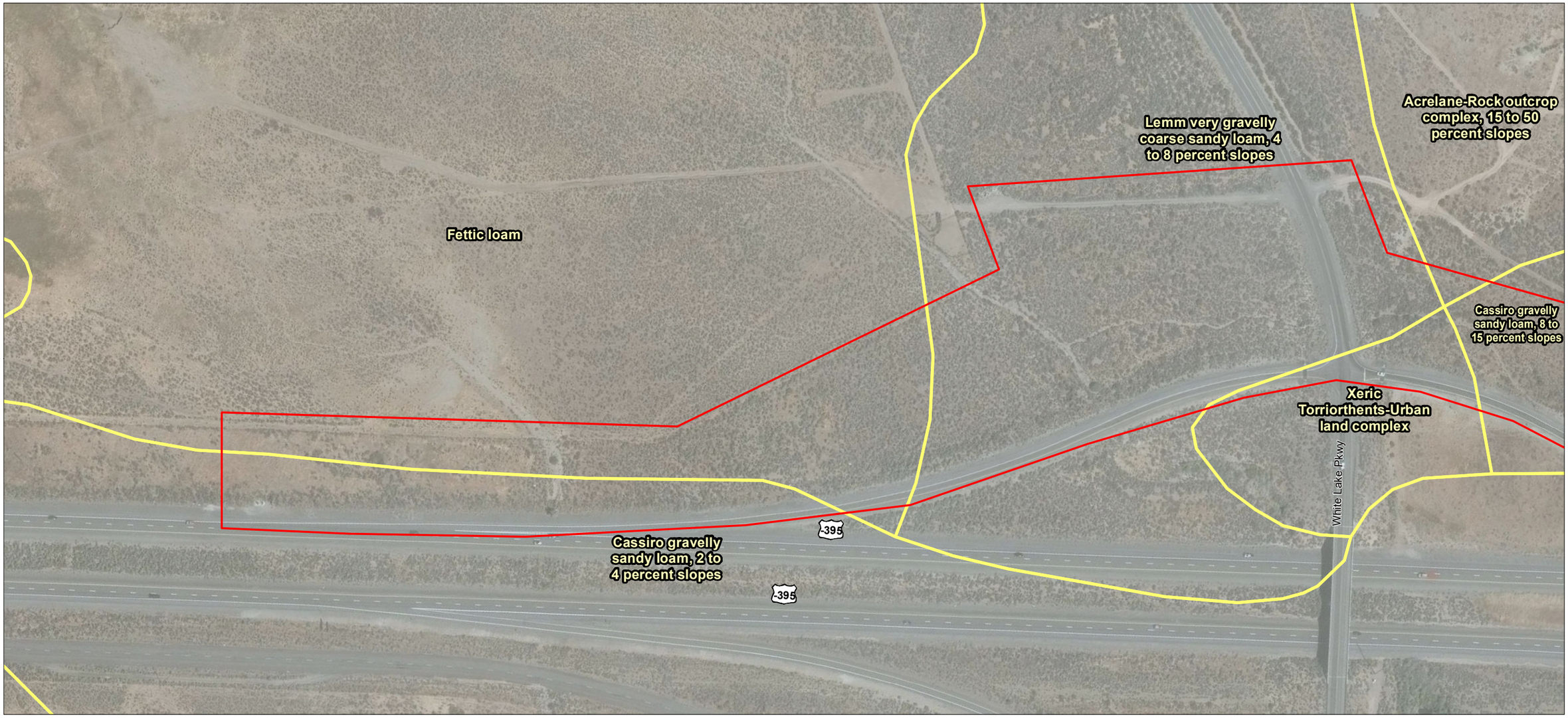
Client/Project 2272020011
Zayo Group LLC
Umatilla to Reno Fiber Optic Project (Nevada)
Wetlands Report

Figure No.
2

Title
Soils

Overview

U:\2272020011\03_data\gis_cad\gis\mxds\Wetlands\Zayo_NV_Wetlands_Figure_2_Soils_Overview_20201207.mxd Revised: 2020-12-07 By: jcomstock



Study Area (107.57 ac)
Soil Unit Boundary

0 200 400
Feet
(At original document size of 11x17)
1 in = 200 ft

N

Stantec

Project Location
Washoe County, Nevada

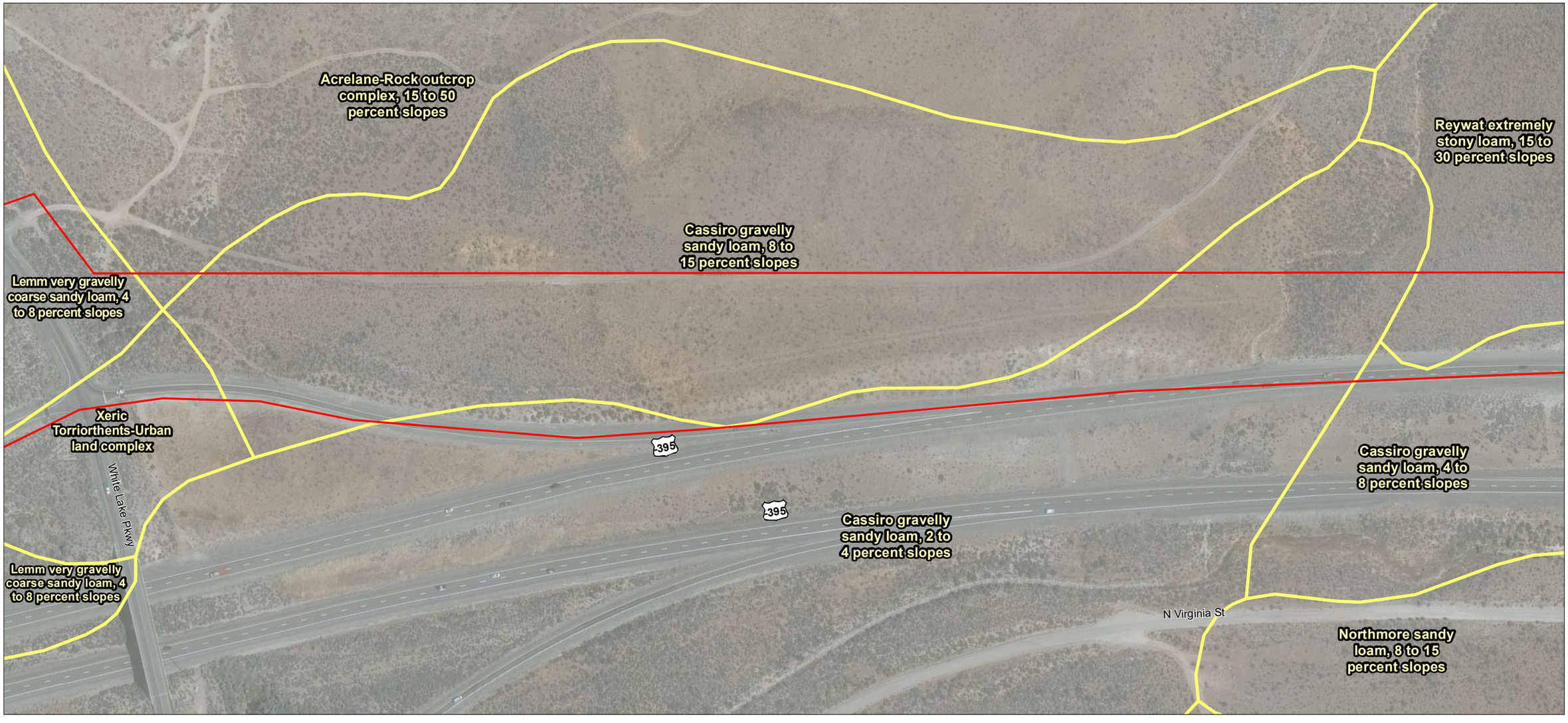
Prepared by TM on 2020-02-05

Client/Project
2272020011
Zayo Group LLC
Umatilla to Reno Fiber Optic Project (Nevada)
Wetlands Report

Figure No.
2-1

Title
Soils Types in the Study Area

Notes
1. Coordinate System: NAD 1983 StatePlane Nevada West FIPS 2703 Feet
2. Background: ESRI World Imagery Web Mapping Service, 9/22/2018
3. USDA NRCS Grided Soil Survey Geographic (gSSURGO), 11/06/2019



Study Area (107.57 ac)

Soil Unit Boundary

0 200 400

Feet

(At original document size of 11x17)
1 in = 200 ft

N

Stantec

Notes

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2. Background: ESRI World Imagery Web Mapping Service, 9/22/2018
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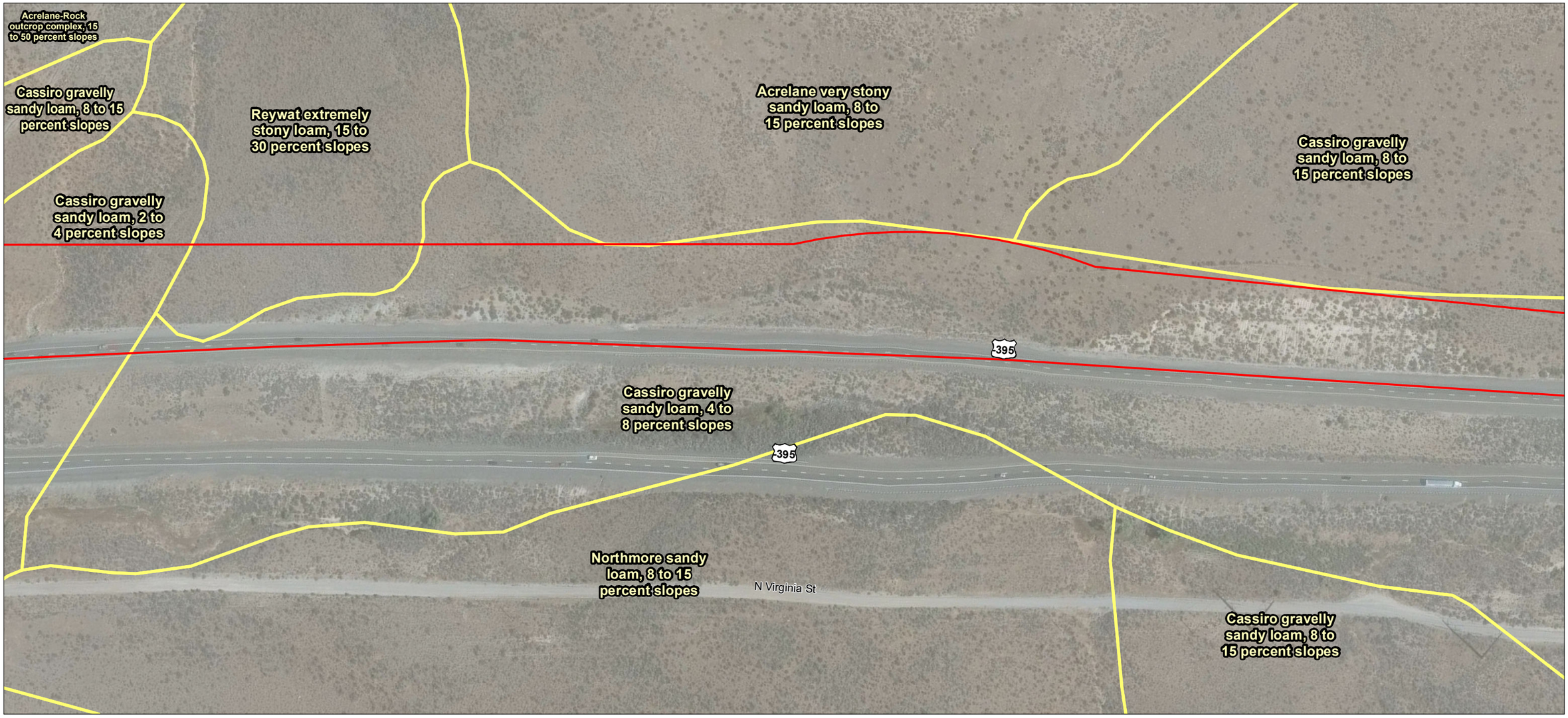
Project Location
Washoe County, Nevada

