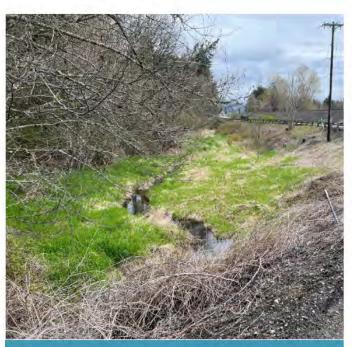
Appendix F. Wetland and Waters Delineation Report

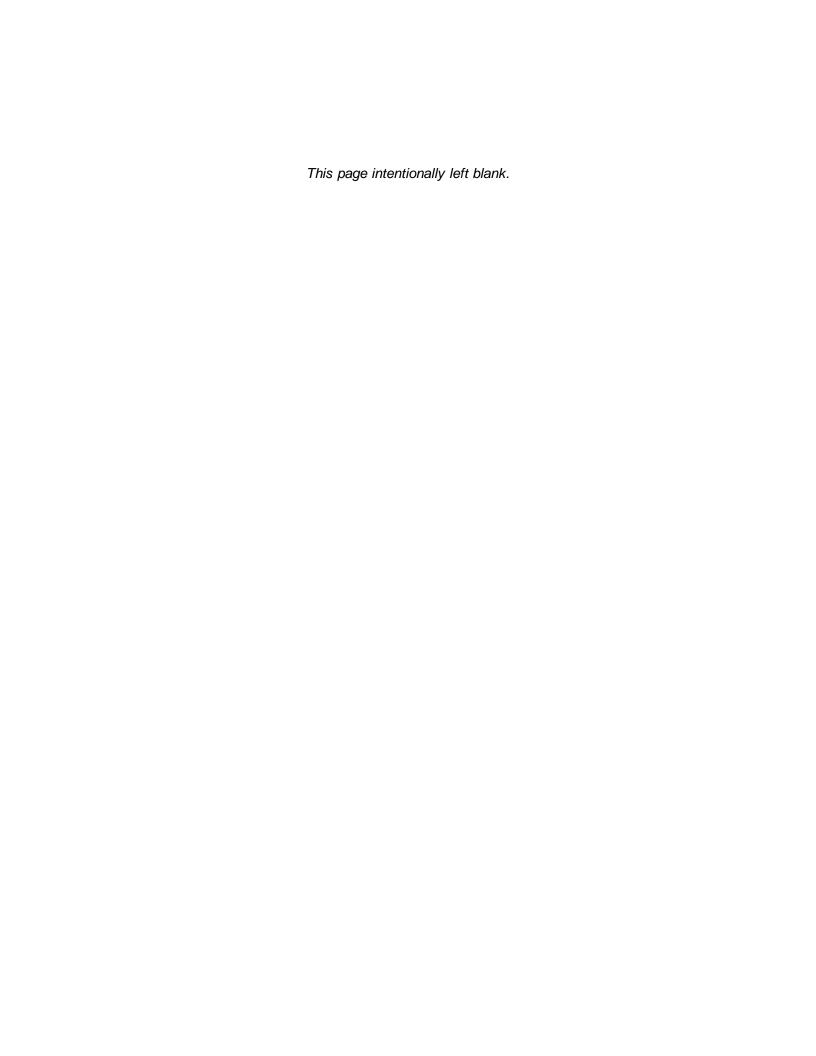




Wetland and Waters Delineation Report

Washington

Cascade Renewable Transmission June 26, 2024



Contents

Exec	utive	Summary	y	1
1	Intro	duction.		1
	1.1	Project	Overview	1
	1.2	Project	Survey Area	2
	1.3	Landso	cape Setting	2
2	Meth	ods		3
	2.1	Deskto	p Review Material	3
		2.1.1	Federal	3
		2.1.2	State	4
		2.1.3	Local	4
	2.2	Precipi	tation and Data Analysis	
		2.2.1	Climate and Growing Season	
		2.2.2	April 2023 Field Investigation	
		2.2.3	November 2023 Field Investigation	
	2.3		nal Desktop Review Summary	
	2.4		nvestigation Methods	
		2.4.1	Wetlands	
			Waterbodies	
3	Resu	ılts		14
	3.1	Wetlan	ds	14
		3.1.1	Wetland 1	17
		3.1.2	Wetland 2	19
		3.1.3	Wetland 3	
		3.1.4	Wetland 4	
		3.1.5	Wetland 5	
		3.1.6	Wetland 6	
		3.1.7	Wetland 7	
		3.1.8	Wetland 8	
		3.1.9	Wetland 9	
			Wetland 10	
			Wetland 11	
			Wetland 12 Wetland 13	
			Wetland 14	
			Wetland 15	
			Wetland 16	
			Wetland 17	
			Wetland 18	
			Wetland 19	
	3.2		NS	
		3.2.1	Columbia River	57
		3.2.2	Stream 1	58
		3.2.3	Stream 2	59
		3.2.4	Stream 3	60
		3.2.5	Stream 4	61
		3.2.6	Stream 5	62

	3.2.7 Stream 6	63
	3.2.8 Stream 7	
	3.2.9 Stream 8	
	3.2.10 Stream 9	
	3.2.11 Stream 10	67
	3.2.12 Stream 11	68
	3.2.13 Stream 12	
	3.2.14 Stream 13	
	3.3 Lakes, Drainages and Other Surveyed Areas	
4	References	77
	Tables	
Table	2-1. Summary of Precipitation Analysis January - March 2023	5
Table	2-2. Results of Precipitation Analysis using DAREM January - March 2023	5
Table	2-3. Summary of Precipitation Analysis August - October 2023	6
Table	2-4. Results of Precipitation Analysis using DAREM August - October 2023	6
Table	2-5. City of Stevenson Wetland Protective Buffer Widths	10
	2-6. City of North Bonneville Wetland Buffers	
	2-7. Skamania County Wetland Buffers	
Table	2-8. City of Stevenson Stream Typing System and Buffer Requirements	12
	2-9. City of North Bonneville Stream Typing System and Buffer Requirements	
Table	2-10. Summary of Skamania County Stream Typing System and Buffer Requirements	13
Table	3-1. Summary of Wetlands in and adjacent to the Survey Area	15
Table	3-2. Wetland 1 – Information Summary	17
Table	3-3. Wetland 2 – Information Summary	19
Table	3-4. Wetland 3 – Information Summary	21
	3-5. Wetland 4 – Information Summary	
	3-6. Wetland 5 – Information Summary	
Table	3-7. Wetland 6 – Information Summary	27
Table	3-8. Wetland 7 – Information Summary	29
Table	3-9. Wetland 8 – Information Summary	31
Table	3-10. Wetland 9 – Information Summary	33
Table	3-11. Wetland 10 – Information Summary	35
	3-12. Wetland 11 – Information Summary	
Table	3-13. Wetland 12 – Information Summary	39
Table	3-14. Wetland 13 – Information Summary	41
	3-15. Wetland 14 – Information Summary	
	3-16. Wetland 15 – Information Summary	
Table	3-17. Wetland 16 – Information Summary	47
Table	3-18. Wetland 17 – Information Summary	49
	3-19. Wetland 18 – Information Summary	
	3-20. Wetland 19 – Information Summary	
	3-21 Summary of Waters in the Survey Area	
	3-22. Columbia River – Information Summary	

Table 3-23. Stream 1 – Information Summary	58
Table 3-24. Stream 2 – Information Summary	59
Table 3-25. Stream 3 – Information Summary	
Table 3-26. Stream 4 – Information Summary	61
Table 3-27. Stream 5 – Information Summary	62
Table 3-28. Stream 6 – Information Summary	63
Table 3-29. Stream 7 – Information Summary	64
Table 3-30. Stream 8 – Information Summary	
Table 3-31. Stream 9 – Information Summary	66
Table 3-32. Stream 10 – Information Summary	67
Table 3-33. Stream 11 – Information Summary	68
Table 3-34. Stream 12 – Information Summary	69
Table 3-35. Stream 13 – Information Summary	70
Table 3-36. Summary of Other Waters and Drainages in the Survey Area	

Appendices

Appendix A. Standard Wetland Delineation Methods

Appendix B. Wetland Determination Data Forms

Appendix C. Wetland Rating Forms

Appendix D. Site Visit Photos

Appendix E. Figures

Acronyms

Acronyms used more than once in the report text.

AC alternating current

BPA Bonneville Power Administration
CFR Code of Federal Regulations
CRT Cascade Renewable Transmission

DAREM Direct Antecedent Rainfall Evaluation Method

DPS distinct population segment

Ecology Washington State Department of Ecology

ESU evolutionarily significant unit

FEMA Federal Emergency Management Agency

FIRM flood insurance rate map
GPS global positioning system
HDD horizontal directional drilling
HDR HDR Engineering, Inc.
HGM hydrogeomorphic

HGM hydrogeomorphic HTL high tide line

HVAC high-voltage alternating current HVDC high-voltage direct current

kV kilovolt

LiDAR light detection and ranging NHD National Hydrography Dataset

NOAA National Oceanic and Atmospheric Administration

NRCS Natural Resources Conservation Service

NWI National Wetland Inventory
OHWM ordinary high-water mark
PGE Portland General Electric

PJD preliminary jurisdictional determination

RCW Revised Code of Washington

ROW right-of-way

SMA Shoreline Management Act
SMP Shoreline Master Program
SR 14 Washington State Route 14
USACE U.S. Army Corps of Engineers
USDA U.S. Department of Agriculture
USFWS U.S. Fish and Wildlife Service

USGS U.S. Geological Survey

WAC Washington Administrative Code WATOR Washington Tool for Online Rating

WDFW Washington Department of Fish and Wildlife WDNR Washington Department of Natural Resources

WETS Climate Analysis for Wetlands Tables
WHCV Wetlands of High Conservation Value

WRIA Water Resource Inventory Area

WSDOT Washington State Department of Transportation

Executive Summary

HDR Engineering, Inc. (HDR), on behalf of Cascade Renewables Transmission, LLC (CRT), completed a wetland and waterbodies delineation within the proposed Cascade Renewable Transmission Project (Project) survey area in Washington State in April and November 2023. This report describes the methods and findings of the survey and serves to inform project design and support local, state, and federal permitting required for the Project.

In total, nineteen wetlands, nineteen waterbodies, and seven ditches were identified within or immediately adjacent to the Project survey area and are detailed in Section 3 of this report. Wetland 17 and the wetland buffer will be temporarily affected by Project activities. Project impacts for work proposed within the Columbia River are addressed in a Stream Functional Assessment Report developed for the project; no other wetland or water features in Washington State will be affected.

1 Introduction

The proposed Project is a roughly 95-mile 1,100-megawatt (MW) high-voltage direct current (HVDC) electric transmission cable interconnecting the existing Bonneville Power Administration (BPA) Big Eddy 500-kV alternating current (AC) substation located near The Dalles, Oregon, and the existing Portland General Electric (PGE) Harborton 230-kV AC substation located in Portland, Oregon (Figure 1, Appendix E).

As shown on Figure 1, Project Overview, most of the proposed cable alignment would be placed in the bed of the Columbia River, as described in Section 1.1. In Oregon, two converter stations would be constructed, and the cable will be installed landward of the river in The Dalles and Portland. Findings of the wetland delineations completed on land in Oregon will be presented in a separate report.

1.1 Project Overview

At the eastern end of the Project, a converter station is proposed near the Big Eddy substation with approximately 500 feet of overhead, (500-kV) high-voltage alternating current (HVAC) transmission line to connect the converter station to the substation. From the converter station, the transmission cables would be bundled with associated fiber optic communications cable (cable bundle) in underground conduits to the edge of the Columbia River.

The 12-inch cable bundle would be buried in the bed of the Columbia River in Oregon and Washington from roughly The Dalles to Portland. A portion the HVDC cable bundle would be buried underground in Washington approximately 7.5 miles between Stevenson and Hamilton Island, Washington.

Horizontal directional drilling (HDD) would be used to transition from land-to-water at Stevenson, Washington. A landing site would be used to establish an HDD drill pit and stage equipment (Figure 1, Appendix E). From the landing site, the cable bundle would be placed in a trench in the

westbound travel lane of SR 14 until diverted to Ash Lake Road. The cable would be placed in Ash Lake Road for the entire road length and then would connect back to SR 14. The proposed alignment would divert from SR 14 to the south and onto Dam Access Road and continue down to the Columbia River along Ft. Cascades Drive. The cable would follow Ft. Cascades Drive until the landing site proposed within the parking area at Hamilton Island Recreation Area. From this landing site, the cable would be placed via HDD back into the Columbia River, avoiding the shorelands. Based on preliminary design, the proposed trench would be 3 feet wide and with the associated work area, the total work area would be approximately 12 feet wide and would generally follow the westbound travel lanes of SR 14, Ash Lake Road, Dam Access Road and Ft. Cascades Drive. At these locations, the trenched area would be restricted to the paved surface of the roadway and would not affect roadway shoulders.

In Portland, the cable would transition from the Columbia River onto north of Hayden Island via HDD, then be trenched in existing utility rights-of-way across Hayden Island, and installed via HDD beneath the Oregon Slough, landfall at N Marine Drive, and trenched in road rights-of-way to the western converter station in North Portland. The western converter station would be connected to the Harborton substation with approximately underground HVAC transmission line installed in private property and in road right-of-way (ROW) to the Willamette River edge. The HVAC would be installed via HDD under the Columbia Slough and Ramsey Lakes wetland complex and under the Willamette River.

1.2 Project Survey Area

The wetland survey area on land in Washington State occurs in Skamania County, in the cities of North Bonneville and Stevenson, and within roadway ROW maintained by the Washington State Department of Transportation (WSDOT) and Skamania County. In general, wetlands and waters, and required buffers were delineated within at least 25 feet on either side of the proposed alignment. The delineation may have extended farther than 25 feet where permissions to enter were granted. The delineation was restricted to only visual field observations in a few areas where access was restricted or where surveyor safety was a concern. Alternative delineation methods applied in these areas are outlined in Section 2.

1.3 Landscape Setting

The proposed Project would occur within Township 2 North (T2N), Range 7 East (R7E), Sections (S) 1, 2, 10, 11, 14, 15, 16, 20, 21, 22 and 29 at elevations between 45 and 230 feet above mean sea level with highest elevations occurring at Ash Lake Road. The Project survey area is within the Middle Columbia-Hood watershed (Hydrologic Unit Code 17070105) and Washington Water Resource Inventory Areas (WRIA) 28 Salmon-Washougal and 29 Wind-White Salmon.

The proposed Project lies within the Cascades (4) level III ecoregion and the Western Cascades Lowlands and Valleys (4a) level IV ecoregion (EPA 2016). The Cascades ecoregion is primarily characterized by mountains underlain by volcanic rock shaped by alpine glaciations. The major landforms within the survey area and surrounding landscape include steep ridges generally less than 3,200 feet in elevation associated with the Cascades Mountain Range, and the relatively narrow Columbia River valley. The climate is wet (60-90 mean annual inches of precipitation) and mild (mean temperature 31-78 degrees Fahrenheit [°F]), promoting coniferous forests comprised mainly

of Douglas fir (*Pseudotsuga menziesii*), western hemlock (*Tsuga heterophylla*), western red cedar (*Thuja plicata*), red alder (*Alnus rubra*) and vine maple (*Acer circinatum*) (Thorson et al. 2003).

The survey area is within Land Resource Region (LRR) A – Northwest Forest, Forage, and Specialty Crop (USDA NRCS 2022). Forest, recreation, and timber production are the main industries in the region. General land uses within and immediately adjacent to the survey area include roadway ROW, urban development, utility infrastructure, state, federal and privately held lands, and recreation areas associated with the Columbia River, the Pacific Crest Trail and the Fort Cascades Historic Site.

2 Methods

Wetlands and waterbodies within the survey area were assessed using a two-step process. HDR biologists first completed a review of existing literature, maps, and other materials from federal, state, and local regulatory resources (Section 2.1) to determine if wetlands and other waters of the United States (WOTUS) or waters regulated by the state of Washington could occur within the survey area. In addition, prior to conducting field surveys, HDR biologists reviewed Project-specific 2-foot contours derived from light detection and ranging (LiDAR) methods as well as historical, seasonal, and current ESRI, Google Earth, and Google Maps aerial imagery.

Precipitation analysis was conducted prior to each field investigation to determine if climatic and hydrologic conditions were typical for the time of year each survey was completed (Section 2.2).

Following this review, HDR biologists completed two field investigations of the survey area, as described in Section 1.2, that included wetlands and waters identification, delineation, and classification (Section 2.4). Results of desktop review are presented in Section 2.3.

2.1 Desktop Review Material

Existing documents reviewed for these surveys include the following:

2.1.1 Federal

- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) (FEMA 1986)
- National Hydrography Dataset (NHD) maps and data (USGS 2023a)
- U.S. Geological Survey (USGS) topographic maps (USGS 2023b)
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)
 Land Resource Regions (USDA NRCS 2022)
- USDA NRCS Web Soil Survey (USDA NRCS 2023a)
- USDA NRCS Hydric Soils List (USDA NRCS 2023b)
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Mapper (USFWS 2023)
- USFWS Critical Habitat Mapper (USFWS 2022)

- National Oceanic and Atmospheric Administration (NOAA) Essential Fish Habitat and Critical Habitat Mappers (NOAA 2021 and NOAA 2023a)
- Climate Data for Bonneville Dam weather station (USDA NRCS 2023c and NOAA 2023b)

2.1.2 State

- Washington State Department of Ecology (Ecology) Coastal Atlas (Ecology 2023a)
- Washington Department of Natural Resources (WDNR) Forest Practices Application Mapping Tool (WDNR 2023a)
- WDNR Natural Heritage Program Data Explorer for Wetlands of High Conservation Value (WDNR 2023b)
- Washington Department of Fish and Wildlife (WDFW) Fish Passage Inventory, Assessment, and Prioritization, Web Application (WFDW 2023a)
- WDFW Priority Habitats and Species on the Web (WDFW 2023b)
- WDFW SalmonScape web application (WDFW 2023c)
- WDFW Statewide Washington Integrated Fish Distribution (SWIFD) Web Map Viewer (WDFW 2023d)

2.1.3 Local

- City of North Bonneville Municipal Code, Title 21 Environmental Protection (City of North Bonneville 2015) and Shoreline Master Program (SMP; City of North Bonneville 2019)
- City of Stevenson Municipal Code, Title 18 Environmental Protection (City of Stevenson 2024) and SMP (City of Stevenson 2022)
- Skamania County Municipal Code, Title 19 Critical Areas (Skamania County 2023a) and SMP (Skamania County 2020)
- Skamania County Shoreline Environmental Designation Map (Skamania County 2023b)
- Skamania County Preliminary Flood Hazard Area Viewer (Skamania County 2023c)

2.2 Precipitation and Data Analysis

Precipitation and climate data for the survey area was evaluated for the April 19-21, 2023, and November 6-10, 2023 field investigations using data from the Bonneville Dam weather station (Station ID 350897/Multnomah County FIPS 41051), located in Oregon approximately 0.5 miles from the west end of the survey area. The Bonneville Dam weather station is closest in a similar geographic position to the proposed Project with the requisite data history to evaluate normal rainfall conditions.

Normal rainfall was analyzed using data for the past 30 years (1991-2021), derived from the WETS table for the Bonneville Dam weather station (USDA NRCS 2023c). Antecedent rainfall data used for the analysis was also collected at Bonneville Dam (NOAA 2023b). To determine if the overall recorded rainfall conditions during the 3 months prior to the surveys were within normal range, drier than normal or wetter than normal, these precipitation data were analyzed using the Direct Antecedent Rainfall Evaluation Method (DAREM) (Sumner et al. 2009).

2.2.1 Climate and Growing Season

The proposed Project is within Washington state climate division 5 - Cascade Mountains West (NOAA 2023c) and within the Western Mountains, Valleys, and Coast region as defined by the U.S. Army Corp of Engineers (USACE) Regional supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (Regional Supplement; Environmental Laboratory 2010). Generally, the division in climate zones in this area of Washington State is defined by the Cascade Mountain Range. Climate west of the range is cooler and more humid, with a shorter dry season and annual precipitation greater than 20 inches.

According to the Bonneville Dam WETS table, average annual precipitation between 1991 and 2021 was 80.06 inches. The average temperature for the same period ranged from 34.7°F in January to 80.6°F in August. The growing season is 322 days, beginning February 1 and ending December 20 (USDA NRCS 2023c).

2.2.2 April 2023 Field Investigation

During the 3 months prior to April field investigations (January – March 2023), antecedent rainfall received near the survey area was 19.26 inches (Table 2-1). Rainfall conditions were drier than normal during January and February, and within normal range for March. Results of DAREM indicated the amount of rainfall received in the area during the same period was below normal range (Table 2-2). Antecedent rainfall recorded in the 2 weeks prior to the first day of field investigations (April 5-18, 2023) was 4.03 inches, approximately 1.07 inches above the 2.96-inch average for the same time period. Rainfall received the 3 days of the survey was 0.41 inches above average.

Table 2-1. Summary of Precipitation Analysis January - March 2023

Month	Recorded Precipitation (inches)	Average Precipitation (inches)	Percent of Average Recorded	30% chance less than or more than ranges for normal precipitation (inches)
January 2023	6.91	11.56	59.7%	<8.98 >13.38
February 2023	5.56	8.74	63.6%	<6.21 >10.35
March 2023	6.79	8.77	77.4%	<6.07 >10.44
Total	19.26	29.07	66.2%	-

Table 2-2. Results of Precipitation Analysis using DAREM January - March 2023

Month	30% less than	Average	30% more than	Rainfall	Condition
January 2023	8.98 in.	11.56 in.	13.38 in	6.91 in.	Dry
February 2023	6.21 in.	8.74 in.	10.35 in.	5.56 in.	Dry
March 2023	6.07 in.	8.77 in.	6.79 in.	6.79 in.	Normal

2.2.3 November 2023 Field Investigation

During the 3 months prior to November field investigations (August – October 2023), antecedent rainfall received near the survey area was 7.93 inches (Table 2-3). Rainfall conditions were within normal range for all preceding months. Results of DAREM indicated the amount of rainfall received in the area during the same period was within normal range (Table 2-4). Antecedent rainfall recorded in the 2 weeks prior to the first day of field investigations (October 23 – November 5, 2023) was 6.37 inches, approximately 1.85 inches above the 4.52-inch average for the same time period. Rainfall received the 5 days of the survey was 0.78 inches above average.

Table 2-3. Summar	v of Precipitation	Analysis A	ugust - October 2	023
I able 2-3. Sullillial	V OI I I CCIDITATION	Allalysis A	uquat - October Zi	UZJ

Month	Recorded Precipitation (inches)	Average Precipitation (inches)	Percent of Average Recorded	30% chance less than or more than ranges for normal precipitation (inches)
August 2023	0.26	0.88	29.5%	<0.22 >0.91
September 2023	2.52	2.68	94.0%	<1.01 >3.24
October 2023	5.15	7.34	70.1%	<4.91 >8.79
Total	7.93	10.90	72.7%	-

Table 2-4. Results of Precipitation Analysis using DAREM August - October 2023

Month	30% less than	Average	30% more than	Rainfall	Condition
August 2023	0.22 in.	0.88 in.	0.91 in	0.26 in.	Normal
September 2023	1.01 in.	2.68 in.	3.24 in.	2.52 in.	Normal
October 2023	4.91 in.	7.34 in.	8.79 in.	5.15 in.	Normal

2.3 Additional Desktop Review Summary

Precipitation received in the area in the 2 weeks prior to each field investigation was higher than normal rainfall recorded in the area, averaged between 1991 and 2021 (Section 2.2). Wetland biologists anticipated that false wetland hydrology indicators could be encountered during field investigations. Observations of suspected false positives for hydrology indicators are noted on wetland determination field forms.

Multiple wetlands, streams and other waterbodies are mapped within the survey area according to the NWI and NHD databases as well as state and local databases (Figure 2; USFWS 2023, USGS 2023a, Ecology 2023a). No local or statewide wetland inventory information was found. The Washington Department of Ecology maps the Columbia River as shoreline of statewide significance. According to FEMA and Skamania County, the 100-year floodplain occurs within the survey area but is confined to areas directly adjacent to the Columbia River near HDD Area 9 (Figure 4, Page 1) and near the intersection of Ash Lake Road and SR 14 (Figure 4, Page 30) (FEMA 1986, Skamania County 2023c). The 100-year floodplain will not be affected by Project activities. No spatial data for the 100-year floodplain was available for incorporation on report maps.

Known rare plant occurrences for Columbian yellowcress (*Rorippa columbiae*) and western ladies' tresses (*Spiranthes porrifolia*) are mapped by the Washington Natural Heritage Program within the

survey area at Hamilton Island Recreation Area (WDNR 2023b). No high-quality ecosystems are mapped in the survey area.

According to the NRCS and hydric soil data for Skamania County, no hydric soils occur within the survey area (Figure 3; USDA NRCS 2023a and 2023b). Soils mapped within the survey area include:

- Arents, 0 to 5 percent slopes
- Bonneville stony sandy loam
- Steever stony clay loam, 2 to 30 percent slopes
- Steever stony clay loam, 30 to 65 percent slopes

The survey area is located within WDFW mapped priority habitat for the northern spotted owl (*Strix occidentalis caurina*) (WDFW 2023b), but no primary constituent habitat elements would be affected by the proposed Project. A fresh water forested/shrub wetland priority habitat is mapped for a perennial stream along Ash Like Road; the stream will not be affected by Project activities.

2.4 Field Investigation Methods

HDR biologists conducted two field investigations within the Project survey area on April 19 - 21, and November 6 - 10, 2023, to identify and delineate wetlands and waterbodies. Online resources, outlined in Section 2.1, were reviewed prior to and in preparation for the field investigations; results of the desktop review are documented in this section, in subsequent report sections, and on wetland determination data forms, where appropriate (Appendix B).

2.4.1 Wetlands

Alternative Delineation Methods

The survey area was investigated for wetlands using the methods described in the USACE *Wetlands Delineation Manual* (Manual; Environmental Laboratory 1987) and the Regional Supplement (Environmental Laboratory 2010). These standard three-parameter wetland methodologies are described in Appendix A.

Alternative methodologies described in this section were applied in circumstances where some standard methodologies could not effectively be used to delineate wetland boundaries. These circumstances included areas with excavation restrictions, property access issues, field safety concerns, recent human disturbance and recently formed wetlands. Delineators implemented a combination of applicable standard methods as well as methods for atypical situations outlined in Section F of the Manual and difficult wetland situations outlined in Chapter 5 of the Regional Supplement. Additional desktop resources, described in the following paragraph, were used to aid in wetland boundary determinations for Wetland 1 through Wetland 9 (detailed summaries of delineated features are presented in Section 3). Application of alternative methods is explained below and on wetland determination data forms (Appendix B).

The western portion of the survey area along Ft. Cascades Drive occurs in a "No Dig" zone within the Hamilton Island Recreation Area and Fort Cascades Historic Site operated by the USACE. No soils or subsurface hydrology were evaluated. Wetlands delineated in this area were assumed to have hydric soils. The boundaries for Wetland 1 through Wetland 4 were conservatively estimated using field observations of geomorphic position, vegetation communities and evidence of surface

hydrology, as well as Project-specific topography including 2-foot contours derived from LiDAR data, current and historic aerial and ground-level imagery, agency databases of known or presumed presence of protected natural resources, and best professional judgement.

The same alternative methods were used for Wetland 5 and Wetland 6 due to property access issues and Wetland 7 and Wetland 8 due to safety concerns related to the narrow shoulders and traffic speed along SR 14. Field observations for these wetlands were made from SR 14 ROW and methods are outlined on wetland determination data forms.

During the April field investigation, vegetation and soils at the eastern boundary of Wetland 9 (Figure 4, Page 20) had been recently and significantly disturbed. Research and information from local agency personnel indicated the disturbance may have been the result of a recently buried power line related to a county utility project. Aerial imagery of the area taken in October 2022 suggests the disturbance occurred in early fall of the same year, roughly 8 to 10 months prior to the field investigation. The extent of disturbance included the removal of all vegetation and excavation of native soils to a depth roughly between 1 and 4 feet. The area had been filled with gravelly soil and graded. Straw wattles were in place at the time of the investigation. Some identifiable vegetation was established at the time of the April investigation but was likely not the result of restoration (e.g., plantings or hydroseeding). The stream adjacent to the west (Stream 3) was also disturbed during the utility work; however, the ordinary high-water mark (OHWM) of the stream channel could be identified during the investigation.

Recent ground-level imagery showed a distinct break in vegetation from hydrophytic reed canary grass (Phalaris arundinacea) and broadleaf cattail (Typha latifolia) to more upland species such as Himalayan blackberry (Rubus armeniacus) and St. John's wort (Hypericum perforatum) at the eastern delineated boundary of Wetland 9. Vegetation observed and recorded in this area during the April investigation is included on wetland determination data forms W9-P1 and W9-P2; the wetland boundaries appear to be consistent with the vegetation breaks visible on ground-level images. Vegetation community differences are related to geomorphic position (depression located at toe slope) and hydrology inputs from Stream 3.

Wetland 9 was revisited briefly during the November field investigation. Vegetation was mostly reestablished with a distinct break in vegetation along the delineated wetland boundary. Dominant wetland plants included reed canary grass, broadleaf cattail and field horsetail (Equisetum arvense). Upland areas were dominated by orchard grass (Dactylis glomerata), an unidentified Poa species. Himalayan blackberry, common dandelion (*Taraxacum officinale*), English plantain (*Plantago* lanceolata), Canada thistle (Cirsium arvense), and bull thistle (Cirsium vulgare).

HDR staff examined soils in Wetland 9 using methodology for problematic hydric soils outlined in the Manual and Regional Supplement. Most native soil upper layers within and adjacent to the eastern boundary of the wetland had been removed during utility installation and horizons where wetland soils are likely to form (12 to 24 inches below ground surface) could not be located. Because the soil disturbance extended to the edge of Stream 3, it is assumed that if left undisturbed, prolonged soil saturation from the stream would contribute to the future development of hydric soils within the delineated boundary of Wetland 9; therefore, hydric soils are assumed within the wetland boundary. In accordance with the procedure for problematic hydric soils outlined in the Regional Supplement:

- 1. Vegetation within the wetland plot at the eastern boundary of Wetland 9 was determined to be hydrophytic.
- 2. Strong primary and secondary hydrology indicators were observed within the wetland boundary.
- 3. The soil profile was mainly comprised of gravelly fill material and the wetland was located within a topographic depression at a toe slope where water is likely to collect.
- 4. Native soils were removed during recent buried utility project and replaced with fill material. Considering the reestablishment of hydrophytic vegetation and strong hydrology indicators, it is likely that hydric soils were present within the wetland boundary prior to the disturbance and will form again if left undisturbed.

Wetland 19 occurs north of Ash Lake Road in a small depression on a narrow terrace formed on a slope above Ashes Lake. Wetland hydrology is attributed to drainage of upslope hills to a small stream channel that occurs along the western boundary of the wetland (Stream 6). The channel discharges to a culvert below grade of Ash Lake Road and hydrology continues downslope to Ashes Lake. During the field investigation, the culvert was overgrown with reed canarygrass creating a partial blockage and causing overbank flow from Stream 6 into the adjacent depression. Historic aerial and ground-level images indicate a shift in dominant vegetation in the wetland from Himalayan blackberry to reed canarygrass over the last 20 years or more. Multiple soil probes were investigated throughout the wetland and soils were mainly comprised of silt and sandy loams saturated to the surface. Sandy loams were more prominent toward the center of the wetland. Soils were allowed to dry prior to evaluation for redoximorphic features and other hydric soil indicators.

The wetland exhibited strong indicators of hydrophytic vegetation and wetland hydrology but lacked hydric indicators (Figure 4, Page 27). HDR staff determined soils in Wetland 19 to be hydric using methodology for problematic hydric soils outlined in the Manual and Regional Supplement.

- 1. The wetland is dominated by reed canarygrass and meets the rapid test for hydrophytic vegetation.
- 2. Strong primary wetland hydrology indicators were observed within the wetland and excavated soil pit.
- Soils were mainly comprised of sandy loam formed in a depression with roughly 2% grade in an area of convergent slopes and likely to collect and concentrate water. Redox concentrations were observed beginning 20 inches below ground surface.
- 4. This area is likely a developing wetland caused by a partially blocked culvert that creates impoundment of runoff and overbank flow from Stream 6, inundating the depression during periods of prolonged rainfall. Hydric soils may be slow to form because of the sandy nature of the soils and because water is still able to drain the area albeit at a slower rate.

Additionally, a total of seven verification plots were evaluated to confirm upland conditions in suspect areas. Verification Plot 1 and 2 occurred within the "No Dig" zone within the Hamilton Island Recreation Area. Alternative methodologies were applied as described in in this section to determine if a particular area was upland.

Application of Wetland Buffers

Each wetland was assessed using the Washington State Wetland Rating System for Western Washington manual with 2023 update (Wetland Rating System; Hruby & Yahnke 2023). The rating system scores wetlands according to their capacity to improve water quality, maintain hydrologic integrity, and provide habitat. The system uses the scores or special characteristics, if present, to place wetlands into one of four categories, which have corresponding implications for permitting and mitigation. Wetlands of High Conservation Value (WHCV) were determined using guidance from the Wetland Rating System and the Washington Natural Heritage Program online data explorer to identify if wetland boundaries overlap with known occurrences of rare plants or rare and high-quality ecosystems (Hruby & Yahnke 2023, WDNR 2023b). If occurrences overlapped with any part of the wetland, the wetland meets the criteria for WHCV and is considered a Category 1 wetland. Rating forms were completed for each delineated and estimated wetland using Ecology's online Washington Tool for Online Rating (WATOR; Ecology 2023b). For rating delineated wetlands that extended outside the survey area, the boundary for the entire wetland was estimated using aerial images, topographic contours and publicly available agency data; therefore, some wetlands appear larger on the rating form than the wetland delineation maps. Wetland rating forms are included in Appendix C and summarized in Section 3.

The Project survey area intersects the jurisdictions of the City of Stevenson, the City of North Bonneville, and Skamania County. The local jurisdiction municipal code determines standard wetland buffers according to the assigned wetland category derived from Ecology's Wetland Rating System and in accordance with the land use intensity designation at the wetland location. The following municipal codes were used to determine buffers for wetlands delineated within the survey area and wetlands adjacent whose buffer fell within the survey area:

- City of Stevenson Municipal Code 18.13 (City of Stevenson 2024)
- City of North Bonneville Municipal Code 21.10 (City of North Bonneville 2015)
- Skamania County Municipal Code 19.03 (Skamania County 2023a)

In general, and in accordance with local guidance, wetland buffers do not extend onto or past impervious surfaces and unvegetated developed areas with ongoing disturbance (e.g. gravel driveways and maintenance yards). In many cases, riparian stream buffers overlap with wetland buffers. Wetland buffer requirements are summarized in Table 2-5, Table 2-6, and Table 2-7. Wetland buffers are shown on Figure 4, Appendix E.

Table 2-5. City of Stevenson Wetland Protective Buffer Widths

Wetland Category		C	ategory IV (f	t)*	Category III (ft)			Category I & II (ft)		
Land Use Intensity		Low	Medium	High	Low	Medium	High	Low	Medium	High
Habitat	5 or less	-	-	-	40	60	80	50	75	100
Score	6 to 7	25	40	50	75	110	150	75	110	150
	8 to 9	-	-	-	150	225	300	150	225	300

Source: City of Stevenson 2024: 18.13.100, Table 18.13.100-1. *Some Category IV buffer widths not provided in Table 18.13.100-1.

Table 2-6. City of North Bonneville Wetland Buffers

Wetland Category		С	Category IV (ft)			Category III (ft)			Category I & II (ft)		
Land Use Intensity		Low	Medium	High	Low	Medium	High	Low	Medium	High	
Habitat	3-4	25	40	50	40	60	80	50	75	100	
Score	5	25	40	50	60	90	120	70	105	140	
	6	25	40	50	65	100	135	90	135	180	
	7	25	40	50	75	110	150	110	165	220	
	8	25	40	50	-	-	-	130	195	260	
	9	25	40	50	-	-	-	150	225	300	

Source: City of North Bonneville 2015: 21.10.070, Tables 21.10.070-1, 21.10.070-2 and 21.10.070-3

Table 2-7. Skamania County Wetland Buffers

Wetland	Wetland Category Category I (ft)		Category II (ft)	Category III (ft)	Category IV (ft)		
Land Use Intensity		Low	Medium	High		•	•
Habitat	5 or less	50	85	100	100	50	25
Score	6	75	120	150			
	7	100	155	200			
	8	125	190	250			
	9	150	225	300			

Source: Skamania County 2023a:19.03.040, Tables 19.03-1 and 19.03-2

2.4.2 Waterbodies

HDR biologists identified the OHWM and bankfull width on non-tidal waterbodies in the survey area using Ecology's (Anderson et al. 2016) guidance for OHWM identification, which is based on the Shoreline Management Act (Revised Code of Washington [RCW] 90.58.030(2)(c)) and Washington Administrative Code [WAC] 173-22-030(5)). Biologists looked for physical indicators, including, but not limited to, a natural scour line impressed on the bank, distribution of upland and water tolerant vegetation, and drift deposits.

The Columbia River is tidally influenced from the Pacific Ocean to Bonneville Dam (Roegner et al. 2010, ODSL 2023). Biologists determined the river high tide line (HTL), as defined by 33 CFR 328.(c)(4), by observations of a more or less continuous deposit of debris on the shore, physical markings and characteristics, and vegetation lines.

The OHWM and HTL for large streams within the survey area were surveyed using a Trimble global positioning system (GPS) unit with sub-meter accuracy. Smaller streams (<10 feet wide) were delineated by taking points along the thalweg of the stream section within the survey area. Where the stream extended outside the survey area, the centerline of the stream was digitized using 2-foot contours, elevation data from USACE, and the NHD dataset.

Waters identified in the survey area were classified according to the stream definitions and typing systems detailed in the City of North Bonneville (2015), City of Stevenson (2024) and Skamania County (2023b) critical areas designation and protection ordinances as well as the WDNR Forest Practices Application Mapping Tool (WDNR 2023a). These stream typing systems correspond to the stream typing system under WAC 222-16-030. Stream typing criteria are described in Table 2-8, Table 2-9, and Table 2-10. The stream types described in this report are based on the stream reaches within the survey area; stream types may be different in downstream reaches. Fish

presence was determined through the review of online resources, an assessment of the available habitat, and the hydrologic condition of identified surface waters (NOAA 2023a, WDFW 2023a, WDFW 2023b, WDFW 2023c, WDFW 2023d).

Table 2-8. City of Stevenson Stream Typing System and Buffer Requirements

Water Type	Description	Buffer Width (feet)
Type S	Waters identified as shorelines of the state (Columbia River and Rock Cove).	150
Type F, anadromous fish bearing stream	Streams and waterbodies that are known to be used by fish, or meet the physical criteria to be potentially used by fish. Type F streams may or may not have flowing water all year; they may be perennial or seasonal.	100
Type Np	Type Np waters are streams that have flow year-round and may have spatially intermittent dry reaches downstream of perennial flow. Type Np streams do not meet the physical criteria of a Type F stream. This also includes streams that have been proven not to contain fish using methods described in Forest Practices Board Manual Section 13.	50
Type Ns	Type Ns waters are streams that do not have surface flow during at least some portion of the year, and do not meet the physical criteria of a Type F stream.	50
Other	Irrigation ditches, canals, stormwater run-off devices, or other entirely artificial watercourses, except where they exist in a natural watercourse that has been altered by humans are not assigned a water type and are therefore not regulated as riparian habitats.	0

Source: City of Stevenson 2024:18.13.095, Table 18.13.095-1

Table 2-9. City of North Bonneville Stream Typing System and Buffer Requirements

Water Type	Description	Buffer Width (feet)
Type S	Waters identified as shorelines of the state (Columbia River).	150
Type F, anadromous fish bearing stream	Perennial or fish bearing waters.	100
Type F, non- anadromous fish bearing stream	All perennial waters that are not fish bearing.	75
Type Np	Less than 3 feet in width on average.	50
Type Ns	Seasonal streams with a defined channel.	25

Source: City of North Bonneville 2015:21.10.070, Table 21.10.070-8

Table 2-10. Summary of Skamania County Stream Typing System and Buffer Requirements

Water Type	Description	Buffer Width (feet)
DNR Type S	S waters are all waters, within their bankfull width, as inventoried as "shorelines of the state" under Chapter 90.58 RCW and the rules promulgated pursuant to Chapter 90.58 RCW, including periodically inundated areas of their associated wetlands. Type S shorelines are regulated under the county shoreline master program (SMP).	Rural Conservancy Designation: 150 High Intensity Designation: 35
DNR Type F	Type F waters are segments of natural waters which are not classified as Type S waters and have a high fish, wildlife, or human use. These are segments of natural waters and the periodically inundated areas of their associated wetlands.	100
Type Np	Type Np waters are all segments of natural waters within defined channels that are perennial non-fish-habitat streams. Perennial streams are waters that do not go dry at any time of a year of normal rainfall. However, for the purpose of water typing, Type Np waters include the intermittently dry portions of the perennial channel below the uppermost point of perennial flow.	50
Type Ns	Type Ns waters are all segments of natural waters within defined channels that are not Type S, F, or Np waters. These are seasonal, non-fish-habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any stream reach that is a Type Np water. Ns waters must be physically connected by an aboveground channel system to a Type S, F, or Np water.	25

Source: Skamania County 2023b: 19.05.040, Table 19.05-1 and Skamania County 2020, Table 5-7.

3 Results

HDR biologists identified nineteen wetlands, fourteen streams (including the Columbia River), five deepwater habitats and six ditches along within associated buffers within or adjacent to the survey area. Delineated wetlands, waters, and their buffers are presented on Figure 4 (Appendix E). Wetland determination data forms are provided in Appendix B, wetland rating forms are provided in Appendix C, and representative photographs are provided in Appendix D. Detailed summaries of each delineated feature as well as verification plots are presented in the following sections. Total acreage of wetland and riparian stream buffer within the survey area were calculated independently and, in some areas, may overlap resulting in a conservative estimate of buffer acreages.

The field investigations were completed from west to east along the proposed Project alignment. Results and maps are arranged to begin at Hamilton Island Recreation Area below Bonneville Lock and Dam and end in the City of Stevenson. General observations of the survey area included:

- Variable topography characteristic of foothills in the Cascade Mountains.
- Hydrology largely drained southward toward the Columbia River.
- Roadways effectively impounded and/or concentrated hydrology within the survey area along the north side of the proposed alignment.

Due to an unavoidable georeferencing error, figures may show the proposed Project alignment outside roadway surfaces in some areas; however, the majority of Project activities will remain within paved areas of SR 14, Ash Lake Road, Dam Access Road and Ft. Cascades Drive and avoid nearly all wetlands, waters and associated buffers within the survey area.

3.1 Wetlands

HDR biologists estimated and delineated seventeen wetlands within or adjacent to the survey area using a combination of the USACE standard three-parameter approach (Appendix A) and alternative methods based on guidance from the Manual and Regional Supplement (Section 2.4.1). Summary information related to all wetland observations is presented in Table 31, within detailed wetland tables presented in this section and on wetland determination data forms presented in Appendix B.

Wetlands were observed throughout the alignment, primarily associated with roadway cut slopes adjacent to the west bound traffic lanes of Ft. Cascades Drive, SR 14 and Ash Lake Road. Most delineated wetlands are depressional wetlands; slope and riverine wetlands were also observed (Table 31). Vegetation classes were mainly emergent with some shrub and forested communities.

Wetland 1 through Wetland 4 were considered Category I wetlands due to overlap with known rare plant occurrences (WDNR 2023b).

Wetland preliminary jurisdictional determinations were made using 33 Code of Federal Regulations (CFR) Part 328 for USACE and the Water Pollution Control Act (90.48 RCW) and the Shoreline Management Act of 1971 (90.58 RCW) for Ecology.

Table 3-1. Summary of Wetlands in and adjacent to the Survey Area

Wetland Name	Total Wetland Size (acres)	Wetland Size in Survey Area (acres)	HGM Class	Cowardin	Local Jurisdiction	WRIA	Ecology Rating ⁶	Land Use Intensity	Water Quality Score	Hydrologic Score	Habitat Score	Wetland Buffer Width (#) ^d	Sample Points	Figure 4 Reference	Photo Points	USACE PJD	Ecology PJD	Wetland Description and Functions Summary Table
Wetland 1	0.07	0.02	Depressional	PEM/PFO1	Skamania County	28	- 1	Low	6	6	7	100	W1-P1 (W) W1-P2 (U)	Page 1	2, 3	Yes	Yes	Table 3-2
Wetland 2	0.04	0.003	Depressional	PEM1	Skamania County	28	1	Low	7	7	7	100	W2-P1 (W) W2-P2 (U) W2-P3 (W) W2-P4 (U)	Page 2	3, 4	Yes	Yes	Table 3-3
Wetland 3	0.03	0	Depressional	PSS1	Skamania County	28		Low	7	6	7	100	W3-P1 (W) W3-P2 (U)	Page 4	11	Yes	Yes	Table 3-4
Wetland 4	0.21	0.12	Depressional	PEM/PFO1	Skamania County/ City of North Bonneville	28	1	Low	7	7	7	100 and110	W4-P1 (W) W4-P2 (U) W4-P3 (W) W4-P4 (U)	Page 4	12, 13	Yes	Yes	Table 3-5
Wetland 5	0.14	0	Depressional	PEM/PF01	City of North Bonneville	28	- 11	High	7	8	7	220	N/A	Page 11	16	Yes	Yes	Table 3-6
Wetland 6	0.18	0	Depressional	PEM1	Skamania County/ City of North Bonneville	28	11	High	6	7	7	220	N/A	Page 12	17	Yes	Yes	Table 3-7
Wetland 7	<0.01	<0.01	Depressional	PEM1	City of North Bonneville	29		High	7	6	5	120	N/A	Page 15	18	No	Yes	Table 3-8
Wetland 8	<0.01	<0.01	Depressional	PEM1	City of North Bonneville	29	III	High	7	6	6	135	N/A	Page 19	19	No	Yes	Table 3-9
Wetland 9	0.11	0.06	Riverine	PFO1	Skamania County	29	П	High	7	7	8	100	W9-P1 (U) W9-P2 (W) W9-P3 (W) W9-94 (U)	Page 20	24, 25	Yes	Yes	Table 3-10
Wetland 10	0.22	0.02	Depressional	PFO1	Skamania County	29	H	High	7	7	7	100	W10-P1 (W) W10-P2 (U)	Page 27	34, 35	Yes	Yes	Table 3-11
Wetland 11	4.21	<0.01	Depressional	PEM1	Skamania County	29	Ш	High	6	6	8	100	W11-P1 (W) W11-P2 (U)	Page 28	40	Yes	Yes	Table 3-12
Wetland 12	<0.01	<0.01	Depressional	PEM1	Skamania County	29	111	High	6	6	7	50	W12-P1 (W) W12-P2 (U)	Page 29	46	Yes	Yes	Table 3-13
Wetland 13	<0.01	<0.01	Slope	PEM1E	Skamania County	29	III	High	6	5	8	50	W13-P1 (W) W13-P2 (U)	Page 30	48,	Yes	Yes	Table 3-14

Wetland Name	Total Wetland Size (acres)	Wetland Size in Survey Area (acres)	HGM Class	Cowardin ^b	Local Jurisdiction	WRIA	Ecology Rating ^e	Land Use Intensity	Water Quality Score	Hydrologic Score	Habitat Score	Wetland Buffer Width (ft)	Sample Points	Figure 4 Reference	Photo Points	USACE PJD	Ecology PJD	Wetland Description and Functions Summary Table
Wetland 14	0.06	0	Slope	PEM/PFO1	Skamania County	29	11	High	7	6	8	100	W14-P1 (W) W14-P2 (U)	Page 30	50	Yes	Yes	Table 3-15
Wetland 15	2.75	0.05	Slope	PEM/PFO1	Skamania County	29	П	High	7	7	7	100	W15-P1 (W) W15-P2 (U)	Page 30	51	Yes	Yes	Table 3-16
Wetland 16	0.03	0.03	Depressional	PEM1	Skamania County	29	111	High	7	7	5	50	W16-P1 (W) W16-P2 (U) W16-P3 (W) W16-P4 (U)	Page 31	54	Yes	Yes	Table 3-17
Wetland 17	0.05	0.05	Depressional	PEM1	Skamania County/ City of Stevenson	29	ill	High	7	7	4	50 and 75	W17-P1 (U) W17-P2 (W)	Page 31 and Page 32	55-57	Yes	Yes	Table 3-18
Wetland 18	0.14	0.13	Depressional	PEM/PSS1	Skamania County/ City of Stevenson	29	H	High	7	8	7	200 and 150	W18-P1 (W) W18-P2 (U) W18-P3 (W) W18-P4 (U)	Page 31 and Page 32	58-62	Yes	Yes	Table 3-19
Wetland 19	0.03	<0.01	Depressional	PEM1	Skamania County	29	Ш	High	7	6	6	50	W19-P1 (W) W19-P2 (U)	Page 27	36-38	Yes	Yes	Table 3-20

^a Hydrogeomorphic classifications according to A Hydrogeomorphic Classification of Wetlands (Brinson 1993).

b Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979). PEM = Palustrine Emergent, PSS = Palustrine Scrub/Shrub, PFO = Palustrine Forested

[°] Washington State Wetland Rating System for Western Washington (Hruby & Yahnke 2023).

^d City of North Bonneville 2015, 18.13,100; City of Steveson 2024, 19.03.040; Skamania County 2023b, 21.10.070.

HGM = Hydrogeomorphic; WRIA = Washington Water Resource Inventory Area; PJD = preliminary jurisdictional determination

3.1.1 Wetland 1

Table 3-2. Wetland 1 - Information Summary



Location:	
	Wetland Delineation Summary
Rationale for Delineation	Wetland 1 (Photos 2a and 2b) and its buffer (Photos 3a and 3b) occur within survey area. Soils and subsurface hydrology were not evaluated within the Hamilton Island Recreation Area "No Dig" zone. Wetland 1 was distinguished from uplands based on the presence of hydrophytic vegetation, observations of surface hydrology, topographic position on the landscape and additional desktop resources (Section 2.4.1). Wetland 1 is a depressional, palustrine emergent and palustrine/forested wetland with persistent vegetation (PEM/PFO1) and is likely saturated at all times outside of the dry summer months in years with normal rainfall (PEM/PFO1).
Dominant Vegetation	Dominant species in the wetland include common rush (<i>Juncus effusus</i> , FACW), black cottonwood (<i>Populus balsamifera</i> , FAC), and Himalayan blackberry (FAC). Vegetation observed in Wetland 1 meets criteria for hydrophytic wetland vegetation.
Soils	Soils in Wetland 1 are mapped as Arents, 0 to 5 percent slopes. This wetland occurs in the "No Dig" zone of Hamilton Island Recreation Area; hydric soils are assumed based on the presence of hydrophytic vegetation and wetland hydrology.
Hydrology	This wetland is situated in a depression with an outlet to the south that discharges to the Columbia River via Wetland 2 and Ditch 1. Wetland hydrology inputs include surface runoff from precipitation and a high groundwater table from hills north of the site. Primary hydrologic indicators include surface water (A1)). Secondary hydrology indicators include geomorphic position (D2) and FAC-neutral test (D5).