Prepared by TM on 2020-02-05

Client/Project
2272020011
Zayo Group LLC
Umatilla to Reno Fiber Optic Project (Nevada)
Wetlands Report

Figure No.
2-2

Title
Soils Types in the Study Area



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N

Stantec

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Project Location — Prepared by TM on 2020-02-05
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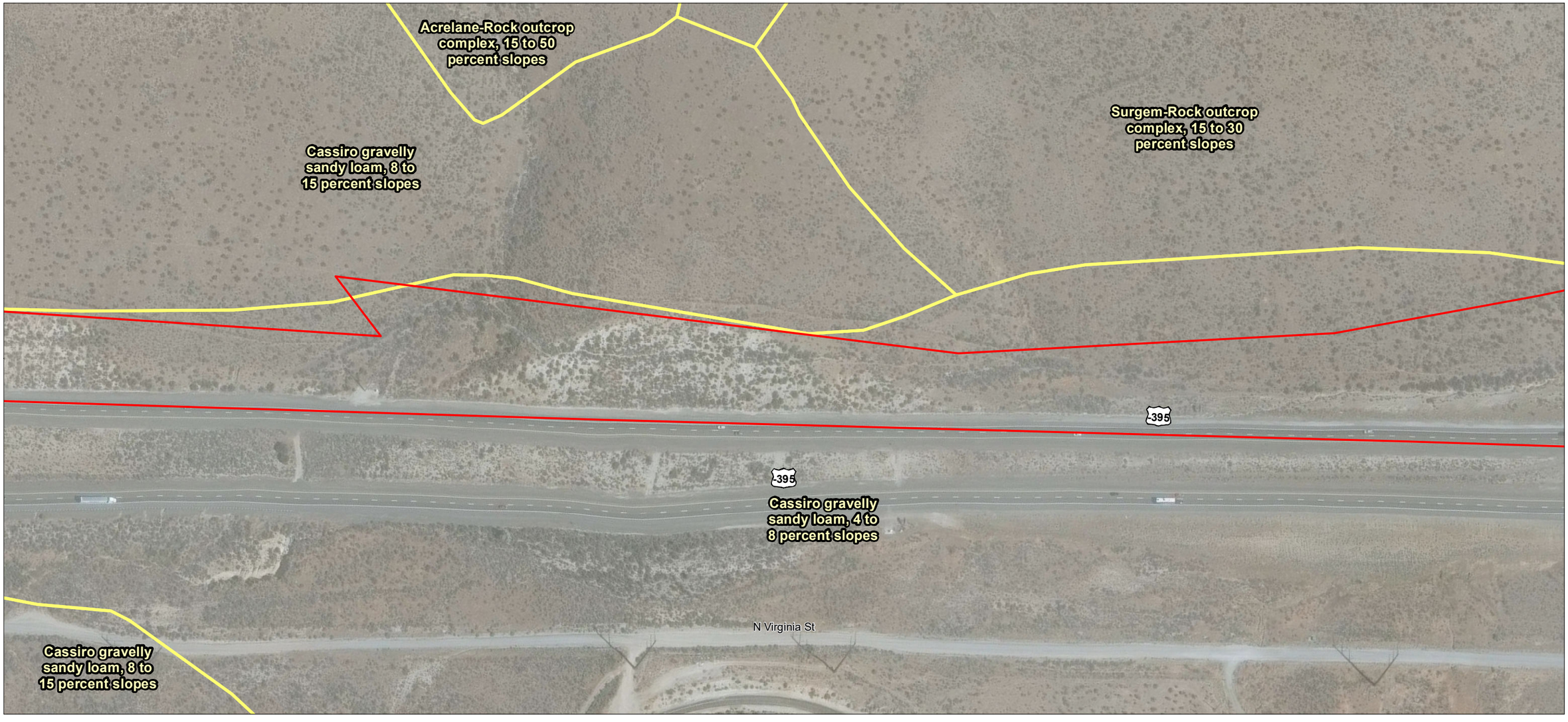
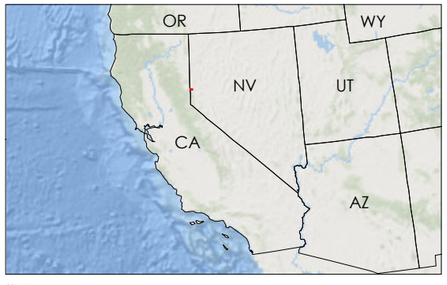
Client/Project — 2272020011
Zayo Group LLC
Umatilla to Reno Fiber Optic Project (Nevada)
Wetlands Report

Figure No.
2-3

Title
Soils Types in the Study Area





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Prepared by TM on 2020-02-05

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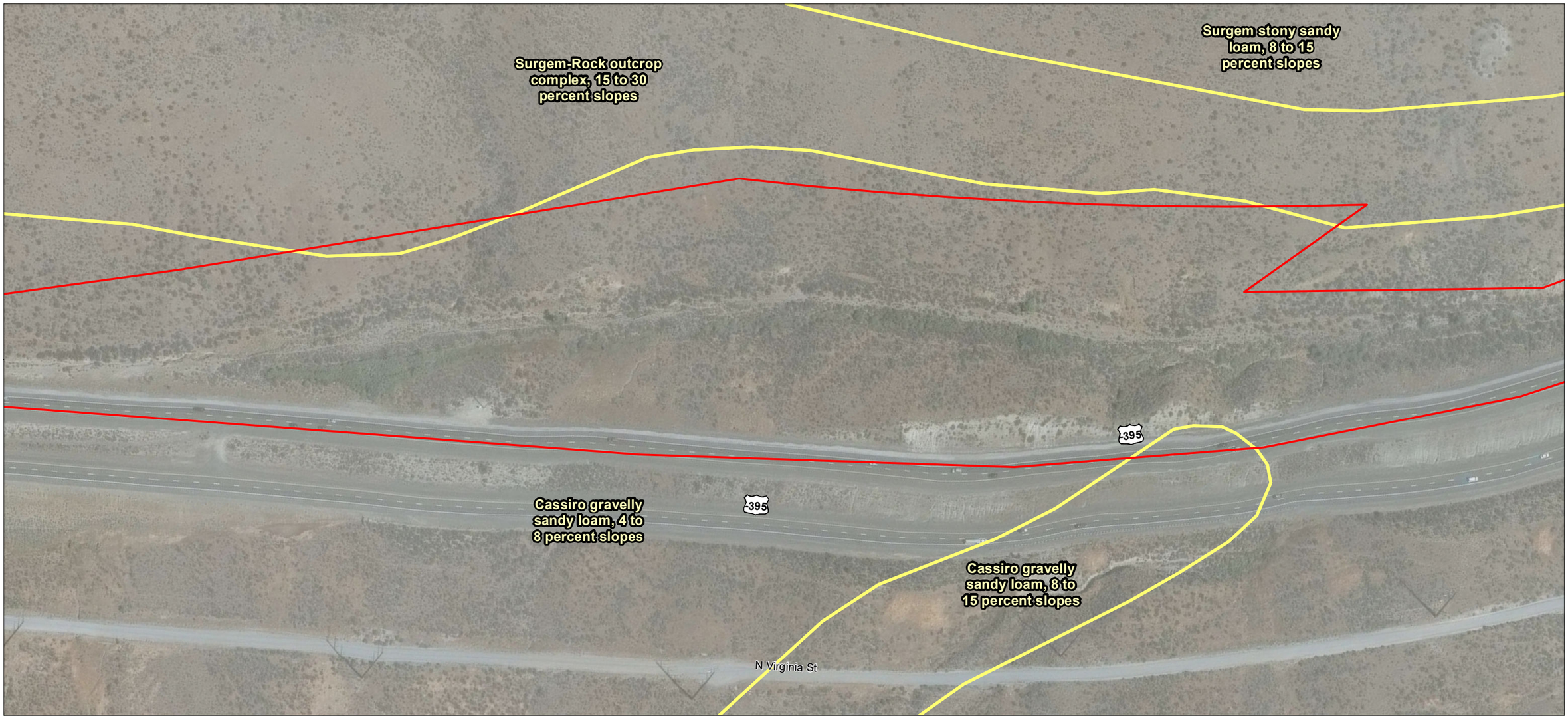
2272020011
Zayo Group LLC
Umatilla to Reno Fiber Optic Project (Nevada)
Wetlands Report

Figure No.
2-4

Title
Soils Types in the Study Area



Study Area (107.57 ac)

Soil Unit Boundary

0 200 400

Feet

(At original document size of 11x17)
1 in = 200 ft

N

Stantec

Project Location
Washoe County, Nevada

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2272020011
Zayo Group LLC
Umatilla to Reno Fiber Optic Project (Nevada)
Wetlands Report

Figure No.
2-5

Title
Soils Types in the Study Area

Notes
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2. Background: ESRI World Imagery Web Mapping Service, 9/22/2018
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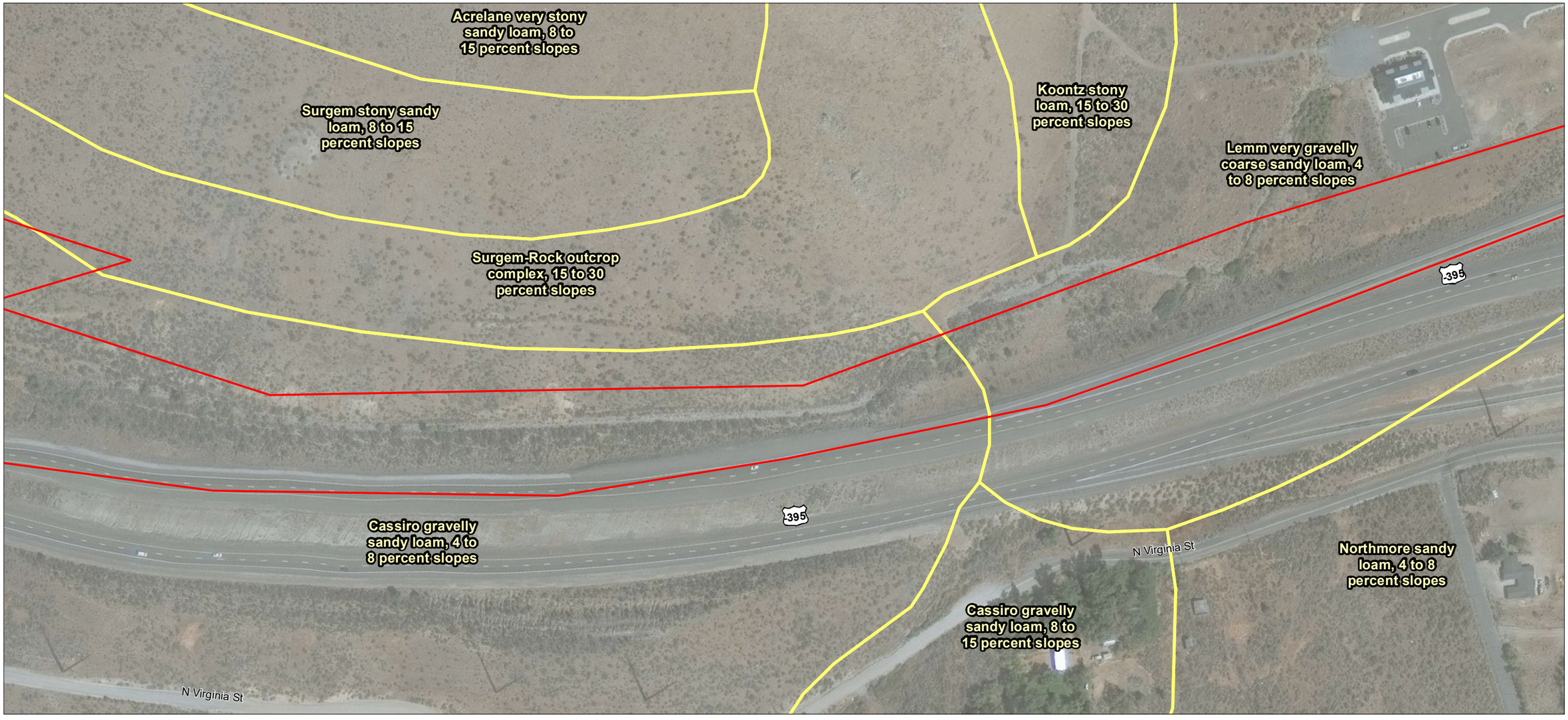