Table 3-2. We	Table 3-2. Wetland 1 – Information Summary				
	Wetland Functions Summary				
Rationale for Local Rating	Washington Department of Natural Resources (WDNR) maps known occurrences of the rare plants, western ladies' tresses and Columbian yellowcress are mapped within the wetland boundary; therefore, the wetland meets the criteria for a Wetland of High Conservation Value and is consider a Category I wetland. The functional assessment rated Wetland 1 as a Category III wetland due to moderate water quality (6), moderate hydrology function (6), and moderate habitat function (7). Wetland 1 scored 19 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023). Category I wetland buffer was applied based on special characteristics of wetland (e.g. WHCV).				
Water Quality	The wetland has moderate potential to improve water quality as a depressional wetland with an intermittently flowing outlet and persistent and ungrazed plants of 95 percent of the area. It has low opportunity to perform the function because less than 10 percent of the area within 150 feet includes land uses that generate excessive runoff. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for total dissolved gas, temperature and dioxin.				
Hydrologic	The wetland has moderate potential to reduce flooding and erosion because it is a depressional wetland with an intermittently flowing outlet, and ponding of 0.5 feet to less than 2 feet. It has low opportunity to perform the function because less than 10 percent of the area within 150 feet of the wetland generates excess runoff. Flooding problems occur downstream; therefore, performance of this function is of high value to society.				
Habitat	Wetland 1 has two vegetation structures, two hydroperiods, moderate plant diversity, moderate interspersion, and presence of habitat features, which contribute to a low habitat site potential. It is located within a landscape that has a high potential to support the habitat functions due to a high degree of connectivity to undisturbed habitat. This function has high value to society because the wetland is in proximity to multiple priority habitats and is a wetland of high conservation value.				

3.1.2 Wetland 2

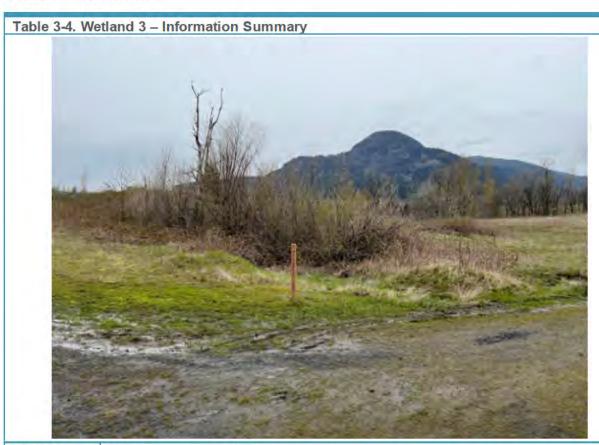
Table 3-3. Wetland 2 - Information Summary



Location:	
	Wetland Delineation Summary
Rationale for Delineation	Wetland 2 (Photos 4a and 4b) and its buffer (Photos 3a and 3b) occur within survey area. Soils and subsurface hydrology were not evaluated within the recreation area "No Dig" zone. Wetland 2 was distinguished from uplands based on the presence of hydrophytic vegetation, observations of surface hydrology, topographic position on the landscape and additional desktop resources (Section 2.4.1). Wetland 2 is a depressional, palustrine emergent wetland with persistent vegetation (PEM1) and is likely seasonally flooded in years with normal rainfall (PEM1).
Dominant Vegetation	Dominant species in the wetland include common rush (FACW), Dudley's rush (<i>Juncus dudleyi</i> , FAC), rough bentgrass (<i>Agrostis scabra</i> , FAC), and unidentified bluegrass species (<i>Poa spp.</i> , FAC). Vegetation observed in Wetland 1 meets criteria for hydrophytic vegetation.
Soils	Soils in Wetland 2 are mapped as Arents, 0 to 5 percent slopes. This wetland occurs in the "No Dig" zone of Hamilton Island Recreation Area; hydric soils are assumed based on the presence of hydrophytic vegetation and wetland hydrology.
Hydrology	This wetland is situated in a depression with a ditched outlet to the east (Ditch 1) that discharges to the Columbia River. Hydrology inputs are from precipitation runoff from hills to the north and northwest, and high groundwater table. Surface water (A1) of 8 inches in depth was the primary indicator of wetland hydrology observed. Secondary hydrology indicators include geomorphic position (D2) and FAC-neutral test (D5).

Table 3-3. We	etland 2 – Information Summary
	Wetland Functions Summary
Rationale for Local Rating	Washington Department of Natural Resources (WDNR) maps known occurrences of a rare plant, western ladies' tresses within the wetland boundary; therefore, the wetland meets the criteria for a Wetland of High Conservation Value and is consider a Category I wetland. The functional assessment rated Wetland 2 as a Category II wetland based on functions of moderate water quality (7), moderate hydrology function (7), and moderate habitat function (7). Wetland 2 scored 21 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023). Category I wetland buffer was applied based on special characteristic of wetland (e.g. WHCV).
Water Quality	The wetland has moderate potential to improve water quality as a depressional wetland with an intermittently flowing outlet and persistent and ungrazed plants of 95 percent of the area. It has moderate opportunity to perform the function because 10 percent of the area within 150 feet includes land uses that generate excessive runoff. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for total dissolved gas, temperature and dioxin.
Hydrologic	The wetland has moderate potential to reduce flooding and erosion because it is a depressional wetland with an intermittently flowing outlet, and ponding of 0.5 feet to less than 2 feet. It has moderate opportunity to perform the function because the wetland unit receives stormwater discharge. Flooding problems occur downstream; therefore, performance of this function is of high value to society.
Habitat	Wetland 2 has one vegetation structure, two hydroperiods, moderate plant diversity, and moderate interspersion, which contributes to a low habitat potential. It is located within a landscape that has a high potential to support the habitat functions, due to a high degree of connectivity to undisturbed habitat. This function has high value to society because the wetland is in proximity to multiple priority habitats and is a wetland of high conservation value.

3.1.3 Wetland 3



Location:						
Wetland Delineation Summary						
Rationale for Delineation	The buffer to Wetland 3 occurs within the Project survey area. Soils and subsurface hydrology were not evaluated within the recreation area "No Dig" zone. This wetland was distinguished from uplands based on presence of hydrophytic vegetation, observations of surface hydrology, topographic breaks in the landscape and additional desktop resources (Section 2.4.1) (Photo 11). Wetland 3 is a depressional, palustrine scrub/shrub wetland with persistent vegetation (PSS1) and is likely seasonally flooded in years with normal rainfall.					
Dominant Vegetation	Dominant species in the wetland include red alder (FAC), Himalayan blackberry (FAC), and an unidentified willow species (Salix spp., FAC). Vegetation observed in Wetland 3 meets criteria for hydrophytic vegetation.					
Soils	Soils in Wetland 3 are mapped as Arents, 0 to 5 percent slopes. This wetland occurs in the "No Dig" zone of Hamilton Island Recreation Area; hydric soils are assumed based on the presence of hydrophytic vegetation and wetland hydrology.					
Hydrology	This wetland is situated in a depression with a central drain outlet. Hydrology inputs are from precipitation coming from hills to the west, and a high groundwater table. Hydrology is assumed to discharge via a series of culverts to an NWI-mapped wetland complex to the east. Surface water (A1) of 3 inches in depth was the primary indicator of wetland hydrology observed. Secondary hydrology indicators include water-stained leaves (B9) and geomorphic position (D2).					

	Wetland Functions Summary
Rationale for Local Rating	Washington Department of Natural Resources (WDNR) maps known occurrences of the rare plant, western ladies' tresses, within the wetland boundary; therefore, the wetland meets the criteria for a Wetland of High Conservation Value and is consider a Category I wetland. The functional assessment rated Wetland 3 as a Category II wetland based on functions of moderate water quality (7), moderate hydrology function (6), and moderate habitat function (7). Wetland 3 scored 20 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023). Category I wetland buffer was applied based on special characteristic of wetland (e.g. WHCV).
Water Quality	The wetland has moderate potential to improve water quality as a depressional wetland with an intermittently flowing outlet and persistent and ungrazed plants of 95 percent of the area. It has moderate opportunity to perform the function because pollutants coming into the wetland from adjacent roadways. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for total dissolved gas, temperature and dioxin.
Hydrologic	The wetland has moderate potential to reduce flooding and erosion because it is a depressional wetland with an intermittently flowing outlet, and ponding of 0.5 feet to less than 2 feet. It has low opportunity to perform the function, but is of high value to society due to flooding problems that occur downstream.
Habitat	Wetland 3 has two vegetation structures, two hydroperiods, moderate plant diversity, moderate interspersion, and presence of habitat features, which contributes to a low habitat potential. It is located within a landscape that has a high potential to support the habitat functions due to a high degree of connectivity to undisturbed habitat. This function has high value to society because the wetland is in proximity to multiple priority habitats and is a wetland of high conservation value.

3.1.4 Wetland 4



Location:	
	Wetland Delineation Summary
Rationale for Delineation	Wetland 4 and its buffer occur within the survey area. Soils and subsurface hydrology were not evaluated within the recreation area "No Dig" zone. Wetland 4 was distinguished from uplands based on presence of hydrophytic vegetation, observations of surface hydrology, topographic breaks in the landscape, and additional desktop resources (Section 2.4.1) (Photos 12 and 13). Wetland 4 is a depressional, palustrine emergent and forested wetland with persistent vegetation (PEM/FO1) and is likely seasonally flooded or saturated in years with normal rainfall.
Dominant Vegetation	Dominant species in the forested portions of the wetland include black cottonwood (FAC), tall fescue (Schedonorus arundinaceus, FAC), an unidentified bentgrass species (Agrostis spp., FAC), bird's-foot trefoil (Lotus corniculatus, FAC) and Himalayan blackberry (FAC). Emergent vegetation was predominantly reed canarygrass (FACW) and Himalayan blackberry. Vegetation in Wetland 4 meets the dominance test indicator for hydrophytic vegetation.
Soils	Soils in Wetland 4 are mapped as Arents, 0 to 5 percent slopes. This wetland occurs in the "No Dig" zone of Hamilton Island Recreation Area; hydric soils are assumed based on the presence of hydrophytic vegetation and wetland hydrology.
Hydrology	This wetland is situated in a narrow depression and receives hydrology inputs from Stream 1 and precipitation runoff from hills upslope. Stream 1 discharges to an NWI-mapped wetland complex to the east. Surface water (A1) ranging in depth from 2 to 9 inches was the primary indicator of wetland hydrology observed. Secondary hydrology indicators include water-stained leaves (B9), drainage patters (B10) and geomorphic position (D2).

Table 3-5. Wetland 4 – Information Summary		
Wetland Functions Summary		
Rationale for Local Rating	Washington Department of Natural Resources (WDNR) maps known occurrences of the rare plant, western ladies' tresses, within the wetland boundary; therefore, the wetland meets the criteria for a Wetland of High Conservation Value and is consider a Category I wetland. The functional assessment rated Wetland 4 as a Category II wetland based on functions of moderate water quality (7), moderate hydrology function (7), and moderate habitat function (7). Wetland 4 scored 21 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023). Category I wetland buffer was applied based on special characteristic of wetland (e.g. WHCV).	
Water Quality	The wetland has moderate potential to improve water quality as a depressional wetland with an intermittently flowing outlet, and persistent plants over 50 percent of the area. It has moderate opportunity to perform the function because of the adjacent roadway. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for total dissolved gas, temperature and dioxin.	
Hydrologic	The wetland has moderate potential to reduce flooding and erosion because it is a depressional wetland with an intermittently flowing outlet, and ponding of 0.5 feet to less than 2 feet. It has a moderate opportunity to perform the function because of the adjacent roadway. Flooding problems occur downstream; therefore, performance of this function is of high value to society.	
Habitat	Wetland 4 has two vegetation structures, two hydroperiods, moderate plant diversity, low interspersion, and presence of habitat features, which contributes to a low habitat potential. It is located within a landscape that has a high potential to support the habitat functions due to a high degree of connectivity to undisturbed habitat. This function has high value to society because the wetland is in proximity to multiple priority habitats and is a wetland of high conservation value.	

3.1.5 Wetland 5

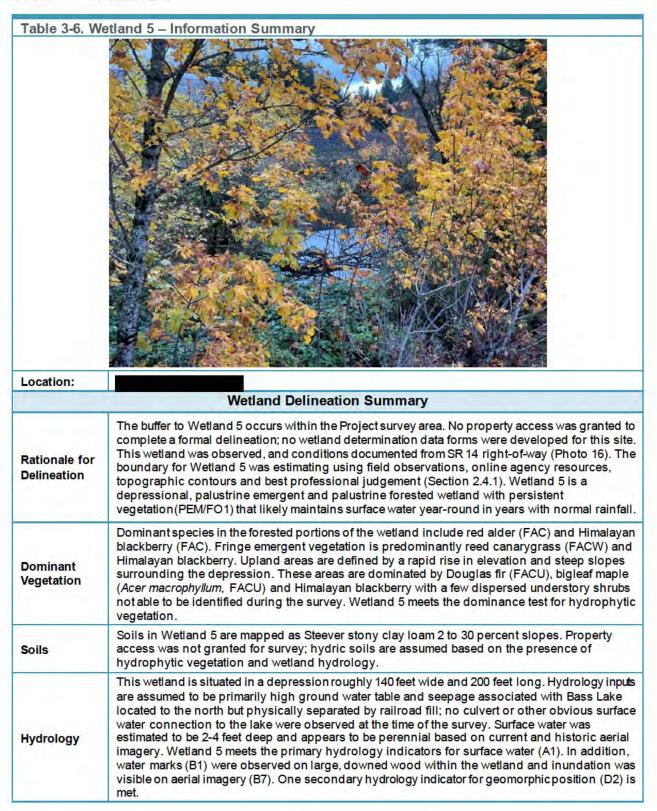


Table 3-6. Wetland 5 – Information Summary		
Wetland Functions Summary		
Rationale for Local Rating	The functional assessment rated Wetland 5 as a Category II wetland based on functions of moderate water quality (7), high hydrology function (8), and moderate habitat function (7). Wetland 5 scored 22 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).	
Water Quality	The wetland has moderate potential to improve water quality as a depressional wetland with no surface water outlet, and persistent plants over 50 percent of the area. It has a moderate opportunity to perform the function because of the adjacent railroad and roadway. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for total dissolved gas, temperature and dioxin.	
Hydrologic	The wetland has high potential to reduce flooding and erosion because it is a depressional wetland with no surface water outlet, and ponding of more than 3 feet. It has a moderate opportunity to perform the function because more than 10 percent of the area within 150 feet of the wetland generates excess runoff. Flooding problems occur downstream; therefore, performance of this function is of high value to society.	
Habitat	Wetland 5 has three vegetation structures, three hydroperiods, moderate plant diversity, high interspersion, and presence of habitat features, which contributes to a moderate habitat potential. It is located within a landscape that has a moderate potential to support the habitat functions due to a moderate degree of connectivity to undisturbed habitat. This function has high value to society because the wetland is in proximity to multiple priority habitats.	

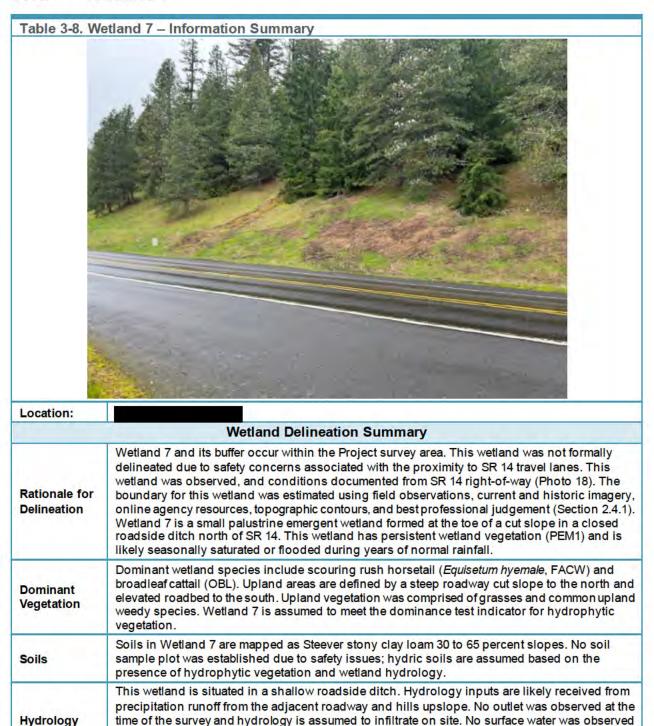
3.1.6 Wetland 6



Location:		
Wetland Delineation Summary		
Rationale for Delineation	The buffer to Wetland 6 occurs within the Project survey area. No property access was granted to complete a formal delineation; no wetland determination data forms were developed for this site. Wetland 6 was observed, and conditions documented from SR 14 right-of-way (Photo 17). The boundary for this wetland was estimated using field observations, current and historic imagery, online agency resources, topographic contours and best professional judgement (Section 2.4.1). Wetland 6 is a depressional, palustrine emergent wetland with persistent vegetation (PEM1) and likely maintains surface water year-round in years with normal rainfall.	
Dominant Vegetation	Dominant species along the wetland fringe include reed canarygrass (FACW) and Himalayan blackberry (FAC). Dispersed occurrences of small red alder (FAC) and bigleaf maple (FACU) were observed along wetland boundary. Upland areas are defined by a rise in topography surrounding the depression and a change in vegetation dominated by Douglas fir (FACU), bigleaf maple (FACU), Oregon white oak (Quercus garryana, FACU) and Himalayan blackberry. Wetland 6 meets the dominance test indicator for hydrophytic vegetation.	
Soils	Soils in Wetland 6 are mapped as Steever stony clay loam 2 to 30 percent slopes. Property access was not granted for survey; hydric soils are assumed based on the presence of hydrophytic vegetation and wetland hydrology.	
Hydrology	This wetland is situated in a depression roughly 140 feet wide and 160 feet long. Alarge concrete box culvert approximately 40 feet in length and 20 feet in height was observed beneath the railroad fill north of the wetland (Photo 17). It is assumed the culvert creates a direct surface water connection to Bass Lake. Hydrology inputs are assumed to be primarily from surface water flow from Bass Lake Surface and appeared to be 4-6 feet deep. Wetland 6 meets primary hydrology indicators for surface water (A1) and visible inundation on current and historic aerial imagery (B7). One secondary hydrology indicator for geomorphic position (D2) is met.	

Table 3-7. Wetland 6 – Information Summary		
Wetland Functions Summary		
Rationale for Local Rating	The functional assessment rated Wetland 6 as a Category II wetland based on functions of moderate water quality (6), moderate hydrology function (7), and moderate habitat function (7). Wetland 6 scored 20 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).	
Water Quality	The wetland has low potential to improve water quality as a depressional wetland with an intermittently flowing outlet, and persistent ungrazed plants over 10 percent of the area. It has a moderate opportunity to perform the function because of the adjacent railroad and roadway. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for total dissolved gas, temperature and dioxin.	
Hydrologic	The wetland has moderate potential to reduce flooding and erosion because it is a depressional wetland with an intermittently flowing outlet, and ponding of more than 3ft. It has a moderate opportunity to perform the function because the wetland receives stormwater discharges and more than 10 percent of the area within 150 feet of the wetland generates excess runoff. Flooding problems occur downstream; therefore, performance of this function is of high value to society.	
Habitat	Wetland 6 has two vegetation structures, three hydroperiods, moderate plant diversity, moderate interspersion, and presence of habitat features, which contributes to a moderate habitat potential. It is located within a landscape that has moderate potential to support the habitat functions due to the presence and connectivity to undisturbed habitat. This function has high value to society because the wetland is in proximity to multiple priority habitats and provides habitat to the state listed northwestern pond turtle (<i>Actinemys</i> marmorata) (WDFW 2023b)	

3.1.7 Wetland 7



during the survey but is visible on recent aerial images of the area. Two secondary hydrology indicators for visible saturation on imagery (C9) and geomorphic position (D2) are met.

Table 3-8. We	Table 3-8. Wetland 7 – Information Summary	
	Wetland Functions Summary	
Rationale for Local Rating	The functional assessment rated Wetland 7 as a Category III wetland based on functions of moderate water quality (7), moderate hydrology function (6), and low habitat function (5). Wetland 7 scored 18 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).	
Water Quality	The wetland has moderate potential to improve water quality as a depressional wetland with no surface water outlet, and persistent plants over 95 percent of the area. It has a moderate opportunity to perform the function because of the adjacent roadway. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for total dissolved gas, temperature and dioxin.	
Hydrologic	The wetland has low potential to reduce flooding and erosion because it is a depressional wetland with less than 6 inches of ponding. It has a moderate opportunity to perform the function because the wetland unit receives stormwater discharges and more than 10 percent of the area within 150 feet of the wetland generates excess pollution and runoff. Flooding problems occur downstream; therefore, performance of this function is of high value to society.	
Habitat	Wetland 7 has one vegetation structure, two hydroperiods, low plant diversity, low interspersion, and no presence of habitat features, which contributes to a low habitat potential. It is located within a landscape that has moderate potential to support the habitat functions due to the presence and connectivity to undisturbed habitat. This function has moderate value to society because the wetland is in proximity to a priority habitat.	

3.1.8 Wetland 8

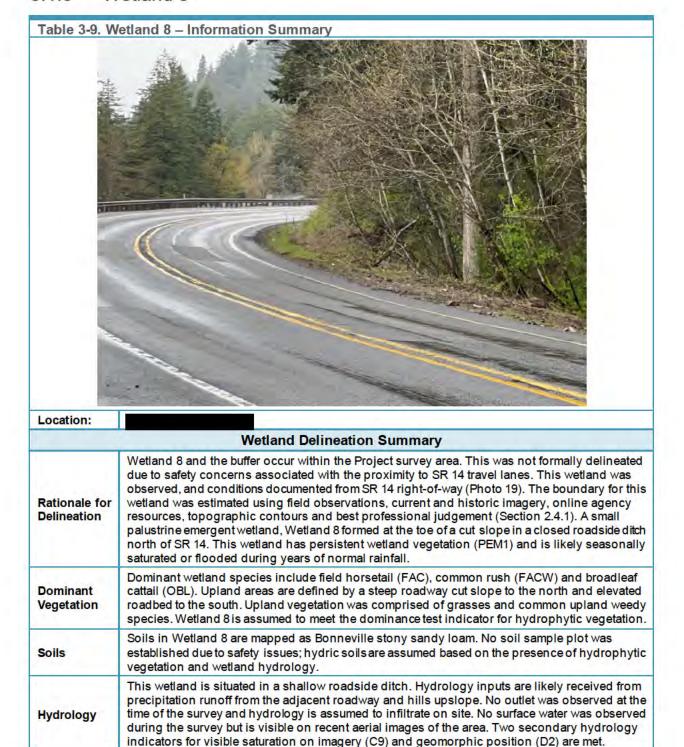


Table 3-9. W	Table 3-9. Wetland 8 – Information Summary	
	Wetland Functions Summary	
Rationale for Local Rating	The functional assessment rated Wetland 8 as a Category III wetland based on functions of moderate water quality (7), moderate hydrology function (6), and moderate habitat function (6). Wetland 8 scored 19 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).	
Water Quality	The wetland has moderate potential to improve water quality as a depressional wetland with no surface water outlet, and persistent plants over 95 percent of the area. It has a moderate opportunity to perform the function because of the adjacent roadway. This function is of high value to society because the wetland is in a basin with a total maximum daily load (TMDL) for total dissolved gas, temperature and dioxin.	
Hydrologic	The wetland has a low potential to reduce flooding and erosion because it is a depressional wetland with less than 6 inches of ponded water. It has a moderate opportunity to perform the function because the wetland receives stormwater discharges and more than 10 percent of the area within 150 feet of the wetland generates excess pollution and runoff. Flooding problems occur downstream; therefore, performance of this function is of high value to society.	
Habitat	Wetland 8 has one vegetation structure, two hydroperiods, low plant diversity, no interspersion, and no presence of habitat features, which contributes to a low habitat potential. It is located within a landscape that has a high potential to support the habitat functions due to a high degree of connectivity to undisturbed habitat. This function has moderate value to society because the wetland is in proximity to apriority habitat.	

3.1.9 Wetland 9



Wetland 9 and the buffer occur within the Project survey area. The eastern boundary of Wetland 9 occurs in an area of significantly disturbed vegetation and soil resulting from a recently buried power line that occurred roughly 8-10 months prior to wetland survey (Photo 24). Wetland was delineated using alternative methodology outlined in the U.S. Army Corps of Engineers' Manual (1987) and Regional Supplement (2010), desktop resources and best professional judgement (Section 2.4.1). This wetland has persistent vegetation (PFO1) and is likely seasonally saturated or flooded during years of normal rainfall. Wetland 9 is classified as a palustrine, forested wetland (Photo 25). A small section on the eastern side is classified as palustrine emergent wetland. The utility work removed all vegetation and the area within the wetland boundary is currently being reestablished mainly with reed canarygrass (FACW) and Himalayan blackberry (FAC). Recent aerial and ground-level images Dominant indicate the same dominant species as well as broadleaf cattail (OBL) occurred within the wetland Vegetation boundary prior to the disturbance. Dominant species in the undisturbed, forested portion of the wetland include water parsley (Oenanthe sarmentosa, OBL), field horsetail (FAC), red osier dogwood (Cornus alba, FACW), Himalayan blackberry (FAC), red alder (FAC), and Oregon ash (Fraxinus latifolia, FACW), Vegetation observed in Wetland 9 meets criteria for hydrophytic vegetation. Soils in Wetland 9 are mapped as Steever stony clay loam, 30 to 65 percent slopes. Multiple soil horizons at the eastern boundary were removed during restoration work. Soils lack native parent material and are primarily comprised of soil and gravel fill material; methods for problematic hydric Soils soils used to determine wetland boundary and are detailed in Section 2.4.1. Soils outside the influence of the restoration work are high in organic matter; the hydric soil indicator for Loamy Mucky Mineral (F1) is met.

Table 3-10. Wetland 9 – Information Summary		
Hydrology	Wetland 9 is situated along Stream 3 and in a depressional area where the main source of hydrology is overbank and hyporheic flow from Stream 3, and contributing hydrology inputs including precipitation runoff from hills to the north and a high groundwater table. Hydrology is assumed to discharge to Stream 3 during periods of high water. Primary hydrology indicators for wetland hydrology include high water table (A2), and saturation (A3). Secondary indicators of wetland hydrology present are drainage patterns (B10) and geomorphic position (D2).	
	Wetland Functions Summary	
Rationale for Local Rating	Wetland 9 is rated as a Category II wetland based on functions of moderate water quality (7), moderate hydrology function (7), and high habitat function (8). Wetland 9 scored 22 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023). This wetland was evaluated using problematic hydricsoil, and not under abnormal circumstances. The reason for this determination is that the wetland boundary remained in the same location pre and post restoration work, and the current reestablishment of vegetation within the wetland remains the same.	
Water Quality	The wetland has moderate potential to improve water quality as a riverine wetland with depressions covering less than 50 percent of the wetland area, but trees and shrubs covering 33 to 66 percent of the wetland area. It has moderate opportunity to perform the function because though less than 10 percent of the area within 150 feet includes land uses that generate pollutants and the wetland receives stormwater discharges, pollutants are still present and entering the wetland from SR 14. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for temperature and dioxin.	
Hydrologic	The wetland has moderate potential to reduce flooding and erosion because it is a riverine wetland with a low ratio of overbank storage, but a high concentration of emergent and forested plant cover. Flooding problems occur downstream; therefore, performance of this function is of high value to society.	
Habitat	Wetland 9 has three vegetation structures, two hydroperiods, moderate plant diversity, moderate interspersion, and presence of habitat features, which contributes to a moderate habitat potential. It is located within a landscape that has a high potential to support the habitat functions due to a high degree of connectivity to undisturbed habitat. This function has high value to society because the wetland is in proximity to multiple priority habitats.	

3.1.10 Wetland 10

Table 3-11. Wetland 10 - Information Summary



Location:	
Wetland Delineation Summary	
Rationale for Delineation	Wetland 10 and its buffer occur within the Project survey area (Photo 34). This small wetland is located adjacent to the north of Ash Lake Road. The wetland has persistent wetland vegetation (PFO1) and is likely semi-permanently flooded (all but hot summer months) during years of normal rainfall (PFO1).
Dominant Vegetation	Wetland 10 is a palustrine forested wetland. Dominant species in the wetland include reed canarygrass (FACW), Himalayan blackberry (FAC), spreading gooseberry (<i>Ribes divaricatum</i> , FAC), red alder (FAC) and Oregon ash (FACW). Vegetation observed in Wetland 10 meets criteria for hydrophytic vegetation.
Soils	Soils in Wetland 10 are mapped as Steever stony clay loam, 2 to 30 percent slopes. Soil texture are silt and clay loams. Soils within wetland meet the hydric soil indicator for redox dark surface (F6).
Hydrology	Wetland 10 is situated in a depressional area along a hill sloping down to Ashes Lake. Hydrology inputs are received from precipitation runoff from hills upslope, high ground water table and to a lesser degree, roadway runoff. Based on the relatively shallow depths observed during the months of April and November, it is assumed that surface water evaporates in the hot summer months. During periods of high water, the wetland drains via a culvert beneath Ash Lake Road to Stream 6, an ephemeral drainage that discharges to Ashes Lake (Photo 35). Wetland 10 meets primary wetland hydrology indicators for surface water (A1), high water table (A2) and saturation (A3), and secondary indicators for geomorphic position (D2) and the FAC-neutral test (D5).

Table 3-11. W	Table 3-11. Wetland 10 – Information Summary	
	Wetland Functions Summary	
Rationale for Local Rating	Wetland 10 is rated as a Category II wetland based on functions of moderate water quality (7), moderate hydrology function (7), and moderate habitat function (7). Wetland 10 scored 21 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).	
Water Quality	The wetland has moderate potential to improve water quality as a depressional wetland with an intermittently flowing outlet and persistent ungrazed plants over 95 percent of the area. It has moderate opportunity to perform the function because 10 percent of the area within 150 feet includes land uses that generate pollutants and the wetland receives stormwater discharges. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for temperature and dioxin.	
Hydrologic	The wetland has moderate potential to reduce flooding and erosion because it is a depressional wetland with an intermittently flowing outlet, and ponding water of 0.5 feet to less than 2 feet deep. It has moderate opportunity to perform the function because more than 10 percent of the area within 150 feet of the wetland generates excess runoff. Flooding problems occur downstream; therefore, performance of this function is of high value to society.	
Habitat	Wetland 10 has two vegetation structures, two hydroperiods, moderate plant diversity, moderate interspersion, and presence of habitat features, which contributes to a moderate habitat potential. It is located within a landscape that has a high potential to support the habitat functions due to a high degree of connectivity to undisturbed habitat. This function has moderate value to society because the wetland is in proximity to two priority habitats.	

3.1.11 Wetland 11



Location:	
	Wetland Delineation Summary
Rationale for Delineation	Wetland 11 and the buffer occur within the Project survey area (Photo 40). This wetland is located directly adjacent and north of Ash Lake Road. This wetland has persistent wetland vegetation (PEM1) and is likely seasonally saturated during years of normal rainfall (PEM1).
Dominant Vegetation	Wetland 11 is a palustrine emergent wetland. Dominant species in the wetland include jewelweed (Impatiens capensis, FACW), field horsetail (FAC) and vine maple (FAC). Vegetation observed in Wetland 11 meets criteria for hydrophytic vegetation.
Soils	Soils in Wetland 11 are mapped as Steever stony clay loam, 2 to 30 percent slopes. Soils evaluated within the wetland meet the hydric soil indicator of redox dark surface (F6).
Hydrology	Wetland 11 is situated in a road cut along a hill sloping down to Ashes Lake. Hydrology inputs are received primarily from ponds and wetlands upslope, and high ground water table conveyed by Stream 7 to a relatively small and flat area next to Ash Lake Road where soils become saturated and the water table is high. Hydrology discharges to a culvert beneath the road to Ashes Lake. Wetland 11 meets primary wetland hydrology indicators for high water table (A2) and saturation (A3), and one secondary indicator for the FAC-neutral test (D5).

Table 3-12. W	Table 3-12. Wetland 11 – Information Summary	
	Wetland Functions Summary	
Rationale for Local Rating	Wetland 11 is rated as a Category II wetland based on functions of moderate water quality (6), moderate hydrology function (6), and high habitat function (8). Wetland 11 scored 20 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).	
Water Quality	The wetland has moderate potential to improve water quality as a depressional wetland with an intermittently flowing outlet and persistent plants over 50 percent of the area, and has a low opportunity to perform the function due to minimal pollution or runoff issues upslope of this wetland. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for temperature and dioxin.	
Hydrologic	The wetland has moderate potential to reduce flooding and erosion because it is a depressional wetland with an intermittently flowing outlet, and ponding of 0.5 feet to less than 2 feet. It has low opportunity to perform the function because the wetland does not receive stormwater discharges and less than 10 percent of the area within 150 feet of the wetland generates excess runoff. Flooding problems do occur downstream; therefore, performance of this function is of high value to society.	
Habitat	Wetland 11 has four vegetation structures, three hydroperiods, moderate plant diversity, high interspersion, and presence of habitat features, which contributes to a moderate habitat potential. It is located within a landscape that has a high potential to support the habitat functions due to the presence and connectivity to undisturbed habitat. This function has high value to society because the wetland is in proximity to multiple priority habitats.	

3.1.12 Wetland 12

Table 3-13. Wetland 12 – Information Summary



Location:	
	Wetland Delineation Summary
Rationale for Delineation	Wetland 12 and the wetland buffer occur within the Project survey area. This small palustrine emergent wetland formed at the toe of a cut slope in a roadside ditch adjacent to the north of Ash Lake Road. This wetland has persistent wetland vegetation (PEM1) and is likely seasonally saturated or flooded during years of normal rainfall (PEM1).
Dominant Vegetation	Vegetation within Wetland 12 is classified as palustrine emergent. Dominant species include broadleaf cattail (OBL), Queen Anne's lace (<i>Daucus carota</i> , FACU), tall fescue (FAC) and American vetch (<i>Vicia americana</i> , FAC). The dominance test and prevalence index for hydrophytic wetland vegetation are met.
Soils	Soils in Wetland 12 are mapped as Steever stony clay loam, 2 to 30 percent slopes. Soils within wetland meet the hydric soil indicator for depleted matrix (F3).
Hydrology	This wetland is situated in a slow draining roadside ditch, fed by precipitation runoff from hills upslope and Ash Lake Road (Photo 46). Hydrology drains to a culvert that discharges to Ashes Lake. Primary wetland hydrology indicators for surface water (A1), a high water table (A2), and saturation (A3) are met.

Table 3-13. Wetland 12 – Information Summary		
	Wetland Functions Summary	
Rationale for Local Rating	Wetland 12 is rated as a Category III wetland based on functions of moderate water quality (6), moderate hydrology function (6), and moderate habitat function (7). Wetland 12 scored 19 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).	
Water Quality	The wetland has low potential to improve water quality as a depressional wetland with an intermittently flowing outlet, and persistent plants over 50 percent of the area. It has moderate opportunity to perform the function because the wetland receives stormwater discharges. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for temperature and dioxin.	
Hydrologic	The wetland has low potential to reduce flooding and erosion because it is a depressional wetland with an intermittently flowing outlet and less than 6 inches of ponding. It has moderate opportunity to perform the function because of its proximity to Ash Lake Road, and the wetland receives stormwater discharge. In addition, flooding problems occur downstream; therefore, performance of this function is of high value to society.	
Habitat	Wetland 12 has one vegetation structure, two hydroperiods, moderate plant diversity, low interspersion, and presence of habitat features, which contributes to a low habitat potential. It is located within a landscape that has a high potential to support the habitat functions due to the presence and connectivity to undisturbed habitat. This function has high value to society because the wetland is in proximity to multiple priority habitats.	

3.1.13 Wetland 13

Table 3-14. Wetland 13 - Information Summary



Location:	
	Wetland Delineation Summary
Rationale for Delineation	Wetland 13 and the wetland buffer occur within the Project survey area on a narrow toe slope adjacent to Ashes Lake (Photo 48). This wetland formed along the right and left banks of Stream 10 and within a roadside ditch adjacent to the north of Ash Lake Road. This wetland has persistent wetland vegetation (PEM1) and is likely seasonally saturated or flooded during years of normal rainfall.
Dominant Vegetation	Wetland 13 is a palustrine emergent wetland. Dominant species in the wetland include annual bluegrass (<i>Poa annua</i> , FAC) and reed canarygrass (FACW). Vegetation observed in Wetland 13 meets wetland hydrophytic vegetation criteria for the dominance test and prevalence index.
Soils	Soils in Wetland 13 are mapped as Steever stony clay loam, 2 to 30 percent slopes. Soils within the wetland ditch meet the hydric soil indicator of depleted matrix (F3).
Hydrology	Hydrology is mainly attributed to inputs from Stream 10 but also precipitation runoff from hills upslope and the adjacent roadway. Wetland 13 and Stream 10 drain to a forested wetland to the west, north of Mallicott Road, and is assumed to discharge to Ashes Lake. Primary hydrology indicators are met for high water table (A2) and saturation (A3). One secondary hydrology indicator for the FAC-neutral test (D5) is met.

Table 3-14. Wetland 13 – Information Summary	
	Wetland Functions Summary
Rationale for Local Rating	Wetland 13 is rated as a Category III wetland based on functions of moderate water quality (6), low hydrology function (5), and high habitat function (8). Wetland 13 scored 19 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).
Water Quality	The wetland has low potential to improve water quality as a slope wetland with a 1 to 2 percent slope, and dense uncut herbaceous plant cover over 50 percent of the area. It has moderate opportunity to perform the function because 10 percent of the area within 150 feet includes land uses that generate pollutants and the wetland receives stormwater discharges. This function is of high value to society because the wetland is in a basin with a total maximum daily load (TMDL) for temperature and dioxin.
Hydrologic	Wetland 13 has a low potential to attenuate stormwater flows due to lack of dense, uncut rigid plant cover. Less than 25% of the land use within 150 feet upslope from the wetland generates excess runoff, which contributes to a low landscape potential. Flooding problems occur downstream; therefore, performance of this function is of high value to society.
Habitat	Wetland 13 has two vegetation structures, two hydroperiods, moderate plant diversity, moderate interspersion, and presence of habitat features, which contributes to a moderate habitat potential. It is located within a landscape that has a high potential to support the habitat functions due to presence and connectivity to undisturbed habitat. This function has high value to society because the wetland is in proximity to multiple priority habitats.

3.1.14 Wetland 14



Location:		
	Wetland Delineation Summary	
Rationale for Delineation	Wetland 14 and the wetland buffer are adjacent to the Project survey area in a depressional area roughly 30 feet below road grade of Ash Lake Road and SR 14 (Photo 50). This wetland formed at the eastern edge of and at the same topographic contour as Ashes Lake. This wetland has persistent wetland vegetation (PEM/PFO1) and is likely seasonally saturated or flooded during years of normal rainfall.	
Dominant Vegetation	Wetland 14 is primarily a palustrine emergent wetland with palustrine forested components along the northern boundary. Dominant species in the wetland include reed canarygrass (FACW), broadleaf cattail (OBL), Himalayan blackberry (FAC) and red alder (FAC). Vegetation observed in Wetland 14 meets wetland hydrophytic vegetation criteria for the dominance test.	
Soils	Soils in Wetland 14 are mapped as Arents, 0 to 5 percent slopes. Soils within the sample plot were somewhat mucky with organic material in advanced stages of decomposition. Hydric soil indicators for loamy mucky mineral soil (F1) and redox dark surface (F6) are met.	
Hydrology	The wetland is subject to hydrologic forces from Ashes Lake and the Columbia River. Hydrology is also attributed to inputs from a perennial stream (Stream 11) that drains upslope wetlands (including Wetland 15), ponds and precipitation runoff from adjacent roadways. Hydrology likely drains to Stream 11 which is located at a low point within the surrounding landscape. The sample plot meets primary wetland hydrology requirements for high water table (A2), saturation (A3) and hydrogen sulfide odor (C1). A secondary wetland hydrology indicator for FAC-neutral test (D5) is also met.	

Table 3-15. Wetland 14 – Information Summary									
Wetland Functions Summary									
Rationale for Local Rating	Wetland 14 is rated as a Category II wetland based on functions of moderate water quality (7), moderate hydrology function (6), and high habitat function (8). Wetland 14 scored 21 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).								
Water Quality	The wetland has moderate potential to improve water quality as a slope wetland with 2 to 5 percent slopes and dense uncut herbaceous plants over 50 percent of the area. It has moderate opportunity to perform the function because 10 percent of the area within 150 feet includes land uses that generate pollutants and the wetland receives stormwater discharges. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for bacteria and dioxin.								
Hydrologic	Wetland 14 has a low potential to attenuate stormwater flows due to lack of dense, uncut rigid plant cover. More than 25% of the land use within 150 feet upslope from the wetland generates excess runoff, which contributes to a moderate landscape potential. Flooding problems occur downstream; therefore, performance of this function is of high value to society.								
Habitat	Wetland 14 has three vegetation structures, two hydroperiods, moderate plant diversity, moderate interspersion, and presence of habitat features, which contributes to a high habitat potential. It is located within a landscape that has a high potential to support the habitat functions due to presence and connectivity to undisturbed habitat. This function has high value to society because the wetland is in proximity to multiple priority habitats.								

3.1.15 Wetland 15

Table 3-16. Wetland 15 - Information Summary



Location:									
Wetland Delineation Summary									
Rationale for Delineation	Wetland 15 and the wetland buffer occur within the Project survey area in a depressional area roughly 30 feet below road grade of Ash Lake Road and SR 14. Wetland 15 has persistent vegetation (PEM/PFO1) and is likely seasonally saturated or flooded during years of normal rainfall.								
Dominant Vegetation	Wetland 15 is primarily a palustrine emergent wetland with palustrine forested components alo the northern boundary. Dominant species in the wetland include reed canarygrass (FACW) a common rush (FACW). Vegetation observed in Wetland 15 meets criteria for hydrophytic wetlawegetation.								
Soils	Soils in Wetland 15 are mapped as Steever stony clay loam, 2 to 30 percent slopes and Arents, 0 to 5 percent slopes. Soils within sample plot were somewhat mucky with organic material in advanced stages of decomposition. Hydric soil indicator for depleted matrix (F3) is met.								
Hydrology	Wetland hydrology is attributed to inputs from a perennial stream (Stream 11) that drains upslope wetlands, ponds and precipitation runoff via a culvert located under Ash Lake Road (Photo 51). Hydrology likely drains to the stream which is located at a low point within the surrounding landscape. The sample plot meets primary wetland hydrology requirements for high water table (A2) and saturation (A3).								

Table 3-16. Wetland 15 – Information Summary								
Wetland Functions Summary								
Rationale for Local Rating	Wetland 15 is rated as a Category II wetland based on functions of moderate water quality (7), moderate hydrology function (7), and moderate habitat function (7). Wetland 15 scored 21 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).							
Water Quality	The wetland has moderate potential to improve water quality as a slope wetland with 2 to 5 percent slopes and dense uncut herbaceous plants over 95 percent of the area. It has moderate opportunity to perform the function because 10 percent of the area within 150 feet includes land uses that generate pollutants and the wetland receives stormwater discharges. This function is of high value to society because the wetland is in a basin with a total maximum daily load (TMDL) for bacteria and dioxin.							
Hydrologic	Wetland 15 has a moderate potential to attenuate stormwater flows due to the presence of dense, uncut rigid plant cover. Additionally, more than 25% of the land use within 150 feet upslope from the wetland generates excess runoff, which contributes to a moderate landscape potential. Flooding problems occur downstream; therefore, performance of this function is of high value to society.							
Habitat	Wetland 15 has three vegetation structures, three hydroperiods, moderate plant diversity, high interspersion, and presence of habitat features, which contributes to a moderate habitat potential. It is located within a landscape that has a moderate potential to support the habitat functions due to a high degree of connectivity to undisturbed habitat. This function has high value to society because the wetland is in proximity to multiple priority habitats.							

3.1.16 Wetland 16



Location:									
	Wetland Delineation Summary								
Rationale for Delineation	Wetland 16 and the wetland buffer occur within the Project survey area in a roadside ditch north of SR 14. Wetland 16 has persistent vegetation (PEM1) and is likely seasonally saturated or flooded during years of normal rainfall.								
Dominant Vegetation	Wetland 16 is primarily a palustrine emergent wetland. Dominant species in the wetland include reed canarygrass (FACW), dagger leaf rush (<i>Juncus ensifolius</i> , FACW), common velvet grass (<i>Holcus lanatus</i> , FAC) and an unidentified Carex species assumed to be FACW. Non-dominant vegetation included a combination of FAC, OBL, FACW and FACU species (Photo 57). The area was also observed during the April site visit and a relatively high occurrence of mild water-pepper (<i>Persicaria hydropiper</i> , OBL) and American speedwell (<i>Veronica americana</i> , OBL) were observed as well as algal mats. Vegetation observed in Wetland 16 meets criteria for hydrophytic wetland vegetation.								
Soils	Soils in Wetland 16 are mapped as Steever stony clay loam, 2 to 30 percent slopes. Soils within the wetland ditch meet the hydric soil indicators for redox dark surface (F6).								
Hydrology	This wetland is situated within a roadside ditch and may discharge via Ditch 8 to an upland area during periods of heavy rainfall to the west. The primary hydrologic inputs are from precipitation runoff from hills upslope and the adjacent roadway, as well as a high groundwater table. Wetland hydrology was observed in the upland plots but is likely attributed to recent higher than normal rainfall. Hydrology within the wetland met primary indicators for surface water (A1), high water table (A2), and saturation (A3), and a secondary indicator for the FAC-neutral test.								

Table 3-17. Wetland 16 – Information Summary								
Wetland Functions Summary								
Rationale for Local Rating	Wetland 16 is rated as a Category III wetland based on functions of moderate water quality (7), moderate hydrology function (7), and low habitat function (5). Wetland 16 scored 19 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).							
Water Quality	The wetland has moderate potential to improve water quality as a depressional wetland with an intermittently flowing outlet and persistent plants over 95 percent of the area. It has moderate opportunity to perform the function because 10 percent of the area within 150 feet includes land uses that generate pollutants and the wetland receives stormwater discharges. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for temperature and dioxin.							
Hydrologic	The wetland has low potential to reduce flooding and erosion because it is a depressional wetland an intermittently flowing outlet, and less than 6 inches of ponding. It has high opportunity to perform the function because the wetland receives stormwater discharges, more than 10 percent of the area within 150 feet of the wetland generates excess runoff, and more than 25% of the contributing basin of the wetland is covered with intensive land uses. Flooding problems occur downstream; therefore, performance of this function is of high value to society.							
Habitat	Wetland 16 has one vegetation structure, two hydroperiods, moderate plant diversity, low interspersion, and no presence of habitat features, which contributes to a low habitat potential. It is located within a landscape that has a moderate potential to support the habitat functions due to a moderate degree of undisturbed habitat within 1 kilometer. This function has moderate value to society because the wetland is in proximity to two priority habitats.							

3.1.17 Wetland 17



Location:								
	Wetland Delineation Summary							
Rationale for Delineation	Wetland 17 and the wetland buffer occur within the Project survey area in a roadside ditch nor of SR 14. Wetland 17 has persistent vegetation (PEM1) and is likely seasonally saturated or flooded during years of normal rainfall (Photo 55). Wetland 17 is bisected by SW Rock Creek Drive. Both segments of the wetland occur at roughly the same topographic contour and are connected by a culvert with similar top and bottom elevations (Photo 56), creating slow-movin possibly bi-directional water flow conditions near the road. Topography near the east side of twetland allows for slow drainage downslope to the east.							
Dominant Vegetation	Wetland 17 is primarily a palustrine emergent wetland. Dominant species in the wetland include reed canarygrass (FACW) and common velvet grass (FAC). Forested portions of the wetland have an overstory of black cottonwood (FAC). Non-dominant wetland vegetation includes field horsetail (FAC) (Photo 57). East of SW Rock Creek Drive emergent vegetation observed within the ditch is dominated by common duckweed (<i>Lemna minor</i> , OBL), watercress (<i>Nasturtium officinale</i> , OBL), narrowleaf water plantain (<i>Alisma gramineum</i> , OBL), pond starwort (<i>Callitriche stagnalis</i> , OBL) water parsley (OBL) and American speedwell (OBL) (Photo 62). Additional species observed in this location include broadleaf cattail (OBL), reed canarygrass (FACW) and common rush (FACW) (Photo 63). Vegetation observed in Wetland 17 meets criteria for hydrophytic vegetation.							
Soils	Soils in Wetland 17 are mapped as Steever stony clay loam, 2 to 30 percent slopes and Arents, 0 to 5 percent slopes. Soils within the wetland ditch meet the hydric soil indicators for depleted below dark surface (A11) and depleted matrix (F3).							
Hydrology	This wetland is situated within a roadside ditch that discharges to Wetland 18. The primary hydrologic inputs are from precipitation runoff from hills upslope and the adjacent roadway, as well as a high groundwater table. Wetland hydrology was observed in the upland plots but is likely attributed to recent higher than normal rainfall. Hydrology within the wetland met primary indicators for surface water (A1), high water table (A2) and saturation (A3), and a secondary indicator for the FAC-neutral test.							

Table 3-18. Wetland 17 – Information Summary									
Wetland Functions Summary									
Rationale for Local Rating	Wetland 17 is rated as a Category III wetland based on functions of moderate water quality (7), moderate hydrology function (7), and low habitat function (4). Wetland 17 scored 18 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).								
Water Quality	The wetland has moderate potential to improve water quality as a depressional wetland an intermittently flowing outlet and persistent plants over 95 percent of the area. It has moderate opportunity to perform the function because more than 10 percent of the area within 150 feet includes land uses that generate pollutants and the wetland receives stormwater discharges. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for temperature and dioxin.								
Hydrologic	The wetland has moderate potential to reduce flooding and erosion because it is a depressional wetland an intermittently flowing outlet, and 6 inches to less than 2 feet of ponding. It has moderate opportunity to perform the function because more than 10 percent of the area within 150 feet of the wetland generates excess runoff. Flooding problems occur downstream; therefore, performance of this function is of high value to society.								
Habitat	Wetland 17 has two vegetation structures, two hydroperiods, moderate plant diversity, low interspersion, and no presence of habitat features, which contributes to a low habitat potential. It is located within a landscape that has a moderate potential to support the habitat functions due to undisturbed habitat within 1 kilometer. This function has low value to society because the wetland is not located near priority habitats.								

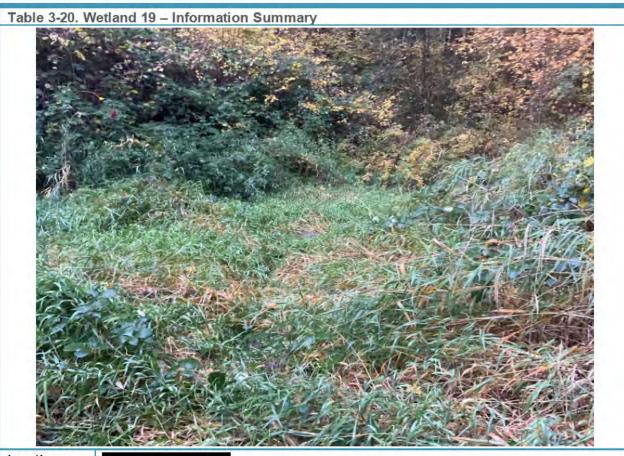
3.1.18 Wetland 18

Table 3-19. Wetland 18 – Information Summary

Location:								
	Wetland Delineation Summary							
Rationale for Delineation	Wetland 18 and the wetland buffer occur within the Project survey and work area in a roadside ditch north of SR 14. This wetland originates from a culvert roughly 700 feet east of SW Rock Creek Drive (Photo 58) and travels within a roadside ditch to the east, where it widens prior to discharging to Stream 12 and Rock Cove (Photo 59). Wetland 18 has persistent vegetation (PEM/PSS1) and is likely semi-permanently flooded during years of normal rainfall.							
	Wetland 18 is primarily a palustrine emergent wetland with shrub/scrub components along the northern boundary. Most shrubs have recently been trimmed to the ground (Photo 60), but most had regrown short stems at the time of the survey.							
Dominant Vegetation	Dominant vegetation observed in the wetland includes Douglas' spiraea (<i>Spiraea douglasii</i> , FACW), reed canarygrass (FACW) and Oregon ash (FACW) shrubs (Photo 61). Along the northern boundary water pools in a low point on the landscape. Vegetation observed in the depressional area dominated by Pacific willow (<i>Salix lucida ssp. lasiandra</i> , FACW) shrubs and small red alder (FAC) trees (Photo 62).							
	Vegetation observed in Wetland 18 meets criteria for hydrophytic vegetation.							
Soils	Soils in Wetland 18 are mapped as Arents, 0 to 5 percent slopes. Soils within wetland plots met hydric soil indicators for redox dark surface (F6) and depleted matrix (F3). Soils along the northern boundary were relatively rocky and are likely due to slough off from adjacent fill pad.							
Hydrology	Wetland hydrology is primarily attributed to precipitation runoff from hills upslope and surrounding lands. This wetland is situated within a roadside ditch discharging water to the northeast, and into Rock Cove (Photo 63). Water within the wetland ditch was stagnant at the west end, flowed slowly through the middle portions and was pooled and slow moving on the east end prior to discharging to Stream 12. Water width through the ditch range from 3-15 feet wide with depths averaging between 6 and 10 inches with greater depths occurring near culvert inlets and outlets. Wetland hydrology was widest and shallowest on the east end. Three primary wetland hydrology indicators for surface water (A1), high water table (A2) and saturation (A3) and one secondary indicator for the FAC-neutral test (D5) were met.							

Table 3-19. Wetland 18 – Information Summary									
Wetland Functions Summary									
Rationale for Local Rating	Wetland 18 is rated as a Category II wetland based on functions of moderate water quality (7), high hydrology function (8), and moderate habitat function (7). Wetland 17 scored 22 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).								
Water Quality	The wetland has moderate potential to improve water quality as a depressional wetland with an intermittently flowing outlet and persistent plants over 95 percent of the area. It has moderate opportunity to perform the function because 10 percent of the area within 150 feet includes land uses that generate pollutants and the wetland receives stormwater discharges. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for temperature and dioxin.								
Hydrologic	The wetland has moderate potential to reduce flooding and erosion because it is a depressional wetland with an intermittently flowing outlet, and ponding of 0.5 feet to less than 2 feet. It has high opportunity to perform the function because more than 10 percent of the area within 150 feet of the wetland generates excess runoff. Flooding problems occur downstream; therefore, performance of this function is of high value to society.								
Habitat	Wetland 18 has two vegetation structures, two hydroperiods, moderate plant diversity, moderate interspersion, and presence of habitat features, which contributes to a moderate habitat potential. It is located within a landscape that has a moderate potential to support the habitat functions due to a moderate degree of undisturbed habitat within 1km. This function has high value to society because the wetland is in proximity to multiple priority habitats								

3.1.19 Wetland 19



Location:								
Wetland Delineation Summary								
Rationale for Delineation	Wetland 19 and the wetland buffer occur within the Project survey area in a depression below road grade along the north side of Ash Lake Road. This wetland has persistent vegetation (PEM1) and is likely seasonally saturated or flooded during years of normal rainfall.							
Dominant Vegetation	Wetland 19 is a palustrine emergent wetland dominated by reed canarygrass (FACW), (Photo 36 and 37). Vegetation observed in Wetland 19 meets criteria for hydrophytic wetland vegetation.							
Soils	Soils in Wetland 19 are mapped as Steever stony clay loam, 2 to 30 percent slopes. No hydric soil indicators were met; soils were determined to be hydric per the problematic hydric soil procedure outlined in the Manual and Regional Supplement. This area is likely a developing wetland and hydric soil indicators are still forming. The full procedure is outlined in Section 2.4.1							
Hydrology	Wetland 19 is situated in a depressional area located on a narrow terrace just upslope of Ashes Lake. Hydrologyinputs are received from precipitation runoff from hills upslope and overbank flow Stream 6. Wetland 19 and Stream 6 drain via a partially blocked culvert beneath Ash Lake Road to an ephemeral drainage (Stream 6) that discharges to Ashes Lake (Photo 38). Wetland 19 meets primary wetland hydrology indicators for surface water (A1), high water table (A2) and saturation (A3), and secondary indicators for geomorphic position (D2) and the FAC-neutral test (D5).							

Table 3-20. Wetland 19 – Information Summary									
Wetland Functions Summary									
Rationale for Local Rating	Wetland 19 is rated as a Category III wetland based on functions of moderate water quality (7), moderate hydrology function (6), and moderate habitat function (6). Wetland 19 scored 19 points per Ecology's Wetland Rating System (Hruby & Yahnke 2023).								
Water Quality	The wetland has moderate potential to improve water quality as a depressional wetland with an intermittently flowing outlet and persistent plants over 95 percent of the area. It has moderate opportunity to perform the function because 10 percent of the area within 150 feet includes land uses that generate pollutants and the wetland receives stormwater discharges. This function is of high value to society because the wetland is located in a basin with a total maximum daily load (TMDL) for temperature and dioxin.								
Hydrologic	The wetland has low potential to reduce flooding and erosion because it is a depressional wetland an intermittently flowing outlet, and less than 6 inches of ponding. It has moderate opportunity to perform the function because more than 10 percent of the area within 150 feet of the wetland generates excess runoff. Flooding problems occur downstream; therefore, performance of this function is of high value to society.								
Habitat	Wetland 19 has one vegetation structure, three hydroperiods, low plant diversity, low interspersion, and no presence of habitat features, which contributes to a low habitat potential. It is located within a landscape that has a high potential to support the habitat functions due to undisturbed habitat within 1 kilometer. This function has moderate value to society because the wetland is in proximity to multiple priority habitats.								

3.2 Streams

In addition to the Columbia River, HDR biologists evaluated thirteen streams within the survey area. Perennial and intermittent streams were the dominant waterbodies within the survey area. Summary details of all streams are presented in Table 3-21 and in subsequent sections. Stream photos are in Appendix D.

All streams had flow during the time of the field investigations and some had associated wetlands (Section 3.1). Hydrology is primarily attributed to upslope lakes and wetlands and the proximity of the survey area to the foothills of the Cascade Mountains where steep and varied topography contributes to stream formation.

Due to the steep topography in the area, most streams have a moderately high energy flow with well-defined bed and banks. The widths of the OHWM of delineated streams varied between approximately 1 to 7 feet. The OHWM of the Columbia River at the time of the survey was estimated to be 1,050 feet below Bonneville Lock and Dam and 4,000 feet above the dam near the City of Stevenson.

Most delineated streams flowed roughly perpendicular to the survey area and ultimately discharge to the Columbia River or its tributaries (Figure 2). All streams are considered waters of the U.S. and Washington State. The proposed Project will not affect any streams or buffers during installation.

Table 3-21 Summary of Waters in the Survey Area

Waterbody	Approx. Length in Survey Area (feet)	OHWM Width (feet) ^a	Flow Regime ^b	Tributary to	Documented Fish Use°	WRIA	Local Jurisdiction	Local Water Type	WDNR Water Type	Riparian Buffer Width (feet)	Figure 4 Reference	Photo Points	USACE PJD	Ecology PJD	Stream Summary Table
Columbia River	N/A	1050- 4000	Perennial	Pacific Ocean	Yes	28/29	Skamania County, Cities of North Bonneville and Stevenson	S	S	150	Page 1 and Page 33	1, 65	Yes	Yes	Table 3-22
Stream 1	479	3.4	Intermittent	NWI mapped wetland complex	No	28	Skamania County, City of North Bonneville	E	Not mapped	100	Page 4	9, 10	Yes	Yes	Table 3-23
Stream 2	77	2.5	Intermittent	Columbia River	No	29	Skamania County	F	N	100	Page 20	21	Yes	Yes	Table 3-24
Stream 3	237	2.8	Intermittent	Columbia River	No	29	Skamania County	F	N	100	Page 20	22-24	Yes	Yes	Table 3-25
Stream 4	15	2.5	Intermittent	Ashes Lake	No	29	Skamania County	F	N	100	Page 26	31	Yes	Yes	Table 3-26
Stream 5	21	7.5	Perennial	Ashes Lake	Yes	29	Skamania County	F	F	100	Page 27	32, 33	Yes	Yes	Table 3-27
Stream 6	14	2.0	Ephemeral	Ashes Lake	No	29	Skamania County	Ns	Not mapped	25	Page 27	38, 39	Yes	Yes	Table 3-28
Stream 7	22	1.4	Intermittent	Ashes Lake	No	29	Skamania County	ı F	Not mapped	100	Page 28	40, 41	Yes	Yes	Table 3-29
Stream 8	24	7.3	Perennial	Ashes Lake	Yes	29	Skamania County	F	F	100	Page 29	44, 45	Yes	Yes	Table 3-30
Stream 9	18	7.2	Intermittent	Ashes Lake	No	29	Skamania County	Ns	Not mapped	25	Page 29	47	Yes	Yes	Table 3-31
Stream 10	260	1.2	Intermittent	Wetland D	No	29	Skamania County	Ns	Not mapped	25	Page 30	48, 49	Yes	Yes	Table 3-32
Stream 11	8	4.2	Perennial	Ashes Lake	No	29	Skamania County	F	F	100	Page 30	50, 51	Yes	Yes	Table 3-33
Stream 12	75	Not accessed	Intermittent	Rock Cove	No	29	City of Stevenson	Ns	Not mapped	50	Page 33	N/A	Yes	Yes	Table 3-34
Stream 13	400	1.9	Ephemeral	Columbia River	No	28	Skamania County	Ns	Not Mapped	25	Page 1 and Page 2	5	Yes	Yes	Table 3-35

^a Averaged across multiple sample points within the survey area.

OHWM = ordinary high-water mark; WRIA = Washington Water Resource Inventory Area; PJD = preliminary jurisdictional determination

^b Ephemeral streams are assumed to flow only in direct response to precipitation input. Intermittent streams are assumed to contain water only for part of the year, typically during late fall, winter and spring. Perennial streams have a permanent flow of water.

^c Washington Department of Fish and Wildlife data was used to evaluated probable fish use (WDFW 2023a – WDFW 2023d).

Wetland and Waters Delineation Report Cascade Renewable Transmission

Page intentionally blank.

3.2.1 Columbia River

Table 3-22. Columbia River – Information Summary



Location of Stream Relative to Project:

The Columbia River occurs within the wetland survey area below Bonneville Lock and Dam within the Hamilton Island Recreation Area (Photo 1) and adjacent to a proposed HDD area near the City of Stevenson (Photo 68). The transmission cable will be installed using horizonal directional drilling (HDD) beneath the riverbed and shoreline areas where it will make landfall in Stevenson, Washington, and reenter the river at the U.S. Army Corps of Engineers (USACE) Hamilton Island Recreation Area.

Connectivity (where stream flows from/to):

The Columbia River is formed in the Rocky Mountains of British Columbia and flows northwest and then south into Washington, flowing southward until continuing west to form the border between Washington and Oregon and then discharging to the Pacific Ocean.

Riparian/Buffer Condition:

The 150-foot riparian corridor buffer along the right bank of the Columbia River, in the western section of the Project in the Hamilton Island Recreation area, is mainly comprised of upland native and invasive prairie vegetation and dispersed shrubs. Near the OHWM, the riparian area is comprised of narrow strips of black cottonwood and red alder, maintained grasses and impervious surface.

The 150-foot riparian corridor buffer along the right bank of the Columbia River in the eastern section of the Project is vegetated with black cottonwood, bigleaf maple, and Douglas fir, along with a shrubby understory of Himalayan blackberry and Oregon white oak. Upland grasses and weedy species are present in the herbaceous layer, but growth is limited due to underlying compacted gravel.

Additional Information:

The Columbia River is a shoreline of statewide significance (Type S water). Skamania County designates the Columbia River shoreline near Stevenson as a high intensity environment and as rural conservancy environment within the survey area near North Bonneville (Skamania County 2023b). Therefore, this portion of the Columbia River receives a 150-foot shoreline setback (buffer) for non-water dependent utility uses within the rural conservancy area and a 35-foor shoreline setback within the high intensity designated area near Stevenson, as regulated by the Skamania County Shoreline Master Program (Skamania County 2020). The Columbia River adjacent to the Project survey area contains many anadromous and resident fish species including fall chum, winter and summer steelhead, coho, pink salmon, spring, summer and fall Chinook, sockeye salmon, walleye, smallmouth and largemouth bass, white and green sturgeon, coastal cutthroat trout, dolly varden/bull trout, American shad, and mountain whitefish (WDFW Salmonscape). The Columbia River adjacent to the survey areas is designated critical habitat for bull trout, eulachon steelhead (Lower, Middle and Upper Columbia River, and Snake River Basin distinct population segments [DPS]), coho salmon (Lower Columbia River DPS), chum salmon (Columbia River evolutionarily significant unit [ESU]), sockeye salmon (Snake River), and Chinook salmon (Lower, Upper Columbia River and Snake River ESU) sockeye salmon (Snake River ESU) (NMFS 2023). The lower section of the Columbia River is also designated as Essential Fish Habitat to Chinook and coho salmon (NMFS 2023).

3.2.2 Stream 1

Table 3-23. Stream 1 - Information Summary



Location of Stream Relative to Project:

Stream 1 and its buffer are located within the survey area northwest of Ft. Cascades Drive (Photos 9 and 10).

Connectivity (where stream flows from/to):

Headwaters of Stream 1 are located in the hills to the west of the survey area. The channel originates in vegetated lands south of a gravel road, travels west and receives inputs from Ditch 4. The stream continues through Wetland 4 and northeast parallel to the north side of Ft. Cascades Drive, drains to a culvert and eventually discharges to a large wetland complex located east of Ft. Cascades Drive.

Riparian/Buffer Condition:

Within the buffer for Stream 1, lands adjacent are mainly devoid of trees and shrubs and are bisected by gravel and paved roads and hiking trails associated with the Hamilton Island Recreation Area. The riparian corridor to Stream 1 is mainly comprised of herbs and forbs with small patches of trees found in the roadside depressions associated with Wetland 4. Dominant understory species include Himalayan blackberry, rough bentgrass, cheatgrass (*Bromus tectorum*), chicory (*Cichorium intybus*), dandelion (common and cat ear [*Hypochaeris radicata*]), American vetch, dovesfoot geranium (*Geranium molle*) and to a lesser degree unidentified bluegrass species.

The overstory within Wetland 4 consists of black cottonwood and red alder as small trees and seedlings. Relatively small patches of reed canarygrass occur in the unforested areas within and just downstream of Wetland 4. Downstream of the wetland, signs of bed and bank are diffuse, the channel is wider and flow is slower relative to the stream characteristics upstream of Wetland 4.

Additional Information:

Stream 1 is an intermittent stream determined by signatures of bed and bank, and washed and sorted gravel/cobbles. Topography at the upper portion of the stream is roughly 5 to 10 percent slope downgradient to the east and northeast. Adjacent to Ft. Cascades Road, the streambed is roughly 1 to 3 percent slope. The stream splits into multiple channels prior to entering Wetland 4. Through Wetland 4, topography is generally flat and stream flow pools and discharges very slowly to the northeast and appears stagnant in some areas. Stream 1 is the dominant source of hydrology for Wetland 4. This stream is not mapped in the NWI or NHD. No macroinvertebrates were observed at the time of the survey, and no occurrences of fish are documented in Stream 1 at the time of the survey. However, Stream 1 is considered fish bearing (Type F) due to its intermittent flow and proximity and potential connectivity to fish bearing streams down gradient.

3.2.3 Stream 2

Table 3-24. Stream 2 - Information Summary



Location of Stream Relative to Project:

Stream 2 and its buffer are located north of SR 14 and flows from northwest to southeast before entering Ditch 6 (Photo 21).

Connectivity (where stream flows from/to):

Stream 2 originates from an unnamed pond located roughly 1,000 feet northwest of the survey area. The stream flows from the pond down a steep gradient and into a roadside ditch parallel to SR 14 for approximately 80 feet before draining to a culvert beneath the highway that discharges to the Columbia River.

Riparian/Buffer Condition:

The riparian corridor within the buffer of Stream 2 consists primarily of common native forest species. The overstory is dense and largely comprised of bigleaf maple interspersed with a few red alder and Douglas fir. The shrubby understory includes osoberry (*Oemleria ceraiformis*), snowberry (*Symphoricarpos albus*), trailing blackberry (*Rubus ursinus*) and Himalayan blackberry. Herbaceous species such as field horsetail and unidentified grasses occur sparsely within the buffer.

Additional Information:

Stream 2 is an intermittent stream determined by signatures of bed and bank, and washed and sorted gravel and rocks. Within the survey area, the streambed has a slope of 3 to 5 percent to the northeast. The NWI maps this stream as a R4SBC water. Both the NWI and NHD map this stream as an intermittent water. No macroinvertebrates were observed at the time of the survey. Because the upstream and downstream waters are Type F/S waters, the bankfull width is greater than 2 feet, and the streambed gradient is less than 16 percent, the stream is assumed to be fish bearing (Type F). No occurrences of fish were observed during the survey nor are documented in Stream 2 by WDFW.

3.2.4 Stream 3

Table 3-25. Stream 3 - Information Summary



Location of Stream Relative to Project:

Stream 3 and buffer are located within the survey area north of SR 14 (Photo 22).

Connectivity (where stream flows from/to):

Stream 3 originates from an unnamed pond approximately 600 feet to the northwest of the survey area and flows from northwest to southeast. The steam follows a steep gradient down to the highway where local topography becomes relatively flatter (Photo 23a). Stream 3 joins with Stream 2 and Ditch 6 and drain collectively to a culvert beneath the highway that discharges to the Columbia River.

Riparian/Buffer Condition:

Most of the riparian corridor within the 25-foot buffer of Stream 3 has been highly modified by recent human disturbance. Review of current and historic aerials indicate this area was cleared of vegetation and graded 8 to 10 months prior to the survey and is likely related to a utility project. During the survey, biologists noted a large amount of fill material (as deep as 4 feet) had been placed in the area. Herbaceous vegetation appeared to be first succession and just beginning to reestablish.

Most of the western portion of the buffer occurs within Wetland 9 and vegetation is mainly comprised of reed canarygrass with some field horsetail, broadleaf cattail and Himalayan blackberry. Overstory species observed outside the disturbed area include red osier dogwood, red alder, and Oregon ash with some bigleaf maple.

The eastern portion of the buffer occurs in an upland area and within the survey area most occurs in the recently disturbed section. Very little vegetation was present within the disturbance and consisted of dispersed occurrences of American vetch, Canada thistle, and unidentified blue grasses specie(s). Dominant vegetation in this portion of the undisturbed portion of the buffer includes Douglas fir, bigleaf maple and western hemlock, osoberry and Himalayan blackberry.

Additional Information:

Stream 3 is an intermittent stream determined by signatures of bed and bank, and washed and sorted gravel and small rocks. Within the survey area, the streambed has a slope of roughly 3 to 5 percent to the southeast. The NWI maps this stream as a R4SBC water. Both the NWI and NHD map this stream as an intermittent water. No macroinvertebrates were observed at the time of the survey. Because the upstream and downstream waters are Type F/S waters, stream bankfull width is greater than 2 feet and the streambed gradient is less than 16 percent, the stream is assumed to be fish bearing (Type F). No occurrences of fish were observed during the survey nor are documented in Stream 3 by WDFW.

3.2.5 Stream 4

Table 3-26. Stream 4 – Information Summary



Location of Stream Relative to Project:

Stream 4 and its buffer are located within the survey area along Ash Lake Road (Photo 31a).

Connectivity (where stream flows from/to):

Stream 4 flows from south to north through the survey area via a culvert beneath Ash Lake Road. The stream receives flow from a small unnamed lake and from the north side of Ash Lake Road discharges to a series of ponds and eventually to Ashes Lake.

Riparian/Buffer Condition:

The riparian corridor within the buffer of Stream 4 consists primarily of common native forest species. The overstory is dense and largely comprised of bigleaf maple and Douglas fir with few occurrences of red alder and western hemlock. The shrubby understory includes vine maple, osoberry, snowberry, sword fern (*Polystichum* munitum), and Oregon grape (Mahonia aquifolium).

Additional Information:

Stream 4 is an intermittent stream determined by signatures of bed and bank, and washed and sorted gravel and rocks. Within the survey area, the streambed has a slope of roughly 10 to 15 percent to the north. The NWI maps this stream as a R4SBC water. Both the NWI and NHD map this stream as an intermittent water. No macroinvertebrates were observed at the time of the survey. Because the upstream and downstream lakes are Type F waters, the stream is assumed to be fish bearing despite the culvert discharge point being perched on 50 percent slopes south of Ash Lake Road (Photo 31b). No occurrences of fish were observed during the survey nor are documented in Stream 4 by WDFW.

3.2.6 Stream 5

Table 3-27. Stream 5 – Information Summary



Location of Stream Relative to Project:

Stream 5 is a perennial, unnamed stream located within the survey area along Ash Lake Road, along with a portion of its buffer (Photo 32).

Connectivity (where stream flows from/to):

Stream 5 flows from west to east through the survey area west of Ash Lake Road. The stream travels below the Project area via a culvert. The stream receives flow from Squaw and Blue lakes and discharges directly to Ashes Lake.

Riparian/Buffer Condition:

The riparian corridor within the buffer of Stream 5 is a largely undisturbed narrow valley and consists of common native forest species and invasives (Photo 33). The overstory both upstream and downstream of the Project area is relatively dense, with very few mature trees and dominated by bigleaf maple, Douglas fir, and red alder. Topography along the streambed ranges from approximately 5 to 15 percent slope, downgradient to the east. Slopes adjacent to the streambed range from 25 to 50 percent. Upstream of the culvert, a dry side channel to the south of Stream 8 was noted. Minimal to no vegetation occurs within the active OHWM of the stream.

Upstream of Ash Lake Road, understory shrubs are mainly vine maple and thick patches of Himalayan blackberry. Downstream of the road shrubs in the riparian buffer are almost exclusively Himalayan blackberry and an unidentified grape species (possibly riverbank grape, *Vitis riparia*) with some snowberry, and vine maple in upland areas (Photo 33).

The herbaceous layer within the buffer upstream of Ash Lake Road and immediately adjacent to the Stream 8 is sparsely populated with water parsley, stinging nettle (*Urtica dioica*), arctic butterbur (*Petasites frigidus*), fragrant fringecup (*Tellima grandiflora*), and lady fern (*Athyrium filix-femina*). The upland buffer has dispersed occurrences of sword fern and Oregon grape but is mainly Himalayan blackberry cover. The herbaceous layer downstream of the culvert is very narrow along the stream bank and consists of arctic butterbur with some stinging nettle and lady fern.

Additional Information:

Stream 5 is a perennial stream determined by strong signatures of bed and bank, washed and sorted gravel and embedded rocks in the streambed. At least three different species of macroinvertebrates were observed at the time of the survey. The NWI maps Stream 5 as a R5UBH perennial water and PFO1A wetland. Washington Department of Fish and Wildlife (WDFW) databases indicate the presumed presence of winter steelhead (*Oncorhynchus mykiss*) and modeled presence of coho salmon (*Oncorhynchus kisutch*). The National Oceanic and Atmospheric Administration (NOAA) map this stream as critical habitat for the Lower Columbia River Distinct Population Segment (DPS) for steelhead. Stream 5 is a Type F water.

3.2.7 Stream 6

Table 3-28. Stream 6 - Information Summary



Location of Stream Relative to Project:

Stream 6 is an ephemeral, unnamed stream located within the survey area along Ash Lake Road, along with its buffer.

Connectivity (where stream flows from/to):

Stream 6 flows from north to south through the survey area and primarily receives flow during high rainfall periods by precipitation run off from hills up slope. The stream travels beneath the Project area via a culvert and discharges down a steep grade to Ash Lake (Photo 39).

Riparian/Buffer Condition:

The riparian corridor within the buffer of Stream 6 located within the Project survey area is primarily comprised of reed canarygrass and Himalayan blackberry. The shrub layer is dominated by vine maple, osoberry, snowberry, and red elderberry (Sambucus racemosa). The overstory both upstream and downstream of the Project area is dominated by bigleaf maple and Douglas fir, with very few mature trees. Topography along the streambed ranges from approximately 1 to 3 percent slope, downgradient to the south. Slopes adjacent to the streambed range from 5 to 15 percent.

Additional Information:

Discharge from Stream 6 is partially impounded by a culvert overgrown with reed canarygrass (Photo 38). Faint signatures of bed and bank were observed at the time of the field survey albeit overgrowth with reed canarygrass and submerged beneath overbank flow the partially blocked, slow draining culvert. A wetland (Wetland 19) was delineated in a depressional area adjacent to the west of the stream. This stream is not mapped in the NWI. No occurrences of fish were observed during the survey nor are documented in Stream 6 by WDFW Because the slope between Ash Lake Road and Ashes Lake is greater than 16 percent and no mapped or observed waters are present upslope of the survey area, Steam 6 is assumed to be Type Ns water.

3.2.8 Stream 7

Table 3-29. Stream 7 - Information Summary



Location of Stream Relative to Project:

Stream 7 is an intermittent, unnamed stream located within the survey area along Ash Lake Road, along with its buffer.

Connectivity (where stream flows from/to):

Stream 7 flows from north to south through the survey area and primarily receives flow from ponds and wetland located upstream as well as high ground water table. Hydrology discharges to a culvert beneath the Project area to Ashes Lake (Photo 41).

Riparian/Buffer Condition:

The riparian corridor within the buffer of Stream 6 located within the Project survey area is primarily comprised of intact forest comprised of native species. The herbaceous layer within the riparian buffer included both wetland and upland species such as jewelweed, field horsetail, herb Robert (*Geranium robertianum*), tall ryegrass, and sword fern. The shrub layer is dominated by vine maple and the overstory both upstream and downstream of the Project area is dominated by bigleaf maple and Douglas fir, with dispersed occurrences of grand fir (*Abies grandis*) and red alder. No mature trees were observed within the riparian buffer. Topography along the streambed ranges from approximately 3 to 25 percent slope, downgradient to the south. Slopes adjacent to the streambed range from 5 to 25 percent. The OHWM downstream of the culvert is much wider than the OHWM that occurs upstream of the culvert and within the Project survey area. This may be attributed to culvert influences.

Additional Information:

Stream 7 flows through and hydrology is contributed to Wetland 11, which occurs along the right and left banks of the stream for a short distance prior to the stream discharging to a culvert beneath Ash Lake Road. The stream was determined to be intermittent based on strong signatures of bed and banks, and sorting of gravels and rock. No macroinvertebrates were observed at the time of the survey. This stream is mapped in the NHD as an intermittent stream. This stream is not mapped in the NWI and has no documented fish presence by WDFW. However, Stream 7 is assumed to be fish bearing due to the presence of Type F waters both upstream and downstream. No occurrences of macroinvertebrates or evidence of fish presence were documented in Stream 7 during the survey.

3.2.9 Stream 8

Table 3-30. Stream 8 - Information Summary



Location of Stream Relative to Project:

Stream 8 is a high energy perennial, unnamed stream that crosses beneath Ash Lake Road (Photo 44). A small portion of the stream and buffer occur in the survey area north of the road.

Connectivity (where stream flows from/to):

Stream 8 originates from upstream lakes and wetlands including Bowles Lake. The stream flows from northwest to southeast, under Ash Lake Road via a culvert and discharges down a moderately steep gradient to Ashes Lake.

Riparian/Buffer Condition:

The riparian corridor within the buffer of Stream 8 is a largely undisturbed narrow valley and consists of common native forest species and invasives. The overstory within the buffer is dense, with very few mature trees and dominated by bigleaf maple, Douglas fir, and red alder with a few occurrences of black cottonwood. Topography along the streambed ranges from approximately 5 to 15 percent slope, downgradient to the southeast. Slopes adjacent to the streambed range from 10 to 40 percent. Minimal to no vegetation occurs within the active OHWM of the stream. Upstream of Ash Lake Road, understory shrubs are dominated by dense communities of Himalayan blackberry with some vine maple, osoberry, and snowberry.

The herbaceous layer within the riparian buffer is highly restricted by Himalayan blackberry growth and confined to dispersed occurrences at the edge of the stream. Herbaceous species observed at the time of the survey include field horsetail, climbing nightshade (Solanum dulcamara), deer fern (Blechnum spicant), and unidentified grasses. There are no wetlands associated with this stream likely due to high energy streamflow and steep gradient along the banks.

Additional Information:

Stream 8 is a perennial stream determined by strong signatures of bed and bank, washed and sorted sands, gravel, cobbles and embedded rocks within the streambed (Photo 45). No macroinvertebrates were observed at the time of the survey. WDFW databases indicate modeled presence of coho salmon (Oncorhynchus kisutch). The NWI maps the stream as a R4SBC intermittent water. The NHD also maps this stream as intermittent. Stream 8 is a Type F stream.

3.2.10 Stream 9

Table 3-31. Stream 9 – Information Summary



Location of Stream Relative to Project:

Stream 9 is a low energy, intermittent stream located within the survey area along Ash Lake Road, along with its buffer.

Connectivity (where stream flows from/to):

Stream 9 flows from northwest to southeast through the survey area and primarily receives flow from precipitation runoff from hills located upstream as well as high ground water table. Hydrology discharges to a culvert beneath the road and then to Ashes Lake.

Riparian/Buffer Condition:

The riparian corridor within the buffer of Stream 9 located within the Project survey area is comprised mainly of native forest with a dense understory (Photo 47). The herbaceous layer within the riparian buffer includes both wetland and upland species such as fragrant fringecup, lady fern, climbing nightshade, deer fern, and sword fern. The shrub layer is dominated by vine maple with some Himalayan blackberry and the overstory is dominated by bigleaf maple and Douglas fir, with dispersed occurrences of Oregon ash and red alder. Topography along the streambed is approximately 2 to 3 percent slope, downgradient to the south. Slopes adjacent to the streambed range from 5 to 20 percent. The OHWM at culvert is much wider than the OHWM that occurs upstream of the culvert, likely attributed to influences of an undersized culvert.

Additional Information:

The stream was determined to be intermittent based on strong signatures of bed and banks, and sorting of gravels and rock. No macroinvertebrates were observed at the time of the survey. This stream is mapped in the NHD as an intermittent stream. This stream is not mapped in the NWI. The stream discharges to a culvert beneath Ash Lake Road roughly 10 feet below road grade and the discharge point on the south side of the road is roughly 60 feet below road grade and greater than 16 percent slope; therefore, Stream 9 is a Type Ns stream. No occurrences of fish were observed during the survey nor are documented in Stream 9 by WDFW.

3.2.11 Stream 10

Table 3-32. Stream 10 - Information Summary



Location of Stream Relative to Project:

Stream 10 is an intermittent stream located, along with the riparian buffer, within the survey area along Ash Lake Road.

Connectivity (where stream flows from/to):

Stream 10 flows from southwest to northeast through the survey area and primarily receives flow from precipitation runoff from hills located upstream as well as high ground water table. A wetland (Wetland 13) has formed on the right and left banks of the stream and within a roadside ditch immediately adjacent to Ash Lake Road. Hydrology from the stream and wetland discharges to a wetland located to the west and north of Mallicott Road and is assumed to discharge to Ashes Lake.

Riparian/Buffer Condition:

The riparian corridor within the buffer of Stream 10 located within the Project survey area is primarily comprised of native forest with a dense understory (Photo 49). The herbaceous layer within the riparian buffer was dominated with grasses, including reed canarygrass, annual bluegrass and orchard grass. The shrub layer is dominated by English hawthorn (Crataegus laevigata), vine maple with some Himalayan blackberry. The overstory is dominated by bigleaf maple and Douglas fir, with dispersed occurrences of Oregon ash, red alder and tree of heaven (Ailanthus altissima). Topography along the streambed north of Ash Lake Road is approximately 2 to 3 percent slope, downgradient to the southeast. The streambed parallel to the road ranges in gradient roughly 3 to 8 percent downgradient to the northeast. Slopes adjacent to the streambed range from 5 to 10 percent.

Additional Information:

The stream was determined to be intermittent based on strong signatures of bed and banks, sorting of gravels and rock, and minor occurrences of vegetation growing within the OHWM. No macroinvertebrates were observed at the time of the survey. This stream is not mapped in the NWI or NHD. The stream is less than 2 feet wide with no surface water connection to fish bearing waters; therefore, Stream 10 is a Type Ns stream. No occurrences of fish were observed during the survey nor are documented in the stream by WDFW.

Stream 11 3.2.12

Table 3-33. Stream 11 - Information Summary



Location of Stream Relative to Project:

Stream 11 is a perennial, unnamed stream that crosses beneath Ash Lake Road (additional photos included in summary tables and photo log for Wetland 14 and Wetland 15). The riparian buffer also occurs in the survey area.

Connectivity (where stream flows from/to):

Stream 11 originates from upstream wetlands and waters including Sardine Lake. The stream flows through the survey area primarily via a culvert beneath Ash Lake Road. Outside the survey area the stream occurs as surface water that drains Wetland 14 and Wetland 15 to Ashes Lake.

Riparian/Buffer Condition:

The riparian corridor within the buffer of Stream 11 is a mainly herbaceous vegetation dominated by reed canarygrass and broadleaf cattail. The northern boundary of the riparian buffer is comprised of trees and shrubs including red alder, big leaf maple, Oregon ash, and vine maple. The southern portion of the buffer is comprised of steeply graded road fill. Topography along the streambed ranges from approximately 1 to 3 percent slope, downgradient to the southwest. Slopes adjacent to the streambed range from 5 to 50 percent grade. Minimal to no vegetation occurs within the active OHWM of the stream.

Additional Information:

The stream was determined to be perennial based on strong signatures of bed and banks, sorting of gravels and rock, and minor occurrences of vegetation growing within the OHWM. No macroinvertebrates were observed at the time of the survey. This stream is not mapped in the NWI or NHD. Due to the width and relatively low gradient of the observed stream bed, Stream 11 is considered a Type F stream and is mapped as such by WDNR. No occurrences of fish were observed during the survey nor are documented in the stream by WDFW.

3.2.13 Stream 12

Table 3-34. Stream 12 - Information Summary



Location of Stream Relative to Project:

Stream 12 is an intermittent, unmapped stream that crosses beneath Ash Lake Road (additional photos included in summary table and photo log for Wetland 17). The riparian buffer also occurs in the survey area.

Connectivity (where stream flows from/to):

Stream 12 originates from upslope wetlands. The stream flows through the survey area primarily via a culvert beneath an unused driveway adjacent to SR 14. Outside the survey area the stream occurs as surface water that drains Wetland 17 to Rock Cove.

Riparian/Buffer Condition:

The riparian corridor within the buffer of Stream 12 is a mainly shrubby vegetation dominated by dense Himalayan blackberry and bigleaf maple shrubs. Topography along the streambed ranges from approximately 5 to 8 percent slope, downgradient to the northeast. Slopes adjacent to the streambed range from 5 to 50 percent grade due to stream downcutting.

Additional Information:

Visibility to the streambed was limited due to dense vegetation. The stream was determined to be intermittent based on strong signatures of bed and banks and little to no occurrences of vegetation growing within the OHWM. No macroinvertebrates were surveyed. This stream is not mapped in the NWI or NHD. Because of the steep culverted gradient at the discharge point of Stream 12 to Rock Cove, the stream is considered a Type Ns stream. No occurrences of fish were observed during the survey nor are documented in the stream by WDFW.

3.2.14 Stream 13

Table 3-35. Stream 13 – Information Summary



Location of Stream Relative to Project:

Stream 13 is an ephemeral, unmapped stream that flows along the north side of Fort Cascade Drive, and then discharges to the Columbia River via culvert. The riparian buffer also occurs in the survey area.

Connectivity (where stream flows from/to):

Stream 13 originates from the southern boundary of Wetland 1 and contributes hydrology to Wetland 2 (Photo 5). The stream likely only receives flow when high precipitation inputs exceed the storage capacity of Wetland 2 and surrounding lands. Other hydrology inputs include runoff from lands upslope and the adjacent road.

Riparian/Buffer Condition:

The riparian buffer of Stream 13 is a mainly herbaceous vegetation comprised of Poa species, rough bentgrass, and chicory. Dense Himalayan blackberry and black cottonwood line the north side near the outlet of Wetland 1 and input of Wetland 2. Topography along the streambed is relatively flat as it moves laterally along a toe slope. Slopes adjacent to the streambed range from 2 to 15 percent grade.

Additional Information:

The stream was determined to be ephemeral based on faint signatures of bed and banks and the presence of vegetation growing within the ordinary OHWM. This stream is not mapped in the NWI or NHD. No occurrences of macroinvertebrates were documented in Stream 13. No occurrences of fish were observed during the survey nor are documented in the stream by WDFW. Stream 13 was determined to be a Type Ns stream.

3.3 Lakes, Drainages and Other Surveyed Areas

Eight ditches and five deepwater habitats were observed in the survey area. Detailed summaries, preliminary jurisdictional determinations and applicable buffers are presented in Table 3-36.

All ditches occurred parallel to roadway and were likely created during road construction for drainage and in some areas, vegetation appeared to be maintained. Most ditches were determined to be ephemeral based on the lack of or weakly defined bed and bank and thick vegetation growth. No ditches were mapped in the NWI or NHD and no agency databases documented fish use. Additionally, none of these drainages are mapped waterways, and there is no identified fish use. All ditches had a surface water connection to waters of the U.S or Washington State.

Deepwater habitats include Ice House Lake 1, Ice House Lake 2, Wecoma Lake, Ashes Lake and Rock Cove. All deepwater habitat drain to or have a direct surface water connection with the Columbia River. The Columbia River including Ashes Lake and Rock Cove are designated shorelines of Washington State.

A total of seven verification plots were evaluated within the survey area and are shown on maps in Appendix E. Wetland determination data forms for these plots are located in Appendix B (VP-1 through VP-7) and photos are included with Appendix D (Photos 6, 8, 14, 20, 43, 64, and 65).

Page intentionally blank.

Table 3-36. Summary of Other Waters and Drainages in the Survey Area

Waterbody	Flow Regime ^a	Tributary to	Local Jurisdiction	Approx. Length in Survey Area (feet)	OHWM Width (feet) ^b	Water Type	Buffer	Figure 4 Reference	Photo Points	USACE PJD	Ecology PJD	Description
Ditch 1	Ephemeral	Columbia River	Skamania County	132	1.3	Ns	N/A	Page 2	6	No	No	Ditch 1 is a roadside ditch that originates along the north side of Ft Cascades Drive, flows west and discharges to the Columbia River via a culvert (Photo 6). Flow is ephemeral and hydrology inputs are received from lands upslope to the north and roadway runoff during heavy or prolonged rain events. The ditch is vegetated mainly with grasses and upland weedy species with faint signatures of bed and bank. A verification plot (Plot VP-1, Appendix B) was evaluated and land adjacent were determined to be upland. The same vegetative communities were observed on the majority lands adjacent to the roadside ditches along Ft. Cascades Drive. This ditch does not provide fish habitat.
Ditch 2	Ephemeral	Columbia River	Skamania County	735	2.0	Ns	N/A	Page 3	7	No	No	This ditch is similar in description as Ditch 1; no verification plot was taken at Ditch 2 (Photo 7). A This ditch does not provide fish habitat
Ditch 3	Ephemeral	Stream 1 to large wetland complex	Skamania County	499	2.0	Ns	N/A	Page 3 and Page 4	8	No	No	Ditch 3 is an ephemeral roadside ditch that occurs north of Ft. Cascades Drive (Photo 8), flows northeast and discharges to Strear 1 and then to a mapped NWI wetland complex located east of the road. Hydrology can be attributed to precipitation runoff from upslophills and roadway runoff. The ditch was vegetated with grasses and weedy species and had faint bed and bank signatures. A verification plot (Plot VP-2, Appendix B) determined that lands adjacent to the ditch to be upland. This ditch does not provide fish habitat.
Ditch 4	Ephemeral	Upland	City of North Bonneville	733	1.5	N/A	N/A	Page 7	15	No	No	Ditch 4 is roadside ditch along Ft. Cascades Drive to the north (Photo 15). This vegetated ephemeral ditch has intermittent signature of bee and bank and infiltrates on site. Hydrology is attributed to precipitation runoff from upslope hills and roadway runoff. Vegetation is mainly comprised of grasses, mosses and upland weedy species. This ditch does not provide fish habitat.
Ditch 5	Intermittent	Columbia River	Skamania County	1233	3.5	Ns	N/A	Page 20	23	No	No	Ditch 5 is roadside ditch along the north side of SR 14. This intermittent ditch has signature of bed and bank and is sparsely vegetated with common upland weedy species for the majority. Within the survey area near Wetland 9, the ditch has been recently altered by restoration-related disturbance (Photo 23b). Historic images show reed cananygrass and broadleaf cattail growing along the north edge of the ditch and within Wetland 9 but was mostly unvegetated at the time of the survey. Hydrology is attributed to precipitation runoff from upslope hills, surface runoff from SR 14, and at the lowest reach, discharge from Stream 2, Stream 3 and Wetland 9. Ditch 5 drains via a culvert beneath SR 14 to the Columbia River. This ditch does not provide fish habitat.

Waterbody	Flow Regime ^a	Tributary to	Local Jurisdiction	Approx. Length in Survey Area (feet)	OHWM Width (feet) ^b	Water Type	Buffer	Figure 4 Reference	Photo Points	USACE PJD	Ecology PJD	Description
Ice House Lake 1	Permanently Flooded	Columbia River	Skamania County	0	N/A	F	100	Page 22	26, 27	Yes	Yes	Ice House Lake 1 is a 1.6-acre deepwater habitat mapped in the NWI as palustrine unconsolidated bottom with a permanently flooded water regime (Photo 26). The OHWM of the lake occurs outside the survey area. The lake is impounded along with eastern boundary by the roadbed of SR 14. Ice House Lake 1 receives hydrology primary from Rand Lake located upslope and to the west as well as precipitation runoff from adjacent hills. The lake discharges to the Columbia River via a culvert located beneath SR 14 (Photo 27). Fringe wetlands likely occur at the west end of the lake roughly 600 feet from the survey area. According to WDFW, the lake is stocked with rainbow and cutthroat trout. Bluegill and largemouth bass are also present. Pacific clubtail, a priority fish species, occurs in the lake.
Ice House Lake 2	Permanently Flooded	Columbia River	Skamania County	0.10 acres	N/A	F	100	Page 23 and Page 24	28, 29	Yes	Yes	Ice House Lake 2 is a roughly 2.0-acre deepwater habitat mapped in the NWI as palustrine unconsolidated bottom that is permanently flooded (Photo 28). The lake is impounded on the east end by Ash Lake Road. The lake receives hydrology primarily from upstream lakes including Wishram Lake. Ice House Lake 2 drains to two culverts beneath Ash Lake Road and on to the Columbia River (Photo 29).
Wecoma Lake	Permanently Flooded	Columbia River	Skamania County	0	N/A	F	100	Page 24 and Page 25	30	Yes	Yes	Wecoma Lake is roughly 8.0-acre deepwater habitat mapped in the NWI as palustrine unconsolidated bottom that is permanently flooded (Photo30). Wecoma Lake drains via a culvert beneath Ash Lake Road to Little Deep Lake and eventually the Columbia River.
Ditch 6	Ephemeral	Ashes Lake	Skamania County	87	1.0	Ns	N/A	Page 28	45	No	No	Ditch 6 is an ephemeral roadside ditch that occurs north of Ash Lake Road (Photo 42). Faint signatures of bed and bank and intermittent pools of standing water were observed along the length of the ditch. The ditch receives hydrology from hills upslope and roadway runoff. The ditch flows northeast to southwest and discharges via a culvert to Ashes Lake. The ditch is vegetated with upland grasses and weedy species. This ditch does not provide fish habitat.
Ashes Lake	Permanently Flooded	Columbia River	Skamania County	0	N/A	S	150	Page 26 - Page 30	N/A	Yes	Yes	Ashes Lake is approximately 60 acres in size, and is located downslope and to the south of Ashes Lake Road. The Ashes Lake buffer extends to the south side of Ashes Lake Road. Ashes Lake is buffered by a forested overstory of mature coniferous and deciduous tress, which provide almost 100 percent canopy cover throughout to the north, west and south. The overstory is comprised of primarily Douglas fir, with bigleaf maple and red alder also present. The understory is dominated by vine maple, sword fern, and Himalayan blackberry. Topography includes very steep slopes, and high energy drainages. Highway 14 is located to the east, where a large culvert provides connectivity to the Columbia River.

Waterbody	Flow Regime ^a	Tributary to	Local Jurisdiction	Approx. Length in Survey Area (feet)	OHWM Width (feet) ^b	Water Type	Buffer	Figure 4 Reference	Photo Points	USACE PJD	Ecology PJD	Description
Ditch 7	Ephemeral	Upland	Skamania County	192	<1.0	Ns	N/A	Page 31	55, 56	No	No	Ditch 7 is an ephemeral roadside ditch that occurs within the Project survey area north of SR 14 (Photo 52). Faint signatures of bed and bank, drainage patterns and movement of debris were observed along the length of the ditch (Photo 53). The ditch likely receives hydrology from Wetland 16 during periods of high rain fall. Inputs may also be attributed to precipitation runoff from hills to the north and the adjacent roadway. The ditch flows northeast to southwest and discharges to an upland area. The ditch is vegetated with upland grasses and weedy species. This ditch does not provide fish habitat.
Rock Cove	Permanently Flooded	Columbia River	Skamania County/ City of Stevenson	0	N/A	S	150	Page 33	63	Yes	Yes	Rock Cove is approximately 70 acres in size, and is located the north of Highway 14. The Rock Cove buffer extends Highway 14 to the south, and towards the Columbia Gorge Museum to the west. The vegetated buffer of Rock Cover is located on steep slopes, and is comprise of a Himalayan blackberry understory, and bigleaf maple and red alder overstory. Douglas fir are present in lower quantities near to top of slope. Mowed grasses, landscape species and impervious soils are also present within the Rock Cove buffer.

^a Ephemeral ditches are assumed to flow only in direct response to precipitation input. Intermittent ditches are assumed to contain water only for part of the year, typically during winter and spring.

OHWM = ordinary high-water mark; PJD = preliminary jurisdictional determination; N/A = not applicable

^b Averaged across several measurements within the survey area.

Wetland and Waters Delineation Report Cascade Renewable Transmission

This page is intentionally blank.

4 References

Anderson, P.S., S. Meyer, P. Olson, E. Stockdale

2016 Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State. Shorelands and Environmental Assistance Program. Washington State Department of Ecology. Publication no. 16-06-029. October 2016.

Brinson, M.M.

1993 A Hydrogeomorphic Classification for Wetlands, Technical Report WRP-DE-4, U.S. Army Corps of Engineers Engineer Waterways Experiment Station, Vicksburg, MS. <u>VENTURA</u> (utk.edu).

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe

1979 Classification of Wetlands and Deepwater Habitats of the United States. Government Printing Office, Washington, D.C.

City of North Bonneville

- 2015 Code of Ordinances, Title 21 Environmental Protection. Accessed December 2023: https://northbonneville.net/wp-content/uploads/Title-21-Environmental-Protection.pdf.
- 2019 City of North Bonneville Shoreline Master Program. Draft, November 2019. Accessed online: <u>Draft-SMP-t.pdf (northbonneville.net)</u>.

City of Stevenson

- 2022 City of Stevenson Shoreline Master Program. March 2022. Accessed online: 2022 shorelinemasterprogram.pdf (stevenson.wa.us)
- 2024 Code of Ordinances, Title 18 Environmental Protection. Accessed online: <u>Title 18 ENVIRONMENTAL PROTECTION | Code of Ordinances | Stevenson, WA | Municode Library</u>.

Washington State Department of Ecology (Ecology)

- 2023a Washington State Coastal Atlas. Accessed online April 2023: Washington State Coastal Atlas | Find public beach access | Beach closures | Shoreline maps | Washington State Department of Ecology.
- 2023b Washington Tool for Online Rating (WATOR) application. Secure Access Washington. Accessed online: Rating system Washington State Department of Ecology.

Environmental Laboratory

- 1987 Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1. Department of the Army, Waterways Experiment Station. Vicksburg, Mississippi.
- 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region. Version 2.0. ERDC/EL TR- 10-3. May 2010. https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7646.

Environmental Protection Agency (EPA)

Ecoregions of the Pacific Northwest (Idaho, Oregon, Washington). U.S. EPA, National Health and Ecological Effect Research laboratory, Western Ecology Division, Corvallis, Oregon. Map scale 1:1,500,000. Accessed online: Region10 PNW Eco v3 (epa.gov)

Federal Emergency Management Agency (FEMA)

Flood Rate Insurance Map for Skamania County, Panel 530160 0425 B. Accessed April 2023: FIRMette Web [5301600425B] (fema.gov). Effective August 5, 1986.

Oregon Department of State Lands (ODSL)

2023 Removal-Fill Guide, Applying for permits to work in wetlands, rivers, streams, lakes and other Oregon water. 2023 Edition.

Hruby, T. & Yahnke, A

2023 Washington State Wetland Rating System for Western Washington: 2014 Update (Version 2). Publication #23-06-009. Washington Department of Ecology.

National Oceanic and Atmospheric Administration (NOAA)

- Essential Fish Habitat Mapper. Last updated July 22, 2021. Accessed online: https://www.habitat.noaa.gov/apps/efhmapper/?page=page 4&views=view 14.
- 2023a National Endangered Species Act Critical Habitat Mapper. National Marine Fisheries Service, NOAA Office of Protected Resources. Last updated: October 16, 2023. Access online October 2023: National ESA Critical Habitat Mapper | NOAA Fisheries.
- 2023b NOWData NOAA Online Weather Data for Bonneville Dam. Accessed April and November 2023: Climate (weather.gov).
- 2023c US Climate Divisions. NOAA Physical Sciences Laboratory. Accessed online: <u>Climate</u> Division Map: NOAA Physical Sciences Laboratory.
- Roegner, G.C., Dawley, E.W., Russell, M., Whiting, A., and D.J. Teel.
 - 2010 Juvenile Salmonid Use of Reconnected Tidal Freshwater Wetlands in Grays River, Lower Columbia River Basin. Transactions of the American Fisheries Society. 139:1211-1232, 2010.