Study Area (107.57 ac)
Soil Unit Boundary

0 200 400
Feet
(At original document size of 11x17)
1 in = 200 ft

N

Stantec

Project Location
Washoe County, Nevada

Prepared by TM on 2020-02-05

Client/Project
2272020011
Zayo Group LLC
Umatilla to Reno Fiber Optic Project (Nevada)
Wetlands Report

Figure No.
2-6

Title
Soils Types in the Study Area

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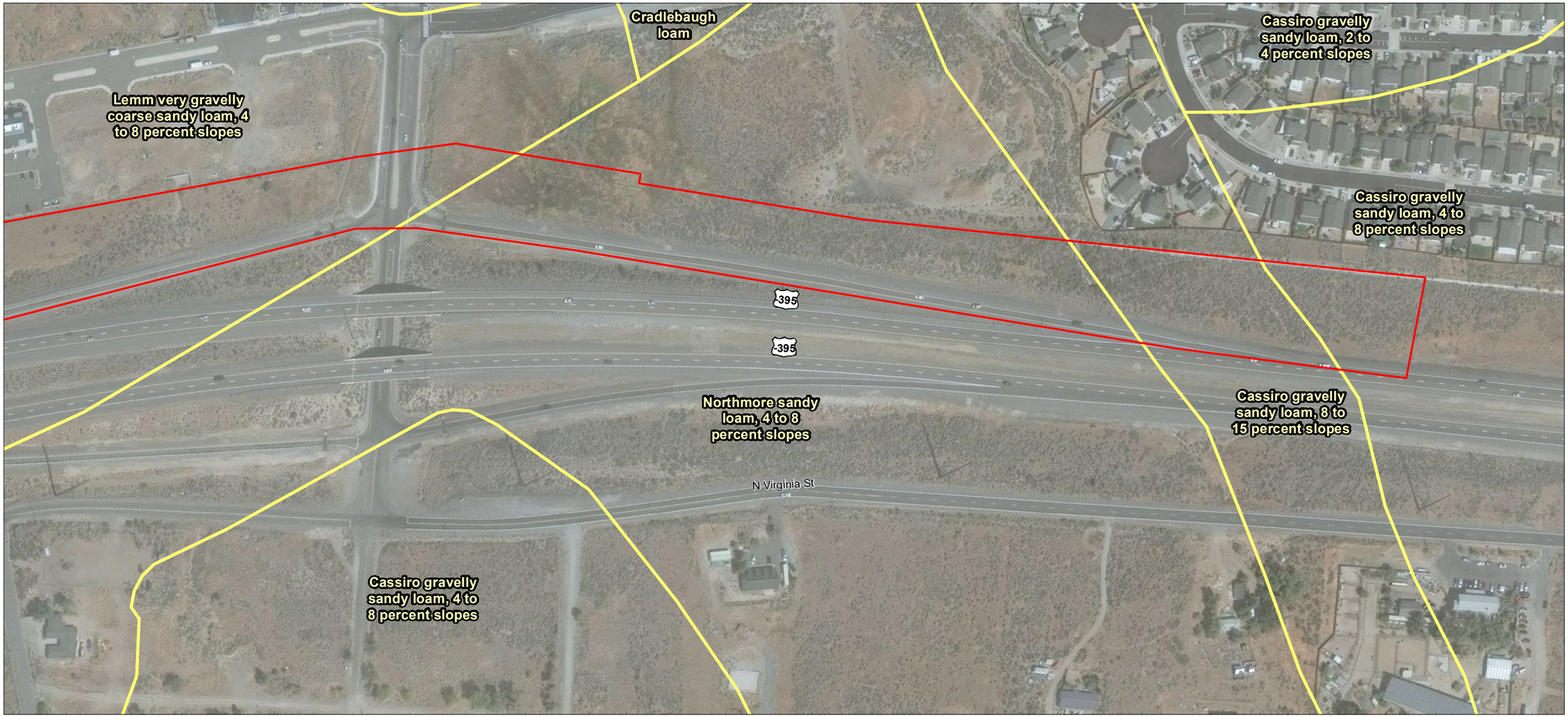
2. Background: ESRI World Imagery Web Mapping Service, 9/22/2018
3. USDA NRCS Grided Soil Survey Geographic (gSSURGO), 11/06/2019



Study Area (107.57 ac)
Soil Unit Boundary

0 200 400
Feet
(At original document size of 11x17)
1 in = 200 ft
N

Stantec

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1. Coordinate System: NAD 1983 StatePlane Nevada West FIPS 2703 Feet
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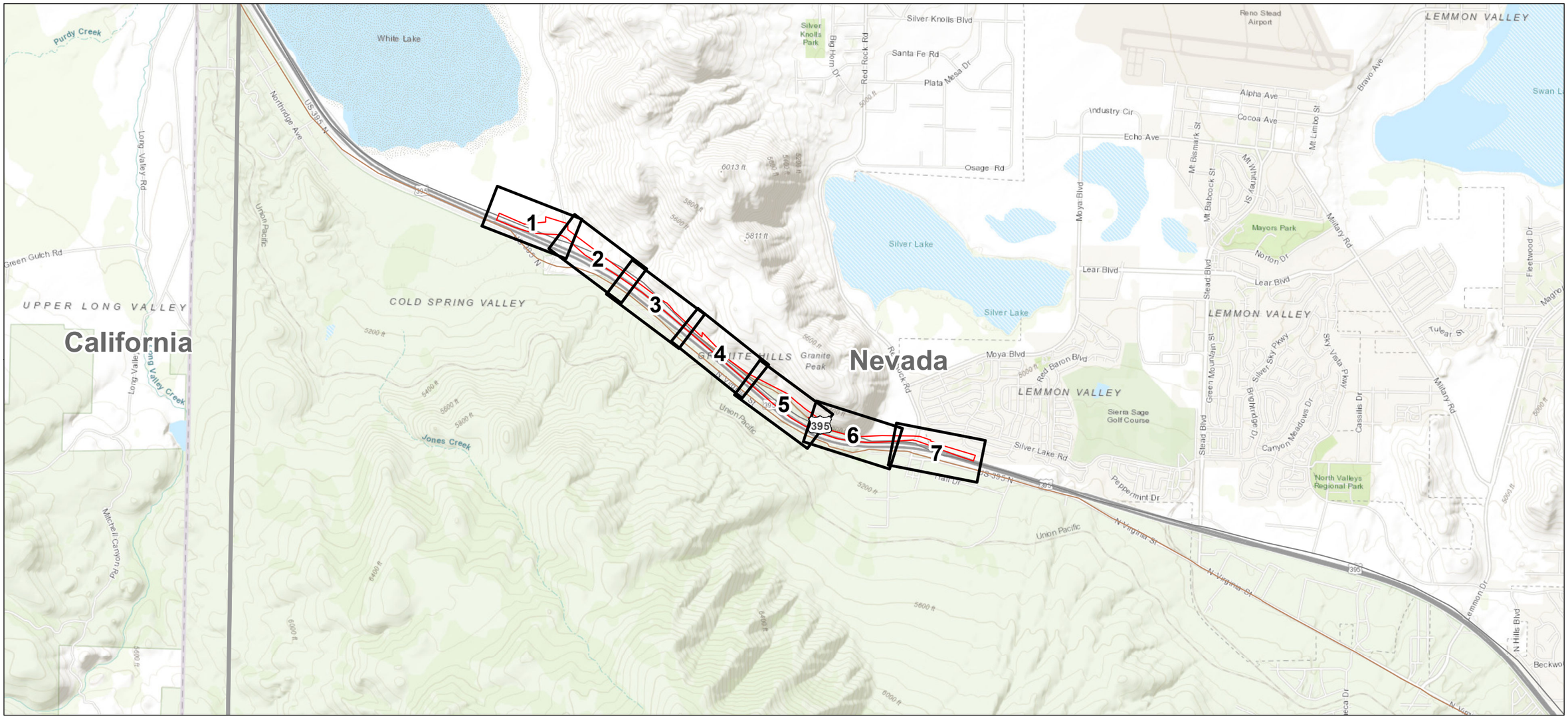
Project Location Prepared by TM on 2020-02-05
Washoe County, Nevada

Client/Project 2272020011
Zayo Group LLC
Umatilla to Reno Fiber Optic Project (Nevada)
Wetlands Report

Figure No.
2-7

Title
Soils Types in the Study Area



Notes
1. Coordinate System: NAD 1983 StatePlane Nevada West FIPS 2703 Feet
2. Background: ESRI World Topographic Map web mapping service
3. Sources: Stantec, ESRI, USDA-NRCS

- Study Area (107.566 ac)
- Map Index
- Map Reference Point
- Stream Width Transition
- Culvert
- Data Point
- Ordinary High Water Mark (OHWM)

Potential Waters of the United States

Wetlands
- Fresh Emergent Wetland (0.012 ac)
- Riparian Wetland (1.304 ac)

Other Waters
- Intermittent Stream (0.524 ac, 1,716 ft)

Excluded Features
- Ephemeral Stream (0.162 ac, 2,219 ft)
- Non-Vegetated Ditch (0.250 ac, 1,443 ft)

0 0.5 1
Miles
(At original document size of 11x17)
1 in = 1 miles

N

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Delineation Details:
1. Project: Zayo Group LLC Umatilla to Reno Fiber Optic Project (Nevada)
2. Delineators: G. Youngblood and S. Tona
3. Delineation Dates:11/4/2020-11/6/2020
4. Map Date: 11/25/2020
5. Contour data not available