Skamania County

- 2020 Skamania County Shoreline Master Program. Effective December 29, 2020. Accessed online: 637598908174500000 (skamaniacounty.org).
- 2023a Municipal Code, Title 19 Critical Areas. Passed September 26, 2023. Accessed online: Title 19 CRITICAL AREAS (codepublishing.com).
- 2023b Shoreline Environmental Designation Map. Accessed online: <u>Shoreline Environment Designation Map (arcgis.com)</u>.
- 2023c Preliminary Flood Hazard Areas Viewer. Updated May 31, 2023. Accessed online: Skamania County, Washington - Preliminary Flood Hazard Areas Viewer (as of 2023.05.31) (arcgis.com)

- Sumner, J.P., Vepraskas, M.J., and R.K. Kolka.
 - 2009 Methods to Evaluate Normal Rainfall for Short-Term Wetland Hydrology Assessment. USDA (U.S. Department of Agriculture) Northern Research Station. Wetlands Volume 29, No 3, September 2009. Pp. 1049-1062.
- Thorson, T.D., Bryce, S.A., Lammers, D.A., Woods, A.J., Omernik, J.M., Kagan, J., Pater, D.E., and Comstock, J.A.
 - Ecoregions of Oregon (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,500,000).
- U.S. Army Corps of Engineers (USACE)
 - 2023 2022 National Wetland Plant List, Western Mountains, Valleys and Coast Region, Version 3.6. U.S. Engineering Research and Development Center, Vicksburg, MS. U.S. Fish and Wildlife Service (USFWS). Accessed online: NWPL - Home (army.mil).
- U.S Fish and Wildlife Service (USFWS)
 - 2022 Critical habitat for Threatened and Endangers Species. Last updated December 9, 2022. Accessed April 2023: <u>Critical Habitat for Threatened & Endangered Species [USFWS] (arcgis.com)</u>.
 - National Wetland Inventory Surface Water and Wetlands Online Mapper. Accessed April 2023: National Wetlands Inventory (usgs.gov).
- U.S. Department of Agriculture, National Resource Conservation Service (USDA NRCS)
 - Field Indicators of Hydric Soils in the United States, Version 8.2. G.W. Hurt, L.M. Vasilas, J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
 - 2022 Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin. USDA, Agricultural Handbook 296. May 2022.
 - 2023a Web Soil Survey. Natural Resources Conservation Service. Accessed April 2023: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx
 - 2023b Soil Data Access database for Hydric Soils List of Skamania County, Washington. Accessed April 2023: NRCS Hydric Soils List (usda.gov).
 - 2023c USDA Field Office Climate Data for Bonneville Dam, Station ID 350897/Multnomah County FIPS 41051. Generated April 2023: <u>AgACIS (rcc-acis.org)</u>.
 - 2023d PLANTS Database. Natural Resources Conservation Service. National Plant Data Team, Greensboro, NC. Accessed online: USDA Plants Database.
- U.S. Geological Survey (USGS)
 - 2023a National Hydrography Dataset. Accessed April 2023: National Hydrography Dataset | U.S. Geological Survey (usgs.gov).
 - 2023b Topographic maps of Bonneville Dam quadrangle for 1979, 1994, 2011, 2014, 2020, and 2023. Accessed online: <u>Get Maps | topoView (usgs.gov)</u>.

Washington Department of Fish and Wildlife (WDFW)

- 2023a Fish Passage Inventory, Assessment, and Prioritization Web Application. Accessed online: <u>Washington State Fish Passage</u>.
- 2023b Priority Habitats and Species on the Web. Accessed April 2023: https://geodataservices.wdfw.wa.gov/hp/phs/.
- 2023c SalmonScape online mapping system. Accessed April 2023: http://apps.wdfw.wa.gov/salmonscape/.
- 2023d Statewide Integrated Fish Distribution, Washington Geospatial Open Data Portal.

 Updated April 27, 2023. Accessed online <u>Statewide Washington Integrated Fish</u>

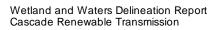
 <u>Distribution | Statewide Washington Integrated Fish Distribution | Washington State</u>

 <u>Geospatial Open Data Portal.</u>

Washington Department of Natural Resources (WDNR)

- 2023a Forest Practices Application Review System Forest Practices Application Mapping Tool. Accessed April 2023: <u>Forest Practices Application Mapping Tool (FPAMT)</u> (wa.gov).
- 2023b Washington Natural Heritage Program Data Explorer for Rare Pland and Ecosystem Locations. Accessed April 2023: WNHP Data Explorer (arcgis.com).

Appendix A. Standard Wetland Delineation Methods



This page is intentionally blank.

Wetland Delineation Methodology

HDR biologists delineated wetlands within the survey area using the three-parameter approach described in the U.S. Army Corps of Engineers (USACE) *Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region* (Environmental Laboratory 2010). Sample plot locations were selected based on available resource maps, aerial imagery taken during the early growing season and on-site assessment of the survey area including identification of dominant plant species, soil probes, surface hydrology and topography. Formal paired sample plots were established to document wetland and upland conditions at delineated wetland boundaries. Additional verification plots (Table 3-36) were collected to verify conditions in suspect areas within the survey boundary. Data for each sample plot investigation were recorded on the USACE Wetland Determination Data Forms for the Western Mountains, Valleys, and Coast Region (USACE 2010) included in Appendix B. Sample plot and wetland boundary locations were recorded with survey-grade GPS units capable of sub-meter accuracy (Trimble 7X GPS unit and an Arrow GNSS receiver), surveyed by qualified delineator and mapped on Figure 4 (Appendix E).

Wetland habitats in the survey area were classified according to Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979) and the Hydrogeomorphic (HGM) Classification for Wetlands (Brinson et al. 1993).

Methods used in the field that deviated from this approach are outlined in Section 2.4.1 of the report.

Vegetation

Sample plots varied in shape depending on site topography and the positioning of the wetland on the landscape. For example, on steep-sided survey areas such as a roadway cut slope, a plot may be a strip of land; within a floodplain, a plot would be a standard 30-foot circle.

Dominant vegetation at each sample plot was identified and were evaluated against the USACE National Wetland Plant List for the Western Mountains, Valleys and Coast Region to determine identified species' wetland indicator status (USACE 2023). Biologists applied the 50/20 rule to determine which species were dominant at a sample plot. Under this guidance, absolute cover estimates were determined for each species rooted within the sample plot for each vegetative strata found at the sample plot (tree, sapling/shrub, herb, and woody vine).

Hydrophytic vegetation is defined as vegetation adapted to wetland conditions. To meet the hydrophytic vegetation criterion, more than 50 percent of the dominant plants in each stratum must have a wetland indicator status of Facultative, Facultative Wetland, or Obligate. All wetland plant indicator categories are defined in Table A-1.

Plants that were unable to be identified to species level were recorded on wetland determination date form with the FAC indicator. Scientific and common plant names follow currently accepted nomenclature. Most names are consistent with *Flora of the Pacific Northwest 2nd Edition* (Hitchcock and Cronquist 2018) and the PLANTS Database (USDA NRCS 2023).

1

Table A-1. Definitions of Wetland Plant Indicator Categories used to Determine the Presence of Hydrophytic Vegetation

Wetland Indicator Category	Symbol	Definition
Obligate Wetland Plants	OBL	Plants that almost always occur in wetlands.
Facultative Wetland Plants	FACW	Usually occur in wetlands, but may occur in non-wetlands.
Facultative Plants	FAC	Occur in wetlands and non-wetlands.
Facultative Upland Plants	FACU	Usually occur in non-wetlands, but may occur in wetlands.
Upland Plants	UPL	Almost never occur in wetlands.

Source: USACE 2023

Soils

Soils at each sample plot were typically inspected to a depth of 18 to 24 inches to determine the presence or absence of hydric soil indicators based on the Natural Resource Conservation Service (NRCS) Field Indicators of Hydric Soils (USDA NRCS 2018) Soil samples were moistened when necessary to aid in the determination of soil matrix and redoximorphic features (if present) hue, value, and chroma (Munsell Color Services 2009). Soil texture was evaluated using field methods described by the USACE and NRCS.

Hydrology

HDR biologists examined the area within and adjacent to sample plots for evidence of hydrology. Wetland hydrology criteria were considered to be satisfied if it appeared that the soil was seasonally inundated or saturated to the surface for a consecutive number of days greater than or equal to 12.5 percent of the growing season.

Wetland hydrology indicators are divided into two categories – primary and secondary indicators (Environmental Laboratory 2010). Primary indicators of hydrology included surface inundation, high water table, and saturated soils, among others. In the absence of a primary indicator, observation of two or more secondary indicators was required to conclude that wetland hydrology was present. Secondary indicators of hydrology included dry-season water table, geomorphic, and FAC-neutral test, among others.

Normal Circumstances

Normal circumstances are defined in the Wetland Delineation Manual as "the soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed". In instances where normal circumstances did not exist due to human activity, alternative methods are explained in Section 2.4.1 and noted on wetland determination data forms.

References

- Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. Department of the Army, Waterways Experiment Station. Vicksburg, Mississippi.
- Environmental Laboratory. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7646
- Hitchcock, C.L. and A. Cronquist. 2018. *Flora of the Pacific Northwest: An Illustrated Manual*, 2nd Edition. Edited by D.E. Giblin, B.S. Legler, P.F. Zika, and R.G. Olmstead. University of Washington Press, Seattle, WA. 882 pp.
- Munsell Color. 2009. *Munsell® Soil Color Charts*. Revised Edition. Munsell® Color, GretagMacBeth, New York.
- U.S. Army Corps of Engineers (USACE). 2023. 2022 National Wetland Plant List, Western Mountains, Valleys and Coast Region, Version 3.6. U.S. Engineering Research and Development Center, Vicksburg, MS. Accessed online April 2023: <a href="https://www.nwellopment.com/nwel
- U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS).
 - 2018. Field Indicators of Hydric Soils in the United States, Version 8.2. G.W. Hurt and L.M. Vasilas (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
 - 2023. PLANTS Database. Natural Resources Conservation Service. National Plant Data Team, Greensboro, NC. Accessed online: <u>USDA Plants Database</u>.

3

This page is intentionally left blank.

Appendix B. Wetland Determination Data Forms

This page is intentionally left blank.

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

Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Date	e: 11/6/2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W1-P1 (W)	
Investigators: B DARBY, J MAZE			Section, Township, I	Range:			
Landform (hillslope, terrace, etc.): Toeslope		Local Relie	ef (concave, convex,	none): Concave	Slop	pe(%): 1	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum: V	VGS84		
Soil Map Unit Name: Arents, 0 to 5 percent slope	<u></u> s		NWI Classific	cation: Unmapped			
Are climatic / hydrologic conditions on the site typic	cal for this time of	year? Yes	X No	(If No, explain in Rer	marks)		
Are Vegetation: Soil or Hydrology	significantly of	disturbed?	Are "Normal Circun	- nstances" present?	Yes	X N	0
Are Vegetation: Soil or Hydrology	naturally prob	olematic?	(If needed, explain	any answers in Remar	ks.)		
SUMMARY OF FINDINGS - Attach a si	— te map show	ing sampling	point locations	, transects, impo	rtant featu	ıres, etc.	
Hydrophytic Vegetation Present? Yes	X No						
Hydric Soil Present? Yes	X No	Is the	Sampled Area				
Wetland Hydrology Present? Yes	X No	within	a Wetland?	Yes X	(No	
Remarks:				_			
Wetland occurs in a "No Dig" zone at Hamilton Isla strong hydrophytic vegetation and clear evidence caerial imagery and best professional judgement. Wetland.	of wetland hydrolo /etland located at	gy. Wetland bour	ndary was conservat	ively estimated using f	ield observati	ions, topogra	aphy,
VEGETATION – Use scientific names	<u> </u>			T			
	Absolute	Dominant	Indicator	Dominance Test W			
Tree Statum (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominant	•		
Populus balsamifera	10	Yes	FAC	That Are OBL, FACV		4	_ (A)
2			· <u> </u>	Total Number of Dor			<i>(</i> _)
3.				Species Across All S		4	_ ^(B)
4		T		Percent of Dominant	•	400	(A (D)
0 1: (0) 1 0: (0) (0)	10	= Total Cover		That Are OBL, FACV	•	100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)	_		540	Prevalence Index w			
Populus balsamifera	5	Yes	FAC	Total % Cover of:		tiply by:	
2. Rubus armeniacus	2	Yes	FAC FAC	OBL species	x1=		_
3.				FACW species	93 x2=		_
4				FAC species	22 x3=		_
5	7	= Total Cover	· —	FACU species	x4= x5=		_
Harb Stratum (Plat size: 10 foot)		= Total Cover		UPL species Column Totals:		252	— _(B)
Herb Stratum (Plot size: 10 feet) 1. Juncus effusus	78	Yes	FACW	Column Totals. –	115 (A)		— ^(B)
Phalaris arundinacea	15	No	FACW	Prevalence Index	v – Β/Δ–	2.1	a
3. Juncus dudleyi	5	No	FAC	Hydrophytic Vegeta			
4.				1 - Rapid Test			on
5.			· —	X 2 - Dominance		_	J11
6.				Z Bommanos			
~.				X 3 - Prevalence	e Index is ≤3 (•	į
7.				X 3 - Prevalence		ns¹ (Provide	
				4 - Morpholog	ical Adaptatic		
8.				4 - Morpholog	ical Adaptation	a separate s	
9.				4 - Morpholog data in Re 5 - Wetland No	ical Adaptatic emarks or on on-Vascular F	a separate s Plants¹	sheet)
8. 9. 10.				4 - Morpholog data in Re 5 - Wetland No Problematic H	ical Adaptatic emarks or on on-Vascular F ydrophytic Ve	a separate s Plants¹ egetation¹ (E	sheet) Explain)
8. 9. 10.	98	= Total Cover		4 - Morpholog data in Re 5 - Wetland No Problematic H Indicators of hydric	ical Adaptatic emarks or on on-Vascular F ydrophytic Ve soil and wetla	a separate separate separate separate separation (Eand hydrolog	sheet) explain)
8. 9. 10.	98	= Total Cover		4 - Morpholog data in Re 5 - Wetland No Problematic H	ical Adaptatic emarks or on on-Vascular F ydrophytic Ve soil and wetla	a separate separate separate separate separation (Eand hydrolog	sheet) explain)
8. 9. 10. 11. Woody Vine Stratum (Plot size: 10 feet)	98	= Total Cover		4 - Morpholog data in Re 5 - Wetland No Problematic H Indicators of hydric	ical Adaptatic emarks or on on-Vascular F ydrophytic Ve soil and wetla	a separate separate separate separate separation (Eand hydrolog	sheet) explain)
8. 9. 10. 11. Woody Vine Stratum (Plot size: 10 feet) 1.	98	= Total Cover		4 - Morphologidata in Re 5 - Wetland No Problematic H Indicators of hydric must be present, unl	ical Adaptatic emarks or on on-Vascular F ydrophytic Ve soil and wetla ess disturbed	a separate separate separate separate separation (Eand hydrolog	sheet) explain)
8. 9. 10. 11. Woody Vine Stratum (Plot size: 10 feet) 1.	98	= Total Cover		4 - Morphologidata in Re 5 - Wetland No Problematic H Indicators of hydric must be present, unl Hydrophytic	ical Adaptatic emarks or on on-Vascular F ydrophytic Ve soil and wetla ess disturbed	a separate s Plants¹ egetation¹ (E and hydrolog f or problem	sheet) explain)
7. 8. 9. 10. 11. Woody Vine Stratum (Plot size: 10 feet) 1. 2. % Bare Ground in Herb Stratum 2	98			4 - Morphologidata in Ref 5 - Wetland No Problematic H Indicators of hydric must be present, unl Hydrophytic Vegetation	ical Adaptatic emarks or on on-Vascular F ydrophytic Ve soil and wetla ess disturbed	a separate s Plants¹ egetation¹ (E and hydrolog f or problem	sheet) explain)

Depth		Matrix		led to document the Red	ox Feature			,			
(inches)	Color (moi	st)	%	Color (moist)	%	Type ¹	Loc ²	Texture	F	Remarks	;
					· ——			, 			
											
											
					·						
					· <u></u>						
vpe: C= Co	oncentration. D	= Deple	tion. RM=Redu	uced Matrix, CS=Cove	red or Coa	ted Sand G	rains.	²Location	n: PL=Pore	Linina. N	M=Matrix.
				unless otherwise no				Indicators for Probler			
	sol (A1)		.,	Sandy Redox (S	-			2 cm Muck (A10	•		
	Epipedon (A2)		•	Stripped Matrix (Red Parent Mat			
	Histic (A3)		•	Loamy Mucky M	,	(except ML	RLA 1)	Very Shallow D	, ,	(TF12)	
	gen Sulfide (A4)	•	Loamy Gleyed M		(,	X Other (Explain i		,	
	ted Below Dark		e (A11)	Depleted Matrix					,		
Thick	Dark Surface (A	12)	•	Redox Dark Surf				³ Indicators of hydrop	nytic vegetat	ion and	
	Mucky Mineral		•	Depleted Dark S)		wetland hydrology	-		
 Sandy	Gleyed Matrix	(S4)	•	Redox Depression	ons (F8)			unless disturbed or	problematic		
 Restrictive	Layer (if pres	ent):	•								
Type:	, ,	,									
• • •	(inches):							Hydric Soil Present	? Yes	Х	No
marks:	<u> </u>										
YDROLC Wetland Hy	ydrology Indica	ators:									
Primary Ind	licators (minimu	m of on	ne required; ch	eck all that apply)				Secondary Indicators	(2 or more	required	<i>(</i>)
X Surfac	ce Water (A1)			Water-Stained L	eaves (B9)	(except		Water Stained I	eaves (B9)	(MRLA	1, 2,
High V	Water Tables (A	.2)	•	MRLA 1, 2, 4	A, and 4B)			4A, and 4B)			
Satura	ation (A3)		_	Salt Crust (B11)				Drainage Patter	ns (B10)		
Water	Marks (B1)			Aquatic Inverteb	rates (B13)			Dry-Season Wa	ter Table (C	2)	
Sedim	ent Deposits (E	32)		Hydrogen Sulfide	e Odor (C1)		Saturation Visib	le on Aeriel	Imagery	(C9)
Drift D	eposits (B3)			Oxidized Rhizos	pheres alor	ng Living R	oots (C3)	X Geomorphic Po	sition (D2)		
Algal I	Mat or Crust (B	4)		Presence of Red	luced Iron ((C4)		Shallow Aquitar	d (D3)		
Iron D	eposits (B5)			Recent Iron Red	uction in Ti	lled Soils (0	C6)	X FAC-Neutral Te	st (D5)		
Surfac	ce Soil Cracks (B6)		Stunted or Stress	sed Plants	(D1) (LRR	A)	Raised Ant Mou	nds (D6) (L l	RR A)	
Inunda	ation Visible on	Aeriel I	magery (B	Other (Explain in	Remarks)			Frost-Heave Hu	mmocks (D7	7)	
Spars	ley Vegetated C	Concave	e Surface (B8)								
Field Obse	rvations:										
Surface Wa	ater Present?	Yes	X No	Depth (inches):		1.00					
Water Table	e Present?	Yes	No	Depth (inches):							
Saturation I	Present?	Yes	No	Depth (inches):			Wetland	d Hydrology Present?	Yes	X	_No
(includes ca	apillary fringe)										
escribe Rec	orded Date (str	eam ga	uge, monitorin	g well, aerial photos, p	revious ins	spections), i	if available	e:			
COOLIDC LCCC											
COOLIDE TOO											
emarks:	vdrology was a	ot evolu	isted within the	"No Dig" area - Wetler	nd plot mos	ate primary	wetland i	ndicators for surface wa	ter (A1) co	d secon	dany
emarks: ubsurface h				e "No Dig" area. Wetlar eutral test (D5).	nd plot mee	ets primary	wetland in	ndicators for surface wa	ter (A1), and	d secon	dary
emarks: ibsurface h					nd plot mee	ets primary	wetland ir	ndicators for surface wa	iter (A1), and	d second	dary

Additional Reference Data: Photos



Photo Name: Photo_231106132700

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

Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Date	e: 11/6/2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W1-P2 (U)		
Investigators: B DARBY, J MAZE			Section, Township, I	Range:			
Landform (hillslope, terrace, etc.): Toeslope		Local Rel	ief (concave, convex,	none): Concave	Slope	(%): 0	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum: V	VGS84		
Soil Map Unit Name: Arents, 0 to 5 percent slopes	<u> </u>		NWI Classific	cation: Unmapped			
Are climatic / hydrologic conditions on the site typic	al for this time of y	year? Yes	s X No	(If No, explain in Rer	marks)		
Are Vegetation: Soil or Hydrology	significantly di	sturbed?	Are "Normal Circum	- nstances" present?	Yes X	N	0
Are Vegetation: Soil or Hydrology	naturally probl	ematic?	(If needed, explain	any answers in Remar	rks.)		
SUMMARY OF FINDINGS - Attach a si	te map showi	ng sampling	point locations	, transects, impo	rtant featur	es, etc.	
Hydrophytic Vegetation Present? Yes	K No						
Hydric Soil Present? Yes	No X	Is the	Sampled Area				
Wetland Hydrology Present? Yes	No X	withi	n a Wetland?	Yes		No X	
Remarks:				_			
Wetland occurs in a "No Dig" zone at Hamilton Isla estimated using field observations, topography, aer wetland plot. Plot meets the dominance test for hyd	rial imagery and be Irophytic vegetation	est professional					
VEGETATION – Use scientific names				1			
	Absolute	Dominant	Indicator	Dominance Test W			
Tree Statum (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominant	•		
1. Alnus rubra	10	Yes	FAC	That Are OBL, FACV	_	3	_ (A)
2.				Total Number of Dor			(D)
3.				Species Across All S	_	4	(B)
4	40	T-1-1 0		Percent of Dominant	•	70	(A /D)
Carlina/Obach Otachura (Dich since 40 forth)	10	= Total Cover		That Are OBL, FACV	-	75	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)	40	Vaa	EAC	Prevalence Index w		de de la	
1. Rubus armeniacus	10	Yes	FAC	Total % Cover of:	<u>Multip</u>	IV DV.	
2.				OBL species	x1=	0	_
3.				FACW species FAC species	x2= 65 x3=	195	_
4 5.			_	FACU species	53 x4=	212	_
J	10	= Total Cover	. ——	UPL species	x5=	0	_
Herb Stratum (Plot size: 10 feet)		- Total Cover		Column Totals:	118 (A)	407	(B)
1. Poa spp.	40	Yes	FAC		110 (11)	401	(0)
2. Cichorium intybus	35	Yes	FACU	Prevalence Index	y = R/Δ=	3.4	5
3. Plantago lanceolata	10	No	FACU	Hydrophytic Vegeta			-
4. Vicia americana	5	No	FAC		t for Hydrophytic		on
5. Senecio jacobaea	5	No	FACU	X 2 - Dominance		, rogotati	
6. Dactylis glomerata	3	No	FACU		e Index is ≤3.0¹		
7.				4 - Morpholog	ical Adaptations	s¹ (Provide	9
8.					emarks or on a		
9.				5 - Wetland No	on-Vascular Pla	ants¹	,
10.				Problematic H	lydrophytic Veg	etation¹ (E	xplain)
11.				¹Indicators of hydric			
	98	= Total Cover		must be present, unl			-
Woody Vine Stratum (Plot size: 10 feet)				. , , , , , , , , , , , , , , , , , , ,			
1.				Hydrophytic			
2.				Vegetation	Yes X N	No	
		= Total Cover		Present?			
% Bare Ground in Herb Stratum 2							
Demoder				1			

Although the sample plot meets the dominance test for hydrophytic vegetation. Wetland boundary was drawn based on observations of topographic changes and distinct break in vegetation community from FAC and FACW indicator species to FAC and FACU species.

1Type: C= Concentrati Hydric Soil Indicators Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate best professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	(A2)) le (A4) Dark Surfactace (A12) ineral (S1) Matrix (S4) present):	e (A11)	Color (moist) Educed Matrix, CS=Covers, unless otherwise new Sandy Redox (\$ Stripped Matrix Loamy Mucky North Loamy Gleyed North Color Depleted Matrix Redox Dark Sunder Depleted Dark \$ Redox Depress	oted.) (S5) (S6) Mineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8)	(except ML	RLA 1)	Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or Hydric Soil Present	a: PL=Pore L natic Hydric ark Surface (Text) n Remarks) nytic vegetatic must be prese problematic.	on and ent,	rix.
Hydric Soil Indicators Histosol (A1) Histic Epipedor Black Histic (A3) Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (not surface Water High Water Tables) Saturation (A3)	(A2)) le (A4) Dark Surfactace (A12) ineral (S1) Matrix (S4) present):	e (A11)	Sandy Redox (Sandy Redox (Sandy Redox (Sandy Redox (Sandy Mucky National Loamy Mucky National Redox Dark Suand Depleted Dark Sandox Depress	oted.) (S5) (S6) Mineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8)	ted Sand G	RLA 1)	Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or Hydric Soil Present	natic Hydric (1) erial (TF2) ark Surface (1) n Remarks) nytic vegetatic must be prese problematic.	Soils³: IF12) on and ent,	
Hydric Soil Indicators Histosol (A1) Histic Epipedor Black Histic (A3) Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	(A2)) le (A4) Dark Surfactace (A12) ineral (S1) Matrix (S4) present):	e (A11)	Sandy Redox (Sandy Redox (Sandy Redox (Sandy Redox (Sandy Mucky National Loamy Mucky National Redox Dark Suand Depleted Dark Sandox Depress	oted.) (S5) (S6) Mineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8)	(except ML	RLA 1)	Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or Hydric Soil Present	natic Hydric (1) erial (TF2) ark Surface (1) n Remarks) nytic vegetatic must be prese problematic.	Soils³: IF12) on and ent,	
Hydric Soil Indicators Histosol (A1) Histic Epipedor Black Histic (A3) Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	(A2)) le (A4) Dark Surfactace (A12) ineral (S1) Matrix (S4) present):	e (A11)	Sandy Redox (Sandy Redox (Sandy Redox (Sandy Redox (Sandy Mucky National Loamy Mucky National Redox Dark Suand Depleted Dark Sandox Depress	oted.) (S5) (S6) Mineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8)	(except ML	RLA 1)	Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or Hydric Soil Present	natic Hydric (1) erial (TF2) ark Surface (1) n Remarks) nytic vegetatic must be prese problematic.	Soils³: IF12) on and ent,	
Hydric Soil Indicators Histosol (A1) Histic Epipedor Black Histic (A3) Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	(A2)) le (A4) Dark Surfactace (A12) ineral (S1) Matrix (S4) present):	e (A11)	Sandy Redox (Sandy Redox (Sandy Redox (Sandy Redox (Sandy Mucky National Loamy Mucky National Redox Dark Suand Depleted Dark Sandox Depress	oted.) (S5) (S6) Mineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8)	(except ML	RLA 1)	Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or Hydric Soil Present	natic Hydric (1) erial (TF2) ark Surface (1) n Remarks) nytic vegetation must be prese problematic.	Soils³: IF12) on and ent,	
Hydric Soil Indicators Histosol (A1) Histic Epipedor Black Histic (A3) Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	(A2)) le (A4) Dark Surfactace (A12) ineral (S1) Matrix (S4) present):	e (A11)	Sandy Redox (Sandy Redox (Sandy Redox (Sandy Redox (Sandy Mucky National Loamy Mucky National Redox Dark Suand Depleted Dark Sandox Depress	oted.) (S5) (S6) Mineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8)	(except ML	RLA 1)	Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or Hydric Soil Present	natic Hydric (1) erial (TF2) ark Surface (1) n Remarks) nytic vegetation must be prese problematic.	Soils³: IF12) on and ent,	
Hydric Soil Indicators Histosol (A1) Histic Epipedor Black Histic (A3) Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	(A2)) le (A4) Dark Surfactace (A12) ineral (S1) Matrix (S4) present):	e (A11)	Sandy Redox (Sandy Redox (Sandy Redox (Sandy Redox (Sandy Mucky National Loamy Mucky National Redox Dark Suand Depleted Dark Sandox Depress	oted.) (S5) (S6) Mineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8)	(except ML	RLA 1)	Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or Hydric Soil Present	natic Hydric (1) erial (TF2) ark Surface (1) n Remarks) nytic vegetation must be prese problematic.	Soils³: IF12) on and ent,	
Hydric Soil Indicators Histosol (A1) Histic Epipedor Black Histic (A3) Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	(A2)) le (A4) Dark Surfactace (A12) ineral (S1) Matrix (S4) present):	e (A11)	Sandy Redox (Sandy Redox (Sandy Redox (Sandy Redox (Sandy Mucky National Loamy Mucky National Redox Dark Suand Depleted Dark Sandox Depress	oted.) (S5) (S6) Mineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8)	(except ML	RLA 1)	Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or Hydric Soil Present	natic Hydric (1) erial (TF2) ark Surface (1) n Remarks) nytic vegetation must be prese problematic.	Soils³: IF12) on and ent,	
Hydric Soil Indicators Histosol (A1) Histic Epipedor Black Histic (A3) Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	(A2)) le (A4) Dark Surfactace (A12) ineral (S1) Matrix (S4) present):	e (A11)	Sandy Redox (Sandy Redox (Sandy Redox (Sandy Redox (Sandy Mucky National Loamy Mucky National Redox Dark Suand Depleted Dark Sandox Depress	oted.) (S5) (S6) Mineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8)	(except ML	RLA 1)	Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or Hydric Soil Present	natic Hydric (1) erial (TF2) ark Surface (1) n Remarks) nytic vegetation must be prese problematic.	Soils³: IF12) on and ent,	
Hydric Soil Indicators Histosol (A1) Histic Epipedor Black Histic (A3) Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (not surface Water High Water Tables) Saturation (A3)	(A2)) le (A4) Dark Surfactace (A12) ineral (S1) Matrix (S4) present):	e (A11)	Sandy Redox (Sandy Redox (Sandy Redox (Sandy Redox (Sandy Mucky National Loamy Mucky National Redox Dark Suand Depleted Dark Sandox Depress	oted.) (S5) (S6) Mineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8)	(except ML	RLA 1)	Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or Hydric Soil Present	natic Hydric (1) erial (TF2) ark Surface (1) n Remarks) nytic vegetation must be prese problematic.	Soils³: IF12) on and ent,	
Hydric Soil Indicators Histosol (A1) Histic Epipedor Black Histic (A3) Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	(A2)) le (A4) Dark Surfactace (A12) ineral (S1) Matrix (S4) present):	e (A11)	Sandy Redox (Sandy Redox (Sandy Redox (Sandy Redox (Sandy Mucky National Loamy Mucky National Redox Dark Suand Depleted Dark Sandox Depress	oted.) (S5) (S6) Mineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8)	(except ML	RLA 1)	Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or Hydric Soil Present	natic Hydric (1) erial (TF2) ark Surface (1) n Remarks) nytic vegetation must be prese problematic.	Soils³: IF12) on and ent,	
Histosol (A1) Histic Epipedor Black Histic (A3) Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate Dest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	(A2)) le (A4) Dark Surface ace (A12) ineral (S1) Matrix (S4) present):	e (A11)	Sandy Redox (S Stripped Matrix Loamy Mucky N Loamy Gleyed I Depleted Matrix Redox Dark Sul Depleted Dark S Redox Depress	(S6) (S6) Mineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8))	RLA 1)	2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or Hydric Soil Present	erial (TF2) ark Surface (Ten Remarks) nytic vegetation must be preseproblematic.	on and ent,	X
Histic Epipedor Black Histic (A3 Hydrogen Sulfice Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Restrictive Layer (iff Type: Depth (inches): Remarks: Boils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (in Surface Water High Water Tab Saturation (A3)	Dark Surface (A12) ineral (S1) Matrix (S4) present):		Stripped Matrix Loamy Mucky N Loamy Gleyed I Depleted Matrix Redox Dark Su Depleted Dark S Redox Depress	(S6) Alineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8))		Red Parent Mat Very Shallow Da Other (Explain is Indicators of hydroph wetland hydrology is unless disturbed or Hydric Soil Present	erial (TF2) ark Surface (Text) n Remarks) nytic vegetation must be preserved problematic.	on and ent,	X
Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	Dark Surface (A12) ineral (S1) Matrix (S4) present):		Loamy Mucky M Loamy Gleyed I Depleted Matrix Redox Dark Su Depleted Dark S Redox Depress	Mineral (F1) Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8))		Other (Explain in Part of Part	ark Surface (1 n Remarks) nytic vegetation must be prese problematic.	on and ent,	X
Hydrogen Sulfice Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (in Surface Water High Water Tables Saturation (A3)	e (A4) Dark Surfactace (A12) ineral (S1) flatrix (S4) present):		Loamy Gleyed I Depleted Matrix Redox Dark Sul Depleted Dark S Redox Depress	Matrix (F2) (F3) rface (F6) Surface (F7) ions (F8))		Other (Explain in a line of the state of the	n Remarks) nytic vegetation must be prese problematic.	on and ent,	X
Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate Dest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	Dark Surface ace (A12) ineral (S1) flatrix (S4) present):		Depleted Matrix Redox Dark Sul Depleted Dark S Redox Depress	(F3) rface (F6) Surface (F7) ions (F8)		ange in v	³ Indicators of hydroph wetland hydrology in unless disturbed or Hydric Soil Present	nytic vegetation must be preseproblematic.	ent, No	x
Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (in Surface Water High Water Tab Saturation (A3)	ineral (S1) flatrix (S4) present): d in the "No	Dig" zone an	Redox Dark Sul Depleted Dark S Redox Depress	rface (F6) Surface (F7) ions (F8)		ange in v	wetland hydrology is unless disturbed or Hydric Soil Present	must be prese problematic.	ent, No	X
Sandy Mucky M Sandy Gleyed I Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate pest professional judge HYDROLOGY Wetland Hydrology Primary Indicators (in Surface Water High Water Tab Saturation (A3)	ineral (S1) flatrix (S4) present): d in the "No	Dig" zone an	Depleted Dark S	Surface (F7) ions (F8)		ange in v	wetland hydrology is unless disturbed or Hydric Soil Present	must be prese problematic.	ent, No	X
Restrictive Layer (if Type: Depth (inches): Remarks: Soils were not evaluate best professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	present):	Dig" zone an		, ,	pased on ch	ange in v	Hydric Soil Present	? Yes <u>-</u>		x
Type: Depth (inches): Remarks: Soils were not evaluate best professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	d in the "No	Dig" zone an	nd were assumed to be	non-hydric t	pased on ch	ange in v	•			X
Type: Depth (inches): Remarks: Soils were not evaluate best professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	d in the "No	Dig" zone an	nd were assumed to be	non-hydric t	pased on ch	nange in v	•			X
Remarks: Soils were not evaluate best professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)		Dig" zone an	nd were assumed to be	non-hydric t	pased on ch	ange in v	•			X
Soils were not evaluate best professional judge HYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)		Dig" zone an	nd were assumed to be	non-hydric t	pased on ch	ange in v	regetation communities,	lack of surface	ce hydrology :	
Surface Water of High Water Tab Saturation (A3)			ah a ah all that a sah)				O a service and the discrete	(0	O	
High Water Tab Saturation (A3)		ne requirea; o		(DO)	. /		Secondary Indicators			-
Saturation (A3)	,		Water-Stained I		-		Water Stained L 4A, and 4B)	.eaves (B9) (I	WIRLA 1, 2,	
	es (AZ)		MRLA 1, 2, 4 Salt Crust (B11)				, ,	no (D10)		
Water Marke (F	1\		Aquatic Inverteb		١		Drainage Patter Dry-Season Wa)\	
Water Marks (B Sediment Depo	•		Hydrogen Sulfic				Saturation Visib			
Drift Deposits (I			Oxidized Rhizos	,	,	note (C3)	Geomorphic Po		nagery (C3)	
Algal Mat or Cr			Presence of Re		_	0013 (03)	Shallow Aquitar			
Iron Deposits (E			Recent Iron Rec			26)	FAC-Neutral Te	` '		
Surface Soil Cr			Stunted or Stres		•	•	Raised Ant Mou		(RA)	
Inundation Visit	` '	magery (B	Other (Explain i			/	Frost-Heave Hu			
Sparsley Veget			 ` '	,				,	,	
Field Observations		<u> </u>	,							
Surface Water Prese	nt? Yes	No	X Depth (inches):							
Water Table Present	? Yes	— No	Depth (inches):							
Saturation Present?	Yes	No	Depth (inches):			Wetland	d Hydrology Present?	Yes	No	X
(includes capillary fri	ige)		<u> </u>					_		
Describe Recorded Da	e (stream ga	luge, monito	ring well, aerial photos,	previous ins	spections), i	f available	e:			
Remarks:										
Subsurface hydrology by a stream that drains		lated within t	the "No Dig" area. Uplar	id plot is top	oographicall	y slightly	upgradient of wetland p	lot and the pl	lots are separa	ated

Additional Reference Data: Photos



Photo Name: Photo_231106133551

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

Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Date	: 11/6/2023		
Applicant/Owner: Cascade Renewables			State: WA	Sampling	W2-P1 (W)		
Investigators: B DARBY, J MAZE		9	Section, Township,	Range:			
Landform (hillslope, terrace, etc.): Toeslope		Local Relief	(concave, convex,	none): Concave	Slope	e(%): 2	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:	•	Datum: W	GS84		
Soil Map Unit Name: Arents, 0 to 5 percent slo	<u></u> pes		NWI Classific	cation: Unmapped			
Are climatic / hydrologic conditions on the site ty	pical for this time of	f year? Yes	X No	(If No, explain in Ren	narks)		
Are Vegetation: Soil or Hydrology	significantly	disturbed?	Are "Normal Circun	nstances" present?	Yes	X N	0
Are Vegetation: Soil or Hydrology	naturally pro	blematic?	(If needed, explain	any answers in Remar	ks.)	-	
SUMMARY OF FINDINGS - Attach a	site map show	ring sampling p	oint locations	, transects, impo	rtant featu	res, etc.	
Hydrophytic Vegetation Present? Yes	X No						
Hydric Soil Present? Yes	X No	Is the S	Sampled Area				
Wetland Hydrology Present? Yes	X No	within	a Wetland?	Yes X		No	
Remarks:							
Wetland occurs in a "No Dig" zone at Hamilton I strong hydrophytic vegetation and clear evidence aerial imagery and best professional judgement north and west of survey area. VEGETATION – Use scientific name	e of wetland hydrole . Wetland located at	ogy. Wetland bound	dary was conservat	ively estimated using fi	eld observation	ns, topogra	aphy,
	Absolute	Dominant	Indicator	Dominance Test W	orksheet:		
Tree Statum (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominant			
1.	70 0010.			That Are OBL, FACV	•	3	(A)
2.				Total Number of Dom			_ (' ')
3.				Species Across All S		3	(B)
4.				Percent of Dominant			_` ′
		= Total Cover		That Are OBL, FACV	•	100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index w			
1.				Total % Cover of:	Multi	ply by:	
2.				OBL species	x1=		
3.				FACW species	50 x2=	100	_
4.				FAC species	35 x3=	105	_
5.				FACU species	10 x4=	40	_
		= Total Cover		UPL species	x5=	0	_
Herb Stratum (Plot size: 10 feet)				Column Totals:	95 (A)	245	(B)
1. Juncus effusus	45	Yes	FACW	_			_
2. Juncus dudleyi	15	Yes	FAC	Prevalence Index	c = B/A =	2.5	8
3. Poa spp.	15	Yes	FAC	Hydrophytic Vegeta	tion Indicato	rs:	
4. Madia glomerata	10	No	FACU	1 - Rapid Test	for Hydrophyt	ic Vegetation	on
5. Galium spp.	5	No	FAC	X 2 - Dominance	Test is >50%		
6. Phalaris arundinacea	5	No	FACW	X 3 - Prevalence	Index is ≤3.0°	l	
7.	_			4 - Morphologi	cal Adaptation	ıs¹ (Provide)
8.				data in Re	marks or on a	separate s	sheet)
9.				5 - Wetland No	n-Vascular Pl	ants¹	
10.				Problematic Hy	ydrophytic Ve	getation¹ (E	xplain)
11				¹ Indicators of hydric s	soil and wetlar	nd hydrolog	ly
	95	= Total Cover		must be present, unle	ess disturbed	or problem	atic.
Woody Vine Stratum (Plot size: 10 feet)							
1.	_			Hydrophytic			
2.	_			Vegetation	Yes X	No	_
OV David Consumal in Harth Classics 40		= Total Cover		Present?			
% Bare Ground in Herb Stratum 10							
Remarks:	oo Boro ground in m	rimorily occurred by	voru alou, marin - :	votor Comple plet	to dominants	toot for	
Multistoried herb canopy adjacent to parking are	a. Dare ground IS p	mmanly covered by	very Siow-Hioving V	vater. Sample plut mee	to dominance	1621 101	

hydrophytic vegetation.

Depth	Matrix		Red	ox Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks
	-							
Type: C= Co	oncentration, D= Dep	etion, RM=Redu	uced Matrix, CS=Cover	red or Coat	ted Sand G	rains.	²Locatio	on: PL=Pore Lining, M=Matr
Hydric Soil I	ndicators: (Applica	ble to all LRRs,	unless otherwise no	ted.)		-	Indicators for Proble	ematic Hydric Soils³:
Histos	ol (A1)		Sandy Redox (S	5)			2 cm Muck (A	10)
— Histic	Epipedon (A2)	•	Stripped Matrix (S6)			Red Parent Ma	aterial (TF2)
Black	Histic (A3)		Loamy Mucky Mi	neral (F1)	(except ML	RLA 1)	Very Shallow I	Dark Surface (TF12)
Hydro	gen Sulfide (A4)		Loamy Gleyed M	atrix (F2)			X Other (Explain	in Remarks)
Deple	ted Below Dark Surfa	ce (A11)	Depleted Matrix ((F3)				
Thick	Dark Surface (A12)		Redox Dark Surf	ace (F6)			3Indicators of hydro	ohytic vegetation and
Sandy	Mucky Mineral (S1)	<u>-</u>	Depleted Dark S	urface (F7))		wetland hydrology	must be present,
Sandy	Gleyed Matrix (S4)		Redox Depression	ons (F8)			unless disturbed of	or problematic.
Restrictive	Layer (if present):							
Type:								
Depth	(inches):						Hydric Soil Presen	t? Yes X No
_ op								
Remarks: Soils were no	t excavated in this ar	ea. Hydric soils	assumed based on obs	servations	of hydrophy	tic vegeta	ation, wetland hydrolo	gy, geomorphic position and
Remarks: Soils were no recent aerial i	t excavated in this ar mages.	·	assumed based on obs	servations	of hydrophy	rtic vegeta	ation, wetland hydrolo	gy, geomorphic position and
Remarks: Soils were no recent aerial i	t excavated in this ar mages.			servations	of hydrophy	rtic vegeta		gy, geomorphic position and
Remarks: Soils were no recent aerial in the second wetland Hyprimary Indiana Remarks Primary I	t excavated in this ar mages.		eck all that apply)			rtic vegeta	Secondary Indicato	rs (2 or more required)
Remarks: Soils were no recent aerial in the second serial in the second second serial in the second second serial in the second	t excavated in this ar mages. OGY ydrology Indicators: icators (minimum of			eaves (B9)	(except	tic vegeta	Secondary Indicato	rs (2 or more required) Leaves (B9) (MRLA 1, 2,
Remarks: Soils were no recent aerial in the second serial in the second serial in the second	t excavated in this armages. OGY /drology Indicators: icators (minimum of one Water (A1)		eck all that apply) Water-Stained Le	eaves (B9)	(except	tic vegeta	Secondary Indicato	rs (2 or more required) Leaves (B9) (MRLA 1, 2,
Remarks: Soils were no recent aerial in the recent	t excavated in this armages. OGY /drology Indicators: icators (minimum of one Water (A1) Vater Tables (A2)		eck all that apply) Water-Stained Le	eaves (B9) A, and 4B)	(except	rtic vegeta	Secondary Indicato Water Stained 4A, and 4B Drainage Patte	rs (2 or more required) Leaves (B9) (MRLA 1, 2,
Remarks: Soils were no recent aerial in the recent	t excavated in this armages. OGY vdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) ation (A3)		eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11)	eaves (B9) A, and 4B) rates (B13)	(except	tic vegeta	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W	rs (2 or more required) Leaves (B9) (MRLA 1, 2,
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surfact High V Satura Water Sedim	t excavated in this armages. OGY vdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) ation (A3) Marks (B1)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr	eaves (B9) A, and 4B) rates (B13) e Odor (C1)	(except		Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W	rs (2 or more required) Leaves (B9) (MRLA 1, 2,) erns (B10) later Table (C2) ble on Aeriel Imagery (C9)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surfact High V Satura Water Sedim Drift D	t excavated in this armages. OGY /drology Indicators: icators (minimum of other Water (A1) Vater Tables (A2) ation (A3) Marks (B1) ent Deposits (B2)		eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide	eaves (B9) A, and 4B) rates (B13) e Odor (C1) oheres alor	(except		Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi	rs (2 or more required) Leaves (B9) (MRLA 1, 2,) erns (B10) later Table (C2) ble on Aeriel Imagery (C9) osition (D2)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surfac High V Satura Water Sedim Drift D Algal I	t excavated in this armages. OGY /drology Indicators: icators (minimum of other Water (A1) Vater Tables (A2) ation (A3) Marks (B1) Ident Deposits (B2) Idenosits (B3)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosg	eaves (B9) A, and 4B) rates (B13) e Odor (C1) bheres alor uced Iron ((except)) ng Living Ro	oots (C3)	Secondary Indicato Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visit X Geomorphic P	rs (2 or more required) Leaves (B9) (MRLA 1, 2,) erns (B10) fater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surface High V Satura Water Sedim Drift D Algal I	t excavated in this armages. OGY vorology Indicators: icators (minimum of exe Water (A1) Vater Tables (A2) ation (A3) Marks (B1) ent Deposits (B2) deposits (B3) Mat or Crust (B4)		eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress	eaves (B9) A, and 4B) rates (B13) e Odor (C1) bheres alor uced Iron (uction in Ti sed Plants	(except) ng Living Ro (C4) illed Soils (C (D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi X Geomorphic P Shallow Aquita X FAC-Neutral T	rs (2 or more required) Leaves (B9) (MRLA 1, 2,) erns (B10) fater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surfact High V Satura Water Sedim Drift D Algal I Iron D Surfact	t excavated in this armages. OGY vdrology Indicators: icators (minimum of exe Water (A1) Vater Tables (A2) ation (A3) Marks (B1) Ivent Deposits (B2) Ivenosits (B3) Mat or Crust (B4) Ivenosits (B5)	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu	eaves (B9) A, and 4B) rates (B13) e Odor (C1) bheres alor uced Iron (uction in Ti sed Plants	(except) ng Living Ro (C4) illed Soils (C (D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi X Geomorphic P Shallow Aquita X FAC-Neutral T Raised Ant Mo	rs (2 or more required) Leaves (B9) (MRLA 1, 2,) erns (B10) dater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) fest (D5)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda	t excavated in this armages. DGY /drology Indicators: icators (minimum of ote Water (A1) Vater Tables (A2) ation (A3) Marks (B1) ent Deposits (B2) eleposits (B3) Mat or Crust (B4) eposits (B5) ee Soil Cracks (B6)	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress	eaves (B9) A, and 4B) rates (B13) e Odor (C1) bheres alor uced Iron (uction in Ti sed Plants	(except) ng Living Ro (C4) illed Soils (C (D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi X Geomorphic P Shallow Aquita X FAC-Neutral T Raised Ant Mo	rs (2 or more required) Leaves (B9) (MRLA 1, 2,) erns (B10) later Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) lest (D5) bunds (D6) (LRR A)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda	t excavated in this armages. OGY Idrology Indicators: icators (minimum of one Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ident Deposits (B2) Ideposits (B3) Mat or Crust (B4) Ideposits (B5) Ideposits (B5) Ideposits (B6)	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress	eaves (B9) A, and 4B) rates (B13) e Odor (C1) bheres alor uced Iron (uction in Ti sed Plants	(except) ng Living Ro (C4) illed Soils (C (D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi X Geomorphic P Shallow Aquita X FAC-Neutral T Raised Ant Mo	rs (2 or more required) Leaves (B9) (MRLA 1, 2,) erns (B10) later Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) lest (D5) bunds (D6) (LRR A)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars	t excavated in this armages. OGY Idrology Indicators: icators (minimum of one Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ident Deposits (B2) Ideposits (B3) Mat or Crust (B4) Ideposits (B5) Ideposits (B5) Ideposits (B6)	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress	eaves (B9) A, and 4B) rates (B13) e Odor (C1) bheres alor uced Iron (uction in Ti sed Plants	(except) ng Living Ro (C4) illed Soils (C (D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi X Geomorphic P Shallow Aquita X FAC-Neutral T Raised Ant Mo	rs (2 or more required) Leaves (B9) (MRLA 1, 2,) erns (B10) later Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) lest (D5) bunds (D6) (LRR A)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars	t excavated in this armages. DGY /drology Indicators: icators (minimum of other water (A1) Vater Tables (A2) ation (A3) Marks (B1) Ident Deposits (B2) Ideposits (B3) Mat or Crust (B4) Ideposits (B5) Ideposits (B5) Ideposits (B5) Ideposits (B6) Ideposits (B	Imagery (B ve Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redi Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1) bheres alor uced Iron (uction in Ti sed Plants	(except) ng Living Ro (C4) illed Soils (C (D1) (LRR	Doots (C3) C6) A)	Secondary Indicato Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi X Geomorphic P Shallow Aquita X FAC-Neutral T Raised Ant Mo Frost-Heave H	rs (2 or more required) Leaves (B9) (MRLA 1, 2, 1) Perns (B10) Jater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) Jest (D5) Jounds (D6) (LRR A) Jummocks (D7)
Remarks: Soils were no recent aerial is second aerial is	t excavated in this armages. OGY Idrology Indicators: icators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ident Deposits (B2) Ideposits (B3) Mat or Crust (B4) Ideposits (B5) Ideposits (B5) Ideposits (B6) I	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1) bheres alor uced Iron (uction in Ti sed Plants	(except) ng Living Ro (C4) illed Soils (C (D1) (LRR	Doots (C3) C6) A)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi X Geomorphic P Shallow Aquita X FAC-Neutral T Raised Ant Mo	rs (2 or more required) Leaves (B9) (MRLA 1, 2, 1) Perns (B10) Jater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) Jest (D5) Jounds (D6) (LRR A) Jummocks (D7)
Remarks: Soils were no recent aerial is second aerial is	t excavated in this armages. OGY Indrology Indicators: icators (minimum of obe Water (A1) Vater Tables (A2) ation (A3) Marks (B1) Ident Deposits (B2) Ident Deposits (B3) Mat or Crust (B4) Ident Deposits (B5) Ident Deposits (B5) Ident Deposits (B6) Ident Deposit	Imagery (B ve Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redi Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1) bheres alor uced Iron (uction in Ti sed Plants	(except) ng Living Ro (C4) illed Soils (C (D1) (LRR	Doots (C3) C6) A)	Secondary Indicato Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi X Geomorphic P Shallow Aquita X FAC-Neutral T Raised Ant Mo Frost-Heave H	rs (2 or more required) Leaves (B9) (MRLA 1, 2, 1) Perns (B10) Jater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) Jest (D5) Jounds (D6) (LRR A) Jummocks (D7)
Remarks: Soils were no recent aerial is second aerial is	t excavated in this armages. OGY /drology Indicators: icators (minimum of other water (A1) Vater Tables (A2) ation (A3) Marks (B1) Ident Deposits (B2) Ident Deposits (B3) Mat or Crust (B4) Ident Presents (B6) Ident Crust (B4) Ident Crust (Ilmagery (B ve Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redi Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) eates (B13) e Odor (C1) oheres alor uced Iron (uction in Ti sed Plants Remarks)	(except) ng Living Ro (C4) illed Soils (C (D1) (LRR	oots (C3) C6) A)	Secondary Indicato Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi X Geomorphic P Shallow Aquita X FAC-Neutral T Raised Ant Mo Frost-Heave H	rs (2 or more required) Leaves (B9) (MRLA 1, 2, 1) Perns (B10) Jater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) Jest (D5) Jounds (D6) (LRR A) Jummocks (D7)
Remarks: Soils were no recent aerial is soils were not soil to soi	t excavated in this armages. OGY /drology Indicators: icators (minimum of other water (A1) Vater Tables (A2) ation (A3) Marks (B1) Ident Deposits (B2) Ident Deposits (B3) Mat or Crust (B4) Ident Presents (B6) Ident Crust (B4) Ident Crust (Ilmagery (B ve Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	eaves (B9) A, and 4B) eates (B13) e Odor (C1) oheres alor uced Iron (uction in Ti sed Plants Remarks)	(except) ng Living Ro (C4) illed Soils (C (D1) (LRR	oots (C3) C6) A)	Secondary Indicato Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi X Geomorphic P Shallow Aquita X FAC-Neutral T Raised Ant Mo Frost-Heave H	rs (2 or more required) Leaves (B9) (MRLA 1, 2, 1) Perns (B10) Jater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) Jest (D5) Jounds (D6) (LRR A) Jummocks (D7)
Remarks: Soils were no recent aerial is second aerial is	t excavated in this armages. OGY Idrology Indicators: icators (minimum of one Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ident Deposits (B2) Ideposits (B3) Mat or Crust (B4) Ideposits (B5) Ideposits (B5) Ideposits (B6) Ideposits (B6) Ideposits (B6) Ideposits (B6) Ideposits (B6) Ideposits (B7) Ideposits (B8)	Imagery (B ve Surface (B8) X No No No Jauge, monitorin	eck all that apply) Water-Stained Let MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches): Depth (inches):	eaves (B9) A, and 4B) eates (B13) e Odor (C1) cheres alor uced Iron (uction in Ti sed Plants Remarks)	(except) ng Living Ro (C4) illed Soils (C (D1) (LRR 8.00	wetland	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi X Geomorphic P Shallow Aquita X FAC-Neutral T Raised Ant Mo Frost-Heave H	rs (2 or more required) Leaves (B9) (MRLA 1, 2, 1) Perns (B10) Vater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) Fest (D5) bunds (D6) (LRR A) dummocks (D7) Yes X No
Remarks: Soils were no recent aerial is soils were not soil to soi	t excavated in this armages. OGY /drology Indicators: icators (minimum of ore Water (A1) Vater Tables (A2) ation (A3) Marks (B1) Ident Deposits (B2) Ident Deposits (B3) Mat or Crust (B4) Ident Presents (B6) Ident Oracks (B6	Imagery (B ve Surface (B8) X No No No Jauge, monitorin	eck all that apply) Water-Stained Let MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches): Depth (inches):	eaves (B9) A, and 4B) eates (B13) e Odor (C1) cheres alor uced Iron (uction in Ti sed Plants Remarks) revious ins	(except) ng Living Ro (C4) illed Soils (C (D1) (LRR 8.00 spections), i	Wetland f available	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi X Geomorphic P Shallow Aquita X FAC-Neutral T Raised Ant Mo Frost-Heave F	rs (2 or more required) Leaves (B9) (MRLA 1, 2, 1) Perns (B10) Jater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) Jest (D5) Jounds (D6) (LRR A) Jummocks (D7)

Additional Reference Data: Photos



Photo Name: Photo_231106125733

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

Project/Site: Cascade Renewables	City/County:	Skamania	Sampling Date:	11/6/2023	
Applicant/Owner: Cascade Renewables		State: WA	Sampling	W2-P2 (U)	
Investigators: B DARBY, J MAZE		Section, Township, Rang	e:		
Landform (hillslope, terrace, etc.): Toeslope	Local Relie	ef (concave, convex, none	e): Concave	Slope(%): 1	
Subregion (LRR): A - Northwest Forest and Lat:	Long:		Datum: WG	GS84	
Soil Map Unit Name: Arents, 0 to 5 percent slopes		NWI Classification	: Unmapped		
Are climatic / hydrologic conditions on the site typical for this	time of year? Yes	X No (If N	No, explain in Rema	arks)	
Are Vegetation: Soil or Hydrology signifi	cantly disturbed?	Are "Normal Circumstan	ces" present?	Yes X No	ı
Are Vegetation: Soil or Hydrology natura	ally problematic?	(If needed, explain any a	inswers in Remarks	s.)	
SUMMARY OF FINDINGS - Attach a site map	showing sampling	point locations, tra	nsects, import	tant features, etc.	
Hydrophytic Vegetation Present? Yes X No					
Hydric Soil Present? Yes No	X Is the	Sampled Area			
Wetland Hydrology Present? Yes No	X within	a Wetland?	Yes	No X	
Remarks:					
Wetland occurs in a "No Dig" zone at Hamilton Island Recre estimated using field observations, topography, aerial image criteria.	ry and best professional j				
VEGETATION – Use scientific names of plant	s.				
Abso	olute Dominant	Indicator Do	minance Test Wo	rksheet:	
Tree Statum (Plot size: 30 feet) % Co	over Species?	Status Nur	mber of Dominant S	Species	
1		Tha	at Are OBL, FACW,	, or FAC: 2	(A)
2		Tot	al Number of Domi	inant	
3		Spe	ecies Across All Str	rata: 3	(B)
4		Per	cent of Dominant S	Species	
	= Total Cover	Tha	at Are OBL, FACW,	, or FAC: 67	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)		Pre	valence Index wo	rksheet:	
1		<u>Tot</u>	al % Cover of:	Multiply by:	
2		OB	L species	x1=	
3			CW species	3 x2= 6	_
4			C species	75 x3= 225	_
5		FAC	CU species	25 x4= 100	-
	= Total Cover		L species	5 x5= 25	_
Herb Stratum (Plot size: 10 feet)			umn Totals:	108 (A) 356	(B)
1. Agrostis scabra 3		FAC			
2. Poa spp. 3		⊢	Prevalence Index :		
3. Cichorium intybus 2		· —— ·	drophytic Vegetat		
4. Parentucellia viscosa 1		FAC		or Hydrophytic Vegetation	n
5. Vicia americana 5			2 - Dominance		
6. Cynosurus echinatus 5		UPL	3 - Prevalence I		
7. Phalaris arundinacea 3	No No	FACW		al Adaptations¹ (Provide	
8.				narks or on a separate sh	ieet)
9.			_	n-Vascular Plants ¹	
10.				drophytic Vegetation¹ (Ex	
11.	T.1.10		-	oil and wetland hydrology	
West Vine Stratum (District 10 feet)	= Total Cover	mu	st be present, unles	ss disturbed or problemat	UC.
Woody Vine Stratum (Plot size: 10 feet)			dan mba e ⁴⁴ -		
1			drophytic	Van V Na	
2	T.1.0		getation	Yes X No	-
% Bare Ground in Herb Stratum 0	= Total Cover	Pre	esent?		