Stantec

Project Location
Washoe County, Nevada

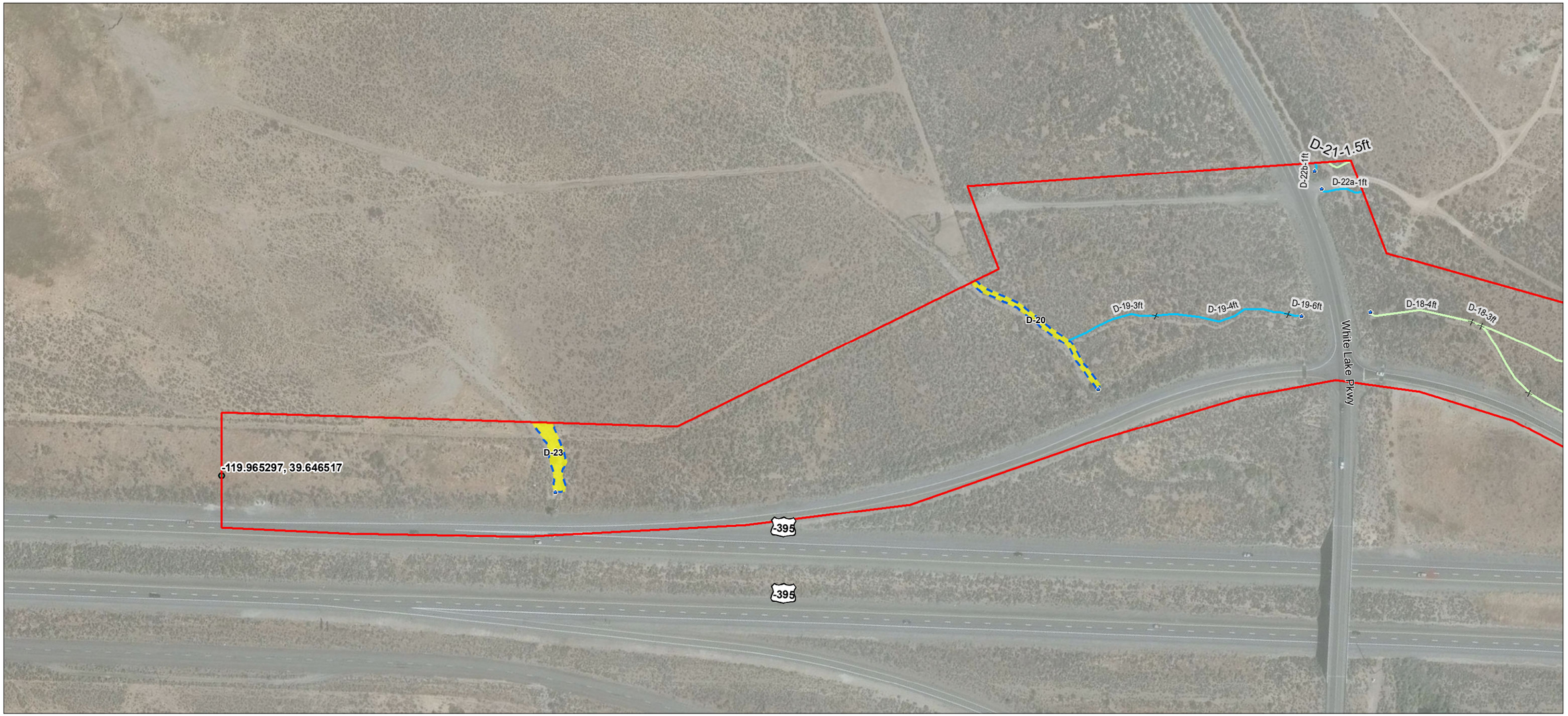
Prepared by JC on 2020-11-25
TR by ST on 2020-11-25
IR by GY on 2020-11-25

Client/Project 2272020011
Zayo Group LLC
Umatilla to Reno Fiber Optic Project (Nevada)
Wetlands Report

Figure No.
3

Title
Aquatic Resources

Overview



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3. Sources: Stantec, ESRI, USDA-NRCS

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0 200 400
Feet
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Client/Project
2272020011
Zayo Group LLC
Umatilla to Reno Fiber Optic Project (Nevada)
Wetlands Report

Figure No.
3

Title
Aquatic Resources

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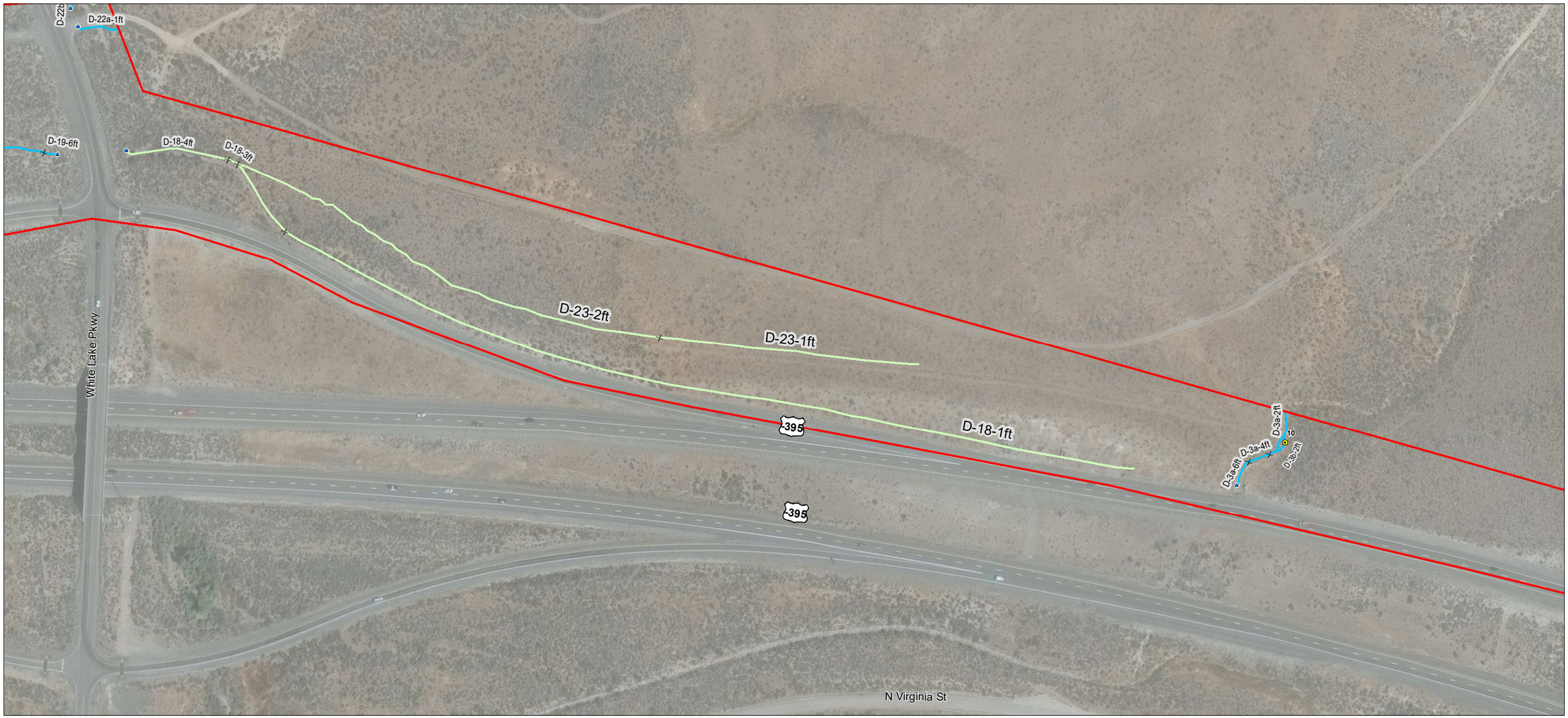

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- Culvert
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Stantec

Project Location
Washoe County, Nevada

Prepared by JC on 2020-11-25
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Client/Project 2272020011
Zayo Group LLC
Umatilla to Reno Fiber Optic Project (Nevada)
Wetlands Report

Figure No.
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Title
Aquatic Resources

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Zayo Group LLC
Umatilla to Reno Fiber Optic Project (Nevada)
Wetlands Report

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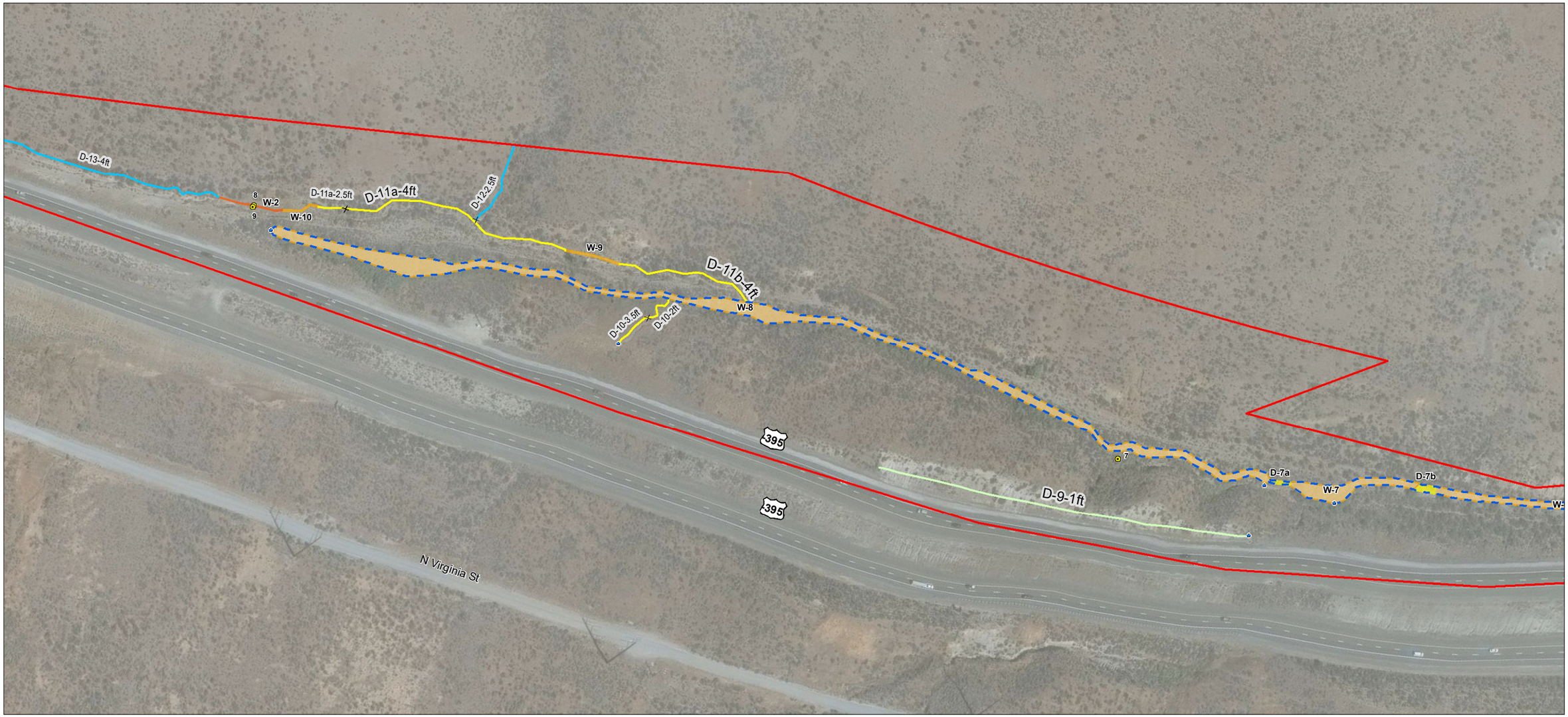
Aquatic Resources



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Wetlands Report

Figure No.
3

Title
Aquatic Resources

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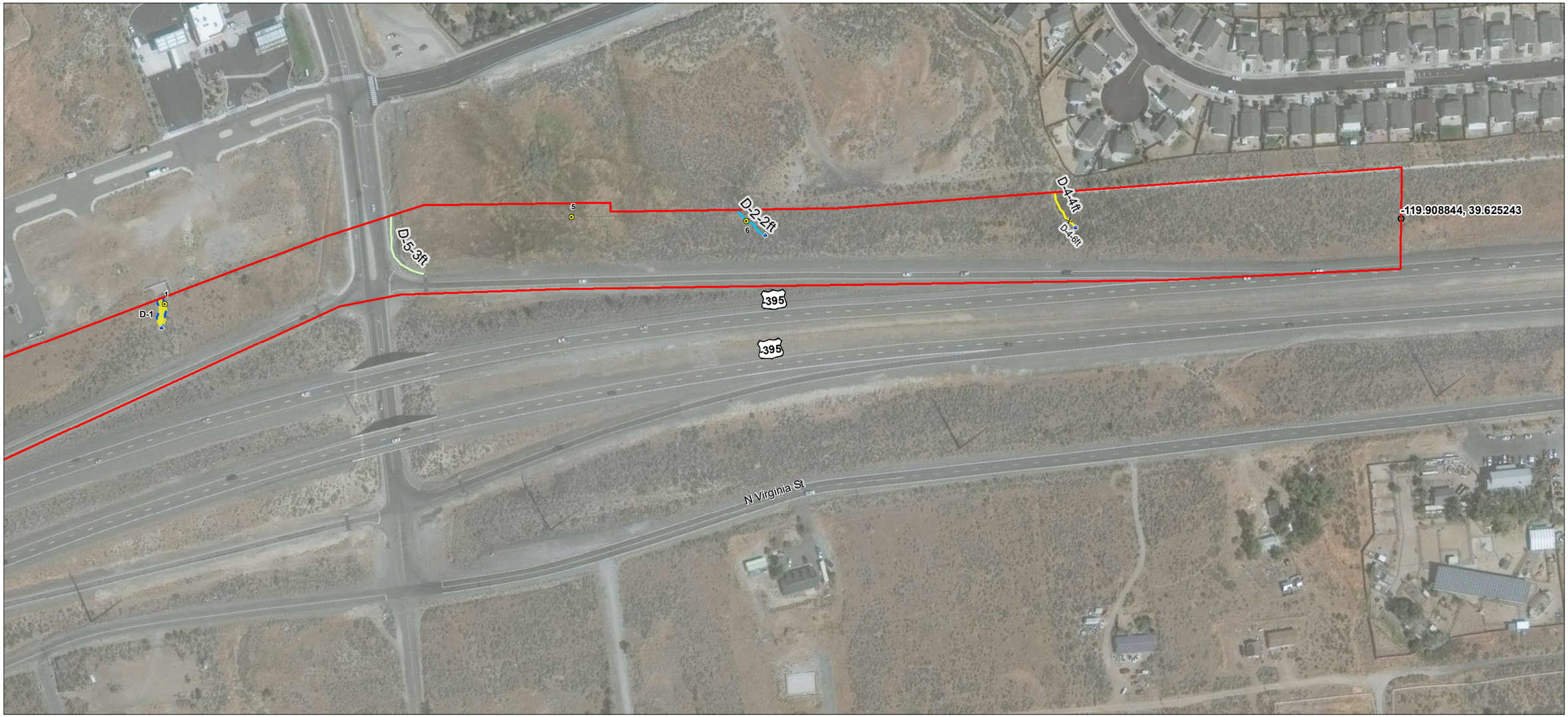

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Wetlands Report

Figure No.
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Aquatic Resources

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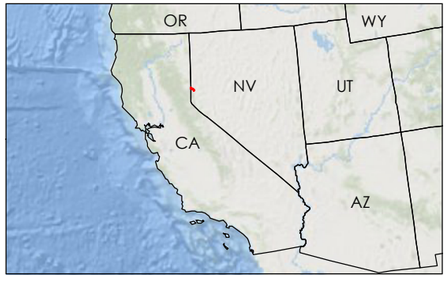
Summary of Potential Waters of the United States

Wetlands							
Label	**Type**	**Cowardin Type**	**cation (x,y) (DD)**		**Acres**	**Lenth (ft)**	**Width (ft)**
W-1	Riparian Wetland	PSS1	-119.919883	39.627006	0.044	--	--
W-3	Riparian Wetland	RP2SS	-119.920163	39.62701	0.025	--	--
W-4	Riparian Wetland	RP2SS	-119.920427	39.626911	0.055	--	--
W-5	Riparian Wetland	RP2SS	-119.922197	39.627017	0.097	--	--
W-6	Riparian Wetland	RP2SS	-119.926439	39.627637	0.165	--	--
W-7	Riparian Wetland	RP2SS	-119.927958	39.628159	0.119	--	--
W-8	Riparian Wetland	RP2SS	-119.931615	39.630137	0.784	--	--
W-9	Riparian Wetland	RP2SS	-119.932363	39.630771	0.010	--	--
W-10	Riparian Wetland	RP2SS	-119.934181	39.631569	0.005	--	--
	Subtotal				**1.304**		
W-2	Fresh Emergent Wetland	RP2EM	-119.9345	39.631683	0.012		
	Subtotal				**0.012**		
	Total Potental Wetlands				**1.316**		
Other Waters							
D-1	Intermittent Stream	R4SB	-119.917266	39.627117	0.017	36	13
D-4	Intermittent Stream	R4SB	-119.91103	39.625948	0.009	83	4-6
D-6a	Intermittent Stream	R4SB	-119.920402	39.627095	0.022	88	2-15
D-6b	Intermittent Stream	R4SB	-119.919761	39.627102	0.013	81	15
D-6c	Intermittent Stream	R4SB	-119.920054	39.627018	0.014	53	11
D-6d	Intermittent Stream	R4SB	-119.920254	39.626975	0.005	17	12
D-7a	Intermittent Stream	R4SB	-119.92837	39.628311	0.005	40	6
D-7b	Intermittent Stream	R4SB	-119.927426	39.628004	0.012	37	14
D-7c	Intermittent Stream	R4SB	-119.92389	39.627063	0.183	50	9
D-8	Intermittent Stream	R4SB	-119.922341	39.626996	0.001	57	1
D-10	Intermittent Stream	R4SB	-119.932065	39.630392	0.010	150	3.5
D-11a	Intermittent Stream	R4SB	-119.933149	39.631511	0.047	527	4
D-11b	Intermittent Stream	R4SB	-119.931791	39.630505	0.026	287	4
D-20	Intermittent Stream	R4SB	-119.959509	39.645716	0.075	70	9
D-25	Intermittent Stream	R4SB	-119.963043	39.646002	0.085	140	30
	Subtotal				**0.524**	**1,716**	
	Total Potental Other Waters				**0.524**	**1,716**	
	Total Potential Waters of the United States				**1.840**	**1,716**	

Excluded Features							
Label	**Type**	**Cowardin Type**	**cation (x,y) (DD)**		**Acres**	**Lenth (ft)**	**Width (ft)**
D-2	Ephemeral Stream	R4	-119.913147	39.626451	0.004	82	2
D-3a	Ephemeral Stream	R4	-119.950403	39.641487	0.016	198	6
D-3b	Ephemeral Stream	R4	-119.950403	39.641487	0.002	40	2
D-12	Ephemeral Stream	R4	-119.932796	39.63129	0.010	173	2.5
D-13	Ephemeral Stream	R4	-119.935484	39.632673	0.057	693	2-4
D-15	Ephemeral Stream	R4	-119.940596	39.635871	0.027	322	5
D-19	Ephemeral Stream	R4	-119.957804	39.645629	0.041	482	3-6
D-22a	Ephemeral Stream	R4	-119.957181	39.645864	0.002	86	1
D-22b	Ephemeral Stream	R4	-119.957292	39.646023	>0.000	20	1
D-24	Ephemeral Stream	R4	-119.940802	39.635533	0.003	125	1
	Subtotal				**0.162**	**2,219**	
D-5	Non-Vegetated Ditch	R4	-119.915592	39.626989	0.010	152	3
D-9	Non-Vegetated Ditch	R4	-119.929864	39.628583	0.017	750	1
D-14	Non-Vegetated Ditch	R4	-119.93771	39.63339	0.025	729	1.5
D-16	Non-Vegetated Ditch	R4	-119.941253	39.635642	0.004	173	1
D-17	Non-Vegetated Ditch	R4	-119.944341	39.638831	0.066	1,418	1-3
D-18	Non-Vegetated Ditch	R4	-119.954048	39.645095	0.072	2,158	1-4
D-21	Non-Vegetated Ditch	R4	-119.957143	39.645986	0.002	53	1.5
D-23	Non-Vegetated Ditch	R4	-119.953401	39.64392	0.054	1,443	2
	Subtotal				**0.250**	**6,875**	
	Total Excluded Features				**0.412**	**9,094**	



Notes
1. Coordinate System: NAD 1983 StatePlane Nevada West FIPS 2703 Feet
2. Background: ESRI World Imagery web mapping service
3. Sources: Stantec

Stantec

Project Location
Washoe County, Nevada

Prepared by JC on 2020-11-25
TR by ST on 2020-11-25
IR by GY on 2020-11-25

Client/Project
2272020011
Zayo Group LLC
Umatilla to Reno Fiber Optic Project (Nevada)
Wetlands Report

Figure No.
3

Title
Aquatic Resources

Table

APPENDIX B
SOIL MAP UNITS

Map Unit Name Taxonomy	Map Unit Reference Code	Drainage Class	Depth to Restrictive Layer (cm)	Hydric Soils
Northmore sandy loam, 4 to 8 percent slopes	202	Well drained	>200	No, except swales
Cassiro gravelly sandy loam, 2 to 4 percent slopes	250	Well drained	165	No, except swales
Cassiro gravelly sandy loam, 4 to 8 percent slopes	251	Well drained	165	No, except swales
Cassiro gravelly sandy loam, 8 to 15 percent slopes	252	Well drained	165	No, except swales
Acrelane-Rock outcrop complex, 15 to 50 percent slopes	260	Well drained	50	No
Acrelane very stony sandy loam, 8 to 15 percent slopes s	262	Well drained	50	No
Surgem-Rock outcrop complex, 15 to 30 percent slopes	301	Well drained	50-76	No
Lemm very gravelly coarse sandy loam, 4 to 8 percent slopes	370	Well drained	>200	No
Fettic loam	831	Somewhat poorly drained	>200	No, except flood plains
Reywat extremely stony loam, 15 to 30 percent slopes	861	Well drained	50	No
Xeric Torriorthents-Urban land complex	991	Well drained	>200	No

Note:
cm = centimeter

APPENDIX C
DELINEATED POTENTIAL WATERS OF THE U.S.