Remarks¹

Multistoried herb layer. Sample plot meets the dominance test for hydrophytic vegetation. Wetland boundary was drawn based on observations of topographic changes and break in vegetation community from FAC and FACW indicator species to FAC and FACU species.

Depth	M	1atrix		Red	ox Feature	es					
(inches)	Color (mois	t)	%	Color (moist)	%	Type ¹	Loc²	Texture	Rer	marks	
<u> </u>		<u> </u>									
· · · · · · · · · · · · · · · · · · ·		Doplotion	DM Dod	uced Matrix, CS=Cove		+od Cond C		21 0001	n Di Doro Lin	ina M Mot	eis.
•						teu Sanu G			on: PL=Pore Lin		IX.
		Discable to	ali LKKS,	unless otherwise no	-			Indicators for Proble	_	olis":	
— Histoso	` ,		-	Sandy Redox (St	•			2 cm Muck (A1	,		
	Epipedon (A2)		-	Stripped Matrix (•	(avaant MI	DI A 1)	Red Parent Ma	nteriai (1F2) Dark Surface (TF	-1 2\	
	Histic (A3)		-	Loamy Mucky Mi		(except ivit	.KLA I)		,	12)	
	gen Sulfide (A4)			Loamy Gleyed M	` '			Other (Explain	in Remarks)		
	ed Below Dark S Dark Surface (A		' ' <i>'</i>	Depleted Matrix (Redox Dark Surf				³ Indicators of hydro	shytic vogotation	and	
	Mucky Mineral		-	Depleted Dark S	` '	١		wetland hydrology			
<u> </u>	Gleyed Matrix (` '	-	Redox Depression)		unless disturbed of	•	ιι,	
			_	Redox Depression	7113 (1 0)		ı	unless disturbed t	problematic.		
	Layer (if prese	nt):									
Type:											
D	<i>c</i> 1)									No	
emarks: oils were not est professio	nal judgement.	e "No Dig" :	zone and	were assumed to be n	on-hydric t	oased on ch	nange in v	Hydric Soil Presen	_		
emarks: oils were not est professio	t evaluated in the		zone and	were assumed to be n	on-hydric t	pased on ch	nange in v	·	_		
emarks: oils were not est professio IYDROLO Wetland Hy	t evaluated in the onal judgement.	tors:		were assumed to be no	on-hydric t	pased on ch	nange in v	·	s, lack of surface	e hydrology a	
emarks: oils were not est professio YDROLO Wetland Hy Primary Indi	t evaluated in the onal judgement.	tors:					nange in v	regetation communities	s, lack of surface	e hydrology a	
emarks: oils were not est professio IYDROLO Wetland Hy Primary Indi Surfac	t evaluated in the conal judgement. OGY rdrology Indicaticators (minimum	tors: n of one red		eck all that apply) Water-Stained Le	eaves (B9)	(except	nange in v	regetation communities	s, lack of surface	e hydrology a	
emarks: oils were not est professio YDROLO Wetland Hy Primary Indi Surfac High W Satura	t evaluated in the conal judgement. OGY Variology Indicaticators (minimum e Water (A1) Vater Tables (A2 ation (A3)	tors: n of one red		eck all that apply) Water-Stained Le	eaves (B9)	(except	nange in v	regetation communities Secondary Indicator Water Stained	s, lack of surface	e hydrology a	
emarks: oils were not est professio YDROLO Wetland Hy Primary Indi Surfac High W Satura	t evaluated in the onal judgement. OGY vdrology Indicaticators (minimum be Water (A1) Vater Tables (A2)	tors: n of one red		eck all that apply) Water-Stained Le	eaves (B9) A, and 4B)	(except	nange in v	Secondary Indicator Water Stained 4A, and 4B Drainage Patte	s, lack of surface	e hydrology a	
emarks: oils were not est professio IYDROLO Wetland Hy Primary Indi Surfac High W Satura Water	t evaluated in the conal judgement. OGY Variology Indicaticators (minimum e Water (A1) Vater Tables (A2 ation (A3)	tors: m of one red		eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11)	eaves (B9) A, and 4B) rates (B13)	(except	nange in v	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W	s, lack of surface s (2 or more red Leaves (B9) (M	guired)	
emarks: oils were not est professio IYDROLO Wetland Hy Primary Indi Surfac High W Satura Water Sedime Drift De	t evaluated in the phal judgement. OGY vdrology Indicaticators (minimum e Water (A1)) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	tors: n of one rec		eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteble Hydrogen Sulfide Oxidized Rhizos	eaves (B9) A, and 4B) rates (B13) e Odor (C1) oheres alon	(except		Secondary Indicato. Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi	erns (B10) ater Table (C2) ble on Aeriel Imposition (D2)	guired)	
emarks: oils were notest profession IYDROLO Wetland Hy Primary Indi Surfac High W Satura Water Sedime Drift De	t evaluated in the conal judgement. OGY Idrology Indicaticators (minimum e Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B3) Mat or Crust (B4)	tors: n of one rec		eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebit Hydrogen Sulfide Oxidized Rhizosp Presence of Red	eaves (B9) A, and 4B) rates (B13) e Odor (C1) bheres alor	(except)) ng Living R (C4)	oots (C3)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita	es, lack of surface es (2 or more rec Leaves (B9) (M erns (B10) ater Table (C2) ble on Aeriel Ima position (D2) ard (D3)	guired)	
emarks: oils were not est professio IYDROLO Wetland Hy Primary Indi Surfac High W Satura Water Sedime Drift De Algal M	t evaluated in the conal judgement. OGY Idrology Indication (Mainter (Mai	tors: m of one rec 2)		eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebit Hydrogen Sulfide Oxidized Rhizosit Presence of Red Recent Iron Red	eaves (B9) A, and 4B) rates (B13) e Odor (C1 oheres alouced Iron uction in Ti	(except)) ng Living R (C4) illed Soils (oots (C3)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T	es, lack of surface es (2 or more rec Leaves (B9) (M erns (B10) ater Table (C2) ble on Aeriel Im- position (D2) ard (D3) est (D5)	guired) RLA 1, 2,	
emarks: oils were not est professio IYDROLO Wetland Hy Primary Indi Surfac High W Satura Water Sedime Drift De Algal M Iron De Surfac	t evaluated in the phal judgement. OGY Ardrology Indicaticators (minimum le Water (A1)) Vater Tables (A2) Ation (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B	tors: n of one rec 2) 2) 2)	quired; che	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizosop Presence of Red Recent Iron Red Stunted or Stress	eaves (B9) A, and 4B) rates (B13) e Odor (C1 bheres alor uced Iron uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	erns (B10) ater Table (C2) ble on Aeriel Imposition (D2) ard (D3) est (D5) unds (D6) (LRR	guired) RLA 1, 2,	
emarks: soils were not est profession IYDROLO Wetland Hy Primary Indi Surfac High W Satura Water Sedime Drift De Algal N Iron De Surfac Inunda	t evaluated in the phal judgement. PGY Arology Indicaticators (minimum e Water (A1)) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ee Soil Cracks (Bation Visible on A	tors: n of one red 2) 2) 2) Aeriel Image	quired; che	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebit Hydrogen Sulfide Oxidized Rhizosit Presence of Red Recent Iron Red	eaves (B9) A, and 4B) rates (B13) e Odor (C1 bheres alor uced Iron uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	es, lack of surface es (2 or more rec Leaves (B9) (M erns (B10) ater Table (C2) ble on Aeriel Im- position (D2) ard (D3) est (D5)	guired) RLA 1, 2,	
emarks: soils were not est profession IYDROLO Wetland Hy Primary Indi Surfac High W Satura Water Sedime Drift De Algal N Iron De Surfac Inunda	t evaluated in the phal judgement. OGY Ardrology Indicaticators (minimum le Water (A1)) Vater Tables (A2) Ation (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B	tors: n of one red 2) 2) 2) Aeriel Image	quired; che	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizosop Presence of Red Recent Iron Red Stunted or Stress	eaves (B9) A, and 4B) rates (B13) e Odor (C1 bheres alor uced Iron uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	erns (B10) ater Table (C2) ble on Aeriel Imposition (D2) ard (D3) est (D5) unds (D6) (LRR	guired) RLA 1, 2,	
emarks: soils were not est profession IYDROLO Wetland Hy Primary Indi Surfact High W Satura Water Sedime Drift De Algal M Iron De Surfact Inundat Sparsle Field Obser	t evaluated in the phal judgement. PGY Ardrology Indication (Main in the Water (Main in	tors: n of one red 2) 2) 2) Aeriel Image	quired; che	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizosop Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1 bheres alor uced Iron uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	erns (B10) ater Table (C2) ble on Aeriel Imposition (D2) ard (D3) est (D5) unds (D6) (LRR	guired) RLA 1, 2,	
iemarks: oils were not est profession IYDROLO Wetland Hy Primary Indi Surfact High W Satura Water Sedime Drift De Algal M Iron De Surfact Inunda Sparsle Selid Obsel Surface Wa	t evaluated in the phal judgement. PGY Arology Indicaticators (minimum e Water (A1)) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B3) Mat or Crust (B4) eposits (B5) ee Soil Cracks (Bation Visible on Ae ey Vegetated Corvations: Iter Present?	tors: n of one red 2) 2) 2) Aeriel Image	quired; che	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebit Hydrogen Sulfide Oxidized Rhizosy Presence of Red Recent Iron Redict Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1 bheres alor uced Iron uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	erns (B10) ater Table (C2) ble on Aeriel Imposition (D2) ard (D3) est (D5) unds (D6) (LRR	guired) RLA 1, 2,	X
iemarks: oils were not est profession IYDROLO Wetland Hy Primary Indi Surfac High W Satura Water Sedime Drift De Algal N Iron De Surfac Inunda Sparsle Field Obset Surface Wat	t evaluated in the phal judgement. PGY Idrology Indicaticators (minimum le Water (A1)) Vater Tables (A2 ation (A3)) Marks (B1) ent Deposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (Bation Visible on A ley Vegetated Corvations: ter Present?	tors: n of one red 2) 2) 36) Aeriel Image oncave Sur Yes Yes	quired; che	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebret Hydrogen Sulfide Oxidized Rhizosy Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1 bheres alor uced Iron uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	es, lack of surface es (2 or more rec Leaves (B9) (M erns (B10) ater Table (C2) ble on Aeriel Ima osition (D2) ard (D3) est (D5) unds (D6) (LRR ummocks (D7)	guired) RLA 1, 2, agery (C9)	and
emarks: soils were not est profession IYDROLO Wetland Hy Primary Indi Surfac High W Satura Water Sedime Drift De Algal M Iron De Surfac Inunda Sparse Surface Wa Water Table Saturation F	t evaluated in the phal judgement. PGY Idrology Indication (Minimum le Water (A1)) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (Bation Visible on Action Visib	tors: n of one red 2) 2) 2) Aeriel Image oncave Sur	quired; che	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebit Hydrogen Sulfide Oxidized Rhizosy Presence of Red Recent Iron Redict Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1 bheres alor uced Iron uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	es, lack of surface es (2 or more rec Leaves (B9) (M erns (B10) ater Table (C2) ble on Aeriel Ima osition (D2) ard (D3) est (D5) unds (D6) (LRR ummocks (D7)	guired) RLA 1, 2,	
emarks: soils were not est profession IYDROLO Wetland Hy Primary Indi Surfac High W Satura Water Sedime Drift De Algal M Iron De Surfac Inunda Sparse Surface Wa Water Table Saturation F	t evaluated in the phal judgement. PGY Idrology Indicaticators (minimum le Water (A1)) Vater Tables (A2 ation (A3)) Marks (B1) ent Deposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (Bation Visible on A ley Vegetated Corvations: ter Present?	tors: n of one red 2) 2) 36) Aeriel Image oncave Sur Yes Yes	quired; che	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebret Hydrogen Sulfide Oxidized Rhizosy Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1 bheres alor uced Iron uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	es, lack of surface es (2 or more rec Leaves (B9) (M erns (B10) ater Table (C2) ble on Aeriel Ima osition (D2) ard (D3) est (D5) unds (D6) (LRR ummocks (D7)	guired) RLA 1, 2, agery (C9)	and
emarks: soils were not est profession IYDROLO Wetland Hy Primary Indi Surfact High W Satura Water Sedime Drift De Algal N Iron De Surfact Inunda Sparsle Surface Water Table Saturation F (includes ca	t evaluated in the phal judgement. PGY Adrology Indicaticators (minimum le Water (A1)) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B3) Mat or Crust (B4) eposits (B5) le Soil Cracks (Bation Visible on A ley Vegetated Corvations: ter Present? Present? apillary fringe)	tors: n of one red 2) 2) 2) Aeriel Image oncave Sur Yes Yes Yes	quired; che	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebret Hydrogen Sulfide Oxidized Rhizosy Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron uction in Ti sed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicato. Water Stained 4A, and 4B, Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	es, lack of surface es (2 or more rec Leaves (B9) (M erns (B10) ater Table (C2) ble on Aeriel Ima osition (D2) ard (D3) est (D5) unds (D6) (LRR ummocks (D7)	guired) RLA 1, 2, agery (C9)	and -
emarks: soils were not est profession IYDROLO Wetland Hy Primary Indi Surfact High W Satura Water Sedime Drift De Algal N Iron De Surfact Inunda Sparsle Surface Water Table Saturation F (includes ca	t evaluated in the phal judgement. PGY Adrology Indicaticators (minimum le Water (A1)) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B3) Mat or Crust (B4) eposits (B5) le Soil Cracks (Bation Visible on A ley Vegetated Corvations: ter Present? Present? apillary fringe)	tors: n of one red 2) 2) 2) Aeriel Image oncave Sur Yes Yes Yes	quired; che	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebith Hydrogen Sulfider Oxidized Rhizosy Presence of Red Recent Iron Red Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron uction in Ti sed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicato. Water Stained 4A, and 4B, Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	es, lack of surface es (2 or more rec Leaves (B9) (M erns (B10) ater Table (C2) ble on Aeriel Ima osition (D2) ard (D3) est (D5) unds (D6) (LRR ummocks (D7)	guired) RLA 1, 2, agery (C9)	and
emarks: soils were not est profession IYDROLO Wetland Hy Primary Indi Surfact High W Satura Water Sedime Drift De Algal N Iron De Surfact Inunda Sparsle Surface Water Table Saturation F (includes ca	t evaluated in the phal judgement. PGY Adrology Indicaticators (minimum le Water (A1)) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B3) Mat or Crust (B4) eposits (B5) le Soil Cracks (Bation Visible on A ley Vegetated Corvations: ter Present? Present? apillary fringe)	tors: n of one red 2) 2) 2) Aeriel Image oncave Sur Yes Yes Yes	quired; che	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebith Hydrogen Sulfider Oxidized Rhizosy Presence of Red Recent Iron Red Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron uction in Ti sed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicato. Water Stained 4A, and 4B, Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	es, lack of surface es (2 or more rec Leaves (B9) (M erns (B10) ater Table (C2) ble on Aeriel Ima osition (D2) ard (D3) est (D5) unds (D6) (LRR ummocks (D7)	guired) RLA 1, 2, agery (C9)	and -
emarks: coils were not est profession IYDROLO Wetland Hy Primary Indi Surfac High W Satura Water Sedime Drift De Algal N Iron De Surface Inunda Sparsle Field Obser Surface Wa Water Table Saturation F (includes ca	t evaluated in the phal judgement. IGY Idrology Indication (Mainter Mater (Mainter	tors: n of one rec 2) 2) 36) Aeriel Image oncave Sur Yes Yes Yes am gauge,	ery (B face (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebith Hydrogen Sulfider Oxidized Rhizosy Presence of Red Recent Iron Red Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	eaves (B9) A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron uction in Ti sed Plants Remarks)	(except) ng Living R (C4) illed Soils (i (D1) (LRR	oots (C3) C6) A) Wetland	Secondary Indicator Water Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mc Frost-Heave H	es, lack of surfaces es (2 or more rec Leaves (B9) (M erns (B10) ater Table (C2) ble on Aeriel Imposition (D2) erd (D3) est (D5) unds (D6) (LRR ummocks (D7)	guired) RLA 1, 2, agery (C9)	and

Additional Reference Data: Photos



Photo Name: Photo_231106130950

Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	nte: 11/6/2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W2-P3 (W))	
Investigators: B DARBY, J MAZE			Section, Township, I	Range:			
Landform (hillslope, terrace, etc.): Toeslope		Local Reli	ef (concave, convex,	-	Slop	e(%): 2	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84	` ′	
Soil Map Unit Name: Arents, 0 to 5 percent slopes		<u> </u>		ation: Unmapped			
Are climatic / hydrologic conditions on the site typica	al for this time of v	/ear? Yes		(If No, explain in Re	emarks)		
Are Vegetation: Soil or Hydrology	significantly di		Are "Normal Circum	- ` ' '	Yes	X N	0
Are Vegetation: Soil or Hydrology	naturally probl	ematic?		any answers in Rem	arks.)		
SUMMARY OF FINDINGS - Attach a site						ıres, etc.	
Hydrophytic Vegetation Present? Yes X	No						
Hydric Soil Present? Yes X	No No	Is the	Sampled Area				
Wetland Hydrology Present? Yes X	No	withir	n a Wetland?	Yes	X	No	
Remarks:							
Wetland occurs in a "No Dig" zone at Hamilton Islar strong hydrophytic vegetation and clear evidence of aerial imagery and best professional judgement. The	wetland hydrolog s wetland becom	y. Wetland bour	ndary was conservative	vely estimated using			
VEGETATION – Use scientific names of	f plants.			,			
	Absolute	Dominant	Indicator	Dominance Test			
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Domina			
1				That Are OBL, FAC		2	_ (A)
2.				Total Number of Do			
3.				Species Across All		2	_ ^(B)
4.				Percent of Domina	•		
		= Total Cover		That Are OBL, FAC		100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index			
1.				Total % Cover of:	·	<u>tiply by:</u>	
2.				OBL species	x1=		_
3.				FACW species	40 x2=	80	_
4				FAC species	50 x3=	150	_
5				FACU species	x4=	0	_
Harb Otration (District 40 (sect)		= Total Cover		UPL species	x5=	0	– (D)
Herb Stratum (Plot size: 10 feet)	40	V	FACW	Column Totals:	90 (A)	230	_ ^(B)
Juncus effusus Agrostis scabra	40 35	Yes Yes	- FACW	Prevalence Ind	ον – P/Λ–	2.5	6
	10	No	FAC				<u> </u>
	5	No	FAC	Hydrophytic Vege	st for Hydrophy		on
Vicia americana S.				X 2 - Dominan		•	ווע
6.					ce Index is ≤3.0		
7.					gical Adaptation		7
8.					Remarks or on a	•	
9.					Non-Vascular P		ricot)
10.					Hydrophytic Ve		xnlain)
11.				¹Indicators of hydric		-	
	90	= Total Cover		must be present, u		-	-
Woody Vine Stratum (Plot size: 10 feet)				must be present, as		от разлоти	
1.				Hydrophytic			
2.				Vegetation	Yes X	No	
		= Total Cover		Present?			_
% Bare Ground in Herb Stratum 10							
Remarks:				1			
Bare ground observed in areas of inundation. Samp	le plot meets don	ninance test for h	nydrophytic vegetatio	n.			

Profile Desci Depth	Mat	rix	Red	ox Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc ²	Texture	Remarks
(11101103)			Color (moist)		<u> </u>		——————————————————————————————————————	Nemarks
	-							
	-		-	· ——				
	-							
	-		-	· ——				
	-		-	· ——				
	-		-	· ——				
1Turnou C. Co	ancentration D. D.	naletien DM De	duand Matrix CC Cove		+od Cond C		21 a a a t	ion, DI Daro Lining M Motrix
			duced Matrix, CS=Cove		ilea Sana G			on: PL=Pore Lining, M=Matrix.
-	sol (A1)	able to all LKK	s, unless otherwise no	-				ematic Hydric Soils³:
	Epipedon (A2)		Sandy Redox (S				2 cm Muck (A Red Parent M	*
	Histic (A3)		Stripped Matrix (Loamy Mucky M		(ovcont MI	DI A 1)		Dark Surface (TF12)
	gen Sulfide (A4)		Loamy Gleyed M		(except ivit	.NLA I)	X Other (Explain	
	ted Below Dark Su	face (A11)	Depleted Matrix				Other (Explain	Till Remarks)
	Dark Surface (A12)		Redox Dark Surf				3Indicators of hydro	ophytic vegetation and
	/ Mucky Mineral (S		Depleted Dark S)		•	y must be present,
	Gleyed Matrix (S4		Redox Depression		,		unless disturbed	
	Layer (if present)			(, ,				
Type:	Layer (ii present)	•						
• •	(inches):		_				Hydric Soil Presei	nt? Yes X No
Denth							Tryunic Con Freder	IL: 103 / 110
Remarks: Soils were no recent aerial i	nt excavated in this images.	area. Hydric soils	s assumed based on ob	servations	of hydroph	/tic vegeta		ogy, geomorphic position and
Remarks: Soils were no recent aerial i	nt excavated in this images.		s assumed based on ob	servations	of hydroph	/tic vegeta		ogy, geomorphic position and
Remarks: Soils were no recent aerial i	ot excavated in this images. OGY ydrology Indicator	s:	heck all that apply)			/tic vegeta	ation, wetland hydrolo	ors (2 or more required)
Remarks: Soils were no recent aerial i HYDROLO Wetland Hy Primary Ind	ot excavated in this images. OGY ydrology Indicator	s:				/tic vegeta	ation, wetland hydrolo	
Remarks: Soils were no recent aerial i HYDROLO Wetland Hy Primary Ind X Surfac High V	ot excavated in this images. OGY ydrology Indicator (licators (minimum of the Water (A1)) Water Tables (A2)	s:	heck all that apply) Water-Stained Lowerth Common MRLA 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	eaves (B9)	(except	vtic vegeta	Secondary Indicato Water Stained 4A, and 4B	ors (2 or more required) d Leaves (B9) (MRLA 1, 2,
Remarks: Soils were no recent aerial i HYDROLO Wetland Hy Primary Ind X Surfac High W	of excavated in this images. OGY ydrology Indicator licators (minimum of the Water (A1) Water Tables (A2) ation (A3)	s:	heck all that apply) Water-Stained L MRLA 1, 2, 4, Salt Crust (B11)	eaves (B9) A, and 4B)	(except	/tic vegeta	Secondary Indicate Water Stained 4A, and 4B	ors (2 or more required) d Leaves (B9) (MRLA 1, 2,
Remarks: Soils were no recent aerial i HYDROLO Wetland Hy Primary Ind X Surfac High V Satura Water	of excavated in this images. OGY ydrology Indicator licators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1)	s:	wheck all that apply) Water-Stained Lower MRLA 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	eaves (B9) A, and 4B) rates (B13)	(except	/tic vegeta	Secondary Indicate Water Stained 4A, and 4B Drainage Patt Dry-Season V	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, d) erns (B10) Vater Table (C2)
Remarks: Soils were no recent aerial i HYDROLO Wetland Hy Primary Ind X Surfac High V Satura Water Sedim	ot excavated in this images. OGY ydrology Indicator dicators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2)	s:	heck all that apply) Water-Stained L MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide	eaves (B9) A, and 4B) rates (B13) e Odor (C1	(except		Secondary Indicate Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, d) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9)
Remarks: Soils were no recent aerial i HYDROLO Wetland Hy Primary Ind X Surfac High V Satura Water Sedim Drift D	ot excavated in this images. DGY ydrology Indicator dicators (minimum of the Water (A1) Nater Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3)	s:	wheck all that apply) Water-Stained Li MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Invertebee Hydrogen Sulfide Oxidized Rhizos	eaves (B9) A, and 4B) rates (B13) e Odor (C1) pheres alo	(except)) ng Living R		Secondary Indicate Water Stainer 4A, and 4B Drainage Patt Dry-Season V Saturation Vis X Geomorphic F	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, B) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surfact High V Satura Water Sedim Drift D Algal I	of excavated in this images. OGY ydrology Indicator licators (minimum of the Water (A1) Nater Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) Deposits (B3) Mat or Crust (B4)	s:	wheck all that apply) Water-Stained Lower MRLA 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	eaves (B9) A, and 4B) rates (B13) e Odor (C1) pheres alo	(except)) ng Living R (C4)	oots (C3)	Secondary Indicate Water Stained 4A, and 4B Drainage Patt Dry-Season V Saturation Vis X Geomorphic F Shallow Aquit	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, d) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surfact High V Satura Water Sedim Drift D Algal I	of excavated in this images. OGY ydrology Indicator licators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Reposits (B5)	s:	wheck all that apply) Water-Stained Le MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red	eaves (B9) A, and 4B) rates (B13) e Odor (C1) pheres alo luced Iron uction in T	(except)) ng Living R (C4) illed Soils (6	oots (C3)	Secondary Indicate Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis X Geomorphic F Shallow Aquit X FAC-Neutral	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, B) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3) Test (D5)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surfact High Water Sedim Drift D Algal I Iron D Surfact	ot excavated in this images. OGY ydrology Indicator dicators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) Deposits (B3) Mat or Crust (B4) heposits (B5) ce Soil Cracks (B6)	s: f one required; c	Sheck all that apply) Water-Stained Lower MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizosom Presence of Recont Iron Reduction Stress	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alo luced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils (CD1) (LRR	oots (C3)	Secondary Indicate Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis X Geomorphic F Shallow Aquit X FAC-Neutral	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, 3) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3) Test (D5) ounds (D6) (LRR A)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda	ot excavated in this images. DGY ydrology Indicator licators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) Deposits (B3) Mat or Crust (B4) heposits (B5) he Soil Cracks (B6) ation Visible on Aer	s: f one required; c	wheck all that apply) Water-Stained Lower MRLA 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alo luced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils (CD1) (LRR	oots (C3)	Secondary Indicate Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis X Geomorphic F Shallow Aquit X FAC-Neutral	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, B) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3) Test (D5)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surfact High V Satura Water Sedim Drift D Algal I Iron D Surfact Inunda Sparsi	of excavated in this images. OGY ydrology Indicator dicators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aer	s: f one required; c	wheck all that apply) Water-Stained Lower MRLA 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alo luced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils (CD1) (LRR	oots (C3)	Secondary Indicate Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis X Geomorphic F Shallow Aquit X FAC-Neutral	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, 3) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3) Test (D5) ounds (D6) (LRR A)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surface High Water Sedim Drift D Algal I Iron D Surface Inunda Spars	ot excavated in this images. DGY ydrology Indicator dicators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeroley Vegetated Concervations:	s: f one required; c iel Imagery (B cave Surface (B8	Sheck all that apply) Water-Stained Lower MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizoson Presence of Recommendation Recommendation (Stunted or Stresson) Other (Explain in Stresson)	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alo luced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicate Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis X Geomorphic F Shallow Aquit X FAC-Neutral	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, 3) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3) Test (D5) ounds (D6) (LRR A)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa	ot excavated in this images. DGY ydrology Indicator licators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeroley Vegetated Concervations: ater Present?	s: f one required; c iel Imagery (B cave Surface (B8	wheck all that apply) Water-Stained Lower MRLA 1, 2, 4, 4, 4, 5 alt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizos Presence of Recent Iron Red Stunted or Stress Other (Explain in St.) Depth (inches):	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alo luced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils (CD1) (LRR	oots (C3)	Secondary Indicate Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis X Geomorphic F Shallow Aquit X FAC-Neutral	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, 3) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3) Test (D5) ounds (D6) (LRR A)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Water Table	of excavated in this images. OGY Vidrology Indicator Dicators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aer Deposits (B5) Descriptions: Atter Present? Yellogy Deposits (B6)	s: f one required; c iel Imagery (B cave Surface (B8 s	wheck all that apply) Water-Stained Le MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alo luced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicate Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis X Geomorphic F Shallow Aquit X FAC-Neutral Raised Ant Me Frost-Heave H	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, 3) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3) Test (D5) ounds (D6) (LRR A) Hummocks (D7)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surface High Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Water Table Saturation I	of excavated in this images. OGY ydrology Indicator dicators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detaition Visible on Aeroley Vegetated Conductors: Detail of the Present? Alter Present? Yellogy Present? Yellogy Y	s: f one required; c iel Imagery (B cave Surface (B8 s	wheck all that apply) Water-Stained Lower MRLA 1, 2, 4, 4, 4, 5 alt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizos Presence of Recent Iron Red Stunted or Stress Other (Explain in St.) Depth (inches):	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alo luced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicate Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis X Geomorphic F Shallow Aquit X FAC-Neutral	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, 3) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3) Test (D5) ounds (D6) (LRR A) Hummocks (D7)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surface High W Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Water Table Saturation I (includes ca	ot excavated in this images. DGY ydrology Indicator licators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aer ley Vegetated Concervations: ater Present? Present? Ye apillary fringe)	iel Imagery (B save Surface (B8 s X No s No s No	Sheck all that apply) Water-Stained Lower MRLA 1, 2, 4, 4 Salt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizoson Presence of Reconstruction Reduction Stunted or Stressock Other (Explain in Depth (inches): Depth (inches): Depth (inches):	eaves (B9) A, and 4B) rates (B13) e Odor (C1) pheres alo luced Iron uction in T sed Plants i Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicato Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis X Geomorphic F Shallow Aquit X FAC-Neutral Raised Ant M Frost-Heave H	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, 3) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3) Test (D5) ounds (D6) (LRR A) Hummocks (D7)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surface High W Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Water Table Saturation I (includes ca	ot excavated in this images. DGY ydrology Indicator licators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aer ley Vegetated Concervations: ater Present? Present? Ye apillary fringe)	iel Imagery (B save Surface (B8 s X No s No s No	wheck all that apply) Water-Stained Le MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1) pheres alo luced Iron uction in T sed Plants i Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicato Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis X Geomorphic F Shallow Aquit X FAC-Neutral Raised Ant M Frost-Heave H	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, 3) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3) Test (D5) ounds (D6) (LRR A) Hummocks (D7)
Remarks: Soils were no recent aerial is soils were not soil to soi	ot excavated in this images. DGY ydrology Indicator licators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aer ley Vegetated Concervations: ater Present? Present? Ye apillary fringe)	iel Imagery (B save Surface (B8 s X No s No s No	Sheck all that apply) Water-Stained Lower MRLA 1, 2, 4, 4 Salt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizoson Presence of Reconstruction Reduction Stunted or Stresson Other (Explain in Depth (inches): Depth (inches): Depth (inches):	eaves (B9) A, and 4B) rates (B13) e Odor (C1) pheres alo luced Iron uction in T sed Plants i Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicato Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis X Geomorphic F Shallow Aquit X FAC-Neutral Raised Ant M Frost-Heave H	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, 3) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3) Test (D5) ounds (D6) (LRR A) Hummocks (D7)
Remarks: Soils were no recent aerial is soils were not soil	of excavated in this images. OGY ydrology Indicator dicators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detaition Visible on Aeroley Vegetated Concordervations: Detaiter Present? Atter Present? Present? Yeresent?	iel Imagery (Beave Surface (B8	water-Stained Leman MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Invertebee Hydrogen Sulfide Oxidized Rhizos Presence of Recent Iron Redestanted or Stress Other (Explain in Depth (inches): Depth (inches): Depth (inches):	eaves (B9) A, and 4B) rates (B13) e Odor (C1) pheres alo luced Iron uction in T sed Plants i Remarks)	(except)) ng Living R (C4) illed Soils (((D1) (LRR 6.00	wetland	Secondary Indicate Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis X Geomorphic F Shallow Aquit X FAC-Neutral Raised Ant M Frost-Heave H	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, 3) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3) Test (D5) ounds (D6) (LRR A) Hummocks (D7)
Remarks: Soils were no recent aerial is HYDROLO Wetland Hy Primary Ind X Surface High W Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Water Table Saturation Is (includes ca Describe Reco	ot excavated in this images. DGY ydrology Indicator licators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detaition Visible on Aeroley Vegetated Concervations: Deposits (B5) Deposits (B6) Deposit	iel Imagery (B cave Surface (B8 s X No s No s No r gauge, monitori	water-Stained Leman MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Invertebee Hydrogen Sulfide Oxidized Rhizos Presence of Recent Iron Redestanted or Stress Other (Explain in Depth (inches): Depth (inches): Depth (inches):	eaves (B9) A, and 4B) rates (B13) e Odor (C1) pheres alo luced Iron uction in T sed Plants a Remarks)	(except)) ng Living R (C4) illed Soils ((C4) (D1) (LRR 6.00 spections),	wetland in wetland in wetland in	Secondary Indicato Water Stained 4A, and 4B Drainage Patt Dry-Season W Saturation Vis X Geomorphic F Shallow Aquit X FAC-Neutral Raised Ant M Frost-Heave H	ors (2 or more required) d Leaves (B9) (MRLA 1, 2, 3) erns (B10) Vater Table (C2) sible on Aeriel Imagery (C9) Position (D2) ard (D3) Test (D5) ounds (D6) (LRR A) Hummocks (D7)



Project/Site: Cascade Renewables	_	City/County: S	Skamania	Sampling Da	ate: 11/6/2023		
Applicant/Owner: Cascade Renewables		, - , -	State: WA	Sampling	W2-P4 (U)		
Investigators: B DARBY, J MAZE		Se	ection, Township,				
Landform (hillslope, terrace, etc.): Toeslope			(concave, convex		Slop	e(%): 3	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:	(concave, convex	Datum:	WGS84	<u> </u>	
Soil Map Unit Name: Arents, 0 to 5 percent slop			NWI Classifi				
Are climatic / hydrologic conditions on the site type		year? Yes	X No	(If No, explain in R	 emarks)		
Are Vegetation: Soil or Hydrology	significantly d	_		nstances" present?	,	X N	lo
Are Vegetation: Soil or Hydrology	naturally prob			any answers in Rem			
SUMMARY OF FINDINGS - Attach a s						res etc	
Hydrophytic Vegetation Present? Yes	No X			, transcots, imp	- Traint route		
- · · · · · · · -		la tha S	ampled Area				
Hydric Soil Present? Yes _ Wetland Hydrology Present? Yes	No X No X		ampled Area Wetland?	Yes		No X	
veitaliu Hydrology Fresent:		within a		165			
Remarks: Wetland occurs in a "No Dig" zone at Hamilton Is estimated using field observations, topography, a VEGETATION – Use scientific names	erial imagery and b			were evaluated. Wetl	and boundary w	/as conserv	vatively
VEGETATION - OSE SCIENTIFIC Harries			1 11 1	To			
T 0(((((((((((((((((((Absolute	Dominant	Indicator	Dominance Test			
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Domina	•		(4)
1.				That Are OBL, FAC		1	_ (A)
2.				Total Number of Do		•	(D)
3.				Species Across All		2	— ^(B)
4				Percent of Domina	•		
		= Total Cover		That Are OBL, FAC		50	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index			
1.				Total % Cover of:	·	<u>iply by:</u>	
2.				OBL species	x1=		_
3.				FACW species	x2= .	0	_
4				FAC species	x3= .	150	_
5.				FACU species	50 x4= .	200	_
		= Total Cover		UPL species	x5=	0	—
Herb Stratum (Plot size: 10 feet)				Column Totals:	(A)	350	_ (B)
Cichorium intybus	35	Yes	FACU				
2. Agrostis scabra	30	Yes	FAC	Prevalence Ind		3.5	0
Plantago lanceolata	15	No	FACU	Hydrophytic Vege			
4. Lolium perenne	10	No	FAC		st for Hydrophyt	J	on
5. Trifolium repens	10	No	FAC		ce Test is >50%		
6.				· 	ce Index is ≤3.0°		
7.				· 	gical Adaptation		
8.				.	Remarks or on a	•	sheet)
9.				· 	Non-Vascular P		
10				· 	Hydrophytic Ve	-	
11				¹Indicators of hydri			
	100	= Total Cover		must be present, u	nless disturbed	or problem	atic.
Woody Vine Stratum (Plot size: 10 feet)							
1	_			Hydrophytic			
2.	_			Vegetation	Yes	No X	_
		= Total Cover		Present?			
% Bare Ground in Herb Stratum 0	<u> </u>						
Remarks:							

Sample plot does not meet any indicators for hydrophytic vegetation. Wetland boundary drawn based on direct field observations including topographic break and change in vegetative community.

		_	ded to document the			the abse	nce of indicators.)				
Depth		atrix		lox Feature			_				
(inches)	Color (moist)) %	Color (moist)	%	Type ¹	Loc ²	Texture		Remark	S	
		 .		· 	 -						
			luced Matrix, CS=Cove		ted Sand G				Pore Lining,		ix.
_		licable to all LRRs	, unless otherwise no	-			Indicators for Prob		ydric Soils	:	
	sol (A1)		Sandy Redox (S				2 cm Muck (A	•	-0)		
	Epipedon (A2)		Stripped Matrix (,	(august MI	DI A 4\	Red Parent N	`	,		
	Histic (A3)		Loamy Mucky M		(except ML	RLA 1)	Very Shallow				
	ogen Sulfide (A4)	urfoco (A11)	Loamy Gleyed M Depleted Matrix	, ,			Other (Explai	n in Kema	rks)		
	ted Below Dark S Dark Surface (A1		Redox Dark Surf				³ Indicators of hydro	anhytic yo	notation and		
	y Mucky Mineral (•	Depleted Dark S)		wetland hydrolog			1	
	y Gleyed Matrix (S		Redox Depression	,	,		unless disturbed	-			
	E Layer (if presen			0110 (1 0)		Т	unicoo diotarbea	or probler	natio.		
Type:		ш.									
	(inches):		-				Hydric Soil Prese	nt? V	es	No	Х
Remarks:	- (IIICIIE3).		•				Tryunc 30111 Tese	1111: 1			
	ydrology Indicat										
	`	of one required; ch	,				Secondary Indicat				
	ce Water (A1)		Water-Stained L		-		Water Staine		(B9) (MRLA	1, 2,	
	Water Tables (A2))	MRLA 1, 2, 4				4A, and 4I	,			
	ation (A3)		Salt Crust (B11)				Drainage Pat				
	r Marks (B1)	`	Aquatic Inverteb	` '			Dry-Season \		` '	(CO)	
	nent Deposits (B2))	Hydrogen Sulfide			ooto (C2)	Saturation Vi			/ (C9)	
	Deposits (B3) Mat or Crust (B4)		Oxidized Rhizos Presence of Rec	•		0018 (C3)	Geomorphic Shallow Aqui	,	02)		
	Deposits (B5)		Recent Iron Red			26)	FAC-Neutral				
	ce Soil Cracks (B6	3)	Stunted or Stres		,	,	Raised Ant M		6) (LRR A)		
	ation Visible on A		Other (Explain in			,	Frost-Heave	,	, , ,		
		ncave Surface (B8)	` '						· (= .)		
Field Obse	-	. ,									
		res No	X Depth (inches):								
Water Tabl	e Present?	res No	Depth (inches):								
Saturation	Present?	/es No	Depth (inches):			Wetland	d Hydrology Presen	t? Y	es	No	X
(includes c	apillary fringe)									_	
Describe Red	corded Date (strea	am gauge, monitorii	ng well, aerial photos, p	revious ins	spections), i	f available	e:				
Remarks:											
			lo Dig" area. An ephem		n (Stream 1	3) drains	Wetland 2 and occur	s adjacent	t but outside	upland	
sample plot,	approximately 6 ir	ncnes of water pres	ent at the time of surve	y.							



Project/Site: Cascade Renewables		City/County: Sk	amania	Sampling Date	e: 11/7/2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W3-P1 (W)		
Investigators: B DARBY, J MAZE		Se	ction, Township,	Range:			
Landform (hillslope, terrace, etc.): Depression		Local Relief (concave, convex	, none): Concave	Slope(%): 10	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum: W	/GS84		
Soil Map Unit Name: Arents, 0 to 5 percent slopes			NWI Classifi	cation: Unmapped			
Are climatic / hydrologic conditions on the site typic	al for this time of	year? Yes	X No	(If No, explain in Ren	narks)		
Are Vegetation: Soil or Hydrology	significantly of	disturbed? Ar	e "Normal Circur	 mstances" present?	Yes X	N	0
Are Vegetation: Soil or Hydrology	naturally prol	olematic? (If	needed, explain	any answers in Remar	ks.)		
SUMMARY OF FINDINGS - Attach a sit	e map show	ing sampling po	int locations	, transects, impo	rtant feature	es, etc.	
Hydrophytic Vegetation Present? Yes	(No						
Hydric Soil Present? Yes		Is the Sa	mpled Area				
Wetland Hydrology Present? Yes >	No No	within a	Wetland?	Yes X		No	
Remarks:				_			
Wetland 3 occurs in a "No Dig" zone at Hamilton Is presence of hydrophytic vegetation and clear evide topography, aerial imagery and best professional juft. Cascades Drive. VEGETATION – Use scientific names of	nce of wetland h	ydrology. Wetland bo	undary was cons	servatively estimated us	sing field observ	ations,	
<u> </u>	Absolute	Dominant	Indicator	Dominance Test W	orksheet:		
Tree Statum (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominant			
1. Alnus rubra	20	Yes	FAC	That Are OBL, FACV	'	6	(A)
2.				Total Number of Don	· —		_ ('')
3.				Species Across All S		6	(B)
4.				Percent of Dominant	_		_ (-/
	20	= Total Cover		That Are OBL, FACV	•	100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index w	·		
1. Rubus armeniacus	40	Yes	FAC	Total % Cover of:	Multipl	v bv:	
2. Salix spp.	20	Yes	FAC	OBL species	x1=		
3.				FACW species	x2=	0	_
4.				FAC species	110 x3=	330	_
5.				FACU species	x4=	0	_
	60	= Total Cover		UPL species	x5=	0	_
Herb Stratum (Plot size: 10 feet)				Column Totals:	110 (A)	330	— (B)
1. Agrostis scabra	10	Yes	FAC	_			_
2. Festuca rubra	10	Yes	FAC	Prevalence Index	c = B/A =	3.0	0
3. Schedonorus arundinaceus	10	Yes	FAC	Hydrophytic Vegeta	ation Indicators	s:	
4.				1 - Rapid Test	for Hydrophytic	Vegetation	on
5.				X 2 - Dominance	e Test is >50%		
6.				X 3 - Prevalence	e Index is ≤3.0¹		
7				4 - Morphologi	cal Adaptations	1 (Provide)
8				data in Re	marks or on a s	eparate s	sheet)
9.				5 - Wetland No	on-Vascular Pla	nts¹	
10				Problematic H	ydrophytic Vege	etation¹ (E	xplain)
11				Indicators of hydric	soil and wetland	hydrolog	Iy
	30	= Total Cover		must be present, unl	ess disturbed or	problema	atic.
Woody Vine Stratum (Plot size: 10 feet)							
1.				Hydrophytic			
2.				Vegetation	Yes X N	o	_
		= Total Cover		Present?			
% Bare Ground in Herb Stratum 50							
Pomarke:							

Multistoried vegetative canopy; approximately 20% of ground cover was comprised of unidentified mosses. Sample plot located in area of distinct change in vegetative community and meets dominance test for hydrophytic vegetation.