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	NWPR_Determine_Code	Latitude	Longitude	Local_Waterway
W-1	CALIFORNIA	PSS	RIVERINE	Area	0.044	ACRE	A4WETFLOOD		-119.91988300	39.62700600	
W-2	CALIFORNIA	RP2EM	RIVERINE	Area	0.012	ACRE	A4WETFLOOD		-119.93450000	39.63168300	
W-3	CALIFORNIA	RP2SS	RIVERINE	Area	0.025	ACRE	A4WETFLOOD		-119.92016300	39.62701000	
W-4	CALIFORNIA	RP2SS	RIVERINE	Area	0.055	ACRE	A4WETFLOOD		-119.92042700	39.62691100	
W-5	CALIFORNIA	RP2SS	RIVERINE	Area	0.097	ACRE	A4WETFLOOD		-119.92219700	39.62701700	
W-6	CALIFORNIA	RP2SS	RIVERINE	Area	0.165	ACRE	A4WETFLOOD		-119.92643900	39.62763700	
W-7	CALIFORNIA	RP2SS	RIVERINE	Area	0.119	ACRE	A4WETFLOOD		-119.92795800	39.62815900	
W-8	CALIFORNIA	RP2SS	RIVERINE	Area	0.784	ACRE	A4WETFLOOD		-119.93161500	39.63013700	
W-9	CALIFORNIA	RP2SS	RIVERINE	Area	0.01	ACRE	A4WETFLOOD		-119.93236300	39.63077100	
W-10	CALIFORNIA	RP2SS	RIVERINE	Area	0.005	ACRE	A4WETFLOOD		-119.93418100	39.63156900	
D-1	CALIFORNIA	R4SB	RIVERINE	Area	0.017	ACRE	A2TRIBINT		-119.91726600	39.62711700	
D-2	CALIFORNIA	R4	RIVERINE	Area	0.004	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.91314700	39.62645100	
D-3a	CALIFORNIA	R4	RIVERINE	Area	0.016	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.95040300	39.64148700	
D-3b	CALIFORNIA	R4	RIVERINE	Area	0.002	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.95040300	39.64148700	
D-4	CALIFORNIA	R4SB	RIVERINE	Area	0.009	ACRE	A2TRIBINT		-119.91103000	39.62594800	
D-5	CALIFORNIA	R4	RIVERINE	Area	0.01	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.91559200	39.62698900	
D-6a	CALIFORNIA	R4SB	RIVERINE	Area	0.022	ACRE	A2TRIBINT		-119.92040200	39.62709500	
D-6b	CALIFORNIA	R4SB	RIVERINE	Area	0.013	ACRE	A2TRIBINT		-119.91976100	39.62710200	
D-6c	CALIFORNIA	R4SB	RIVERINE	Area	0.014	ACRE	A2TRIBINT		-119.92005400	39.62701800	
D-6d	CALIFORNIA	R4SB	RIVERINE	Area	0.005	ACRE	A2TRIBINT		-119.92025400	39.62697500	
D-7a	CALIFORNIA	R4SB	RIVERINE	Area	0.005	ACRE	A2TRIBINT		-119.92837000	39.62831100	
D-7b	CALIFORNIA	R4SB	RIVERINE	Area	0.012	ACRE	A2TRIBINT		-119.92742600	39.62800400	
D-7c	CALIFORNIA	R4SB	RIVERINE	Area	0.183	ACRE	A2TRIBINT		-119.92389000	39.62706300	
D-8	CALIFORNIA	R4SB	RIVERINE	Area	0.001	ACRE	A2TRIBINT		-119.92234100	39.62699600	
D-9	CALIFORNIA	R4	RIVERINE	Area	0.017	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.92986400	39.62858300	
D-10	CALIFORNIA	R4SB	RIVERINE	Area	0.01	ACRE	A2TRIBINT		-119.93206500	39.63039200	
D-11a	CALIFORNIA	R4SB	RIVERINE	Area	0.047	ACRE	A2TRIBINT		-119.93314900	39.63151100	
D-11b	CALIFORNIA	R4SB	RIVERINE	Area	0.026	ACRE	A2TRIBINT		-119.93179100	39.63050500	
D-12	CALIFORNIA	R4	RIVERINE	Area	0.01	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.93279600	39.63129000	
D-13	CALIFORNIA	R4	RIVERINE	Area	0.057	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.93548400	39.63267300	
D-14	CALIFORNIA	R4	RIVERINE	Area	0.025	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.94059600	39.63587100	
D-15	CALIFORNIA	R4	RIVERINE	Area	0.027	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.94059600	39.63587100	
D-16	CALIFORNIA	R4	RIVERINE	Area	0.004	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.94125300	39.63564200	
D-17	CALIFORNIA	R4	RIVERINE	Area	0.066	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.94434100	39.63883100	
D-18	CALIFORNIA	R4	RIVERINE	Area	0.072	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.95404800	39.64509500	
D-19	CALIFORNIA	R4	RIVERINE	Area	0.041	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.95780400	39.64562900	
D-20	CALIFORNIA	R4SB	RIVERINE	Area	0.075	ACRE	A2TRIBINT		-119.95950900	39.64571600	
D-21	CALIFORNIA	R4	RIVERINE	Area	0.002	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.95714300	39.64598600	
D-22a	CALIFORNIA	R4	RIVERINE	Area	0.002	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.95718100	39.64586400	
D-22b	CALIFORNIA	R4	RIVERINE	Area	0.00045914	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.95729200	39.64602300	
D-23	CALIFORNIA	R4	RIVERINE	Area	0.054	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.95340100	39.64392000	
D-24	CALIFORNIA	R4	RIVERINE	Area	0.003	ACRE	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	-119.94080200	39.63553300	
D-25	CALIFORNIA	R4SB	RIVERINE	Area	0.085	ACRE	A2TRIBINT		-119.96304300	39.64600200	

APPENDIX D
WETLAND AND OHWM DETERMINATION DATA FORMS

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Sampling Point: 1 **Feature ID:** D-1 **Date:** 11/4/2020

Project: Zayo Nevada Reroute

Location: Washoe County **Photo begin/end file#:** See Field Photos

Investigator(s): Gabe Youngblood & Sarah Tona

Y [x] / N [ ] Do normal circumstances exist on the site?

Y [x] / N [ ] Is the site significantly disturbed?

Location Details: Along Highway 395

Projection: Lambert **Datum:** WGS 84

Coordinates: 39.627153, -119.917225

Potential anthropogenic influences on the channel system:

Channel has been altered with rock slope protection at culvert outlet and enters stormwater system just beyond the study area.

Brief site description:

Intermittent stream flows from culvert under offramp to concrete walled basin that appears to be part of stormwater system.

Checklist of resources (if available):

[x] Aerial photography **Dates:**

[x] Topographic maps

[ ] Geologic maps

[ ] Vegetation maps

[x] Soils maps

[ ] Rainfall/precipitation maps

[ ] Existing delineation(s) for site

[ ] Global positioning system (GPS)

[ ] Other studies:

[ ] Stream gage data **Gage number:**

Period of record:

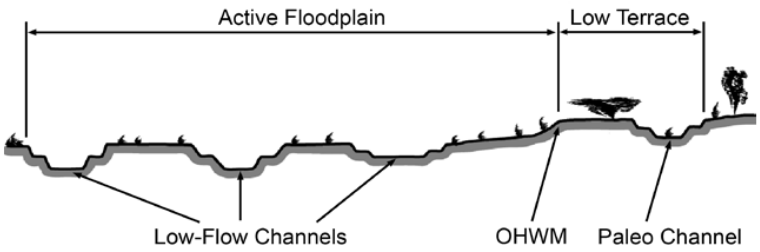
[ ] History of recent effective discharges

[ ] Results of flood frequency analysis

[ ] Most recent shift-adjusted rating

[ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

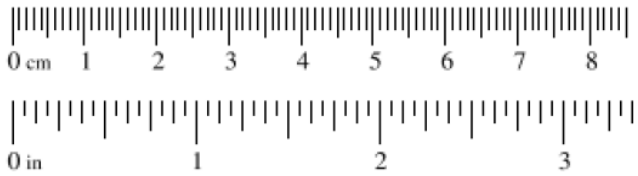
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:

[ ] Mapping on aerial photograph [x] GPS

[ ] Digitized on computer [ ] Other:

Wentworth Size Classes

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



Feature ID: D-1 **Cross section ID:** **Date:** 11/4/2020 **Time:**

Cross section drawing:

OHWM

GPS point: 39.627153, -119.917225

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other:
- [ ] Other:

Comments:

Scoured channel bottom dominated by gravel gives way to bank with gravely sandy loam soil. Vegetative cover increases along the banks.

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point:

Characteristics of the floodplain unit:

Average sediment texture: Gravel- pebble to cobbel

Total veg cover: 1 % Tree: 0 % Shrub: 1 % Herb: 0 %

Community successional stage:

- [ ] NA
- [x] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other:
- [ ] Other:
- [ ] Other:

Comments:

Scoured channel bottom dominated gravel generally lacks vegetation and finer soil particles.

Feature ID: D-1 **Cross section ID:** **Date:** 11/4/2020 **Time:**

Floodplain unit: [ ] Low-Flow Channel [ ] Active Floodplain [x] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: Sandy loam soil

Total veg cover: 15 % Tree: 0 % Shrub: 5 % Herb: 10 %

Community successional stage:

- [ ] NA
- [x] Mid (herbaceous, shrubs, saplings)
- [ ] Early (herbaceous & seedlings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [x] Soil development
- [ ] Ripples
- [ ] Surface relief
- [ ] Drift and/or debris
- [ ] Other: _____
- [ ] Presence of bed and bank
- [ ] Other: _____
- [ ] Benches
- [ ] Other: _____

Comments:

Scoured channel bottom dominated by gravel gives way to bank with gravely sandy loam soil. Vegetative cover increases along the banks.

Floodplain unit: [ ] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- [ ] NA
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Early (herbaceous & seedlings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Soil development
- [ ] Ripples
- [ ] Surface relief
- [ ] Drift and/or debris
- [ ] Other: _____
- [ ] Presence of bed and bank
- [ ] Other: _____
- [ ] Benches
- [ ] Other: _____

Comments:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: ZAYO Nevada reroute | City/County: Washoe County | Sampling Date: 11/04/2020
Applicant/Owner: ZAYO | State: Nevada | Sampling Point: 2
Investigator(s): Gabe Youngblood and Sarah Tona | Section, Township, Range: Sec. 2, T.20N, R.18E
Landform (hillslope, terrace, etc): Drainage | Local relief (concave, convex, none): Concave | Slope (%): 3
Subregion (LRR): LRR D Interior Deserts | Lat: 39.627082 | Long: -119.919805 | Datum: WGS 84
Soil Map Unit Name: Lemm very gravelly coarse sandy loam, 4 to 8 percent slopes (370) | NWI classification: R4SBJ
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil X, 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 X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:
Sample point documents a riparian wetland within the bed and bank of an intermittent stream.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Salix geyeriana* / Geyer's willow	20	Yes	OBL
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Veronica americana* / American brooklime	15	Yes	OBL
2. *Mentha arvensis* / American wild mint, Field mint	15	Yes	FACW
3. *Rumex salicifolius* / Willow leaved dock, Willow dock	5	No	FACW
4. *Polypogon australis* / Chilean beard grass	2	No	FACW
5. *Epilobium ciliatum* / Slender willow herb	5	No	FACW
6.			
7.			
8.			
	42	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 58 % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	54	x 2 =	108
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	124 (A)		178 (B)

Prevalence Index = B/A = 1.44

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Hydrophytic vegetation is dominant.

SOIL

Sampling Point: 2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					See below	See below

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Texture: Cobble, gravel and sand are dominate substrate within the portion of the streambed with dominant hydrophytic vegetation. Imbedded cobble and gravel restricted digging to 3 inch depth. Problematic hydric soil within the vegetated stream bed fits description of vegetated sand/gravel bar.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ 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)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

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

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Sediment and drift deposits indicate frequent flooding. FAC-neutral test indicates long duration saturation.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: ZAYO Nevada reroute | City/County: Washoe County | Sampling Date: 11/04/2020
Applicant/Owner: ZAYO | State: Nevada | Sampling Point: 3
Investigator(s): Gabe Youngblood and Sarah Tona | Section, Township, Range: Sec. 2, T.20N, R.18E
Landform (hillslope, terrace, etc): Drainage | Local relief (concave, convex, none): Concave | Slope (%): 3
Subregion (LRR): LRR D Interior Deserts | Lat: 39.627076 | Long: -119.919789 | Datum: WGS 84
Soil Map Unit Name: Lemm very gravelly coarse sandy loam, 4 to 8 percent slopes (370) | NWI classification: R4SBJ
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 ____	No X	
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Documents upland conditions adjacent to a riparian wetland W-1 documented by sample point 2

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Rosa woodsii* / Woods' rose	20	Yes	FACU
2.			
3.			
4.			
5.			
	20	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. *Rumex salicifolius* / Willow leaved dock, Willow dock	20	Yes	FACW
2. *Melilotus officinalis* / Yellow sweetclover	15	Yes	FACU
3. *Conium maculatum* / Poison hemlock	10	Yes	FACW
4. *Veronica americana* / American brooklime	2	No	OBL
5. *Carduus nutans* / Nodding plumeless thistle, Musk thistle	2	No	FACU
6. *Asclepias fascicularis* / Milkweed, Narrow-leaf milkweed	1	No	FAC
7.			
8.			
	50	= Total Cover	

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	4	x 1 =	4
FACW species	60	x 2 =	120
FAC species	2	x 3 =	6
FACU species	74	x 4 =	296
UPL species	0	x 5 =	0
Column Totals:	140 (A)		426 (B)

Prevalence Index = B/A = 3.04

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Hydrophytic vegetation is not dominant.

SOIL

Sampling Point: 3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	100					loamy sand	See below

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

Loamy sand occurs over a layer of imbedded coble and gravel that restricted digging. No indicators of hydric soil were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ 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)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

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

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Sediment and drift deposits indicate frequent flooding.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: ZAYO Nevada reroute | City/County: Washoe County | Sampling Date: 11/04/2020
Applicant/Owner: ZAYO | State: Nevada | Sampling Point: 4
Investigator(s): Gabe Youngblood and Sarah Tona | Section, Township, Range: Sec. 3, T.20N, R.18E
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): Convex | Slope (%): 2
Subregion (LRR): LRR D Interior Deserts | Lat: 39.627072 | Long: -119.919497 | Datum: WGS 84
Soil Map Unit Name: Lemm very gravelly coarse sandy loam, 4 to 8 percent slopes (370) | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
Sample point documents a suspect area that supports hydrophytic vegetation but lack indicators of hydric soil and sufficient indicators of wetland hydrology.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Juncus arcticus ssp. littoralis* / Mountain rush	85	Yes	FACW
2. *Conium maculatum* / Poison hemlock	20	No	FACW
3. *Bromus tectorum* / Downy chess, Cheat grass, Downy chess	10	No	UPL
4.			
5.			
6.			
7.			
8.			
	115	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	125	x 2 =	250
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	135 (A)		300 (B)

Prevalence Index = B/A = 2.22

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Hydrophytic vegetation is dominant.

SOIL

Sampling Point: 4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/2	100					Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No indicators of hydric soil were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ 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)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Insufficient indicators for wetland hydrology.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: ZAYO Nevada reroute | City/County: Washoe County | Sampling Date: 11/04/2020
Applicant/Owner: ZAYO | State: Nevada | Sampling Point: 5
Investigator(s): Gabe Youngblood and Sarah Tona | Section, Township, Range: Sec. 1, T.20N, R.18E
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): Convex | Slope (%): 2
Subregion (LRR): LRR D Interior Deserts | Lat: 39.626827 | Long: -119.914323 | Datum: WGS 84
Soil Map Unit Name: Northmore sandy loam, 4 to 8 percent slopes (202) | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
Sample point documents a suspect area that supports hydrophytic vegetation but lack indicators of hydric soil and wetland hydrology.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15ft)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. *Typha latifolia* / Broadleaf cattail, Broad-leaved cattail	15	Yes	OBL
2. *Lepidium latifolium* / Perennial pepperweed	15	Yes	FAC
3. *Juncus arcticus ssp. littoralis* / Mountain rush	5	No	FACW
4.			
5.			
6.			
7.			
8.			
	35	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 65 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	5	x 2 =	10
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	50 (A)		115 (B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Hydrophytic vegetation is dominant.

SOIL

Sampling Point: 5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/3	95	7.5YR 4/4	5	C	PL	Clay loam	
5-12	10YR 3/2	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

No indicators of hydric soil were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ 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)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

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

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

Insufficient indicators for wetland hydrology.

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Sampling Point: 6 **Feature ID:** D-2 **Date:** 11/4/2020

Project: Zayo Nevada Reroute

Location: Washoe County **Photo begin/end file#:** See Field Photos

Investigator(s): Gabe Youngblood & Sarah Tona

Y [x] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [x] Is the site significantly disturbed?

Location Details: Along Highway 395

Projection: Lambert **Datum:** NAD83

Coordinates: 39.626475, -119.913179

Potential anthropogenic influences on the channel system:

The stream may just drain the highway as no stream is visible on the opposite side of the highway on aerial imagery.

Brief site description:

Small ephemeral stream flows from culvert under highway off ramp out of the study area. Scoured channel with no vegetation rooted in channel.

Checklist of resources (if available):

[x] Aerial photography [ ] Stream gage data

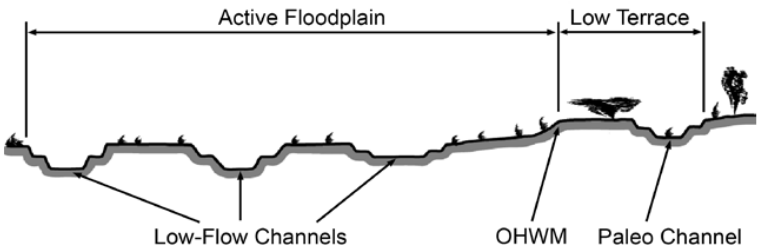
Dates: **Gage number:**

[x] Topographic maps
[ ] Geologic maps
[ ] Vegetation maps
[x] Soils maps
[ ] Rainfall/precipitation maps
[ ] Existing delineation(s) for site
[x] Global positioning system (GPS)
[ ] Other studies:

Period of record:

[ ] History of recent effective discharges
[ ] Results of flood frequency analysis
[ ] Most recent shift-adjusted rating
[ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



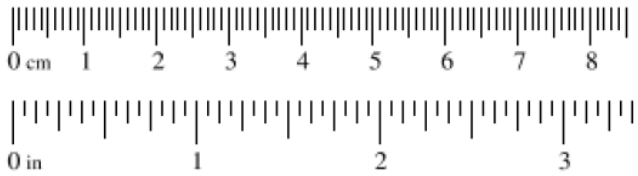
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:

[ ] Mapping on aerial photograph [x] GPS
[ ] Digitized on computer [ ] Other:

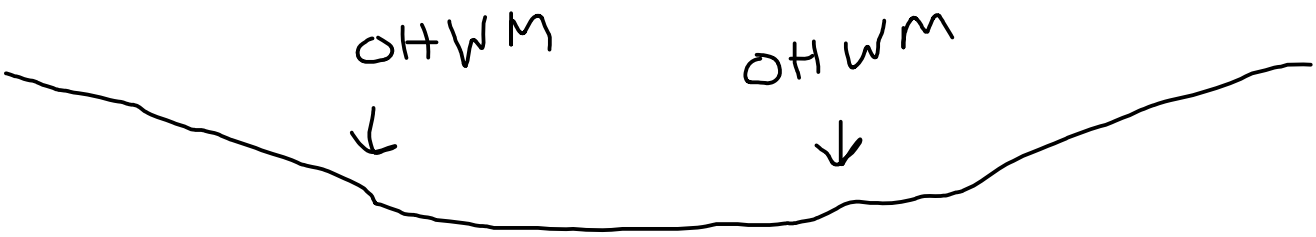
Wentworth Size Classes

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



Feature ID: D-2 **Cross section ID:** **Date:** 11/4/2020 **Time:**

Cross section drawing:



OHWM

GPS point: 39.626475, -119.913179

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other:
- [ ] Other:

Comments:

Scoured channel bottom dominated by gravel and sand gives way to bank with sandy loam soil. Vegetation not rooted in channel, but shrubs overhang channel and herbaceous vegetation is present along the banks. Low flow channel is the active floodplain.

Floodplain unit: [x] Low-Flow Channel [x] Active Floodplain [ ] Low Terrace

GPS point:

Characteristics of the floodplain unit:

Average sediment texture: Gravel and sand

Total veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

Community successional stage:

- [ ] NA
- [x] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other:
- [ ] Other:
- [ ] Other:

Comments:

Scoured channel bottom dominated by gravel and sand. No vegetation in channel. Low flow channel is also the active floodplain in this small ephemeral feature.

Feature ID: D-2 **Cross section ID:** **Date:** 11/4/2020 **Time:**

Floodplain unit: [ ] Low-Flow Channel [ ] Active Floodplain [x] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: loamy sand

Total veg cover: 65 % Tree: 0 % Shrub: 60 % Herb: 5 %

Community successional stage:

[ ] NA [x] Mid (herbaceous, shrubs, saplings)

[ ] Early (herbaceous & seedlings) [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

[ ] Mudcracks [x] Soil development

[ ] Ripples [ ] Surface relief

[ ] Drift and/or debris [ ] Other: _____

[ ] Presence of bed and bank [ ] Other: _____

[ ] Benches [ ] Other: _____

Comments:

Scoured channel bottom dominated by gravel and sand gives way to bank with sandy loam soil. Vegetative cover along the banks.

Floodplain unit: [ ] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

[ ] NA [ ] Mid (herbaceous, shrubs, saplings)

[ ] Early (herbaceous & seedlings) [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

[ ] Mudcracks [ ] Soil development

[ ] Ripples [ ] Surface relief

[ ] Drift and/or debris [ ] Other: _____

[ ] Presence of bed and bank [ ] Other: _____

[ ] Benches [ ] Other: _____

Comments:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: ZAYO Nevada reroute | City/County: Washoe County | Sampling Date: 11/05/2020
Applicant/Owner: ZAYO | State: Nevada | Sampling Point: 7
Investigator(s): Gabe Youngblood and Sarah Tona | Section, Township, Range: Sec. 2, T.20N, R.18E
Landform (hillslope, terrace, etc): Terrace | Local relief (concave, convex, none): Convex | Slope (%): 1
Subregion (LRR): LRR D Interior Deserts | Lat: 39.628741 | Long: -119.929387 | Datum: WGS 84
Soil Map Unit Name: Cassiro gravelly sandy loam, 4 to 8 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ____	
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Sample point documents a suspect area that supports hydrophytic vegetation but lack indicators of hydric soil and sufficient indicators of wetland hydrology.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Salix exigua* / Narrowleaf willow	50	Yes	FACW
2. *Artemisia tridentata* / Common sagebrush	10	No	UPL
3.			
4.			
5.			
	60	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Conium maculatum* / Poison hemlock	30	Yes	FACW
2. *Juncus arcticus ssp. littoralis* / Mountain rush	40	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	70	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	200	x 2 =	400
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	210 (A)		450 (B)

Prevalence Index = B/A = 2.14

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Hydrophytic vegetation is dominant.

SOIL

Sampling Point: 7

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	100					Loam	Rock at 10 inches restricted digging

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No indicators of hydric soil were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ 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)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Insufficient indicators for wetland hydrology.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: ZAYO Nevada reroute | City/County: Washoe County | Sampling Date: 11/05/2020
Applicant/Owner: ZAYO | State: Nevada | Sampling Point: 8
Investigator(s): Gabe Youngblood and Sarah Tona | Section, Township, Range: Sec. 2, T.20N, R.18E
Landform (hillslope, terrace, etc): Drainage | Local relief (concave, convex, none): Concave | Slope (%): 1
Subregion (LRR): LRR D Interior Deserts | Lat: 39.63168 | Long: -119.934479 | Datum: WGS 84
Soil Map Unit Name: Cassiro gravelly sandy loam, 4 to 8 percent slopes (251) | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:
Sample point documents a fresh emergent wetland within a streambed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15ft)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. *Typha latifolia* / Broadleaf cattail, Broad-leaved cattail	60	Yes	OBL
2. *Polypogon australis* / Chilean beard grass	15	No	FACW
3. *Phalaris arundinacea* / Reed canarygrass, Reed canary gras	5	No	FACW
4.			
5.			
6.			
7.			
8.			
	80	= Total Cover	

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	120	x 1 =	120
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	160 (A)		200 (B)

Prevalence Index = B/A = 1.25

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Hydrophytic vegetation is dominant.

SOIL

Sampling Point: 8

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/1	97	10YR 3/6	3	C	PL	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Soils meet requirements for indicator F3 depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 6

Saturation Present? Yes X No ___ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Wetland hydrology is provided by soil saturation at the surface and high water table at 6 inches.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: ZAYO Nevada reroute | City/County: Washoe County | Sampling Date: 11/05/2020
Applicant/Owner: ZAYO | State: Nevada | Sampling Point: 9
Investigator(s): Gabe Youngblood and Sarah Tona | Section, Township, Range: Sec.2, T.20N, R.18E
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): Convex | Slope (%): 3
Subregion (LRR): LRR D Interior Deserts | Lat: 39.631676 | Long: -119.934485 | Datum: WGS 84
Soil Map Unit Name: Cassiro gravelly sandy loam, 4 to 8 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X			

Remarks:
Sample point provides upland pair to fresh emergent wetland within a streambed documented by sample point 8.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Artemisia tridentata* / Common sagebrush	5	Yes	
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. Elymus ponticus	10	Yes	UPL
2. *Grindelia squarrosa* / Curlycup gumweed	5	Yes	FACU
3. *Agropyron cristatum* / Crested wheatgrass	3	No	UPL
4. *Melilotus officinalis* / Yellow sweetclover	3	No	FACU
5.			
6.			
7.			
8.			
	21	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 79 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	16	x 4 =	64
UPL species	0	x 5 =	0
Column Totals:	16 (A)		64 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Hydrophytic vegetation is not dominant.