Depth	ription: (Describe to Matrix	_		ndicator o x Features		the abse	ence of indicators.)			
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type ¹	Loc²	- Texture	R	emarks	
()										
										
										
							· ——— –			
							· 			
							· 			
					 -					
	oncentration, D= Depl				ed Sand G	rains.		n: PL=Pore I		
_	ndicators: (Applicat	ole to all LRRS, ui		-			Indicators for Proble	•	Soils*:	
	ol (A1)	_	Sandy Redox (S5	•			2 cm Muck (A1			
	Epipedon (A2)	_	Stripped Matrix (S	,		DI 4 4)	Red Parent Ma	` ,	TE 40\	
	Histic (A3)	_	Loamy Mucky Mir		except ML	.RLA 1)	Very Shallow [TF12)	
	gen Sulfide (A4)		Loamy Gleyed Ma	` '			X Other (Explain	in Remarks)		
l —	ted Below Dark Surfa	ce (A11)	Depleted Matrix (F				31 a Parton of building	de d'e centre de l'		
	Dark Surface (A12)	_	Redox Dark Surfa	` '			³ Indicators of hydror			
<u> </u>	Mucky Mineral (S1)	_	Depleted Dark Su Redox Depression				wetland hydrology			
	Gleyed Matrix (S4)	_	— Redox Depression	115 (F0)			unless disturbed o	i problematic.		
	Layer (if present):									
Type:										
Depth	(inches):						Hydric Soil Presen	t? Yes	X	No
Remarks:										
recent aerial i		za. Fryunc Sons as	sumed based on obs	civations c	n nyaropin	viic vege	tation, wetland hydrolo	yy, geomorphi	o positio	лапа
HYDROLC	GY									
Wetland Hy	drology Indicators:									
Primary Ind	icators (minimum of c	one required; chec	k all that apply)				Secondary Indicator	s (2 or more i	equired)
X Surfac	ce Water (A1)		Water-Stained Lea	aves (B9)	(except		X Water Stained	Leaves (B9) (MRLA 1	I, 2,
High \	Vater Tables (A2)		MRLA 1, 2, 4A	, and 4B)			4A, and 4B)	ı		
Satura	ation (A3)		Salt Crust (B11)				Drainage Patte	rns (B10)		
Water	Marks (B1)		Aquatic Invertebra	ates (B13)			Dry-Season W	ater Table (C2	2)	
Sedim	ent Deposits (B2)		Hydrogen Sulfide	Odor (C1)			Saturation Visi	ble on Aeriel I	magery	(C9)
Drift D	eposits (B3)	<u> </u>	Oxidized Rhizospl	heres alon	g Living Ro	oots (C3)	X Geomorphic P	osition (D2)		
Algal I	Mat or Crust (B4)	<u> </u>	Presence of Redu	ced Iron (C4)		Shallow Aquita	rd (D3)		
Iron D	eposits (B5)	_	Recent Iron Redu	ction in Till	led Soils (0	C6)	FAC-Neutral T	est (D5)		
Surfac	ce Soil Cracks (B6)	_	Stunted or Stresse	ed Plants ((D1) (LRR	A)	Raised Ant Mo	unds (D6) (LF	≀R A)	
Inunda	ation Visible on Aeriel	Imagery (B	Other (Explain in I	Remarks)			Frost-Heave H	ummocks (D7)	
Spars	ley Vegetated Concav	ve Surface (B8)								
Field Obse	rvations:									
Surface Wa	iter Present? Yes	X No	Depth (inches):		3.00					
Water Table	e Present? Yes	No No	Depth (inches):							
Saturation I	Present? Yes	No	Depth (inches):			Wetlan	d Hydrology Present	? Yes	X	No
(includes ca	apillary fringe)							·		
Describe Rec	orded Date (stream g	 gauge, monitoring v	well, aerial photos, pr	evious insp	pections), i	f availab	le:			
Remarks:										
	ydrology was not eval	luated within the "I	No Dig" zone. Pooled	water disc	charges to	manmad	de drain. Water depth w	ould not exce	ed more	than a few
	, ,,		•		•		for water stained leaves			

Project/Site: Cascade Renewables		City/County: S	Skamania	Sampling Date: 1	1/7/2023	
Applicant/Owner: Cascade Renewables			State: WA		V3-P2 (U)	
Investigators: B DARBY, J MAZE		Se	ection, Township,		1012(0)	
Landform (hillslope, terrace, etc.): Depression			(concave, convex,	_	Slope(%): 10	
Subregion (LRR): A - Northwest Forest and	Lat:	Long	(concave, convex,	Datum: WGS		
Soil Map Unit Name: Arents, 0 to 5 percent slopes			NWI Classific			
Are climatic / hydrologic conditions on the site typica	I for this time of	year? Yes	X No	(If No, explain in Remark		
Are Vegetation: Soil or Hydrology	significantly di	, · · · · <u> </u>		nstances" present?	•	lo
Are Vegetation: Soil or Hydrology	naturally prob			any answers in Remarks.)		
SUMMARY OF FINDINGS - Attach a site	_					
Hydrophytic Vegetation Present? Yes X	No No			, transcots, importa		
		la tha S	ampled Area			
<u> </u>	$-\frac{No}{X}$		ampled Area	Voo	No. V	
Wetland Hydrology Present? Yes	NoX	within a	Wetland?	Yes	No <u>X</u>	
Remarks: Wetland occurs in a "No Dig" zone at Hamilton Islanestimated using field observations, topography, aeria depression.	al imagery and b					atively
VEGETATION – Use scientific names o	f plants.					
	Absolute	Dominant	Indicator	Dominance Test Work	sheet:	
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominant Sp		
1				That Are OBL, FACW, o		(A)
2.				Total Number of Domina	ınt	
3.				Species Across All Strat		(B)
4				Percent of Dominant Sp		
		= Total Cover		That Are OBL, FACW, o	r FAC: 100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index work	sheet:	
Rubus armeniacus	50	Yes	FAC	Total % Cover of:	Multiply by:	
2.				OBL species	x1=	
3.				FACW species	x2= 0	
4.				FAC species 10		_
5				FACU species	x4=0	_
	50	= Total Cover		UPL species	x5= 0	_
Herb Stratum (Plot size: 10 feet)				Column Totals: 10	05 (A) 315	— ^(B)
Schedonorus arundinaceus	30	Yes	FAC			
2. Agrostis scabra	10	Yes	FAC	Prevalence Index = I		00
3.				Hydrophytic Vegetation		
4					Hydrophytic Vegetati	ion
5.				X 2 - Dominance Te		
6.				X 3 - Prevalence Inc		
7.					Adaptations ¹ (Provide	
8.					rks or on a separate s	sheet)
9.				5 - Wetland Non-\		
10.					ophytic Vegetation¹ (E	
11				¹ Indicators of hydric soil	,	
	40	= Total Cover		must be present, unless	disturbed or problem	atic.
Woody Vine Stratum (Plot size: 10 feet)						
1.				Hydrophytic	, , ,	
2.				"	'es X No	_
		= Total Cover		Present?		
% Bare Ground in Herb Stratum 60	_					
Remarks:						

Moss coverage included in bare ground. Sample plot meets dominance test for hydrophytic vegetation. Large percentage of bare ground attributed to moss and blackberry coverage.

		_	ded to document the			the abse	nce of indicators.)				
Depth		atrix		lox Feature			- .				
(inches)	Color (moist)	%	Color (moist)	<u></u> %	Type ¹	Loc ²	Texture		Remarks		
			uced Matrix, CS=Cove		ited Sand G				ore Lining, N		ix.
_		icable to all LRRs	, unless otherwise no	-			Indicators for Prob	-	dric Soils*:		
	sol (A1)		Sandy Redox (S				2 cm Muck (A	•	:0)		
	Epipedon (A2)		Stripped Matrix (,	(average MI)	DI A 4\	Red Parent N	`	,		
	Histic (A3)		Loamy Mucky M		(except IVIL	RLA 1)	Very Shallow				
	ogen Sulfide (A4) eted Below Dark S	urface (A11)	Loamy Gleyed M Depleted Matrix	. ,			Other (Explai	n in Kemai	KS)		
	Dark Surface (A1:		Redox Dark Surf				³ Indicators of hydro	anhytic vec	etation and		
	/ Mucky Mineral (S	•	Depleted Dark S)		wetland hydrolog				
	y Gleyed Matrix (S		Redox Depression	•	,		unless disturbed				
	Layer (if presen			(1					
Type:		·γ·									
1	(inches):		•				Hydric Soil Prese	nt? Ye	76	No	Х
Remarks:							11,4110 0011 11000				
	ydrology Indicato										
	`	of one required; ch	11.77				Secondary Indicat	•			
	ce Water (A1)		Water-Stained L		-		Water Staine		B9) (MRLA	1, 2,	
	Water Tables (A2)		MRLA 1, 2, 4/	A, and 4B)	1		4A, and 4I	,			
	ation (A3) Marks (B1)		Salt Crust (B11)	(D40)	`		Drainage Pat	, ,			
	nent Deposits (B2)		Aquatic Inverteb				Saturation Vi		` '	(C0)	
	Deposits (B3)		Oxidized Rhizos			oots (C3)	Geomorphic			(03)	
	Mat or Crust (B4)		Presence of Red	•		0013 (03)	Shallow Aqui	`	۷)		
l —	Deposits (B5)		Recent Iron Red			26)	FAC-Neutral				
	ce Soil Cracks (B6	5)	Stunted or Stress		`	,	Raised Ant M) (LRR A)		
	ation Visible on Ae		Other (Explain in		. , ,	,	Frost-Heave				
Spars	ley Vegetated Cor	ncave Surface (B8)									
Field Obse	ervations:										
Surface Wa	ater Present? Y	es No	X Depth (inches):								
Water Tabl	e Present? Y	es No	Depth (inches):								
Saturation	Present? Y	es No	Depth (inches):			Wetland	d Hydrology Presen	t? Ye	es	No	X
(includes ca	apillary fringe)										
Describe Rec	corded Date (strea	m gauge, monitorir	ng well, aerial photos, p	revious ins	spections), i	f available	e:				
Pomoris:											
Remarks:	wdrology was ast	ovaluated within the	o "No Dia" zona Unia-	d plat is to	nographia-l	ابر دانماهها.	ungradiant of water	d plat Ne	hydrology !-	dicata	•
	he time of survey.		e "No Dig" zone. Uplan	u piot is to	pographical	iy siightiy	upgradient of wetlar	iu piot. Nõ	nyarology in	uicators	5
	,										

Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Date:	J	
Applicant/Owner: Cascade Renewables		City/County:	State: WA		W4-P1 (W)	
Investigators: B DARBY, J MAZE			Section, Township,		774-1 1 (77)	
Landform (hillslope, terrace, etc.): Depression			f (concave, convex,		Slope(%): 2	
Subregion (LRR): A - Northwest Forest and	Lat:	<u> </u>	(concave, convex,	Datum: WGS		
		Long:	NWI Classifi	cation: Unmapped	704	
Soil Map Unit Name: Arents, 0 to 5 percent slopes		iveer? Vee			elso)	
Are climatic / hydrologic conditions on the site typic		· -	X No	(If No, explain in Remai	,	_
Are Vegetation: Soil or Hydrology	significantly o			nstances" present?	Yes X No	·
Are Vegetation: Soil or Hydrology	naturally prol			any answers in Remarks.		
SUMMARY OF FINDINGS - Attach a sit		ing sampling p	Doint locations	, transects, importa	int reatures, etc.	
Hydrophytic Vegetation Present? Yes						
Hydric Soil Present? Yes			Sampled Area			
Wetland Hydrology Present? Yes	No	within	a Wetland?	Yes X	No	
Remarks:		•				
Wetland occurs in a "No Dig" zone at Hamilton Islan presence of hydrophytic vegetation and clear evide topography, aerial imagery and best professional ju	nce of wetland h dgement. Wetlar	ydrology. Wetland	boundary was cons	servatively estimated usin		on
VEGETATION – Use scientific names of	of plants.					
	Absolute	Dominant	Indicator	Dominance Test World	ksheet:	
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominant Sp	pecies	
Populus balsamifera	20	Yes	FAC	That Are OBL, FACW,	or FAC: 4	_ (A)
2.				Total Number of Domin	ant	
3.				Species Across All Stra	ta: 5	_ (B)
4.				Percent of Dominant Sp	pecies	
	20	= Total Cover		That Are OBL, FACW, of	or FAC: 80	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index wor	ksheet:	
1. Rubus armeniacus	5	Yes	FAC	Total % Cover of:	Multiply by:	
2.				OBL species	x1=	_
3.				FACW species	x2= 0	
4.				FAC species 8	30 x3= 240	
5.				FACU species	x4= 0	
	5	= Total Cover		UPL species	15 x5= 75	_
Herb Stratum (Plot size: 10 feet)				Column Totals:	95 (A) 315	(B)
Schedonorus arundinaceus	25	Yes	FAC			_
2. Agrostis spp.	20	Yes	FAC	Prevalence Index =	B/A = 3.32	2
3. Bromus tectorum	15	Yes	UPL	Hydrophytic Vegetation	n Indicators:	
4. Vicia americana	10	No	FAC	1 - Rapid Test for	r Hydrophytic Vegetatio	on
5.				X 2 - Dominance To	est is >50%	
6.				3 - Prevalence In	dex is ≤3.0¹	
7.				4 - Morphologica	Adaptations ¹ (Provide	;
8.				data in Rema	arks or on a separate s	heet)
9.				5 - Wetland Non-	Vascular Plants ¹	
10.				Problematic Hydi	ophytic Vegetation¹ (E	xplain)
11.				¹Indicators of hydric soi	and wetland hydrolog	Jy
	70	= Total Cover		must be present, unless		•
Woody Vine Stratum (Plot size: 10 feet)				, , ,		
1.				Hydrophytic		
2.					Yes X No	
		= Total Cover		Present?		_
% Bare Ground in Herb Stratum 30		. 3.3. 30101				
	<u> </u>					

Remarks:

Multistoried canopy. No vegetation observed in center of depressions where water is slowest and deepest, and minimal sunlight reaches. Sample plot meets dominance test for hydrophytic vegetation.

(inchies) Color (moist) % Color (moist) % Type Loc Testure Remarks Females Female	Depth	Matrix		Redo	x Features	S			
Histosol (A1) Sandy Redox (E5) 2 cm Muck (A10) Red Varies Epipedon (A2) Stripped Martix (E6) 1 Loany Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (F12) Loany Mucky Mineral (F2) Very Shallow Dark Surface (F12) Loany Mucky Mineral (F2) Very Shallow Dark Surface (F12) Very Shallow Dark Surface (F12) Loany Gleyed Matrix (F2) Very Shallow Dark Surface (F12) Loany Gleyed Matrix (F2) Very Shallow Dark Surface (F12) Loany Gleyed Matrix (F2) Very Shallow Dark Surface (F12) Loany Gleyed Matrix (F2) Very Shallow Dark Surface (F12) Redox Dark Surface (F6) Sandy Mucky Mineral (F12) Loany Gleyed Matrix (F2) Redox Dark Surface (F6) Very Shallow Dark Surface (F12) Very Shallow Dark Surface (F12) Very Shallow Dark Surface (F13) Very Shallow Dark Surface (F14) Very Shallow Dark Surface (F15) Very Shallow Dark Surface (F15) Very Shallow Dark Surface (F17) Very Shallow Matrix (F2) Very Shallow Dark Surface (F17) Very Shallow Matrix (F2) Very Shallow Dark Surface (F17) Very Shallow Matrix (F2) Very Shallow Dark Surface (F17) Very Shallow Matrix (F2) Very Shallow Dark Surface (F17) Very Shallow Dark Surfac	(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks
Histosol (A1) Sandy Redox (E5) 2 cm Muck (A10) Red Price Problematic Hydric Soils*: Histosol (A1) Sandy Redox (E5) 2 cm Muck (A10) Red Price Problematic Hydric Soils*: Histosol (A1) Sandy Redox (E5) 2 cm Muck (A10) Red Price Problematic Hydric Soils*: Black Histo (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (F12) Very Shallow Dark Surface (TF12) A Coher (Explain in Remarks) Depleted Bolow Dark Surface (A11) Depleted Martix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) A Mucky Mineral (F1) (except MLRLA 1) Redox Dark Surface (F12) Redox Dark Surface (F12) Redox Dark Surface (F13) A Westand Hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) Indicators of hydrologhy must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present): Type: Depth (inches): Hydric Soil Present): Type: Depth (inches): Hydric Soil Present): YPROLOGY Wettand Hydrology Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of one required): Water Marks (R1) A Qualitation (A) Sait Crust (R11) X Dariange Patterns (R10) Water Marks (R1) A Qualitation (R12) X Dariange Patterns (R10) Water Marks (R1) A Qualitation (R12) X Dariange Patterns (R10) Dry-Saason Water Table (C2) Saturation (Na) Presence of Reduced from (C4) Saturation (Na) Reduced (R12) X Dariange Patterns (R10) Dry-Saason Water Table (C2) Shallow Apulard (D3) Algal Mar or Crust (R14) Presence Reduced from (C4) Surface (R18) Surface Soil Crasks (R6) Sunted or Stressed Plants (D1) (LRR A) Prost-Heave Hummocks (D7) Sparsiey Vegetated Concave Surface (R8) Fired Observations: Surface Water Present? Yes X No Depth (inches): 2.00 Water Marks (R1) A partial Feet (R15) Present (R16) Water Marks (R15) A partial Feet (R16) Water Marks (R15) A partial Feet (R16) Water Marks (R16) A presence (R16) Water Marks (R16) A presence (R16) Water Marks (R16) A presence (R16) Water Marks (R1								· 	
Histocol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Varies (S6) 2 cm Muck (A10) Redox (S5) 2 cm Muck (A10) Red Varies (S6) Red Parent Material (TF2) Redox Parents (S6) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Muck Surface (F7) Westand Hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Westand Hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) Westand Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Popth (inches): Hydric soils assumed based on observations of hydrophytic vegetation, wetland hydrology, geomorphic position an cent aerial images. **YPROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) **YPROLOGY** Wetland Hydrology Indicators: Matrix (F3) MRLA 1, 2, 4A, and 4B) Secondary Indicators (2 or more required) **YPROLOGY** Wetland Hydrology Indicators: Matrix (F3) MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary Indicators (F3) (MRLA 1, 2, 4A, and 4B) Secondary									
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Varies (S6) Red Parent Material (TF2) Red Varies (M10) Vary Shallow Dark Surface (TF12) Vary Shallow Dark Surface (TF12) Vary Shallow Dark Surface (A11) Depleted Martix (F3) Vary Shallow Dark Surface (A11) Depleted Martix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Andicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Pepth (inches): Hydric Soil Present): Present Primary Indicators (minimum of one required: check all that apply) Secondary Indicators (minimum of one required: check all that apply) Secondary Indicators (minimum of one required): Present Primary Indicators (minimum of one required: check all that apply) Secondary Indicators (Partic Matrix (Parti				_					
Agric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histocol (A1) Histocol (A1) Sandy Redox (S5) Stripped Mark; (S6) Black Histoc (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Depleted Below Dark Surface (TF12) A Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Redo Zaren Hartis (F2) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Below Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (Inches): Depth (Inches): Depth (Inches): Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (reinimum of one required; check all that apply) Secondary Indicators (reinimum of one required): Hydric Soil Present (Pyes Matrix (F3) Filmary Indicators (minimum of one required): Primary Indicators									
Agric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histocol (A1) Histocol (A1) Black Histoc (A3) Black Histoc (A3) Stripped Martix (S5) Black Histoc (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Depleted Bellow Dark Surface (TF12) A Other (Explain in Remarks) Depleted Bellow Dark Surface (A11) Depleted Bellow Dark Surface (A11) Depleted Bellow Dark Surface (A12) Redo Zaren Hustra (F8) Finish Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): Depth (inches): Peth (inches): Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of one required) Water Maris (B1) Self Crust (B11) Self Crust (B11) Self Crust (B11) A Quater Tables (A2) MRLA 1, 2, 4A, and 4B) Self Crust (B11) Self Crust (B11) Dry-Season Water Tables (C2) Selfment Deposits (B2) Hydrogen Sulfide Odor (C1) Selfment Deposits (B2) Algal Mar Crust (B4) Presence of Reduced Iron (C4) Foot-Selfment Deposits (B3) Algal Mar Crust (B4) Presence of Reduced Iron (C4) Sourdace Water Tables (C2) Shallow Aquitard (D3) Foot-Shallow Aquitard (D3) Foot-Shallow Aquitard (D3) Foot-Heave Hummocks (D7) Presence of Reduced Iron (E4) Foot-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Find Observation Secondary Opension Present? Yes X No Depth (inches): Surface Water Present? Yes X No Depth (inches): Wetland Hydrology Present? Yes X No Dept								· 	
Artic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoc Spipedon (A2) Sandy Redox (S5) Sandy Redox (S5) Stripped Martix (S6) Black Histoc (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Depleted Bellow Dark Surface (F12) Depleted Bellow Dark Surface (A11) Depleted Bellow Dark Surface (A11) Depleted Bellow Dark Surface (A12) Redo Zaren Hustrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Wetland Hydrology must be present, unless disturbed or problematic. Wetland Hydrology in unstable present, unless disturbed or problematic. Wetland Hydrology Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of one required) Water Maris (B1) Apartic Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt (Carts (B11) Settlement Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (B) Dry-Season Water Table (C2) Shallow Aquitard (D3) Fost-Heave Hummocks (D7) Spansiey Vegetated Concave Surface (B8) Fost-Heave Hummocks (D7) Spansiey Vegetated Concave Surface (B8) Fost-Heave Hummocks (D7) Section Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: Semarks: Subsurface Sindy and pools in this area before discharging to Stream 1, downstream of Welland 4, Welland plot meets primary wetland indicators for su								· <u> </u>	
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Varies (S6) Red Parent Material (TF2) Red Varies (M10) Vary Shallow Dark Surface (TF12) Vary Shallow Dark Surface (TF12) Vary Shallow Dark Surface (A11) Depleted Martix (F3) Vary Shallow Dark Surface (A11) Depleted Martix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Andicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Pepth (inches): Hydric Soil Present): Present Primary Indicators (minimum of one required: check all that apply) Secondary Indicators (minimum of one required: check all that apply) Secondary Indicators (minimum of one required): Present Primary Indicators (minimum of one required: check all that apply) Secondary Indicators (Partic Matrix (Parti				_					
Histosol (A1) Sandy Redox (E5) 2 cm Muck (A10) Red Varies Epipedon (A2) Stripped Martix (E6) 1 Loany Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (F12) Loany Mucky Mineral (F2) Very Shallow Dark Surface (F12) Loany Mucky Mineral (F2) Very Shallow Dark Surface (F12) Very Shallow Dark Surface (F12) Loany Gleyed Matrix (F2) Very Shallow Dark Surface (F12) Loany Gleyed Matrix (F2) Very Shallow Dark Surface (F12) Loany Gleyed Matrix (F2) Very Shallow Dark Surface (F12) Loany Gleyed Matrix (F2) Very Shallow Dark Surface (F12) Redox Dark Surface (F6) Sandy Mucky Mineral (F12) Loany Gleyed Matrix (F2) Redox Dark Surface (F6) Very Shallow Dark Surface (F12) Very Shallow Dark Surface (F12) Very Shallow Dark Surface (F13) Very Shallow Dark Surface (F14) Very Shallow Dark Surface (F15) Very Shallow Dark Surface (F15) Very Shallow Dark Surface (F17) Very Shallow Matrix (F2) Very Shallow Dark Surface (F17) Very Shallow Matrix (F2) Very Shallow Dark Surface (F17) Very Shallow Matrix (F2) Very Shallow Dark Surface (F17) Very Shallow Matrix (F2) Very Shallow Dark Surface (F17) Very Shallow Dark Surfac				_					
Agric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histocol (A1) Histocol (A1) Sandy Redox (S5) Stripped Mark; (S6) Black Histoc (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Depleted Below Dark Surface (TF12) A Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Redo Zaren Hartis (F2) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Below Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (Inches): Depth (Inches): Depth (Inches): Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (reinimum of one required; check all that apply) Secondary Indicators (reinimum of one required): Hydric Soil Present (Pyes Matrix (F3) Filmary Indicators (minimum of one required): Primary Indicators	vpe: C= Co	ncentration. D= Depl	etion. RM=Redu	ced Matrix. CS=Covere	ed or Coate	ed Sand G	rains.	²Location:	PL=Pore Lining, M=Matrix
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histos Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loarny Mucky Mineral (F1) (except MLRLA 1) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) Wetland Hydrology must be present, Type: Deph (inches): Type: Deph (inches): Wetland Hydrology Indicators of hydrophytic vegetation, wetland hydrology, geomorphic position and evert derial images. YPROLOGY Wetland Hydrology Indicators (Primary Indica		<u> </u>							
Histic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) A Coher (Explain in Remarks) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Redox Dark Surface (F5) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Depleted Bark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Redox Depressions (F8) Restrictive Layer (if present): Type: Depti (inches): Pepti (inches): Pepti (inches): Pepti (inches): Pepti (inches): Primary Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depti (inches): Pepti (inches): Pepti (inches): Pepti (inches): PyPROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) X Surface Water (A1) Water-Stained Leaves (B9) (except MLRLA 1) High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Weter Marks (B1) Aquatic invertebrates (B13) Dyn-Season Water Table (C2) Sediment Deposits (B2) Hydroge Surface (B4) Presence of Reduced Iron (C4) Sparsievy Vegatated Concave Surface (B8) Sparsievy Vegatated Concave Surface (B8) Firest Heave Hummocks (D7) Field Observations: Surface Water Present? Yes No Depth (inches): Depth (inches): Surface Rouled Hydrology Present? Yes No Depth (inches): Surface Pater Present? Yes No Depth (inches): Surface Rouled Hydrology Present? Yes No Depth (inches): Surface Pater Present? Yes No Depth (inches): Surface Pater Present? Yes No Depth (inches): Subsurface bydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runo			·					2 cm Muck (A10)	•
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) X Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Mark (F2) Redox Dark Surface (F6) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Bepth (inches): Wetland Hydrology Indicators. Primary Indicators (minimum of one required; check all that apply) X Surface Water (A1) Water-Stained Leaves (B9) (except Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) X Dristage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Sediment Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Resourced (B4) Presence of Reduced Iron (C4) Sulface Soli Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Indicators (B6) Sulface Soli Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Indicator (R6) Sulface Root on Aerel Imagery (B) Sulface Soli Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Indicator (R7) Sulface Root on Aerel Imagery (B) Sulface Soli Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Indicator (R7) Sulface Root Aerel Imagery (P8) Sulface Root Root Aerel Imagery (P8) Sulface Root Root Aerel Imagery (B) Sulface Root Root Aerel Imagery (P8) Sulface Root Root Root Reduced Iron (C4) Sparsley Vegetated Concave Surface (B8) Frost-Heave Hummocks (D7) Saturation Present? Yes No Depth (inches): Sulface Root Root Root Root Root Root Root Roo			_		•				
Hydrogen Sulfide (A4) Depleted Befow Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes X No semarks: Depth (inches): Wetland Hydrology indicators: Primary Indicators (minimum of one required; check all that apply) X Surface Water (A1) High Water Tables (A2) High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Mater Marks (B1) Saturation (A3) Salt Crust (B11) Water Invertebrates (B13) Pydrogen Sulfide Dorist (B2) Pydrogen Sulfide Dorist (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Sparales: Surface Soil Crack (B6) Sparales: Surface Soil Cracks (B6) Sparales: Surface Soil Cracks (B6) Sparales: Surface Soil Cracks (B6) Sparales: Surface Water Marks (B1) Sparales (B1) Sparale			_	Loamy Mucky Mir	neral (F1) (except ML	RLA 1)	Very Shallow Dai	rk Surface (TF12)
Depleted Below Dark Surface (A11)			_			•	•		
Sandy Mucky Mineral (S1)			ce (A11)					<u> </u>	
Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Beth	Thick [Dark Surface (A12)	_	Redox Dark Surfa	ce (F6)			3Indicators of hydrophy	tic vegetation and
Restrictive Layer (if present):	—— Sandy	Mucky Mineral (S1)	_	Depleted Dark Su	ırface (F7)			wetland hydrology m	ust be present,
Type: Depth (inches): Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: Described North (Wetland plot meets primary wetland indicators or summary wetland indicators for sur was a primary by the primary land to meets primary wetland indicators for sur westland plot meets primary wetland indicators for sur wetland indicators for sur wetland plot meets primary wetland indicators for sur wetland in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur wetland indicator	—— Sandy	Gleyed Matrix (S4)	_	Redox Depression	ns (F8)			unless disturbed or p	problematic.
Type: Depth (inches): Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: Described North (Wetland plot meets primary wetland indicators or summary wetland indicators for sur was a primary by the primary land to meets primary wetland indicators for sur westland plot meets primary wetland indicators for sur wetland indicators for sur wetland plot meets primary wetland indicators for sur wetland in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur wetland indicator	Restrictive	Layer (if present):	_						
Depth (inches): memarks: oils were not excavated in this area. Hydric soils assumed based on observations of hydrophytic vegetation, wetland hydrology, geomorphic position an ocent aerial images. WBROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (20 or more required) X Surface Water (A1) High Water Tables (A2) High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Sulface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes X No Depth (inches): Wetland Hydrology Present? Yes X No Depth (inches): Wetland Hydrology Present? Yes X No Depth (inches): Wetland Hydrology Hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are re	Type:								
### Provided	Depth	(inches):	_					Hydric Soil Present?	Yes X No
Primary Indicators (minimum of one required; check all that apply) X Surface Water (A1) Water-Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) X Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation (D2) Saturation (Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) X Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquatiard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): 2.00 Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes X No (includes capillary fringe) Secribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	emarks:								
Primary Indicators (minimum of one required; check all that apply) X Surface Water (A1)									
High Water Tables (A2) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Saturation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Water Table Present? Yes X No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Visible on Aeriel Imagery (B Other (Explain in Remarks) Wetland Hydrology Present? Yes X No Depth (inches): Saturation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Visible on Aeriel Imagery (B Other (Explain in Remarks) Wetland Hydrology Present? Yes X No No Depth (inches): Wetland Hydrology Present? Yes X No No No Depth (inches): Wetland Hydrology Present? Yes X No No No Depth (inches): Saturation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Frost	-			ck all that apply)				Secondary Indicators	(2 or more required)
Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Stream gauge, monitoring well, aerial photos, previous inspections), if available: wetland Hydrology Present? 1 and precipitation runoff from hills upslopows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	X Surfac	e Water (A1)		Water-Stained Le	aves (B9)	(except		Water Stained Le	eaves (B9) (MRLA 1, 2,
Water Marks (B1)	—— High W	/ater Tables (A2)	_	MRLA 1, 2, 4A	, and 4B)			4A, and 4B)	
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) X Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Field Observations: Surface Water Present? Yes X No Depth (inches): 2.00 Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes X No (includes capillary fringe) Baturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes X No (includes capillary fringe)	—— Satura	tion (A3)		Salt Crust (B11)				X Drainage Pattern	s (B10)
Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Y	Water	Marks (B1)	_	Aquatic Invertebra	ates (B13)			Dry-Season Wate	er Table (C2)
Algal Mat or Crust (B4)	Sedim	ent Deposits (B2)	_	Hydrogen Sulfide	Odor (C1)			Saturation Visible	e on Aeriel Imagery (C9)
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): 2.00 Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes X No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: emarks: ubsurface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope ows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	Drift D	eposits (B3)	_	Oxidized Rhizosp	heres alon	g Living R	oots (C3)	X Geomorphic Posi	ition (D2)
Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): 2.00 Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes X No (includes capillary fringe) Bescribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: Surface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope ows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	Algal N	Mat or Crust (B4)	_	Presence of Redu	ced Iron (C4)		Shallow Aquitard	(D3)
Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): 2.00 Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes X No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: emarks: ubsurface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope ows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	Iron De	eposits (B5)	_	Recent Iron Redu	ction in Till	led Soils (0	26)	FAC-Neutral Tes	t (D5)
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): 2.00 Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes X No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: emarks: ubsurface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope ows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	Surfac	e Soil Cracks (B6)	_	Stunted or Stress	ed Plants ((D1) (LRR	A)	Raised Ant Moun	ds (D6) (LRR A)
Field Observations: Surface Water Present? Yes X No Depth (inches): 2.00 Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes X No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: emarks: ubsurface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope ows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	Inunda	tion Visible on Aeriel	Imagery (B	Other (Explain in	Remarks)			Frost-Heave Hun	nmocks (D7)
Surface Water Present? Yes X No Depth (inches): 2.00 Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes X No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: emarks: ubsurface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope ows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	Sparsl	ey Vegetated Conca	ve Surface (B8)						
Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Wetland Hydrology Present? Yes X No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: emarks: ubsurface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope ows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	Field Obse	rvations:							
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes X No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: emarks: ubsurface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope ows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	Surface Wa	ter Present? Yes	XNo	Depth (inches):		2.00			
(includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: emarks: ubsurface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope ows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	Water Table	Present? Yes	No	Depth (inches):					
escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: emarks: ubsurface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope ows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	Saturation F	Present? Yes	No	Depth (inches):			Wetlan	d Hydrology Present?	Yes X No
emarks: ubsurface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope ows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	(includes ca	pillary fringe)							
subsurface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope lows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	escribe Reco	orded Date (stream g	auge, monitoring	well, aerial photos, pr	evious insp	pections), i	f availab	le:	
ubsurface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope lows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur		_							
ubsurface hydrology was not evaluated within the "No Dig" zone. Hydrology inputs are received from Stream 1 and precipitation runoff from hills upslope lows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur	emarks:								
lows significantly and pools in this area before discharging to Stream 1, downstream of Wetland 4. Wetland plot meets primary wetland indicators for sur		udrology was not oval	uated within the	"No Dia" zone Hydrol	nav innute	are receive	ad from 9	Stream 1 and precipitation	runoff from hille unclose
rater (A1), and secondary indicators for drainage patterns (B10) and geomorphic position (D2).									
	ater (A1), an	d secondary indicato	rs for drainage p	atterns (B10) and geor	morphic po	sition (D2)		•	



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Dat	e: 11/7/2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W4-P2 (U)		
Investigators: B DARBY, J MAZE			Section, Township,	Range:			
Landform (hillslope, terrace, etc.): Toeslope		Local Relie	f (concave, convex,	none): Convex	Slope	(%): 10	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	NGS84		
Soil Map Unit Name: Arents, 0 to 5 percent slopes			NWI Classific	cation: Unmapped			
Are climatic / hydrologic conditions on the site typica	al for this time of y	/ear? Yes		(If No, explain in Re	marks)		
Are Vegetation: Soil or Hydrology	significantly di		Are "Normal Circun	- nstances" present?	Yes X	. N	0
Are Vegetation: Soil or Hydrology	naturally probl	ematic?	(If needed, explain	any answers in Rema	rks.)		
SUMMARY OF FINDINGS - Attach a site						es, etc.	
Hydrophytic Vegetation Present? Yes X		Ŭ . ŭ.		, , <u>, , , , , , , , , , , , , , , , , </u>			
Hydric Soil Present? Yes	No X	Is the	Sampled Area				
Wetland Hydrology Present? Yes	No X		a Wetland?	Yes		No X	
Remarks:							
Wetland occurs in a "No Dig" zone at Hamilton Islan estimated using field observations, topography, aeri. Cascades Drive between the road and the wetland. VEGETATION – Use scientific names o	al imagery and be Vegetation meet	est professional ju	ıdgement. This upla	nd data plot is located			
120217711017 000 0010111110 11011100 0	Absolute	Dominant	Indicator	Dominance Test V	Vorkshoot:		
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominar			
1. (Flot size: 30 leet)	76 COVEI			That Are OBL, FAC		2	(A)
2.				Total Number of Do	· -		- (A)
3.				Species Across All S		3	(B)
4.				Percent of Dominan	_		– (D)
		= Total Cover		That Are OBL, FAC	•	67	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)		= Total Cover		Prevalence Index v			(////)
Rubus armeniacus	15	Yes	FAC	Total % Cover of:	Multip	ly by:	
2.				OBL species	<u>wanp</u> x1=	<u>ıy by.</u>	
3.				FACW species	x ₂₌	0	_
4.				FAC species	${60}$ $x3=$	180	_
5.				FACU species	45 x4=	180	_
	15	= Total Cover		UPL species	x5=	0	_
Herb Stratum (Plot size: 10 feet)		= Total Cover		Column Totals:	105 (A)	360	(B)
Schedonorus arundinaceus	45	Yes	FAC	-	(A) _	300	– (D)
Cichorium intybus	30	Yes	FACU	Prevalence Inde	ν – <i>Β</i> /Λ–	3.4	3
3. Plantago lanceolata	10	No	FACU	Hydrophytic Veget			
4. Taraxacum officinale	5	No	FACU	' ' '	t for Hydrophytic		าท
5.			1700	X 2 - Dominanc		vegetati	JII
6.					e Index is ≤3.0¹		
7.					gical Adaptations	1 (Provide	1
8.					emarks or on a		
9.					lon-Vascular Pla		
10.					Hydrophytic Veg		vnlain)
11.				¹Indicators of hydric	-		
	90	= Total Cover		must be present, un			
Woody Vine Stratum (Plot size: 10 feet)		- 10tal 00vel		must be present, un	iiooo aiotarbea t	PLODICITIO	au0.
1.				Hydrophytic			
2.				Vegetation	Yes X I	do.	
<u> </u>		= Total Cover		Present?	103 <u> </u>	. —	_
% Bare Ground in Herb Stratum 10		- 10tal 00V61		i resent:			
	_			<u> </u>			

Remarks:

Moss coverage included in bare ground. Sample plot meets the dominance test for hydrophytic vegetation. Wetland boundary was drawn based on observations of topographic changes and distinct break in vegetation community from FAC indicator species to FAC and FACU species.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problem Histosol (A1) Sandy Redox (S5) 2 cm Muck (A1 Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Matrix (S6)	o) erial (TF2) ark Surface (TF12) n Remarks)
Fype: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Varic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problet	n: PL=Pore Lining, M=Matrix. natic Hydric Soils³: ii) erial (TF2) ark Surface (TF12) n Remarks)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Redox (B5) Stripped Matrix (B6) Loamy Mucky Mineral (F1) (except MLRLA 1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Thick Dark Surface (A12) Sandy Mucky Mineral (B1) Redox Dark Surface (F6) Sandy Mucky Mineral (B1) Depleted Dark Surface (F7) Wetland hydrology Sandy Gleyed Matrix (B3) Redox Depressions (F8) Indicators for Problem (A12) Red Parent Ma Very Shallow D Other (Explain (Expl	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Redox Depressions (F8) Indicators for Problem 2 2 cm Muck (A1 2 2 cm Muck (A1 3 2 2 cm Muck (A1 4 2 2 2 cm Muck (A1 4 2 2 2 cm Muck (A1 4 2 2 2 cm Muck (A1 5 2 2 cm Muck (A1 6 2 2 cm Muck (A1 6 2 2 cm Muck (A1 6	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Redox Depressions (F8) Indicators for Problem 2 2 cm Muck (A1 2 2 cm Muck (A1 3 2 2 cm Muck (A1 4 2 2 2 cm Muck (A1 4 2 2 2 cm Muck (A1 4 2 2 2 cm Muck (A1 5 2 2 cm Muck (A1 6 2 2 cm Muck (A1 6 2 2 cm Muck (A1 6	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Redox Depressions (F8) Indicators for Problem 2 2 cm Muck (A1 2 2 cm Muck (A1 3 2 2 cm Muck (A1 4 2 2 2 cm Muck (A1 4 2 2 2 cm Muck (A1 4 2 2 2 cm Muck (A1 4 3 2 2 cm Muck (A1 4 3 2 2 cm Muck (A1 4 3 2 2 cm Muck (A1 4 4 3 2 2 cm Muck (A1 5 2 2 cm Muck (A1 5 2 2 cm Muck (A1 5 2 2 cm Muck (A1 6 2 2 cm Muck (A1 6 2 2 2 cm	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Redox Depressions (F8) Indicators for Problem 2 cm Muck (A1 2 cm Muck (A1 2 cm Muck (A1 2 cm Muck)) Indicators for Problem 2 cm Muck (A1 2 cm Muck (A1 2 cm Muck)) Red Parent Ma 2 cm Muck (A1 2 cm Muck) Red Parent Ma	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks)
Histosol (A1) Histosol (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Sandy Redox Depressions (F8) Indicators for Problem 2 2 cm Muck (A1 2 2 cm Muck (A1 3 2 2 cm Muck (A1 4 2 2 2 cm Muck (A1 4 2 2 2 cm Muck (A1 4 2 2 2 cm Muck (A1 5 2 2 cm Muck (A1 6 2 2 cm Muck (A1 6 2 2	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Redox (B5) Stripped Matrix (B6) Loamy Mucky Mineral (F1) (except MLRLA 1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Thick Dark Surface (A12) Sandy Mucky Mineral (B1) Redox Dark Surface (B1) Depleted Dark Surface (B1) Sandy Mucky Mineral (B1) Redox Dark Surface (B1) Depleted Dark Surface (B1) Redox Depressions (F8) Indicators for Problem (B1) Loamy Gleyed Matrix (B1) Depleted Matrix (F2) Sandy Mucky Mineral (B1) Redox Depressions (F8)	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Redox (B5) Stripped Matrix (B6) Loamy Mucky Mineral (F1) (except MLRLA 1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Thick Dark Surface (A12) Sandy Mucky Mineral (B1) Redox Dark Surface (B1) Depleted Dark Surface (B1) Sandy Mucky Mineral (B1) Redox Dark Surface (B1) Depleted Dark Surface (B1) Redox Depressions (F8) Indicators for Problem (B1) Loamy Gleyed Matrix (B1) Depleted Matrix (F2) Sandy Mucky Mineral (B1) Redox Depressions (F8)	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Redox Depressions (F8) Indicators for Problem 2 cm Muck (A1 2 cm Muck (A1 2 cm Muck (A1 2 cm Muck)) Indicators for Problem 2 cm Muck (A1 2 cm Muck (A1 2 cm Muck)) Red Parent Ma 2 cm Muck (A1 2 cm Muck) Red Parent Ma	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks)
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A1 Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Ma Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow D Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed o	o) erial (TF2) ark Surface (TF12) n Remarks)
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Stripped Matrix (S6) Loamy Mucky Mineral (F1) (except MLRLA 1) Loamy Gleyed Matrix (F2) Other (Explain Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology Redox Depressions (F8) unless disturbed o	erial (TF2) ark Surface (TF12) n Remarks)
Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) (except MLRLA 1) Loamy Mucky Mineral (F1) (except MLRLA 1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland hydrology Redox Depressions (F8) unless disturbed o	ark Surface (TF12) n Remarks)
Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Wetland hydrology Redox Depressions (F8) unless disturbed o	n Remarks)
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) unless disturbed o	
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Pepleted Dark Surface (F7) Redox Depressions (F8) wetland hydrology unless disturbed o	putia vagatation and
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Redox Depressions (F8) wetland hydrology unless disturbed o	outio vogototion and
Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed o	iylic vegetation and
	must be present,
Restrictive Laver (if present):	problematic.
recentence Eager (ii precently)	
Type:	
Depth (inches): Hydric Soil Present	? Yes No
emarks:	
YDROLOGY Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators	(2 or more required)
Surface Water (A1) Water-Stained Leaves (B9) (except Water Stained	eaves (B9) (MRLA 1, 2,
High Water Tables (A2) MRLA 1, 2, 4A, and 4B) 4A, and 4B)	
Saturation (A3) Salt Crust (B11) Drainage Patte	ns (B10)
Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Wa	ter Table (C2)
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visit	le on Aeriel Imagery (C9)
Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Po	sition (D2)
Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquita	d (D3)
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Te	st (D5)
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mo	inds (D6) (LRR A)
	mmocks (D7)
Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hi	
Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave He Sparsley Vegetated Concave Surface (B8)	
Sparsley Vegetated Concave Surface (B8) Field Observations:	
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches):	
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No Depth (inches):	Yes No
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No Depth (inches):	YesNo
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Wetland Hydrology Present?	YesNo
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Wetland Hydrology Present?	YesNo
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Wetland Hydrology Present?	YesNo
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	YesNo
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: Demarks: Subsurface hydrology was not evaluated within the "No Dig" zone. No primary or secondary indicators of surface hydrology presents.	
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	te: 11/7/2023	
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W4-P3 (W)	
Investigators: B DARBY, J MAZE			Section, Township, I	Range:		
Landform (hillslope, terrace, etc.): Depression		Local Reli	ef (concave, convex,	none): Concave	Slope(%): 2	2
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84	
Soil Map Unit Name: Arents, 0 to 5 percent slopes			NWI Classific	ation: Unmapped		
Are climatic / hydrologic conditions on the site typical	for this time of y	ear? Yes	s X No	(If No, explain in Re	emarks)	
Are Vegetation: Soil or Hydrology	significantly dis	sturbed?	Are "Normal Circum	- nstances" present?	Yes X	No
Are Vegetation: Soil or Hydrology	naturally proble	ematic?	(If needed, explain	any answers in Rema	arks.)	
SUMMARY OF FINDINGS - Attach a site	map showir	ng sampling	point locations	, transects, impe	ortant features, et	c.
Hydrophytic Vegetation Present? Yes X	No					
Hydric Soil Present? Yes X	 No	Is the	Sampled Area			
Wetland Hydrology Present? Yes X	No	withir	n a Wetland?	Yes	X No_	
Remarks:						
Wetland occurs in a "No Dig" zone at Hamilton Island presence of hydrophytic vegetation and clear evidentopography, aerial imagery and best professional jud Stream 1 to collect and pool.	ce of wetland hyd gement. This we	drology. Wetland	d boundary was cons	ervatively estimated	using field observations	5,
VEGETATION – Use scientific names of	plants.					
	Absolute	Dominant	Indicator	Dominance Test \		
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominar	•	
Populus balsamifera	35	Yes	_ FAC	That Are OBL, FAC	· —	(A)
2.				Total Number of Do		(5)
3.				Species Across All		(B)
4				Percent of Dominar	•	(4/5)
0 1: (0) 1 0: (0) (0)	35	= Total Cover		That Are OBL, FAC		(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)	70	.,	540	Prevalence Index		
Rubus armeniacus	70	Yes	_ FAC	Total % Cover of:	Multiply by:	
2.				OBL species	x1=	
3.				FACW species	x2= 0	
4.				FACILIANA SIA	125 x3= 375	,
5	70	= Total Cover		FACU species	x4= 0 x5= 0	
Horb Stratum (Plot size: 10 foot)		= Total Cover		UPL species Column Totals:	105 (1)	(P)
Herb Stratum (Plot size: 10 feet) 1. Lotus corniculatus	20	Yes	FAC	Column Totals.	125 (A) 375	(B)
2.		163		Prevalence Inde	$av - R/\Delta$	3.00
3.				Hydrophytic Vege	·	
4.					st for Hydrophytic Vege	tation
5.				·	ce Test is >50%	lation
6.					te Index is ≤3.01	
7.					gical Adaptations¹ (Prov	vide
8.				<u> </u>	emarks or on a separa	
9.					Non-Vascular Plants ¹	,
10.					Hydrophytic Vegetation	¹ (Explain)
11.					soil and wetland hydro	
	20	= Total Cover			nless disturbed or probl	
Woody Vine Stratum (Plot size: 10 feet)				, ,	·	
1.				Hydrophytic		
2.				Vegetation	Yes X No	
		= Total Cover		Present?		
% Bare Ground in Herb Stratum 80						
Remarks:	_			ı		
The sample plot meets the dominance test for hydro	ohytic vegetation	. Bare ground at	ttributed to moss and	blackberry cover.		

Depth	Mat	rix	Red	ox Features	S				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	ı	Remarks
			— Color (moist)		<u> </u>			<u>'</u>	(emarks
		_	-						
	-		-						
	-		-						
			-						
		<u> </u>	· 		 .				
•		•	educed Matrix, CS=Cove		ed Sand G				Lining, M=Matrix
		cable to all LRR	s, unless otherwise no	-			Indicators for Probl	•	c Soils³:
Histosol	` '		Sandy Redox (S				2 cm Muck (A		
	Epipedon (A2)		Stripped Matrix (,			Red Parent M	, ,	
	listic (A3)		Loamy Mucky M		except ML	RLA 1)		Dark Surface	(TF12)
	en Sulfide (A4)		Loamy Gleyed M				Other (Explai	n in Remarks)	
	ed Below Dark Su		Depleted Matrix	, ,					
	ark Surface (A12	•	Redox Dark Surf	` '			³ Indicators of hydro		
	Mucky Mineral (S		Depleted Dark S	, ,			wetland hydrolog	-	
Sandy C	Gleyed Matrix (S	·)	Redox Depression	ons (F8)			unless disturbed	or problemation	> .
estrictive L	Layer (if present):							
Type:			_						
									V N.
marks: ils were not e ent aerial im	nages.	area. Hydric soil	s assumed based on ob	servations c	of hydrophy	tic veget	Hydric Soil Prese		XNo
marks: ils were not event aerial im YDROLOG Wetland Hyd	excavated in this nages. GY drology Indicato	rs:		servations c	of hydrophy	tic veget	ation, wetland hydrolo	ogy, geomorph	nic position and
marks: ils were not of ent aerial im /DROLOC Vetland Hyde Primary Indice	excavated in this nages. GY drology Indicato cators (minimum of the cators)	rs:	check all that apply)			rtic veget	ation, wetland hydrolo	ogy, geomorph ors (2 or more	nic position and
marks: ils were not e ent aerial im /DROLOC Vetland Hyd Primary Indic X Surface	excavated in this nages. GY drology Indicato cators (minimum e Water (A1)	rs:	check all that apply) Water-Stained Le	eaves (B9)		tic veget	ation, wetland hydrological action and set of the set o	ogy, geomorph ors (2 or more d Leaves (B9)	nic position and
marks: ils were not e ent aerial im /DROLOC Vetland Hyd Primary Indic X Surface High Wa	excavated in this nages. GY drology Indicato cators (minimum of Water (A1) //ater Tables (A2)	rs:	check all that apply) Water-Stained Lo MRLA 1, 2, 44	eaves (B9)		rtic veget	Secondary Indicate X Water Stainer 4A, and 4E	ors (2 or more d Leaves (B9)	nic position and
marks: Is were not eent aerial im TDROLOC Vetland Hyd Trimary Indic X Surface High Wa Saturati	excavated in this nages. GY drology Indicato cators (minimum of Water (A1) dater Tables (A2) ion (A3)	rs:	check all that apply) Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11)	eaves (B9) A, and 4B)		/tic veget	Secondary Indicate X Water Stainee 4A, and 4E	ors (2 or more d Leaves (B9) terns (B10)	required)
rmarks: Is were not dent aerial im TOROLOG Vetland Hyderimary Indic X Surface High Wa Saturati Water M	excavated in this nages. GY drology Indicato cators (minimum of water (A1) //ater Tables (A2) ion (A3) Marks (B1)	rs:	check all that apply) Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteb	eaves (B9) (A, and 4B) rates (B13)	(except	/tic veget	Secondary Indicate X Water Stainer 4A, and 4E Drainage Pate Dry-Season V	ors (2 or more d Leaves (B9)) terns (B10) Vater Table (C	required) (MRLA 1, 2,
marks: ils were not elent aerial im /DROLOC Vetland Hyde Primary Indic X Surface High Water M Sedimen	excavated in this nages. GY drology Indicato cators (minimum of Water (A1) later Tables (A2) ion (A3) Marks (B1) ent Deposits (B2)	rs:	Check all that apply) Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteber Hydrogen Sulfide	eaves (B9) (A, and 4B) rates (B13) e Odor (C1)	(except		Secondary Indicate X Water Stainer 4A, and 4E Drainage Pate Dry-Season W Saturation Vision	ors (2 or more d Leaves (B9) terns (B10) Vater Table (C	required) (MRLA 1, 2,
marks: Is were not eent aerial im 'DROLOC Vetland Hyd Primary Indic X Surface High Wa Saturati Water M Sediment	excavated in this nages. GY drology Indicato cators (minimum of Water (A1) later Tables (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	rs:	Check all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizos	eaves (B9) A, and 4B) rates (B13) e Odor (C1) pheres alon	(except		Secondary Indicate X Water Stainer 4A, and 4E Drainage Pate Dry-Season W Saturation Vis X Geomorphic I	ors (2 or more d Leaves (B9) 3) terns (B10) Vater Table (Csible on Aeriel Position (D2)	required) (MRLA 1, 2,
rmarks: Is were not dent aerial im TOROLOC Vetland Hyde Trimary Indic X Surface High Wa Saturati Water M Sediment Drift Del Algal Ma	excavated in this nages. GY drology Indicato cators (minimum of water (A1) dater Tables (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)	rs:	check all that apply) Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon luced Iron (G	(except g Living Ro	pots (C3)	Secondary Indicate X Water Stainer 4A, and 4E Drainage Pat Dry-Season V Saturation Vis X Geomorphic I Shallow Aquit	ors (2 or more d Leaves (B9) terns (B10) Vater Table (Cosible on Aeriel Position (D2) tard (D3)	required) (MRLA 1, 2,
marks: ils were not dent aerial im //DROLOC Vetland Hyde Primary Indic X Surface High Water M Sedimel Drift De Algal Ma Iron Dep	excavated in this nages. GY drology Indicato cators (minimum of the Water (A1) (ater Tables (A2) (ion (A3)) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5)	rs: of one required;	check all that apply) Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizoso Presence of Red Recent Iron Red	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon luced Iron (Cuction in Till	(except g Living Ro C4) led Soils (C	pots (C3)	Secondary Indicate X Water Stainer 4A, and 4E Drainage Pate Dry-Season V Saturation Vis X Geomorphic I Shallow Aquit FAC-Neutral	ors (2 or more d Leaves (B9) Water Table (C sible on Aeriel Position (D2) tard (D3) Test (D5)	required) (MRLA 1, 2,
rmarks: ils were not exent aerial im YDROLOC Vetland Hyde Primary Indic X Surface High Water M Sediment Drift Del Algal Mater M Iron Dep Surface	excavated in this nages. GY drology Indicato cators (minimum of the Water (A1) (A2) (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6)	rs: of one required; o	Check all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebee Hydrogen Sulfide Oxidized Rhizose Presence of Red Recent Iron Red Stunted or Stress	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon luced Iron (Cuction in Till sed Plants ((except g Living Ro C4) led Soils (C	pots (C3)	Secondary Indicate X Water Stainer 4A, and 4E Drainage Pat Dry-Season V Saturation Vis X Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M	ors (2 or more d Leaves (B9) terns (B10) Vater Table (C sible on Aeriel Position (D2) tard (D3) Test (D5) lounds (D6) (L	required) (MRLA 1, 2, E2) Imagery (C9)
marks: ils were not elent aerial im /DROLOC Vetland Hyd Primary Indic X Surface High Wa Saturati Water M Sediment Drift Del Algal Ma Iron Dep Surface Inundati	excavated in this nages. GY drology Indicato cators (minimum of water (A1) (ater Tables (A2) (ion (A3)) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae	rs: of one required; riel Imagery (B	Check all that apply) Water-Stained Lo MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteble Hydrogen Sulfide Oxidized Rhizose Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon luced Iron (Cuction in Till sed Plants ((except g Living Ro C4) led Soils (C	pots (C3)	Secondary Indicate X Water Stainer 4A, and 4E Drainage Pat Dry-Season W Saturation Vis X Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M	ors (2 or more d Leaves (B9) Water Table (C sible on Aeriel Position (D2) tard (D3) Test (D5)	required) (MRLA 1, 2, E2) Imagery (C9)
marks: ils were not dent aerial im //DROLOC Vetland Hyde Primary Indic X Surface High Water M Sedimer Drift Der Algal Mater M Iron Der Surface Inundati Sparsle	excavated in this nages. GY drology Indicato cators (minimum of the Water (A1) (A2) (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae and the property of the posity (B2) ey Vegetated Conditional	rs: of one required; riel Imagery (B	Check all that apply) Water-Stained Lo MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteble Hydrogen Sulfide Oxidized Rhizose Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon luced Iron (Cuction in Till sed Plants ((except g Living Ro C4) led Soils (C	pots (C3)	Secondary Indicate X Water Stainer 4A, and 4E Drainage Pat Dry-Season W Saturation Vis X Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M	ors (2 or more d Leaves (B9) terns (B10) Vater Table (C sible on Aeriel Position (D2) tard (D3) Test (D5) lounds (D6) (L	required) (MRLA 1, 2, E2) Imagery (C9)
marks: Is were not dent aerial im /DROLOC /etland Hyd /rimary Indic X Surface High Water M Sediment Drift Dent Algal Mater M Iron Dent Surface Inundati Sparsle	excavated in this nages. GY drology Indicato cators (minimum of the Water (A1) fater Tables (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae ey Vegetated Convations:	rs: of one required; of	Check all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebee Hydrogen Sulfide Oxidized Rhizose Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon luced Iron (Cuction in Till sed Plants ((except g Living Ro C4) led Soils (0 (D1) (LRR	pots (C3)	Secondary Indicate X Water Stainer 4A, and 4E Drainage Pat Dry-Season W Saturation Vis X Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M	ors (2 or more d Leaves (B9) terns (B10) Vater Table (C sible on Aeriel Position (D2) tard (D3) Test (D5) lounds (D6) (L	required) (MRLA 1, 2, E2) Imagery (C9)
marks: Ils were not dent aerial im /DROLOC Vetland Hyd Primary Indic X Surface High Wa Saturati Water M Sedimen Drift Dental Algal Ma Iron Dental Surface Inundati Sparslee Field Observer Surface Water	excavated in this nages. GY drology Indicato cators (minimum of the Water (A1) (A2) (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae cay Vegetated Convations: er Present?	rs: of one required; riel Imagery (B cave Surface (Bi	Check all that apply) Water-Stained Lower MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteble Hydrogen Sulfide Oxidized Rhizosy Presence of Red Stunted or Stress Other (Explain in B) Depth (inches):	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon luced Iron (Cuction in Till sed Plants ((except g Living Ro C4) led Soils (C	pots (C3)	Secondary Indicate X Water Stainer 4A, and 4E Drainage Pat Dry-Season W Saturation Vis X Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M	ors (2 or more d Leaves (B9) terns (B10) Vater Table (C sible on Aeriel Position (D2) tard (D3) Test (D5) lounds (D6) (L	required) (MRLA 1, 2, E2) Imagery (C9)
marks: ils were not dent aerial im //DROLOC Vetland Hyde Primary Indic X Surface High Wa Saturati Water M Sedimel Drift Del Algal Ma Iron Dep Surface Inundati Sparsle Field Observ Surface Water Vater Table	excavated in this nages. GY drology Indicato cators (minimum of the Water (A1) later Tables (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae ey Vegetated Convations: er Present? Ye Present?	rs: of one required; riel Imagery (B cave Surface (Beces X No	Check all that apply) Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebeth Hydrogen Sulfide Oxidized Rhizoseth Presence of Red Recent Iron Red Stunted or Stresseth Other (Explain in B) Depth (inches):	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon luced Iron (Cuction in Till sed Plants ((except g Living Ro C4) led Soils (0 (D1) (LRR	Doots (C3)	Secondary Indicate X Water Stainer 4A, and 4E Drainage Pate Dry-Season V Saturation Vis X Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave	ors (2 or more d Leaves (B9) Alterns (B10) Vater Table (Cosible on Aeriel Position (D2) tard (D3) Test (D5) Jounds (D6) (Leaves (D6))	required) (MRLA 1, 2, 22) Imagery (C9) RR A) 7)
marks: ils were not depend aerial im YDROLOC Vetland Hyde Primary Indic X Surface High Water M Sedimen Drift Den Algal Mai Iron Den Surface Inundati Sparsle Field Observ Surface Water Table Saturation Pr	excavated in this nages. GY drology Indicato cators (minimum of the Water (A1) Pater Tables (A2) Identify Deposits (B3) Pater Tables (B4) Paposits (B5) Paposits (B5) Paposits (B5) Paposits (B6) Paposits (B6) Paposits (B6) Paposits (B6) Paposits (B6) Paposits (B6) Paposits (B7) Paposits (B8) Pa	rs: of one required; riel Imagery (B cave Surface (Beces X No	Check all that apply) Water-Stained Lower MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteble Hydrogen Sulfide Oxidized Rhizosy Presence of Red Stunted or Stress Other (Explain in B) Depth (inches):	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon luced Iron (Cuction in Till sed Plants ((except g Living Ro C4) led Soils (0 (D1) (LRR	Doots (C3)	Secondary Indicate X Water Stainer 4A, and 4E Drainage Pat Dry-Season W Saturation Vis X Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M	ors (2 or more d Leaves (B9) Alterns (B10) Vater Table (Cosible on Aeriel Position (D2) tard (D3) Test (D5) Jounds (D6) (Leaves (D6))	required) (MRLA 1, 2, E2) Imagery (C9)
Primary Indice X Surface High Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsler Field Observ Surface Water Table I Saturation Pr (includes cap	excavated in this nages. GY drology Indicato cators (minimum of water (A1) (ater Tables (A2) (ion (A3)) Marks (B1) ent Deposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae cay Vegetated Convations: er Present? Your poillary fringe)	rs: of one required; riel Imagery (B cave Surface (Bi es X No es No es No	Check all that apply) Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress Other (Explain in B) Depth (inches): Depth (inches):	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon luced Iron (Cuction in Till sed Plants (I) Remarks)	(except g Living Ro C4) led Soils (0 (D1) (LRR	Doots (C3) C6) A)	Secondary Indicate X Water Stainer 4A, and 4E Drainage Patt Dry-Season V Saturation Vis X Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave I	ors (2 or more d Leaves (B9) Alterns (B10) Vater Table (Cosible on Aeriel Position (D2) tard (D3) Test (D5) Jounds (D6) (Leaves (D6))	required) (MRLA 1, 2, 22) Imagery (C9) RR A) 7)
Primary Indice X Surface High Water Model Mediand Hyde Primary Indice X Surface High Water Model Mediand Hyde Sediment Drift Delent Algal Mater Model Inundation Sparslee Field Observer Surface Water Table of Saturation Princludes cap	excavated in this nages. GY drology Indicato cators (minimum of water (A1) (ater Tables (A2) (ion (A3)) Marks (B1) ent Deposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae cay Vegetated Convations: er Present? Your poillary fringe)	rs: of one required; riel Imagery (B cave Surface (Bi es X No es No es No	Check all that apply) Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebeth Hydrogen Sulfide Oxidized Rhizoseth Presence of Red Recent Iron Red Stunted or Stresseth Other (Explain in B) Depth (inches):	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon luced Iron (Cuction in Till sed Plants (I) Remarks)	(except g Living Ro C4) led Soils (0 (D1) (LRR	Doots (C3) C6) A)	Secondary Indicate X Water Stainer 4A, and 4E Drainage Patt Dry-Season V Saturation Vis X Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave I	ors (2 or more d Leaves (B9) Alterns (B10) Vater Table (Cosible on Aeriel Position (D2) tard (D3) Test (D5) Jounds (D6) (Leaves (D6))	required) (MRLA 1, 2, 22) Imagery (C9) RR A) 7)
Primary Indice X Surface High Water M Sedimer Drift De Algal Ma Iron Dep Surface Inundati Sparsler Field Observ Surface Water Water Table Saturation Pr includes cap	excavated in this nages. GY drology Indicato cators (minimum of water (A1) (ater Tables (A2) (ion (A3)) Marks (B1) ent Deposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae cay Vegetated Convations: er Present? Your poillary fringe)	rs: of one required; riel Imagery (B cave Surface (Bi es X No es No es No	Check all that apply) Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress Other (Explain in B) Depth (inches): Depth (inches):	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon luced Iron (Cuction in Till sed Plants (I) Remarks)	(except g Living Ro C4) led Soils (0 (D1) (LRR	Doots (C3) C6) A)	Secondary Indicate X Water Stainer 4A, and 4E Drainage Patt Dry-Season V Saturation Vis X Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave I	ors (2 or more d Leaves (B9) Alterns (B10) Vater Table (Cosible on Aeriel Position (D2) tard (D3) Test (D5) Jounds (D6) (Leaves (D6))	required) (MRLA 1, 2, 22) Imagery (C9) RR A) 7)
Primary Indice X Surface High Water M Sedimer Drift De Algal Ma Iron Dep Surface Inundati Sparsler Field Observ Surface Water Water Table Saturation Pr includes cap	excavated in this nages. GY drology Indicato cators (minimum of water (A1) (ater Tables (A2) (ion (A3)) Marks (B1) ent Deposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae cay Vegetated Convations: er Present? Your poillary fringe)	rs: of one required; riel Imagery (B cave Surface (Bi es X No es No es No	Check all that apply) Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress Other (Explain in B) Depth (inches): Depth (inches):	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon luced Iron (Cuction in Till sed Plants (I) Remarks)	(except g Living Ro C4) led Soils (0 (D1) (LRR	Doots (C3) C6) A)	Secondary Indicate X Water Stainer 4A, and 4E Drainage Patt Dry-Season V Saturation Vis X Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave I	ors (2 or more d Leaves (B9) Alterns (B10) Vater Table (Cosible on Aeriel Position (D2) tard (D3) Test (D5) Jounds (D6) (Leaves (D6))	required) (MRLA 1, 2, 22) Imagery (C9) RR A) 7)



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	te: 11/7/2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W4-P4 (U)		
Investigators: B DARBY, J MAZE			Section, Township, I	Range:			
Landform (hillslope, terrace, etc.): Toeslope			ef (concave, convex,		Slope(/ %): 3	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84	´ —	
Soil Map Unit Name: Arents, 0 to 5 percent slopes			NWI Classific	ation: Unmapped			
Are climatic / hydrologic conditions on the site typic		year? Yes		(If No, explain in Re	emarks)		
Are Vegetation: Soil or Hydrology	significantly d		Are "Normal Circum	- ` '	Yes X	No)
Are Vegetation: Soil or Hydrology	naturally prob	lematic?	(If needed, explain	any answers in Rema	arks.)		
SUMMARY OF FINDINGS - Attach a sit	— e map showi	ng sampling	point locations	, transects, imp	ortant feature	s, etc.	
Hydrophytic Vegetation Present? Yes X	No						
Hydric Soil Present? Yes	No X	Is the	Sampled Area				
Wetland Hydrology Present? Yes	No X	within	a Wetland?	Yes		No X	
Remarks:							
Wetland occurs in a "No Dig" zone at Hamilton Islar slope between the wetland and Ft. Cascades Road	roughly one foot	ea; no soils or sub in vertical elevation	surface hydrology won above wetland plo	ere evaluated at sam ot in this location.	nple plot. Plot is lo	cated on a	a short
VEGETATION – Use scientific names of	of plants.						
	Absolute	Dominant	Indicator	Dominance Test	Worksheet:		
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Domina	·		
Populus balsamifera	10	Yes	FAC	That Are OBL, FAC	CW, or FAC:	4	_ (A)
2.				Total Number of Do	ominant		
3.				Species Across All	_	4	_ (B)
4.				Percent of Dominar	•		
	10	= Total Cover		That Are OBL, FAC	_	100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index			
Rubus armeniacus	55	Yes	FAC	Total % Cover of:	Multiply	<u>/ by:</u>	
Populus balsamifera	10	No	FAC	OBL species	x1=		_
3.			. <u></u>	FACW species	x2=	0	_
4				FAC species	105 x3=	315	_
5				FACU species	x4=	0	_
Harb Otratura (Plateira 40 (ast))	65	= Total Cover		UPL species	x5=	0	- (D)
Herb Stratum (Plot size: 10 feet)	00	V	F40	Column Totals:	105 (A)	315	– ^(B)
1. Lotus corniculatus	20	Yes	FAC	Duning laws as to d	D/A	2.00	•
2. Agrostis scabra	10	Yes	FAC	Prevalence Inde		3.00	
3.			· <u> </u>	Hydrophytic Vege			
4.			· —	X 2 - Dominano	st for Hydrophytic	vegetatio	лі
5.		-	<u> </u>		ce Index is ≤3.01		
6. 7.			· —		gical Adaptations¹	(Drovido	
			· —		•	•	
8.		-	<u> </u>		Remarks or on a se Non-Vascular Plar		ieet)
9.			· —				voloin)
11.				¹Indicators of hydric	Hydrophytic Vege		
	30	= Total Cover		must be present, u		-	
Woody Vine Stratum (Plot size: 10 feet)		= Total Cover		must be present, ui	lless disturbed of	problema	iuc.
1.				Hydrophytic			
2.				Vegetation	Yes X No	0	
		= Total Cover		Present?	N	<i></i>	-
% Bare Ground in Herb Stratum15		- Total Govel		i resent:			
Remarks:							
The sample plot meets the dominance test indicator	r for hydrophytic	vegetation.					

Depth	Matri	X	Red	ox Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks
		-						
		- DM De d	Lead Matrice 00, Ones		(- 0 0		21 ('-	a. Di. Dana Liaira M. Matria
			luced Matrix, CS=Cove		ted Sand G			n: PL=Pore Lining, M=Matrix
		ible to all LRRS	, unless otherwise no	-			ndicators for Proble	•
	sol (A1)		Sandy Redox (S				2 cm Muck (A1	
	Epipedon (A2)		Stripped Matrix (,		DI 4 4)	Red Parent Ma	, ,
	Histic (A3)		Loamy Mucky M		(except ML	.RLA 1)		Oark Surface (TF12)
	ogen Sulfide (A4)	(8.4.4)	Loamy Gleyed M				Other (Explain	in Remarks)
	eted Below Dark Surf	ace (A11)	Depleted Matrix					
	Dark Surface (A12)		Redox Dark Surf					hytic vegetation and
	y Mucky Mineral (S1		Depleted Dark S)		wetland hydrology	
	y Gleyed Matrix (S4)		Redox Depression	ons (F8)			unless disturbed o	r problematic.
	E Layer (if present):							
Type:			-					
Donth	ı (inches):						Hydric Soil Present	t? Yes No
emarks: oils were no est professi	ot evaluated in the "Nonal judgement.	lo Dig" zone and	were assumed to be n	on-hydric b	pased on ch	nange in v		s, lack of surface hydrology ar
emarks: poils were no est professi YDROLO Wetland H	ot evaluated in the "Nonal judgement. DGY ydrology Indicators	::		on-hydric b	pased on ch	nange in v	egetation communities	s, lack of surface hydrology ar
emarks: bils were no est professi YDROLO Wetland H Primary Inc	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of	::	neck all that apply)			ange in v	egetation communities Secondary Indicator	s, lack of surface hydrology ar
emarks: bils were no est professi YDROLO Wetland H Primary Inc. Surfar	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1)	::	neck all that apply)Water-Stained L	eaves (B9)	(except	nange in v	egetation communities Secondary Indicator Water Stained	s, lack of surface hydrology ar s (2 or more required) Leaves (B9) (MRLA 1, 2,
emarks: poils were no est professi YDROLO Wetland H Primary Ind Surfa High	ot evaluated in the "Nonal judgement. DGY ydrology Indicators (minimum of ce Water (A1) Water Tables (A2)	::	neck all that apply) Water-Stained Lo MRLA 1, 2, 4,4	eaves (B9)	(except	nange in v	Secondary Indicator Water Stained 4A, and 4B)	s, lack of surface hydrology and see the surface hydrology and see
emarks: bils were no est professi YDROLO Wetland H Primary Inc Surfa High Satur.	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3)	::	neck all that apply) Water-Stained L MRLA 1, 2, 44 Salt Crust (B11)	eaves (B9) A, and 4B)	(except	nange in v	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte	s, lack of surface hydrology ar s (2 or more required) Leaves (B9) (MRLA 1, 2,
yDROLO Wetland H Primary Inc Surfa High Satura Watel	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1)	::	meck all that apply) Water-Stained Lo MRLA 1, 2, 4, Salt Crust (B11) Aquatic Inverteb	eaves (B9) A, and 4B) rates (B13)	(except	nange in v	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water	s, lack of surface hydrology and s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2)
yDROLO Wetland H Primary Inc Surfar High Satur Water	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2)	::	meck all that apply) Water-Stained L MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide	eaves (B9) A, and 4B) rates (B13)	(except		Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Visit	s, lack of surface hydrology ares, lack of surface hydrology ares. s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ole on Aeriel Imagery (C9)
Primary Inc. Surfa. High Satur. Watel Sedin Drift I	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3)	::	meck all that apply) Water-Stained Li MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos	eaves (B9) A, and 4B) rates (B13) e Odor (C1) oheres alor	(except		Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Saturation Visil	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bsition (D2)
YDROLO Wetland H Primary Inc Surfa High Vate Sedin Drift [Algal	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4)	::	meck all that apply) Water-Stained L MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red	eaves (B9) A, and 4B) rates (B13) e Odor (C1 bheres alor uced Iron ((except)) ng Living R (C4)	oots (C3)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Saturation Visit	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) brition (D2) rd (D3)
yDROLO Wetland H Primary Inc Surfa High Satur Water Sedin Drift I Algal Iron D	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	::	meck all that apply) Water-Stained Lower MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizos Presence of Recont Iron Red	eaves (B9) A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti	(except)) ng Living R (C4) illed Soils (oots (C3)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Saturation Visil Geomorphic Potential Shallow Aquita FAC-Neutral Total	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5)
emarks: oils were no est professi IYDROLO Wetland H Primary Inc Surfa High Satur Water Sedin Drift E Algal Iron E Surfa	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6)	one required; ch	MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Invertebee Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Visil Geomorphic Potential Shallow Aquita FAC-Neutral Total Raised Ant Mo	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A)
emarks: oils were no est professi YDROLO Wetland H Primary Inc Surfact High ' Satur Watee Sedin Drift I Algal Iron I Surfact Inund	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) hent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aerica	one required; ch	MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Saturation Visil Geomorphic Potential Shallow Aquita FAC-Neutral Total	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A)
emarks: oils were no est professi YDROLO Wetland H Primary Inc Surfact High ' Satur Watee Sedin Drift I Algal Iron I Surfact Inund	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6)	one required; ch	MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Visil Geomorphic Potential Shallow Aquita FAC-Neutral Total Raised Ant Mo	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A)
emarks: bils were no est professi YDROLO Wetland H Primary Inc Surfa High Satur Water Sedin Drift E Algal Iron E Surfa Inund Spars	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aericley Vegetated Concervations:	el Imagery (B	Mater-Stained L MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Visil Geomorphic Potential Shallow Aquita FAC-Neutral Total Raised Ant Mo	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A)
wetland H Primary Inc Surfar High Satur Wate Sedin Drift I Algal Iron I Surfar Inund Spars Field Obse	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aericley Vegetated Concervations: ater Present? Yes	el Imagery (Bave Surface (B8)	meck all that apply) Water-Stained L MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Visil Geomorphic Potential Shallow Aquita FAC-Neutral Total Raised Ant Mo	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A)
emarks: oils were notest professi YDROLO Wetland H Primary Inc Surfact High V Sedin Drift I Algal Iron I Surfact Inund Spars Field Obse Surface Water Table	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aeric eley Vegetated Concervations: ater Present? Yes the Present? Yes	el Imagery (Bave Surface (B8)	Mater-Stained Lower MRLA 1, 2, 4/2 MRLA 1, 2, 4/3 Salt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizoson Presence of Recommendation Recent Iron Reduction Stunted or Stresson Other (Explain in Depth (inches): Depth (inches):	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Saturation Visil Geomorphic Potential Shallow Aquita FAC-Neutral Total Raised Ant Motential Frost-Heave Heave He	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ole on Aeriel Imagery (C9) osition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
emarks: oils were notest professi IYDROLO Wetland H Primary Inc Surfa High ' Satur Water Sedin Drift E Algal Iron E Surface Surface Water Tabl Saturation	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aericaley Vegetated Concervations: ater Present? Yes Present? Yes	el Imagery (Bave Surface (B8)	meck all that apply) Water-Stained L MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Visil Geomorphic Potential Shallow Aquita FAC-Neutral Total Raised Ant Mo	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ole on Aeriel Imagery (C9) osition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
emarks: oils were notest professi IYDROLO Wetland H Primary Inc Surfa High ' Satur Water Sedin Drift E Algal Iron E Surface Inund Spars Surface Water Tabl Saturation	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aeric eley Vegetated Concervations: ater Present? Yes the Present? Yes	el Imagery (Bave Surface (B8)	Mater-Stained Lower MRLA 1, 2, 4/2 MRLA 1, 2, 4/3 Salt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizoson Presence of Recommendation Recent Iron Reduction Stunted or Stresson Other (Explain in Depth (inches): Depth (inches):	eaves (B9) A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Saturation Visil Geomorphic Potential Shallow Aquita FAC-Neutral Total Raised Ant Motential Frost-Heave Heave He	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ole on Aeriel Imagery (C9) osition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
emarks: oils were notest professi IYDROLO Wetland H Primary Ind Surfar High Satur Water Sedin Drift I Algal Iron I Surfar Inund Spars Field Obse Surface Water Tabl Saturation (includes c	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aericley Vegetated Concervations: ater Present? Yes Present? Yes apillary fringe)	el Imagery (B ave Surface (B8)	Mater-Stained Lower MRLA 1, 2, 4/2 MRLA 1, 2, 4/3 Salt Crust (B11) Aquatic Invertebout Hydrogen Sulfide Oxidized Rhizoson Presence of Recommendation Recent Iron Reduction Stunted or Stresson Other (Explain in Depth (inches): Depth (inches):	eaves (B9) A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti sed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W: Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo Frost-Heave Hi	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ole on Aeriel Imagery (C9) osition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
emarks: oils were notest professi IYDROLO Wetland H Primary Ind Surfar High Satur Water Sedin Drift I Algal Iron I Surfar Inund Spars Field Obse Surface Water Tabl Saturation (includes c	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aericley Vegetated Concervations: ater Present? Yes Present? Yes apillary fringe)	el Imagery (B ave Surface (B8)	Mater-Stained Limited And Anguatic Invertebility Aquatic Invertebility Advantage Anguatic Invertebility Advantage Anguatic Invertebility Advantage Anguatic Invertebility Aquatic Invertebility Aquati	eaves (B9) A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti sed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W: Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo Frost-Heave Hi	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ole on Aeriel Imagery (C9) osition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
emarks: oils were notest professi IYDROLO Wetland H Primary Ind Surfar High Satur Water Sedin Drift I Algal Iron I Surfar Inund Spars Field Obse Surface Water Tabl Saturation (includes c	ot evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aericley Vegetated Concervations: ater Present? Yes Present? Yes apillary fringe)	el Imagery (B ave Surface (B8)	Mater-Stained Limited And Anguatic Invertebility Aquatic Invertebility Advantage Anguatic Invertebility Advantage Anguatic Invertebility Advantage Anguatic Invertebility Aquatic Invertebility Aquati	eaves (B9) A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti sed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W: Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo Frost-Heave Hi	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ole on Aeriel Imagery (C9) osition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
emarks: oils were notest professi IYDROLO Wetland H Primary Inc Surfat High ' Satur Water Sedin Drift E Algal Iron E Surfac Inund Spars Field Obse Surface Water Tabl Saturation (includes coescribe Recoescribe Recoesce	ort evaluated in the "Nonal judgement. DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aericley Vegetated Concervations: ater Present? Yes Present? Yes apillary fringe) corded Date (stream	el Imagery (B ave Surface (B8) No No gauge, monitorir	Meck all that apply) Water-Stained Leman MRLA 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	eaves (B9) A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti sed Plants Remarks)	(except) ng Living R (C4) illed Soils (i (D1) (LRR	wetland	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Saturation Visit Geomorphic Portion Shallow Aquita FAC-Neutral Total Raised Ant Motor Frost-Heave Heave He	s, lack of surface hydrology are s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ole on Aeriel Imagery (C9) osition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)



Project/Site: Cascade Renewables	-	City/County: S	Skamania	Sampling Date: 4/20/2	2023	
Applicant/Owner: Cascade Renewables		,	State: WA	Sampling W9-P		
Investigators: B DARBY, J MAZE		Sc	ection, Township,		. (0)	
Landform (hillslope, terrace, etc.): Toeslope			(concave, convex,		Slope(%): 3	
Subregion (LRR): A - Northwest Forest ar	nd Lat:	Long:	(**************************************	Datum: WGS84		
Soil Map Unit Name: Steever stony clay loam			NWI Classifi	cation: Unmapped		
Are climatic / hydrologic conditions on the site			No X	(If No, explain in Remarks)		
Are Vegetation: X Soil X or Hydrolo		_		nstances" present? Yes	No	o X
Are Vegetation: Soil or Hydrolo	" —			any answers in Remarks.)		<u> </u>
SUMMARY OF FINDINGS - Attach		•		· ·	eatures etc	
	<u> </u>		Onit locations	, transcots, important i	Catalos, cto.	
, , , ,		la tha S	ampled Area			
			ampled Area	Vaa	No. V	
Wetland Hydrology Present? Ye	s No_X	within a	Wetland?	Yes	No <u>X</u>	
Remarks:						
Precipitation analysis showed drier than normal boundary likely occurred 8-10 months prior to methodology outlined in the 1987 Corps manu	the delineation. Vegeta al and WVMC regiona	ation and soils are s	ignificantly disturb	ped. Wetland was delineated us		
VEGETATION - 03e scientific flam	Absolute	Dominant	Indicator	Dominance Test Workshe		
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominant Species		
1.	76 COVEI	Species:	Status	That Are OBL, FACW, or FA		(A)
2.				Total Number of Dominant	J	– (^)
3.				Species Across All Strata:	1	(B)
4.				Percent of Dominant Species		– ^(D)
		= Total Cover		That Are OBL, FACW, or FA		(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet		= Total Cover		Prevalence Index workshee		_(\(\alpha\)
1.	1			Total % Cover of:	Multiply by:	
2.				OBL species	x1=	
3.				FACW species 1	x2= 2	_
4.				FAC species 6	$x3 = \frac{2}{18}$	-
5.				FACU species	-x4= 0	-
		= Total Cover		UPL species	x5= 0	-
Herb Stratum (Plot size: 10 feet)		= Total Gover		Column Totals: 7	(A) 20	— (B)
1. Poa spp.	5	Yes	FAC	Oblamin Totals.	- (A)	– (D)
Cirsium arvense		No No	FAC	Prevalence Index = B/A=	: 2.86	6
Phalaris arundinacea		No	FACW	Hydrophytic Vegetation Inc		
4.	<u> </u>		1700	1 - Rapid Test for Hyd		on
5.				X 2 - Dominance Test is		711
6.				X 3 - Prevalence Index is		
7.				4 - Morphological Adap		1
8.				data in Remarks o	,	
9.				5 - Wetland Non-Vasc	•	noot)
10.				X Problematic Hydrophy		vnlain)
11.				¹Indicators of hydric soil and	-	
•••		= Total Cover		must be present, unless distr		-
Woody Vine Stratum (Plot size: 10 feet)		- 10(0) 00/61		made be present, unless disti		A.10.
1.				Hydrophytic		
2.				Vegetation Yes	X No	
-		= Total Cover	_	Present?		_
% Bare Ground in Herb Stratum 93		- 10tal 00V61		i iodoliti		

Remarks:

Vegetation is currently being reestablished following a recent utility excavation in which all vegetation was removed. Poa spp. could not be identified to genus at the time of the survey, assumed facultative species. According to recent ground-level images, prior to disturbance the dominant vegetation cover was Himalayan blackberry and St. John's wort. The sample plot meets the dominance test for hydrophytic vegetation.

Depth	Motrix		Pod	ov Footuro				
	Matrix			ox Feature		12	T	Develo
(inches)	Color (moist)		Color (moist)	<u> </u>	Type ¹	Loc ²	Texture	Remarks
0-8	10YR 2/2	100					Sandy Loam	Gravelly fill material
8-18	10YR 4/2	100					Sandy Loam	Gravelly fill material
¹Type: C= Co	ncentration, D= Deple	tion, RM=Redu	uced Matrix, CS=Cove	red or Coat	ted Sand G	rains.	²Lo(cation: PL=Pore Lining, M=Matrix.
Hydric Soil In	dicators: (Applicable	le to all LRRs,	unless otherwise no	ted.)			Indicators for Pro	oblematic Hydric Soils³:
Histoso	ol (A1)		Sandy Redox (S	5)			2 cm Muck	(A10)
Histic E	Epipedon (A2)		Stripped Matrix (S6)			Red Paren	t Material (TF2)
Black H	Histic (A3)		Loamy Mucky M	ineral (F1)	(except ML	RLA 1)	Very Shallo	ow Dark Surface (TF12)
Hydrog	gen Sulfide (A4)		Loamy Gleyed M	latrix (F2)			Other (Exp	lain in Remarks)
Deplete	ed Below Dark Surfac	e (A11)	Depleted Matrix	(F3)				
Thick D	Dark Surface (A12)		Redox Dark Surf	ace (F6)			³ Indicators of hy	drophytic vegetation and
Sandy	Mucky Mineral (S1)		Depleted Dark S	urface (F7))		wetland hydrol	ogy must be present,
Sandy	Gleyed Matrix (S4)		Redox Depression	ons (F8)			unless disturbe	ed or problematic.
Restrictive	Layer (if present):							
Type:	Large rocks and cob	bles						
Depth ((inches): 18						Hydric Soil Pre	sent? YesNo X
Soil pit dug at were observed	d.	n area. Soils ta	aken down to 18 inches	s to evaluat	e natural so	oil profile.	Shovel refuse at 1	8 inches. No hydric soil indicators
Wetland Hy	drology Indicators:							
_	drology Indicators: cators (minimum of or	ne required; ch	eck all that apply)				Secondary Indic	ators (2 or more required)
Primary Indi	O,	ne required; ch	eck all that apply) Water-Stained L	eaves (B9)	(except			ators (2 or more required) ned Leaves (B9) (MRLA 1, 2,
Primary India	cators (minimum of or	ne required; ch		` '	(except			ned Leaves (B9) (MRLA 1, 2,
Primary Indie	cators (minimum of or e Water (A1)	ne required; ch	Water-Stained L	A, and 4B)	(except		Water Stair	ned Leaves (B9) (MRLA 1, 2,
Primary India Surface High W Saturat	cators (minimum of or e Water (A1) /ater Tables (A2)	ne required; ch	Water-Stained Lo	A, and 4B)	` •		Water Stair 4A, and Drainage F	ned Leaves (B9) (MRLA 1, 2, 4B)
Primary India Surface High W Saturat Water I	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3)	ne required; ch	Water-Stained Lower MRLA 1, 2, 4,4 Salt Crust (B11)	A, and 4B) rates (B13)	•		Water Stain 4A, and Drainage F Dry-Season	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10)
Primary India Surface High W Saturat Water I Sedime	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1)	ne required; ch	Water-Stained L MRLA 1, 2, 4,4 Salt Crust (B11) Aquatic Inverteb	A, and 4B) rates (B13) e Odor (C1))	oots (C3)	Water Stain 4A, and Drainage F Dry-Season Saturation	ned Leaves (B9) (MRLA 1, 2, 4B) ratterns (B10) n Water Table (C2)
Primary India Surface High W Saturat Water I Sedime	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2)	ne required; ch	Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide	A, and 4B) rates (B13) e Odor (C1) oheres alor) ng Living Ro	oots (C3)	Water Stain 4A, and Drainage F Dry-Season Saturation	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2)
Primary India Surface High W Saturat Water I Sedime Drift De	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	ne required; ch	Water-Stained Lower MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos	A, and 4B) rates (B13) e Odor (C1) pheres alor) ng Living Ro (C4)	, ,	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Ac	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2)
Primary India Surface High W Saturat Water I Sedime Drift De Algal W Iron De	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4)	ne required; ch	Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Ti) ng Living Ro (C4) Illed Soils (C	C6)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Ac	ned Leaves (B9) (MRLA 1, 2, 4B) latterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) In Position (D2) In Position (D2) In Position (D3)
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4) eposits (B5)		Water-Stained Lo MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living Ro (C4) lled Soils (C (D1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant	ned Leaves (B9) (MRLA 1, 2, 4B) latterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) In Coposition (D2) In Water (D3) In Test (D5)
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4) eposits (B5) e Soil Cracks (B6)	magery (B	Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living Ro (C4) lled Soils (C (D1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant	ned Leaves (B9) (MRLA 1, 2, 4B) latterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) In Coposition (D2) In Water Table (D3) In Water Table (C5) In Water Table (C6) In Water
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel I	magery (B	Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living Ro (C4) lled Soils (C (D1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant	ned Leaves (B9) (MRLA 1, 2, 4B) latterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) In Coposition (D2) In Water Table (D3) In Water Table (C5) In Water Table (C6) In Water
Primary India Surface High W Saturat Water I Sedime Drift De Algal W Iron De Surface Inunda Sparsle	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel I	magery (B	Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living Ro (C4) lled Soils (C (D1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant	ned Leaves (B9) (MRLA 1, 2, 4B) latterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) In Coposition (D2) In Water Table (D3) In Water Table (C5) In Water Table (C6) In Water
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel I ey Vegetated Concave	magery (B e Surface (B8)	Water-Stained Lo MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living Ro (C4) lled Soils (C (D1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant	ned Leaves (B9) (MRLA 1, 2, 4B) latterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) In Coposition (D2) In Water Table (D3) In Water Table (C5) In Water Table (C6) In Water
Primary India Surface High W Saturat Water I Sedime Drift De Algal W Iron De Surface Inunda Sparsle Field Obser Surface Water	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel I ey Vegetated Concaver vations: ter Present? Yes	magery (B e Surface (B8)	Water-Stained L MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living Ro (C4) lled Soils (C (D1) (LRR	C6) A)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) In C Position (D2) In Water (D3) In Test (D5) Mounds (D6) (LRR A) In Hummocks (D7)
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation P	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel I ey Vegetated Concaver evations: ter Present? Yes	magery (B e Surface (B8)	Water-Stained Lo MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living Ro (C4) lled Soils (C (D1) (LRR	C6) A)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) In C Position (D2) In Water (D3) In Test (D5) Mounds (D6) (LRR A) In Hummocks (D7)
Primary India Surface High W Saturat Water I Sedime Drift De Algal W Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation P (includes cal	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel I ey Vegetated Concave rvations: ter Present? Yes Present? Yes pillary fringe)	magery (B e Surface (B8) No No	Water-Stained Lo MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1) pheres alor luced Iron (luction in Til sed Plants Remarks)) ng Living Ro (C4) Iled Soils (C (D1) (LRR	C6) A) Wetland	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) In C Position (D2) In Water (D3) In Test (D5) Mounds (D6) (LRR A) In Hummocks (D7)
Primary India Surface High W Saturat Water I Sedime Drift De Algal W Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation P (includes cap	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel I ey Vegetated Concave rvations: ter Present? Yes Present? Yes pillary fringe)	magery (B e Surface (B8) No No	Water-Stained Lo MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1) pheres alor luced Iron (luction in Til sed Plants Remarks)) ng Living Ro (C4) Iled Soils (C (D1) (LRR	C6) A) Wetland	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) In C Position (D2) In Water (D3) In Test (D5) Mounds (D6) (LRR A) In Hummocks (D7)
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation P (includes cal Describe Reco	cators (minimum of or e Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel I ey Vegetated Concave rvations: ter Present? Yes eresent? Yes pillary fringe) orded Date (stream ga	magery (B e Surface (B8) No No No	Water-Stained Lo MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1) pheres alor luced Iron (luction in Til sed Plants Remarks)	ng Living Ro (C4) Iled Soils (C (D1) (LRR	Wetland	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant Frost-Heav d Hydrology Prese	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) In C Position (D2) In Water (D3) In Test (D5) Mounds (D6) (LRR A) In Hummocks (D7)

Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Date: 4/	J	
Applicant/Owner: Cascade Renewables			State: WA		/9-P2 (W)	
Investigators: B DARBY, J MAZE			Section, Township,		0.2(11)	
Landform (hillslope, terrace, etc.): Toeslope			f (concave, convex,		Slope(%): 3	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:	. (0000)	Datum: WGS8		
Soil Map Unit Name: Steever stony clay loam, 3			NWI Classific	cation: Unmapped		
Are climatic / hydrologic conditions on the site typ				(If No, explain in Remark		
Are Vegetation: X Soil X or Hydrology	significantly of	•	Are "Normal Circun	- ` '	Yes N	lo X
Are Vegetation: Soil or Hydrology	naturally prob			any answers in Remarks.)		
SUMMARY OF FINDINGS - Attach a s					nt features, etc.	
Hydrophytic Vegetation Present? Yes	X No			,po		
Hydric Soil Present? Yes	X No	Is the	Sampled Area			
Wetland Hydrology Present? Yes	X No		a Wetland?	Yes X	No	
Remarks:						
Precipitation analysis showed drier than normal crelated disturbance which likely occurred 8-10 mc manual and WVMC regional supplement and note VEGETATION – Use scientific names	onths prior to the de ed in appropriate se	elineation. Wetland	was delineated usi			
TEGETATION COS COLONIANO NAMES	Absolute	Dominant	Indicator	Dominance Test Works	sheet:	
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominant Spe		
1.	70 00 001			That Are OBL, FACW, or		(A)
2.				Total Number of Domina		_ ()
3.				Species Across All Strata		(B)
4.				Percent of Dominant Spe		_` ′
		= Total Cover		That Are OBL, FACW, or		(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index works		
Rubus armeniacus	3	Yes	FAC	Total % Cover of:	Multiply by:	
2.				OBL species 2		
3.				FACW species 10) x2= 20	_
4.				FAC species 6	x3= 18	_
5.				FACU species	x4= 0	_
	3	= Total Cover		UPL species	x5= 0	_
Herb Stratum (Plot size: 10 feet)				Column Totals: 18	B (A) 40	— (B)
Phalaris arundinacea	10	Yes	FACW		``	_ ` ´
2. Typha latifolia	2	No	OBL	Prevalence Index = E	3/A= 2.2	2
3.				Hydrophytic Vegetation	n Indicators:	
4.				1 - Rapid Test for	Hydrophytic Vegetati	on
5.				X 2 - Dominance Tes	st is >50%	
6.				X 3 - Prevalence Ind	ex is ≤3.0¹	
7.				4 - Morphological	Adaptations ¹ (Provide	Э
8.				data in Remar	ks or on a separate s	sheet)
9.				5 - Wetland Non-V	'ascular Plants1	
10.				X Problematic Hydro	phytic Vegetation¹ (E	Explain)
11.				¹Indicators of hydric soil	· ·	
	12	= Total Cover		must be present, unless	disturbed or problem	atic.
Woody Vine Stratum (Plot size: 10 feet)						
1.				Hydrophytic		
2.				Vegetation Y	es X No	
		= Total Cover		Present?		_
% Bare Ground in Herb Stratum 85						

Remarks:

Sparse vegetation reestablishment on recently disturbed soils in which all vegetation was removed. According to recent ground-level images, the wetland boundary was dominated by broadleaf cattail, reed canary grass and Himalayan blackberry at the upland edge. The sample plot meets the dominance test for hydrophytic vegetation.

Profile Descr	iption: (Describ	e to the dept	h needed	to document the	indicator o	or confirm	the abse	nce of indicators.)			
Depth	N	latrix		Red	ox Feature	es					
(inches)	Color (mois	t) %		Color (moist)	%	Type ¹	Loc²	Texture		Remark	S
0-12	10YR 2/2	60			· ——			Loamy Sand	Gravelly fill i	material	
	10YR 4/2	40			· ——						
	-										
	-										
¹Type: C= Co	oncentration, D=	Depletion, RM	=Reduced	Matrix, CS=Cove	red or Coat	ted Sand G	rains.	²Loc	ation: PL=Po	re Lining,	M=Matrix.
Hydric Soil Ir	ndicators: (App	olicable to all	LRRs, unl	ess otherwise no	ted.)			Indicators for Pro	olematic Hyd	ric Soils³	:
Histos	ol (A1)			Sandy Redox (S	5)			2 cm Muck	(A10)		
Histic	Epipedon (A2)			Stripped Matrix (S6)			Red Parent	Material (TF2	2)	
Black	Histic (A3)			Loamy Mucky Mi	ineral (F1)	(except ML	RLA 1)		w Dark Surfac		
Hydrog	gen Sulfide (A4)			- Loamy Gleyed M	latrix (F2)			X Other (Expl	ain in Remark	s)	
Deplet	ed Below Dark	Surface (A11)		Depleted Matrix	(F3)						
Thick I	Dark Surface (A	12)		Redox Dark Surf	ace (F6)			³ Indicators of hyd	rophytic vege	tation and	I
Sandy	Mucky Mineral	(S1)		Depleted Dark S	urface (F7))		wetland hydrolo	gy must be p	resent,	
Sandy	Gleyed Matrix (S4)		Redox Depression	ons (F8)			unless disturbe	d or problema	itic.	
Restrictive	Layer (if prese	nt):									
Type:	Large rocks ar	nd cobbles									
Depth	(inches):	12						Hydric Soil Pres	ent? Yes	, X	No
Remarks:											
Regional Sup hydrology indi	plement guidand icators met, 3) w	ce for problema retland occurs	itic soils, h in an area	ydric soils were de likely to collect and	etermined b	y 1) presen	ice of hyd	ons removed during drophytic vegetation ions and desktop re	, 2) strong pri	mary and	secondary
HYDROLO	at this location r	rior to around	dieturhand	Δ							
•	drology Indica		adı abaalı	all that apply				Casandam, Indias	utoro /2 or mo		الم
	icators (minimur e Water (A1)	ii oi one requir	eu, check	Water-Stained Le	00)/05 (B0)	(ovcont		Secondary Indica	ed Leaves (B		
l ——	Vater Tables (A2) \		MRLA 1, 2, 4	` ′	•		4A, and	,	9) (WINLA	Ι, Ζ,
X Satura		-)		Salt Crust (B11)	, and			•	atterns (B10)		
<u> </u>	Marks (B1)			_ Aquatic Inverteb	rates (B13)	\			Water Table	(C2)	
	ent Deposits (B2	2)		Hydrogen Sulfide	` '				isible on Aeri	, ,	v (C9)
	eposits (B3)	- /		Oxidized Rhizos			nots (C3)				y (00)
	Mat or Crust (B4)		Presence of Red				Shallow Aqu	,	,	
	eposits (B5)	,		Recent Iron Red	`	` '	26)	X FAC-Neutra	` '		
	e Soil Cracks (E	36)		Stunted or Stress		,	,		Mounds (D6)	(LRR A)	
l ——	ation Visible on A		(B	– Other (Explain in			,	Frost-Heave	Hummocks	(D7)	
Sparsl	ey Vegetated Co	oncave Surface	e (B8)	- ` `							
Field Obse	rvations:										
Surface Wa	ter Present?	Yes N	o X	Depth (inches):							
Water Table	e Present?	Yes X N	o <u> </u>	Depth (inches):		12.0					
Saturation F	Present?	Yes X N	o <u> </u>	Depth (inches):		0.0	Wetland	d Hydrology Prese	nt? Yes	x	No
(includes ca	pillary fringe)			_							
Describe Rec	orded Date (stre	am gauge, mo	nitoring we	ell, aerial photos, p	revious ins	spections), i	r f available	e:			
	,		<u> </u>	, , , , , , , , ,		, ,,					
Remarks:											
								vork at the eastern to prphic position (D2)			



Project/Site: Cascade Renewables		City/County:	Skamania	Compline Date:	4/20/2022		
Applicant/Owner: Cascade Renewables		City/County:	State: WA	Sampling Date: Sampling	W9-P3 (W)		_
					VV9-P3 (VV)		_
			Section, Township,		Slope(%):		_
Landform (hillslope, terrace, etc.): Depression Subregion (LRR): A - Northwest Forest and	Lat:	<u> </u>	f (concave, convex,		SS84		_
Subregion (LRR): A - Northwest Forest and Soil Map Unit Name: Steever stony clay loam, 30 t		Long:	NWI Clossifia	cation: Unmapped	1004		_
	· ·	•		(If No, explain in Rem			_
Are Climatic / hydrologic conditions on the site typical			No X	- ` '	,	No	
Are Vegetation: Soil or Hydrology _ Are Vegetation: Soil or Hydrology	— significantly of naturally prol		Are "Normal Circun	any answers in Remark	Yes X	_ No	_
			•	•	•	oto	
SUMMARY OF FINDINGS - Attach a site		ing sampling	point locations	, transects, impor	ant reatures,	etc.	
Hydrophytic Vegetation Present? Yes X							
Hydric Soil Present? Yes X			Sampled Area	V V			
Wetland Hydrology Present? Yes X	No	within	a Wetland?	Yes X		°	_
Remarks:							
Precipitation analysis showed drier than normal con depressional area. All three wetland criteria are met VEGETATION – Use scientific names o		ee months prior to	the delineation. We	tland located at the toe	of slope in a narro	w	
VEGETATION - Use scientific fiames o	•	Dominout	la dia atau	Daminanaa Taat Wa	ul-al-ast.		_
Trace Chattern (Diet siene 20 fact)	Absolute	Dominant	Indicator	Dominance Test Wo			
Tree Statum (Plot size: 30 feet)	% Cover 70	Species? Yes	Status	Number of Dominant S	•	C (A)	
Fraxinus latifolia Alnus rubra	25	Yes	FACW FAC	That Are OBL, FACW, Total Number of Domi		6 (A)	
2. Alnus rubra 3.				Species Across All Str		6 (B)	
				Percent of Dominant S		6 (B)	
4	95	= Total Cover		That Are OBL, FACW	•	100 (A/E	D/
Sanling/Shruh Stratum (Plot size: 10 feet)	95	= Total Cover		Prevalence Index wo		100 (A/E	<u>-)</u>
Sapling/Shrub Stratum (Plot size: 10 feet) 1. Cornus alba	15	Yes	FACW	Total % Cover of:		v.·	
					$\frac{\text{Multiply by}}{70}$	y. 70	
2. 3.				OBL species		190	
				FACW species FAC species		195	
4 5.				FACU species	x4=	0	
	15	= Total Cover		UPL species	x4= x5=	0	
Herb Stratum (Plot size: 10 feet)		= Total Cover				455 (B)	
Oenanthe sarmentosa	70	Yes	OBL	—	230 (A)	(B)	
Equisetum arvense	30	Yes	FAC	Prevalence Index	– R/Δ–	1.98	
3. Phalaris arundinacea	10	No	FACW	Hydrophytic Vegetat		1.30	_
4.					or Hydrophytic Ve	agetation	
5.				X 2 - Dominance		gotation	
6.				X 3 - Prevalence I			
7.					al Adaptations¹ (P	Provide	
8.					narks or on a sepa		
9.					n-Vascular Plants	,	
10.					drophytic Vegetati		o)
11.				¹Indicators of hydric so			')
•••	110	= Total Cover		must be present, unles			
Woody Vine Stratum (Plot size: 10 feet)		- 10tal 00vel		made bo proderit, unite	zo diotalbod of pro		_
1. Rubus armeniacus	10	Yes	FAC	Hydrophytic			
2.				Vegetation	Yes X No		
	10	= Total Cover		Present?			
% Bare Ground in Herb Stratum 10		- 13tai 30v01					
	_			1			_
Remarks:							

Multistoried vegetation layers. Bare ground associated with inundated areas lacking herbaceous vegetation. Sample plot meets the dominance test for hydrophytic vegetation.