SOIL

Sampling Point: 9

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/3	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No indicators of hydric soil were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ 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)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No indicators of wetland hydrology were observed.

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Sampling Point: 10 **Feature ID:** D-3a, D-3b **Date:** 11/6/2020

Project: Zayo Nevada Reroute

Location: Washoe County **Photo begin/end file#:** See Field Photos

Investigator(s): Gabe Youngblood & Sarah Tona

Y [x] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [x] Is the site significantly disturbed?

Location Details: Along Highway 395

Projection: Lambert **Datum:** NAD83

Coordinates: 39.641491, -119.950349

Potential anthropogenic influences on the channel system:

Channel does not appear to have been manipulated.

Brief site description:

Small ephemeral stream flows from hills north of the highway to culvert. At the sample point location there are two separate channels separated by an upland island.

Checklist of resources (if available):

[x] Aerial photography [ ] Stream gage data

Dates: **Gage number:**

[x] Topographic maps

[ ] Geologic maps

[ ] Vegetation maps

[x] Soils maps

[ ] Rainfall/precipitation maps

[ ] Existing delineation(s) for site

[x] Global positioning system (GPS)

[ ] Other studies:

Period of record:

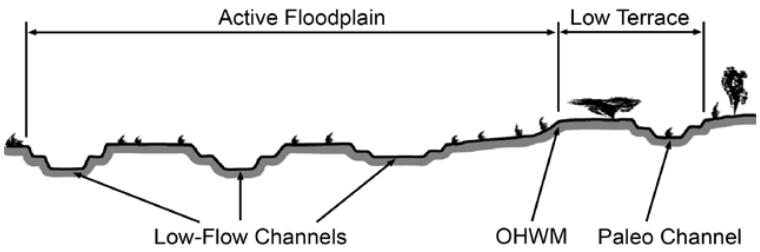
[ ] History of recent effective discharges

[ ] Results of flood frequency analysis

[ ] Most recent shift-adjusted rating

[ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

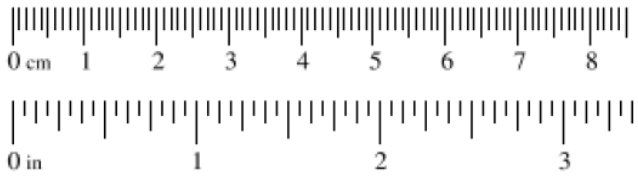
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:

[ ] Mapping on aerial photograph [x] GPS

[ ] Digitized on computer [ ] Other:

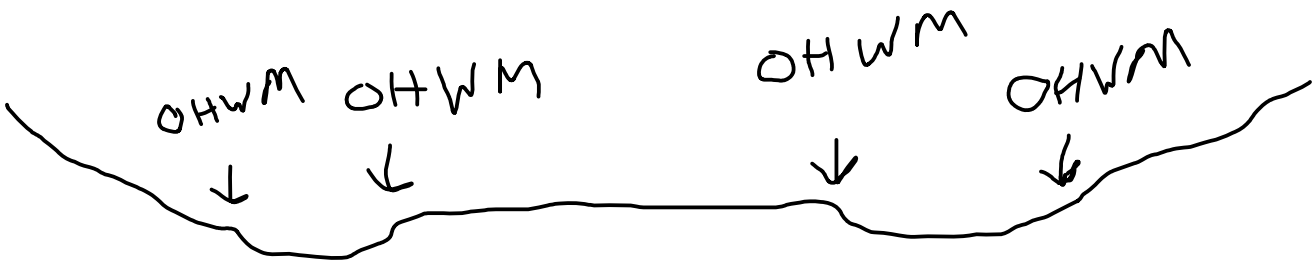
Wentworth Size Classes

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



Feature ID: D-3a, D-3b **Cross section ID:** **Date:** 11/6/2020 **Time:**

Cross section drawing:



OHWM

GPS point: 39.641491, -119.950349

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other:
- [ ] Other:

Comments:

Scoured channel bottom dominated by gravel and sand gives way to bank with sandy loam soil. Sparse herbaceous vegetation in channel give way to denser herbaceous vegetation and shrubs at the OHWM.

Floodplain unit: [x] Low-Flow Channel [x] Active Floodplain [ ] Low Terrace

GPS point:

Characteristics of the floodplain unit:

Average sediment texture: Gravel and sand

Total veg cover: 10 % Tree: 0 % Shrub: 0 % Herb: 10 %

Community successional stage:

- [ ] NA
- [x] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other:
- [ ] Other:
- [ ] Other:

Comments:

Scoured channel bottom dominated by gravel and sand has sparse vegetation. Low flow channel is also the active floodplain in this small ephemeral stream.

Feature ID: D-3a, D-3b **Cross section ID:** **Date:** 11/6/2020 **Time:**

Floodplain unit: [ ] Low-Flow Channel [ ] Active Floodplain [x] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: loamy sand

Total veg cover: 90 % Tree: 0 % Shrub: 20 % Herb: 70 %

Community successional stage:

[ ] NA [x] Mid (herbaceous, shrubs, saplings)

[ ] Early (herbaceous & seedlings) [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

[ ] Mudcracks [x] Soil development

[ ] Ripples [ ] Surface relief

[ ] Drift and/or debris [ ] Other: _____

[ ] Presence of bed and bank [ ] Other: _____

[ ] Benches [ ] Other: _____

Comments:

Scoured channel bottom dominated by gravel and sand gives way to bank with sandy loam soil. Vegetative cover increases along the banks. Island between channels is as densly vegetated as the banks with no OHWM indicators.

Floodplain unit: [ ] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: ____ % Tree: ____ % Shrub: ____ % Herb: ____ %

Community successional stage:

[ ] NA [ ] Mid (herbaceous, shrubs, saplings)

[ ] Early (herbaceous & seedlings) [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

[ ] Mudcracks [ ] Soil development

[ ] Ripples [ ] Surface relief

[ ] Drift and/or debris [ ] Other: _____

[ ] Presence of bed and bank [ ] Other: _____

[ ] Benches [ ] Other: _____

Comments:

APPENDIX E
PLANT LIST

Scientific Name[1]	Common Name	Wetland Indicator Status[2]
Agropyron cristatum	crested wheatgrass	Upland
Artemisia tridentata	big sagebrush	Upland
Asclepias fascicularis	narrow-leaf milkweed	Facultative
Bromus tectorum	cheatgrass	Upland
Carduus nutans	musk thistle	Facultative Upland
Conium maculatum	poison hemlock	Facultative Wetland
Elymus ponticus	tall wheat grass	Upland
Epilobium ciliatum	Slender willow herb	Facultative Wetland
Ericameria nauseosa	ruber rabbitbrush	Upland
Grindelia squarrosa	curlycup gumweed	Facultative Upland
Juncus balticus[3]	Baltic rush	Facultative Wetland
Lepidium latifolium	perennial pepperweed	Facultative
Melilotus officinalis	yellow sweetclover	Facultative Upland
Mentha arvensis	field mint	Facultative Wetland
Phalaris arundinacea	reed canary grass	Facultative Wetland
Polypogon australis	Chilean beard grass	Facultative Wetland
Populus fremontii[4]	Fremont cottonwood	Facultative
Purshia tridentata	bitterbrush	Upland
Rosa woodsii	interior rose	Facultative Upland
Rumex salicifolius	willow dock	Facultative Wetland
Salix exigua	sandbar willow	Facultative Wetland
Salix geyeriana	Geyer's willow	Obligate
Salix lemmonii	Lemmon's willow	Facultative Wetland
Typha latifolia	broad-leaf cattail	Obligate
Veronica americana	American brooklime	Obligate

Notes:

[1] Taxonomic nomenclature for plant species followed Baldwin, B. G.,D. H. Goldman, R. P. D. J. Keil ,T. J. Rosatti, and D. H. Wilken. 2012 *The Jepson Manual: Vascular Plants of California.* 2nd ed. Berkeley, California: University of California Press.

[2] Wetland indicator status for plant species followed United States Army Corps of Engineers. 2018. National Wetland Plant List, Version 3.4. Available at: http://wetland-plants.usace.army.mil/. Accessed November 2020.

[3] *Juncus arcticus* ssp. *littoralis* on datasheets.

[4] *Populus deltoides* in National Wetland Plant List, Version 3.4.

APPENDIX F
REPRESENTATIVE PHOTOGRAPHS

The following photographs are documentation of conditions within the study area during the field delineation conducted from November 4, 2020, to November 6, 2020.

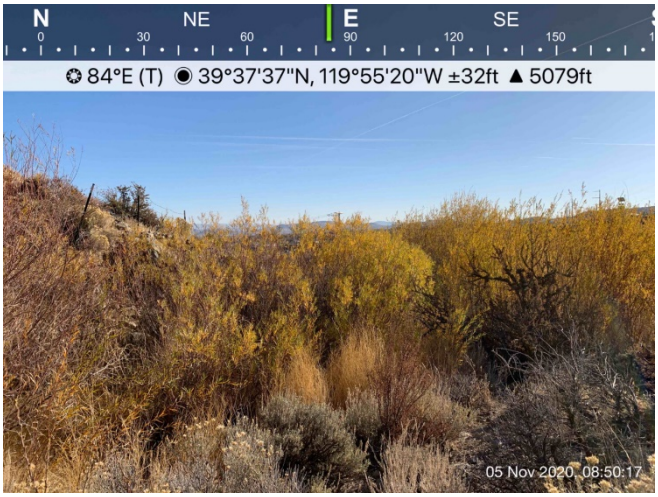


Photo 1. Riparian wetland within intermittent stream (W-5) with narrowleaf willow dominant in the shrub stratum. Instream riparian wetlands were documented in feature W-1 with data points 2 and 3.

Photo 2. Riprap lined intermittent stream (D-7c). Intermittent streams were documented in D-1 with data point 1.

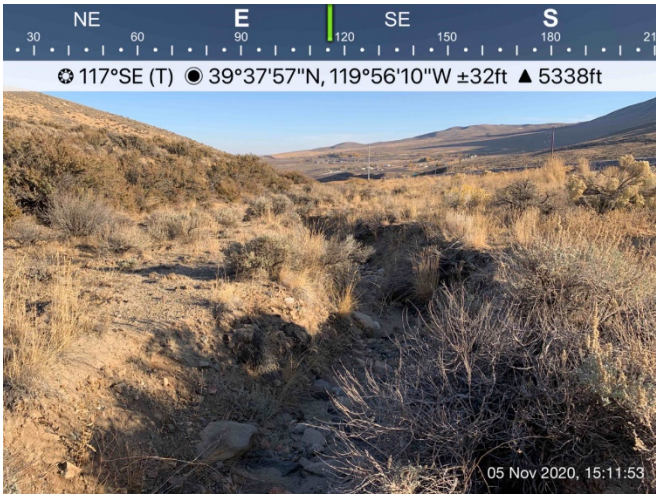


Photo 3. Intermittent stream (D-11b) with clear break in slope. Intermittent streams were documented in D-1 with data point 1.

Photo 4. Non-vegetated ditch along shoulder of U.S. Highway 395 (D-9).

Photo 5. Fresh emergent wetland (W-2) with broad-leaf cattail dominant in the herb stratum. Feature documented by data point 8 and adjacent uplands documented by data point 9.

Photo 6. Ephemeral stream (D-3) with change in vegetative cover and sediment size. This excluded feature is documented by data point 10.

Photo 7. Suspect area with broad-leaf cattails and perennial pepperweed dominant in the herb stratum. Area lacked indicators of hydric soil and wetland hydrology. Documented by data point 5.

Photo 8. Suspect area with Baltic rush and poison hemlock dominant in the herb stratum. Area lacked indicators of hydric soil and wetland hydrology. Documented by data point 4.