Depth	Matr	· ·	led to document the i Red	ox Feature		4836		•,		
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture		Remark	rs.
0-16	10YR 3/1	100	- Color (molet)				Loam	Muckym	odified loam	
	10113/1						Loan	WILLOW II	louineu loani	
1Typo: C- C	oncontration D- Do		uced Matrix, CS=Cover	rod or Coo	tod Sand C	raine	21.0	nation: DI -	Pore Lining,	M-Matrix
			unless otherwise not		led Sand G		Indicators for Pro			
-	sol (A1)	able to all Livivs,	Sandy Redox (St	-			2 cm Muck		iyuric oons	•
	Epipedon (A2)	-	Stripped Matrix (S					t Material (TF2)	
	Histic (A3)	-	X Loamy Mucky Mi		(except MI	RI A 1)			rface (TF12)	
	gen Sulfide (A4)	-	Loamy Gleyed M		(oxoopt m2			lain in Rem		
	ted Below Dark Sur	face (A11)	Depleted Matrix (. ,			Out of (Exp	10111111111	iai no)	
	Dark Surface (A12)	-	Redox Dark Surfa				³ Indicators of hy	drophytic v	egetation and	d
	/ Mucky Mineral (S1	-	Depleted Dark Su)		wetland hydro		_	
	/ Gleyed Matrix (S4)	-	Redox Depression				unless disturb			
Restrictive	Layer (if present)	<u>.</u>								
	Roots									
	(inches): 16						Hydric Soil Pre	sent?	Yes X	No
Remarks:		-				!	-			
	ydrology Indicator									
Primary Inc	dicators (minimum o	f one required; che					Secondary Indic	`		
	ce Water (A1)	-	Water-Stained Le	eaves (B9)	(except		Water Stai	ned Leaves	(B9) (MRLA	1, 2,
	Water Tables (A2)		MRLA 1, 2, 4A	A, and 4B)			4A, and	,		
X Satura	` ,	-	Salt Crust (B11)				X Drainage F			
	Marks (B1)	-	Aquatic Invertebr				 ′	n Water Ta	` '	(0.0)
	nent Deposits (B2)	-	Hydrogen Sulfide			1 - (00)			Aeriel Imager	y (C9)
	Deposits (B3)	-	Oxidized Rhizosp			oots (C3)	X Geomorph			
	Mat or Crust (B4)	-	Presence of Red			3 6\		quitard (D3)		
	eposits (B5) ce Soil Cracks (B6)	-	Stunted or Stress		•	,		al Test (D5) 06) (LRR A)	
	ation Visible on Aeri	iel Imagery (B	Other (Explain in			A)		re Hummod		
	ley Vegetated Conc	· · · ·	Other (Explain in	itemarks)				e Hummoc	,N3 (D1)	
Field Obse		ave curiace (Bo)				1				
	ater Present? Ye	s X No	Depth (inches):		1.00					
Water Tabl			Depth (inches):		3.0					
Saturation			Depth (inches):		0.0	Wetland	l Hydrology Pres	ent?	Yes X	No
	apillary fringe)						,	•		
		gauga manitarin	g well, aerial photos, p	rovious inc	noctions) i	f available	· ·			
Describe Rec	corded Date (Stream	rgauge, monitorin	g weii, aeriai priotos, pi	revious iris	spections), i	ii avaliabit	5 .			
Dam - ::1:										
Remarks:	en material de la constant	and a transfer of the state of		4) 1: 1		0)	(AC) C			•
	ts primary wetland homorphic position ([rs for surface water (A	ı), high wa	ater table (A	∠) and sa	turation (A3). Sec	ondary indi	cators for dra	iinage patterr
, , a.ia go	pooliion (L	,								



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Date	•		
Applicant/Owner: Cascade Renewables			State: WA	Sampling	W9-P4 (U)		
Investigators: B DARBY, J MAZE		S		Range: T2N R7E S14			
Landform (hillslope, terrace, etc.): Depression			(concave, convex			e(%): 0	
Subregion (LRR): A - Northwest Forest and	Lat: 45.657	_	121.909737		VGS84	0(70).	
Soil Map Unit Name: Steever stony clay loam, 30				cation: Unmapped			
Are climatic / hydrologic conditions on the site typic	-		No X	(If No, explain in Rer	marks)		
Are Vegetation: Soil or Hydrology	significantly of	· -		nstances" present?	Yes	X N	lo
Are Vegetation: Soil or Hydrology	naturally prob			any answers in Remai			
SUMMARY OF FINDINGS - Attach a sit						iras atc	
			onit locations	, transcots, impo			
Hydrophytic Vegetation Present? Yes		la tha S	compled Area				
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	$\frac{No}{No}\frac{X}{X}$		ampled Area a Wetland?	Yes		No X	
welland flydrology Fresent:		Within	vveuanu:				
Remarks: Precipitation analysis showed drier than normal cor Sample plot meets the criteria for hydrophytic vege VEGETATION – Use scientific names of	tation but lacks h				ossible to eva	luate hydro	logy.
120217(1101) 000 00101111110 11011100 (Absolute	Dominant	Indicator	Dominance Test W	lorkshoot:		
Tree Statum (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominan			
Fraxinus latifolia	5	Yes	FACW	That Are OBL, FAC	•	3	(A)
2.			- FACW	Total Number of Dor	•		— (A)
3.				Species Across All S		3	(B)
4.				Percent of Dominant			— (B)
	5	= Total Cover		That Are OBL, FAC	•	100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)		= Total Cover		Prevalence Index w		100	(A/B)
1.				Total % Cover of:		iply by:	
2.				OBL species	x1=	<u>ipiy by.</u>	
3.				FACW species	5 x2=	10	_
4.				FAC species	100 x3=	300	_
5.				FACU species	x4=	0	_
		= Total Cover		UPL species	x5=		_
Herb Stratum (Plot size: 10 feet)		= 10tal 00vel		Column Totals:	105 (A)	310	— (B)
Urtica dioica	1	Yes	FAC				— (B)
2.	<u>·</u>			Prevalence Inde	x = R/A=	2.9	15
3.				Hydrophytic Vegeta	-		
4.				1 - Rapid Test			on
5.				X 2 - Dominance		-	· · ·
6.				X 3 - Prevalence			
7.				4 - Morpholog			е
8.					emarks or on a		
9.				5 - Wetland N		•	,
10.				Problematic H			Explain)
11.				¹Indicators of hydric		-	
	1	= Total Cover		must be present, unl			
Woody Vine Stratum (Plot size: 10 feet)				, ,			
Rubus armeniacus	99	Yes	FAC	Hydrophytic			
2.				Vegetation	Yes X	No	
	99	= Total Cover		Present?			_
% Bare Ground in Herb Stratum 0							
Remarks:	<u> </u>						
Occupied to the standard of th	dia	-	lann amanda a a codo	ami, damaa, cami, Roda Is			

Depth	Ma	atrix		Red	ox Feature	S					
(inches)	Color (moist) %		Color (moist)	%	Type ¹	Loc²	Texture	Rema	ırks	
0-20	10YR 4/1	100						Sandy Clay Loam			
	-										
ype: C= Co	oncentration, D=	Depletion, RM	=Reduce	d Matrix, CS=Cover	ed or Coa	ted Sand G	rains.	²Location	: PL=Pore Linin	g, M=Matr	rix.
dric Soil I	ndicators: (App	licable to all I	.RRs, un	less otherwise no	ted.)			Indicators for Problem	atic Hydric Soi	ls³:	
Histos	sol (A1)			Sandy Redox (St	5)			2 cm Muck (A10))		
— Histic	Epipedon (A2)			Stripped Matrix (S6)			Red Parent Mate	erial (TF2)		
Black	Histic (A3)			Loamy Mucky Mi	neral (F1)	(except ML	.RLA 1)	Very Shallow Da	rk Surface (TF1	2)	
— Hydro	gen Sulfide (A4)			Loamy Gleyed M	atrix (F2)			Other (Explain in	Remarks)		
Deple	ted Below Dark S	Surface (A11)		Depleted Matrix ((F3)						
Thick	Dark Surface (A1	2)		Redox Dark Surfa	ace (F6)			³ Indicators of hydroph	ytic vegetation a	ınd	
Sandy	y Mucky Mineral (S1)		Depleted Dark S	urface (F7))		wetland hydrology n	nust be present,		
Sandy	y Gleyed Matrix (S	64)		Redox Depression	ns (F8)			unless disturbed or	problematic.		
Restrictive	Layer (if preser	nt):									
Type:											
Depth	(inches):							Hydric Soil Present?	Yes	No	
	l criteria are met.										
YDROLO		ors:									
YDROLO	OGY		ed; check	all that apply)				Secondary Indicators	<u> </u>		
YDROLO Wetland Hy Primary Ind	OGY ydrology Indicat		ed; check	all that apply) Water-Stained Le	eaves (B9)	(except		Secondary Indicators Water Stained Le	<u> </u>		
YDROLO Wetland Hy Primary Ind Surfac	DGY ydrology Indicat dicators (minimum	of one require	ed; check	Water-Stained Le		-			<u> </u>		
YDROLO Wetland Hy Primary Ind Surfac	OGY ydrology Indicat dicators (minimum ce Water (A1)	of one require	ed; check	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	A, and 4B)			Water Stained Lo 4A, and 4B) Drainage Patterr	eaves (B9) (MRI		
YDROLO Wetland Hy Primary Ind Surface High V Satura Water	ydrology Indicat dicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1)	of one require	ed; check	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr	a, and 4B)			Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat	eaves (B9) (MRI as (B10) er Table (C2)	_A 1, 2,	-
YDROLC Wetland Hy Primary Ind Surfac High \ Satura Water Sedim	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2)	of one require	ed; check	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide	ates (B13) Odor (C1)		Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible	eaves (B9) (MRI ns (B10) er Table (C2) e on Aeriel Imag	_A 1, 2,	-
YDROLO Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D	ydrology Indicat dicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3)	of one require	ed; check	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp	ates (B13) Odor (C1 Oheres alor) ng Living R	oots (C3)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos	eaves (B9) (MRI ns (B10) er Table (C2) e on Aeriel Imag ition (D2)	_A 1, 2,	-
YDROLO Wetland Hy Primary Ind Surfac High V Satura Water Sedim Drift D	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) or Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4)	of one require	ed; check	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red	ates (B13) Odor (C1 oheres alor uced Iron () ng Living R (C4)		Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitaro	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3)	_A 1, 2,	
YDROLO Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) or Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	of one require	ed; check	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu	ates (B13) Odor (C1 Oheres alor uced Iron (uction in Ti) ng Living R (C4) Iled Soils (G	C6)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3) st (D5)	_A 1, 2 , ery (C9)	-
YDROLO Wetland Hy Primary Ind Surface High N Satura Water Sedim Drift D Algal I Iron D Surface	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) or Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6)	of one require))		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress	ates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti) ng Living R (C4) lled Soils (((D1) (LRR	C6)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3) at (D5) nds (D6) (LRR A	_A 1, 2 , ery (C9)	
YDROLO Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6) ation Visible on A	of one require) 6) eriel Imagery (Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu	ates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti) ng Living R (C4) lled Soils (((D1) (LRR	C6)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3) at (D5) nds (D6) (LRR A	_A 1, 2 , ery (C9)	-
Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) or Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6) ation Visible on A	of one require) 6) eriel Imagery (Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress	ates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti) ng Living R (C4) lled Soils (((D1) (LRR	C6)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3) at (D5) nds (D6) (LRR A	_A 1, 2 , ery (C9)	
YDROLO Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) In Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ince Soil Cracks (B1) Ation Visible on And Seley Vegetated Contervations:	of one require) 6) eriel Imagery (ncave Surface	B B	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti) ng Living R (C4) lled Soils (((D1) (LRR	C6)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3) at (D5) nds (D6) (LRR A	_A 1, 2 , ery (C9)	-
YDROLO Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ince Soil Cracks (B6) ation Visible on A Beley Vegetated Co	of one require) 6) eriel Imagery (ncave Surface	B (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti) ng Living R (C4) lled Soils (((D1) (LRR	C6)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3) at (D5) nds (D6) (LRR A	_A 1, 2 , ery (C9)	-
Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Water Table	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Dee Soil Cracks (B1) ation Visible on A celey Vegetated Coervations: Deter Present?	of one require) 6) eriel Imagery (ncave Surface Yes No	B X (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti) ng Living R (C4) lled Soils (((D1) (LRR	C6) A)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3) at (D5) ands (D6) (LRR A	A 1, 2, ery (C9)	-
Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Wa Water Table Saturation I	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) In Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Deposits (B5) Deposits (B5) Deposits (B5) Deposits (B6) Deposits (B6) Deposits (B7) Deposits (B8) D	of one require) 6) eriel Imagery (ncave Surface	B X (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti) ng Living R (C4) lled Soils (((D1) (LRR	C6) A)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3) at (D5) nds (D6) (LRR A	_A 1, 2 , ery (C9)	
Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Wa Water Table Saturation I (includes ca	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) or Marks (B1) ment Deposits (B3) Mat or Crust (B4) Deposits (B5) oe Soil Cracks (B1) ation Visible on A colley Vegetated College Vegetated College Vegetated College (B1) ater Present? Present?	of one require) eriel Imagery (ncave Surface /es No /es No	B X X X	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1 Oheres alor uced Iron (uction in Ti sed Plants Remarks)) ng Living R (C4) lled Soils (C (D1) (LRR	C6) A) Wetland	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3) at (D5) ands (D6) (LRR A	A 1, 2, ery (C9)	
Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Wa Water Table Saturation I (includes ca	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) or Marks (B1) ment Deposits (B3) Mat or Crust (B4) Deposits (B5) oe Soil Cracks (B1) ation Visible on A colley Vegetated College Vegetated College Vegetated College (B1) ater Present? Present?	of one require) eriel Imagery (ncave Surface /es No /es No	B X X X	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1 Oheres alor uced Iron (uction in Ti sed Plants Remarks)) ng Living R (C4) lled Soils (C (D1) (LRR	C6) A) Wetland	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3) at (D5) ands (D6) (LRR A	A 1, 2, ery (C9)	
Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Wa Water Table Saturation I (includes ca	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) or Marks (B1) ment Deposits (B3) Mat or Crust (B4) Deposits (B5) oe Soil Cracks (B1) ation Visible on A colley Vegetated College Vegetated College Vegetated College (B1) ater Present? Present?	of one require) eriel Imagery (ncave Surface /es No /es No	B X X X	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1 Oheres alor uced Iron (uction in Ti sed Plants Remarks)) ng Living R (C4) lled Soils (C (D1) (LRR	C6) A) Wetland	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3) at (D5) ands (D6) (LRR A	A 1, 2, ery (C9)	
Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Wa Water Table Saturation I (includes ca	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) or Marks (B1) ment Deposits (B3) Mat or Crust (B4) Deposits (B5) oe Soil Cracks (B1) ation Visible on A colley Vegetated College Vegetated College Vegetated College (B1) ater Present? Present?	of one require) eriel Imagery (ncave Surface /es No /es No	B X X X	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1 Oheres alor uced Iron (uction in Ti sed Plants Remarks)) ng Living R (C4) lled Soils (C (D1) (LRR	C6) A) Wetland	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3) at (D5) ands (D6) (LRR A	A 1, 2, ery (C9)	
Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Wa Water Table Saturation I (includes ca escribe Rec	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) or Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Deposits (B5) Deposits (B5) Deposits (B5) Deposits (B6) Deposits (B6) Deposits (B6) Deposits (B7) Deposits (B8) D	of one require) in of one require in of one one require in of one	B X X X X X X X initoring w	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches): Depth (inches):	ates (B13) Odor (C1 Oheres alor uced Iron (uction in Ti sed Plants Remarks)	ng Living R (C4) Iled Soils (C (D1) (LRR	Wetland	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (MRI as (B10) er Table (C2) e on Aeriel Imag ition (D2) I (D3) at (D5) ands (D6) (LRR A anmocks (D7) Yes	_A 1, 2, ery (C9)	



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	ate: 11/7/2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W10-P1 (V	V)	
Investigators: B DARBY, J MAZE			Section, Township, I	Range:			
Landform (hillslope, terrace, etc.): Hillslope		Local Reli	ef (concave, convex,	_	Slor	pe(%): 0	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84	` ′	
Soil Map Unit Name: Steever stony clay loam, 2 to	30 percent slope			ation: Unmapped			
Are climatic / hydrologic conditions on the site typical				(If No, explain in Re	emarks)		
Are Vegetation: Soil or Hydrology	significantly di		Are "Normal Circum	- ` '	Yes	X N	0
Are Vegetation: Soil or Hydrology	naturally probl	ematic?	(If needed, explain	any answers in Rem	arks.)		
SUMMARY OF FINDINGS - Attach a sit	— e map showi	ng sampling				ıres, etc.	
Hydrophytic Vegetation Present? Yes X	No						
Hydric Soil Present? Yes	. No	Is the	Sampled Area				
Netland Hydrology Present? Yes X No		withir	n a Wetland?	Yes	X	No	
Remarks:							
Wetland 10 is a small depressional wetland located soils and wetland hydrology.		ounded by Ash L	ake Road. Sample pl	ot meets indicators f	or hydrophytic	vegetation, h	nydric
VEGETATION – Use scientific names of				Т			
	Absolute	Dominant	Indicator	Dominance Test			
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Domina			
1. Fraxinus latifolia	55	Yes	FACW	That Are OBL, FAC		4	_ (A)
2. Alnus rubra	10	No	FAC FAC	Total Number of Do			(5)
3.				Species Across All		4	_ (B)
4				Percent of Domina	•	400	(A /D)
Cardina (Charle Chartura (Diet aine 40 fact)	65	= Total Cover		That Are OBL, FAC		100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)	05	V	FA0	Prevalence Index		Carlos Issue	
1. Rubus armeniacus	25	Yes	- FAC	Total % Cover of:		tiply by:	
2. Ribes divaricatum	10	Yes	FAC FAC	OBL species	x1=		_
3.				FACW species	90 x2=		_
4 5.				FAC species FACU species	50 x3= 5 x4=		_
5.	35	= Total Cover		UPL species	5 x4= x5=		_
Herb Stratum (Plot size: 10 feet)		= Total Cover		Column Totals:	145 (A)	350	— (B)
Phalaris arundinacea	35	Yes	FACW	Column Totals.	(A)		– (D)
Solanum dulcamara	5	No	FAC	Prevalence Ind	ex – R/A–	2.4	.1
Daucus carota	5	No	FACU	Prevalence Index = B/A= 2.41 Hydrophytic Vegetation Indicators:			<u> </u>
4.					st for Hydrophy		on
5.				X 2 - Dominan		•	
6.					ce Index is ≤3.0		
7.					gical Adaptatio)
8.					Remarks or on	,	
9.					Non-Vascular F		,
10.				Problematic	Hydrophytic Ve	egetation¹ (E	xplain)
11.				¹Indicators of hydric		-	
	45	= Total Cover		must be present, u		-	-
Woody Vine Stratum (Plot size: 10 feet)				,			
1.				Hydrophytic			
2.				Vegetation	Yes X	No	
		= Total Cover		Present?			_
% Bare Ground in Herb Stratum 55							
Remarks:				ı			
Multistoried vegetation layers. Sample plot meets the	e dominance test	for hydrophytic	vegetation.				

Depth	Matrix		Redo	x Feature	<u> </u>			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-2	10 YR 2/1	100					Silt Loam	
2-8	10YR 3/1	100					Clay Loam	
8-24	2.5Y 3/2	90	7.5YR 3/3	8	С	M	Clay Loam	
			5YR 3/4	2	С	M		
pe: C= C	concentration, D= Dep	letion, RM=Red	uced Matrix, CS=Covere	ed or Coa	ted Sand G	rains.	²Locatio	n: PL=Pore Lining, M=Matrix
dric Soil I	Indicators: (Applica	ble to all LRRs,	unless otherwise not	ed.)			Indicators for Proble	matic Hydric Soils³:
Histos	sol (A1)		Sandy Redox (S5)			2 cm Muck (A1	0)
— Histic	Epipedon (A2)		Stripped Matrix (S	86)			Red Parent Ma	terial (TF2)
Black	Histic (A3)		Loamy Mucky Mir	neral (F1)	(except ML	RLA 1)	Very Shallow D	ark Surface (TF12)
Hydro	ogen Sulfide (A4)		Loamy Gleyed Ma	atrix (F2)			Other (Explain	in Remarks)
Deple	eted Below Dark Surfa	ce (A11)	Depleted Matrix (F	F3)				
Thick	Dark Surface (A12)		X Redox Dark Surfa	ace (F6)			³ Indicators of hydrop	hytic vegetation and
Sand	y Mucky Mineral (S1)		Depleted Dark Su	ırface (F7))		wetland hydrology	must be present,
Sand	y Gleyed Matrix (S4)		Redox Depression	ns (F8)			unless disturbed o	r problematic.
Restrictive	e Layer (if present):							
Type:	:							
	n (inches):						Hydric Soil Present	? Yes X No
marks: mple plot i	meets hydric soil indic	ator for redox da	ark surface (F6).					
marks: mple plot i	meets hydric soil indic							
marks: mple plot of YDROLO Vetland H Primary Inc	meets hydric soil indic OGY lydrology Indicators: dicators (minimum of o		eck all that apply)				Secondary Indicator	s (2 or more required)
marks: mple plot i YDROLO Vetland H Primary Ind X Surfa	DGY lydrology Indicators: dicators (minimum of once Water (A1)		eck all that apply) Water-Stained Le	, ,	•		Secondary Indicators Water Stained	s (2 or more required) Leaves (B9) (MRLA 1, 2,
TDROLO Vetland H Primary Ind X Surfar X High	DGY lydrology Indicators: dicators (minimum of o		eck all that apply) Water-Stained Le MRLA 1, 2, 4A	, ,	•		Secondary Indicator Water Stained 4A, and 4B)	Leaves (B9) (MRLA 1, 2,
TOROLO Vetland H Primary Ind X Surfa X High X Satur	DGY Indicators: dicators (minimum of once Water (A1) Water Tables (A2) ration (A3)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	, and 4B)			Secondary Indicator Water Stained 4A, and 4B) Drainage Patte	Leaves (B9) (MRLA 1, 2,
rmarks: mple plot i rDROLO Vetland H Primary Inc X Surfa X High X Satura Water	DGY Indicators: Idicators (minimum of compared to the compar		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra	, and 4B)			Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2)
TDROLO Vetland H Primary Inc X Surfar X High X Satur Water Sedin	meets hydric soil indicators: dicators (minimum of of other case) water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide	, and 4B) ates (B13) Odor (C1)	ooto (C2)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9)
TDROLO Vetland H Primary Ind X Surfa X High X Satur Watel Sedin Drift I	DGY lydrology Indicators: dicators (minimum of orace Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp	, and 4B) ates (B13) Odor (C1 heres alor) ng Living R	oots (C3)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit X Geomorphic Po	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2)
Marks: mple plot i /DROLO Vetland H Primary Inc X Surfa X High X Satura Water Sedin Drift [Algal	meets hydric soil indicators: dicators (minimum of other water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	, and 4B) ates (B13) Odor (C1 heres alor)) ng Living R (C4)	, ,	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit X Geomorphic Po	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) rd (D3)
YDROLO Vetland H Primary Inc X Surfa X High X Satur Water Sedin Drift I Algal Iron I	DGY Industry I		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	, and 4B) ates (B13) Odor (C1 heres alor uced Iron ()) ng Living R (C4) illed Soils (0	C6)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit X Geomorphic Po Shallow Aquita X FAC-Neutral Te	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) rd (D3) est (D5)
TDROLO Vetland H Primary Ind X Surfar X High V X Satur Water Sedin Drift E Algal Iron E Surfar	meets hydric soil indicators: dicators (minimum of of other contents) water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ace Soil Cracks (B6)	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	, and 4B) ates (B13) Odor (C1 heres alor uced Iron (ction in Ti ed Plants	ng Living R (C4) illed Soils ((D1) (LRR	C6)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visib X Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) psition (D2) rd (D3) est (D5) unds (D6) (LRR A)
YDROLO Wetland H Primary Ind X Surfa X High Vate Sedin Drift I Algal Iron D Surfa Inund	meets hydric soil indicators: dicators (minimum of or	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	, and 4B) ates (B13) Odor (C1 heres alor uced Iron (ction in Ti ed Plants	ng Living R (C4) illed Soils ((D1) (LRR	C6)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit X Geomorphic Po Shallow Aquita X FAC-Neutral Te	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) psition (D2) rd (D3) est (D5) unds (D6) (LRR A)
YDROLO Wetland H Primary Inc X Surfa X High X Satur Water Sedin Drift E Algal Iron E Surfa Inund Spars	meets hydric soil indicators: dicators (minimum of of other ce Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ice Soil Cracks (B6) dation Visible on Aeries sley Vegetated Conca	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	, and 4B) ates (B13) Odor (C1 heres alor uced Iron (ction in Ti ed Plants	ng Living R (C4) illed Soils ((D1) (LRR	C6)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visib X Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) psition (D2) rd (D3) est (D5) unds (D6) (LRR A)
Marks: mple plot i Moreover the properties of the plot i Moreover the	meets hydric soil indicators: dicators (minimum of other colors) dicators (Minimum of	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	, and 4B) ates (B13) Odor (C1 heres alor uced Iron (ction in Ti ed Plants	ng Living R (C4) illed Soils (((D1) (LRR	C6)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visib X Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) psition (D2) rd (D3) est (D5) unds (D6) (LRR A)
Marks: mple plot i //DROLO /	meets hydric soil indicators: dicators (minimum of or	one required; ch	eck all that apply) Water-Stained Le. MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	, and 4B) ates (B13) Odor (C1 heres alor uced Iron (ction in Ti ed Plants	ng Living R (C4) illed Soils ((D1) (LRR	C6)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visib X Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) psition (D2) rd (D3) est (D5) unds (D6) (LRR A)
Marks: mple plot i Primary Inc X Surfa X High X Satur Water Sedin Drift E Algal Iron E Surfac Spars Field Obse Water Table	meets hydric soil indicators: dicators (minimum of of of other contents) dicators (minimum of of other contents) dicators (minimum of other contents) dicators (Male Male Contents) dicators (Male Contents) dicators (Minimum of other contents) dicators (Male Contents) dicators (Minimum of other contents) dicators (Male Contents) dicators (M	I Imagery (B ve Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in land) Depth (inches): Depth (inches):	, and 4B) ates (B13) Odor (C1 heres alor uced Iron (ction in Ti ed Plants	(C4) illed Soils ((D1) (LRR)	C6) A)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit X Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant Moo Frost-Heave Ho	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland H Primary Inc X Surfa X High X Satur Water Sedin Drift E Algal Iron E Surface Inund Spars Surface Water Tabl Saturation	meets hydric soil indicators: dicators (minimum of of other contents) dicators (minimum of other contents) atternors: dicators (Ma) Deposits (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) dicators (B6) dicators (B6	one required; ch	eck all that apply) Water-Stained Le. MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	, and 4B) ates (B13) Odor (C1 heres alor uced Iron (ction in Ti ed Plants	ng Living R (C4) illed Soils ((D1) (LRR	C6) A)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visib X Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland H Primary Ind X Surfac X High X Satur Wate Sedin Drift I Algal Iron I Surfac Inund Spars Field Obse Surface Water Table Saturation (includes c	meets hydric soil indicators: dicators (minimum of or	I Imagery (B ve Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in land) Depth (inches): Depth (inches): Depth (inches):	, and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants Remarks)	5.00 0.0	C6) A) Wetland	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit X Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant Moo Frost-Heave Ho	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland H Primary Ind X Surfac X High X Satur Wate Sedin Drift I Algal Iron I Surfac Inund Spars Field Obse Surface Water Tabl Saturation (includes c	meets hydric soil indicators: dicators (minimum of or	I Imagery (B ve Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in land) Depth (inches): Depth (inches):	, and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants Remarks)	5.00 0.0	C6) A) Wetland	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit X Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant Moo Frost-Heave Ho	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland H Primary Ind X Surfac X High Y X Satur Watel Sedin Drift I Algal Iron I Surfac Inund Spars Field Obse Surface Water Tabl Saturation (includes coescribe Reco	meets hydric soil indicators: dicators (minimum of or	I Imagery (B ve Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in land) Depth (inches): Depth (inches): Depth (inches):	, and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants Remarks)	5.00 0.0	C6) A) Wetland	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit X Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant Moo Frost-Heave Ho	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland H Primary Inc X Surfa X High X Satur Water Sedin Drift I Algal Iron I Surfac Inund Spars Field Obse Surface Water Tabl Saturation (includes c	meets hydric soil indicators: dicators (minimum of of other celegation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ince Soil Cracks (B6) dation Visible on Aerie sley Vegetated Concatervations: later Present? Yes Present? Yes rapillary fringe) corded Date (stream of other celegation of the corded Date (stream of the corded Date (stream of the celegation of the celegat	I Imagery (B ve Surface (B8) X No X No X No	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches): Depth (inches):	, and 4B) ates (B13) Odor (C1 heres alor uced Iron (ction in Ti ed Plants Remarks)	5.00 5.00 spections),	Wetland	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit X Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant Moi Frost-Heave He d Hydrology Present?	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)



Photo Name: Photo_231107145013



Photo Name: Photo_231107145042



	/2023	ate: 11/7/2	Sampling D	ımania	City/County:		Cascade Renewables	Project/Site:
)-P2 (U)	W10-F	Sampling	State: WA			Cascade Renewables	Applicant/Owner:
			Range:	ion, Township,			B DARBY, J MAZE	Investigators:
: 5	Slope(%):		, none): Convex	oncave, convex,	Local Relief		e, terrace, etc.): Hillslope	Landform (hillslop
	_	WGS84	Datum:		Long:	Lat:	A - Northwest Forest and	Subregion (LRR)
			cation: Unmapped	NWI Classific		o 30 percent slopes	ne: Steever stony clay loam, 2 to	Soil Map Unit Na
		emarks)	(If No, explain in R	 No	r? Yes	cal for this time of y	ologic conditions on the site typic	Are climatic / hyd
No	s X	Yes	nstances" present?	"Normal Circun	rbed?	significantly dis	Soil or Hydrology	Are Vegetation:
		ıarks.)	any answers in Rem	eeded, explain	atic?	naturally proble	Soil or Hydrology	Are Vegetation:
etc.	features,	ortant fe	, transects, imp	nt locations	sampling p	te map showin	F FINDINGS - Attach a sit	SUMMARY O
						No X	tation Present? Yes	Hydrophytic Vege
				pled Area	Is the S	No	nt? Yes	Hydric Soil Prese
lo X	No		Yes	etland?	within a		y Present? Yes	Wetland Hydrolog
								Remarks:
ue to higher-	hydrology du	sitive for hy					in upland area adjacent to Ash L pitation received in the area in the	Sample plot take
						of plants.	I – Use scientific names o	VEGETATION
			Dominance Test	Indicator	Dominant	Absolute		
	es	ant Species	Number of Domina	Status	Species?	% Cover	(Plot size: 30 feet)	Tree Statum
0 (A)	AC:	CW, or FAC	That Are OBL, FA					1
		ominant	Total Number of D					2
1 (B)		l Strata:	Species Across Al					3.
	9 S	ınt Species	Percent of Domina					4.
0 (A/B)			That Are OBL, FA		= Total Cover			
	et:	workshee	Prevalence Index				atum (Plot size: 10 feet)	Sapling/Shrub St
<u>v:</u>	Multiply by		Total % Cover of:					1
	x1=		OBL species					2.
0	x2=		FACW species					3.
0	x3=		FAC species					4.
300	x4=3	75	FACU species					5.
0	x5=		UPL species		= Total Cover			
300 (B)	_ (A)3	75	Column Totals:				(Plot size: 10 feet)	Herb Stratum
				FACU	Yes	60	nmunis	1. Lapsana co
4.00	=	dex = B/A =	Prevalence Inc	FACU	No	10	yanus	2. Centaurea d
	idicators:	etation Ind	Hydrophytic Veg	FACU	No	5	munitum	Polystichum
getation	drophytic Veg	est for Hydr	1 - Rapid Te					4.
	s >50%	ce Test is :	2 - Dominar					5.
	is ≤3.0¹	ce Index is	3 - Prevaler					6.
rovide	aptations¹ (Pr	ogical Adap	4 - Morpholo					7.
arate sheet)	or on a sepa	Remarks or	data in					8.
1	cular Plants ¹	Non-Vascu	5 - Wetland					9.
tion¹ (Explain)	ytic Vegetation	Hydrophyt	Problematic					10.
drology	d wetland hyd	ic soil and v	¹ Indicators of hydr					11
oblematic.	turbed or pro	ınless distu	must be present, u		= Total Cover	75		
							um (Plot size: 10 feet)	Woody Vine Stra
			Hydrophytic					1
X	No	Yes	Vegetation					2.
		•	Present?		Total Cover			
							Herb Stratum 25	% Bare Ground in
/dro	d wetland hyd turbed or pro	ic soil and vunless distu	¹Indicators of hydr must be present, u Hydrophytic Vegetation					Woody Vine Strat 1. 2. % Bare Ground in Remarks:

	Matrix		Reut	ox Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks
0-15	10YR 3/2	100						
15-24	2.5Y 3/1	98	7.5 YR 4/4	2	С	M		
pe: C= C	oncentration, D= Deple	etion, RM=Red	luced Matrix, CS=Cover	ed or Coat	ted Sand G	rains.	²Location	n: PL=Pore Lining, M=Mat
dric Soil II	ndicators: (Applicab	le to all LRRs	, unless otherwise not	ted.)			Indicators for Probler	natic Hydric Soils³:
Histos	sol (A1)		Sandy Redox (S5	5)			2 cm Muck (A10	0)
— Histic	Epipedon (A2)		Stripped Matrix (S	S6)			Red Parent Mat	terial (TF2)
Black	Histic (A3)		Loamy Mucky Mi	neral (F1)	(except ML	RLA 1)	Very Shallow D	ark Surface (TF12)
Hydro	gen Sulfide (A4)		Loamy Gleyed M	atrix (F2)			Other (Explain i	n Remarks)
Deplet	ted Below Dark Surfac	e (A11)	Depleted Matrix (F3)				
Thick	Dark Surface (A12)		Redox Dark Surfa	ace (F6)			³ Indicators of hydropl	hytic vegetation and
Sandy	Mucky Mineral (S1)		Depleted Dark Su	urface (F7))		wetland hydrology	must be present,
Sandy	Gleyed Matrix (S4)		Redox Depressio	ns (F8)			unless disturbed or	problematic.
estrictive	Layer (if present):							
Type:								
								• '
narks: Is with red		ur 15 inches be	- elow ground surface. Sa	ample plot	is close to	wetland b	Hydric Soil Present oundary but not within.	
marks: ils with red /DROLC	ox concentrations occu			ample plot	is close to	wetland b	oundary but not within.	
marks: ils with red /DROLC Vetland Hy Primary Ind	OGY ydrology Indicators:		neck all that apply)			wetland b	oundary but not within. Secondary Indicators	s (2 or more required)
marks: ils with red /DROLO Vetland Hy Primary Ind Surface	OGY ydrology Indicators: licators (minimum of or		neck all that apply)Water-Stained Le	eaves (B9)	(except	wetland b	Secondary Indicators Water Stained L	
marks: Ils with red Verland Hy Primary Ind Surfac X High V	ox concentrations occur OGY ydrology Indicators: licators (minimum of or the Water (A1) Nater Tables (A2)		neck all that apply) Water-Stained Le	eaves (B9)	(except	wetland b	Secondary Indicators Water Stained L 4A, and 4B)	s (2 or more required) Leaves (B9) (MRLA 1, 2,
TDROLC Vetland Hy rimary Ind Surfac X High V X Satura	ox concentrations occupants OGY ydrology Indicators: licators (minimum of or ce Water (A1) Nater Tables (A2) ation (A3)		neck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	eaves (B9)	(except	wetland b	Secondary Indicators Water Stained L 4A, and 4B) Drainage Patter	s (2 or more required) Leaves (B9) (MRLA 1, 2,
TDROLO Vetland Hy Primary Ind Surface X High V X Satura Water	ox concentrations occur OGY ydrology Indicators: licators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) Marks (B1)		meck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr	eaves (B9) a, and 4B) ates (B13)	(except	wetland b	Secondary Indicators Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa	s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) atter Table (C2)
rDROLO Vetland Hy Surfac X High V X Satura Water Sedim	ox concentrations occur OGY ydrology Indicators: dicators (minimum of or the Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2)		water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide	eaves (B9) A, and 4B) ates (B13) Odor (C1)	(except		Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa	es (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) Leater Table (C2) Leaves (C9)
Marks: ils with red Vetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D	ox concentrations occur OGY ydrology Indicators: licators (minimum of or ce Water (A1) Vater Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) deposits (B3)		meck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp	eaves (B9) A, and 4B) ates (B13) Codor (C1) cheres alor	(except		Secondary Indicators Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po	es (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2)
Marks: Ils with red Primary Ind Surface X High V X Satura Water Sedim Drift D Algal I	ox concentrations occur or ydrology Indicators: licators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4)		meck all that apply) Water-Stained Let MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redi	eaves (B9) ates (B13) Odor (C1) oheres alor uced Iron ((except)) ng Living R (C4)	oots (C3)	Secondary Indicators Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po	es (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) Atter Table (C2) Sele on Aeriel Imagery (C9) Selition (D2) Sel (D3)
Marks: ills with red Vetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D Algal I Iron D	ox concentrations occur over a concentration occur over		MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	eaves (B9) a, and 4B) ates (B13) Odor (C1) cheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils (6	oots (C3)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) d (D3) est (D5)
Marks: ills with red Vetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D Algal I Iron D Surfac	ox concentrations occur over a concentration occur over	ne required; ch	meck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	es (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) Leater Table (C2) Leade on Aeriel Imagery (C9) Leater (D3) Leater (D5) Leater (D5) Leater (D6) (LRR A)
Vetland Hy Surface X High V X Satura Water Sedim Drift D Algal I Iron D Surface Inunda	ox concentrations occur OGY ydrology Indicators: licators (minimum of or ce Water (A1) Vater Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) heposits (B3) Mat or Crust (B4) heposits (B5) he Soil Cracks (B6) hation Visible on Aeriel I	ne required; ch	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redi Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	es (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) Leater Table (C2) Leade on Aeriel Imagery (C9) Leater (D3) Leater (D5) Leater (D5) Leater (D6) (LRR A)
rmarks: ills with red Primary Ind Surface X High V X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsl	ox concentrations occur OGY ydrology Indicators: licators (minimum of or ce Water (A1) Nater Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) deposits (B3) Mat or Crust (B4) heposits (B5) he Soil Cracks (B6) hation Visible on Aeriel I ley Vegetated Concave	ne required; ch	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redi Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	es (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) Leater Table (C2) Leade on Aeriel Imagery (C9) Leater (D3) Leater (D5) Leater (D5) Leater (D6) (LRR A)
Marks: ills with red Vetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparsl	ox concentrations occur OGY ydrology Indicators: licators (minimum of or ce Water (A1) Nater Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) deposits (B3) Mat or Crust (B4) heposits (B5) he Soil Cracks (B6) hation Visible on Aeriel I ley Vegetated Concave	ne required; ch	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	es (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) Leater Table (C2) Leade on Aeriel Imagery (C9) Leater (D3) Leater (D5) Leater (D5) Leater (D6) (LRR A)
YDROLO Vetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparsl	ox concentrations occur OGY ydrology Indicators: licators (minimum of or the Water (A1) Vater Tables (A2) ation (A3) Marks (B1) thent Deposits (B2) theposits (B3) Mat or Crust (B4) theposits (B5) the Soil Cracks (B6) ation Visible on Aeriel I they Vegetated Concave there Present? Yes	ne required; ch Imagery (B e Surface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Ti	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	es (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) Leater Table (C2) Leade on Aeriel Imagery (C9) Leater (D3) Leater (D5) Leater (D5) Leater (D6) (LRR A)
marks: ils with red YDROLO Vetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparsl Field Obse Surface Water Table	ox concentrations occur OGY Identifications (minimum of or	ne required; ch	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	es (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) Atter Table (C2) Atter Table (C2) Atter Table (D2) Atter Table (D3) Atter Table (D5) Atter Table (C2) Atter Table (C3)
YDROLO Wetland Hy Primary Ind Surface X High V X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsl Field Obse Surface Wa Water Table Saturation F	ox concentrations occur OGY ydrology Indicators: licators (minimum of or the Water (A1) Nater Tables (A2) ation (A3) Marks (B1) then Deposits (B2) the posits (B3) Mat or Crust (B4) the posits (B5) the Soil Cracks (B6) the posits (B5) the Soil Cracks (B6) the posits (B5) the Soil Cracks (B6) the posits (B5) the Present? Yes Present? Yes Present? Yes	Imagery (B e Surface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicators Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	es (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) Atter Table (C2) Atter Table (C2) Atter Table (D2) Atter Table (D3) Atter Table (D5) Atter Table (C2) Atter Table (C3)
YDROLO Wetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparsl Field Obse Surface Wa Water Table Saturation I (includes ca	ox concentrations occur OGY ydrology Indicators: licators (minimum of or ce Water (A1) Nater Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) heposits (B3) Mat or Crust (B4) heposits (B5) he Soil Cracks (B6) hation Visible on Aeriel I hely Vegetated Concave revations: her Present? Yes	Imagery (B e Surface (B8) No X No	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	eaves (B9) ates (B13) Odor (C1) oheres alor uced Iron (uction in Ti sed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR 7.0 10.0	oots (C3) C6) A)	Secondary Indicators Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	es (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) Atter Table (C2) Atter Table (C2) Atter Table (D2) Atter Table (D3) Atter Table (D5) Atter Table (C2) Atter Table (C3)
YDROLO Vetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparsl Field Obse Surface Wa Water Table Saturation I includes ca	ox concentrations occur OGY ydrology Indicators: licators (minimum of or ce Water (A1) Nater Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) heposits (B3) Mat or Crust (B4) heposits (B5) he Soil Cracks (B6) hation Visible on Aeriel I hely Vegetated Concave revations: her Present? Yes	Imagery (B e Surface (B8) No X No	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) ates (B13) Odor (C1) oheres alor uced Iron (uction in Ti sed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR 7.0 10.0	oots (C3) C6) A)	Secondary Indicators Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	es (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) Atter Table (C2) Atter Table (C2) Atter Table (D2) Atter Table (D3) Atter Table (D5) Atter Table (C2) Atter Table (C3)
YDROLO Wetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparsl Field Obse Surface Wa Water Table Saturation I includes ca	ox concentrations occur OGY ydrology Indicators: licators (minimum of or ce Water (A1) Nater Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) heposits (B3) Mat or Crust (B4) heposits (B5) he Soil Cracks (B6) hation Visible on Aeriel I hely Vegetated Concave revations: her Present? Yes	Imagery (B e Surface (B8) No X No	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	eaves (B9) ates (B13) Odor (C1) oheres alor uced Iron (uction in Ti sed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR 7.0 10.0	oots (C3) C6) A)	Secondary Indicators Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	es (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) Atter Table (C2) Atter Table (C2) Atter Table (D2) Atter Table (D3) Atter Table (D5) Atter Table (C2) Atter Table (C3)



Photo Name: Photo_231107150535



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	ate: 11/9/2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W11-P1 (V	V)	
Investigators: B DARBY, J MAZE			Section, Township,	Range:			
Landform (hillslope, terrace, etc.): Hillslope		Local Reli	ef (concave, convex,	_	Slor	e(%): 10	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84	`	
Soil Map Unit Name: Steever stony clay loam, 2 to	30 percent slope			cation: Unmapped			
Are climatic / hydrologic conditions on the site typic				(If No, explain in R	emarks)		
Are Vegetation: Soil or Hydrology	significantly d	-	Are "Normal Circum	- ` ' '	Yes	X N	0
Are Vegetation: Soil or Hydrology	naturally prob	lematic?	(If needed, explain	any answers in Rem	narks.)		
SUMMARY OF FINDINGS - Attach a sit	e map show	ng sampling	point locations	, transects, imp	ortant featu	ıres, etc.	
Hydrophytic Vegetation Present? Yes	(No						
Hydric Soil Present? Yes	No	Is the	Sampled Area				
Wetland Hydrology Present? Yes	No	withir	n a Wetland?	Yes	X	No	
Remarks:							
Wetland 11 is a small riverine wetland formed on the wetland criteria for hydrophytic vegetation, hydric s	oils and hydrolog		and is located immed	diately adjacent to A	sh Lake Road.	Sample plot	met
VEGETATION – Use scientific names of		<u> </u>		15	<u> </u>		
Tara Otatura (Plataina 00 (aut)	Absolute	Dominant	Indicator	Dominance Test			
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status Status	Number of Domina		2	(4)
1.				That Are OBL, FA		3	_ ^(A)
2. 3.				Species Across Al		3	(D)
4.		-		Percent of Domina			– ^(B)
4.		= Total Cover		That Are OBL, FA	•	100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)		= Total Cover		Prevalence Index		100	(A/D)
Acer circinatum	30	Yes	FAC	Total % Cover of:		iply by:	
Rubus armeniacus	5	No	FAC	OBL species	x1=	iipiy by.	
3.				FACW species	${66}$ x2=	132	_
4.				FAC species	$\frac{00}{95}$ x3=	285	_
5.				FACU species	20 x4=	80	_
	35	= Total Cover		UPL species	x5=	0	_
Herb Stratum (Plot size: 10 feet)				Column Totals:	181 (A)	497	— (B)
Impatiens capensis	60	Yes	FACW		`		- ` ′
Equisetum arvense	50	Yes	FAC	Prevalence Inc	dex = B/A =	2.7	5
Geranium robertianum	20	No	FACU	Hydrophytic Veg	etation Indicate	ors:	
4. Schedonorus arundinaceus	10	No	FAC	1 - Rapid Te	est for Hydrophy	rtic Vegetation	on
5. Phalaris arundinacea	3	No	FACW	X 2 - Dominar	ice Test is >50%	6	
6.				X 3 - Prevalen	ice Index is ≤3.0)1	
7.				4 - Morpholo	ogical Adaptatio	ns¹ (Provide)
8.				data in	Remarks or on a	a separate s	sheet)
9.				5 - Wetland	Non-Vascular F	Plants1	
10.				Problematic	Hydrophytic Ve	egetation¹ (E	xplain)
11.				¹ Indicators of hydr	ic soil and wetla	nd hydrolog	ıy
	143	= Total Cover		must be present, u	ınless disturbed	or problem	atic.
Woody Vine Stratum (Plot size: 10 feet)							
1				Hydrophytic			
2				Vegetation	Yes X	No	_
% Bare Ground in Herb Stratum 15		= Total Cover		Present?			
				1			
Remarks: Multistoried herb layer. Bare ground is attributed to	the streambed of	f Stream 7. The s	ample plot meets the	e dominance test for	hydrophytic veg	etation.	

Depth	Ma	trix	Red	ox Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks
0-8	10YR 3/2	100					Silt Loam	Gravels present
8-16	5Y 3/1	80	7.5YR 4/6	10			Silt Loam	
	10Y 2.5/1						-	
	101 2.0/1							
		_						
			-					
								· -
•			educed Matrix, CS=Cover		ted Sand G			cation: PL=Pore Lining, M=Matrix
		cable to all LRF	ts, unless otherwise no	ted.)				oblematic Hydric Soils ³ :
Histos	sol (A1)		Sandy Redox (St	5)			2 cm Mucl	c (A10)
Histic	Epipedon (A2)		Stripped Matrix (S6)				t Material (TF2)
Black	Histic (A3)		Loamy Mucky Mi	neral (F1)	(except ML	RLA 1)	Very Shall	ow Dark Surface (TF12)
Hydro	ogen Sulfide (A4)		Loamy Gleyed M	atrix (F2)			Other (Exp	olain in Remarks)
Deple	eted Below Dark S	ırface (A11)	Depleted Matrix ((F3)				
Thick	Dark Surface (A12	2)	X Redox Dark Surfa	ace (F6)			³ Indicators of hy	drophytic vegetation and
Sand	y Mucky Mineral (S	51)	Depleted Dark St	urface (F7)		wetland hydro	logy must be present,
Sand	y Gleyed Matrix (S	4)	Redox Depression	ns (F8)			unless disturb	ed or problematic.
Restrictive	Layer (if presen	t):						
Type:								
Depth	(inches):		_				Hydric Soil Pre	esent? Yes X No
ils within t		et the hydric soil	indicator for redox dark s	urface (F6). Gravels v	vithin soil		elic roadcut and erosion from Strea
YDROLO Wetland H	DGY ydrology Indicato	ors:		urface (F6). Gravels v	vithin soil	layer likely from re	elic roadcut and erosion from Strea
YDROLO Wetland H Primary Ind	OGY ydrology Indicato dicators (minimum	ors:	check all that apply)			vithin soil	layer likely from re	elic roadcut and erosion from Strea
YDROLO Wetland H Primary Ind	DGY ydrology Indicato dicators (minimum ce Water (A1)	ors:	check all that apply) Water-Stained Le	eaves (B9)	(except	vithin soil	layer likely from re	cators (2 or more required) ned Leaves (B9) (MRLA 1, 2,
YDROLO Wetland H Primary Inc Surfa X High	ydrology Indicato dicators (minimum ce Water (A1) Water Tables (A2)	ors:	check all that apply) Water-Stained Le	eaves (B9)	(except	vithin soil	Secondary India Water Stai	cators (2 or more required) ned Leaves (B9) (MRLA 1, 2,
YDROLO Wetland H Primary Ind Surfa X High	ydrology Indicated dicators (minimum ce Water (A1) Water Tables (A2) ation (A3)	ors:	check all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	eaves (B9)	(except	vithin soil	Secondary India Water Stai 4A, and	cators (2 or more required) ned Leaves (B9) (MRLA 1, 2,
YDROLO Wetland H Primary Ind Surfa X High X Satur Wate	ydrology Indicated dicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1)	ors: of one required;	check all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr	eaves (B9) 3, and 4B) ates (B13)	(except	vithin soil	Secondary India Water Stai 4A, and Drainage I	cators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2)
YDROLO Wetland H Primary Ind Surfa X High X Satur Wate Sedin	ydrology Indicator dicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2)	ors: of one required;	check all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide	eaves (B9) A, and 4B) ates (B13)	(except		Secondary India Water Stai 4A, and Drainage I Dry-Seaso	cators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C9)
YDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I	ydrology Indicated dicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3)	ors: of one required;	check all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp	eaves (B9) A, and 4B) ates (B13) e Odor (C1) oheres alo	(except)) ng Living R		Secondary India Water State 4A, and Drainage I Dry-Seaso Saturation Geomorph	eators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C9) ic Position (D2)
YDROLO Wetland H Primary Ind X High X X Satur Wate Sedin Drift [Algal	ydrology Indicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4)	ors: of one required;	check all that apply) Water-Stained Let MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red	eaves (B9) A, and 4B) ates (B13) Odor (C1) oheres alo uced Iron	(except)) ng Living R (C4)	oots (C3)	Secondary India Water Stat 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ad	eators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C9) ic Position (D2) quitard (D3)
YDROLO Wetland H Primary Ind X High X Satur Wate Sedin Drift I Algal Iron I	ydrology Indicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	ors: of one required;	check all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu	eaves (B9) A, and 4B) eates (B13) e Odor (C1) cheres alo uced Iron uction in T	(except)) ng Living R (C4) illed Soils (6	pots (C3)	Secondary India Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr	cators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) nn Water Table (C2) Visible on Aeriel Imagery (C9) ic Position (D2) quitard (D3) ral Test (D5)
YDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift [Algal Iron [Surfa	ydrology Indicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6	ors: of one required;	check all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress	eaves (B9) A, and 4B) ates (B13) Odor (C1) Oheres alo uced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils ((D1) (LRR	pots (C3)	Secondary India Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neuti Raised An	eators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C9) ic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A)
YDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund	ydrology Indicator dicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on A6	ors: of one required; of one required;	check all that apply) Water-Stained Let MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Odor (C1) Oheres alo uced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils ((D1) (LRR	pots (C3)	Secondary India Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neuti Raised An	cators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) nn Water Table (C2) Visible on Aeriel Imagery (C9) ic Position (D2) quitard (D3) ral Test (D5)
YDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund	ydrology Indicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6	ors: of one required; of one required;	check all that apply) Water-Stained Let MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Odor (C1) Oheres alo uced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils ((D1) (LRR	pots (C3)	Secondary India Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neuti Raised An	eators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C9) ic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A)
YDROLO Wetland H Primary Ind X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars	ydrology Indicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on A6	ors: of one required; of one required;	check all that apply) Water-Stained Let MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Odor (C1) Oheres alo uced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils ((D1) (LRR	pots (C3)	Secondary India Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neuti Raised An	eators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C9) ic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A)
YDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars	ydrology Indicators (minimum ce Water (A1) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6) ation Visible on A6 Sley Vegetated Core	ors: of one required; of one required;	check all that apply) Water-Stained Let MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Odor (C1) Oheres alo uced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils ((D1) (LRR	pots (C3)	Secondary India Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neuti Raised An	eators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C9) ic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A)
YDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse	ydrology Indicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on A6 sley Vegetated Corervations: ater Present?	ors: of one required; riel Imagery (Bacave Surface (B	check all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Odor (C1) Oheres alo uced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils ((D1) (LRR	pots (C3)	Secondary India Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neuti Raised An	eators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C9) ic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A)
YDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface Wi	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) In Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Indicator Cracks (B6) Indicator Visible on Aerology Ind	ors: of one required; oriel Imagery (Bacave Surface (Bacave Surface)	check all that apply) Water-Stained Leter MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosper Presence of Red Recent Iron Redustrated or Stressed Other (Explain in 8) X Depth (inches):	eaves (B9) A, and 4B) ates (B13) Odor (C1) Oheres alo uced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils ((D1) (LRR	Doots (C3)	Secondary India Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neuti Raised An	eators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C9) iic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A) ve Hummocks (D7)
YDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface W Water Tabl Saturation	ydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) ation (A3) In Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Indicator Cracks (B6) Indicator Visible on Aerology Ind	ors: of one required; oriel Imagery (Bacave Surface (Baces No	check all that apply) Water-Stained Leter MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfider Oxidized Rhizosper Presence of Rederat Iron Reduction Stunted or Stressen Other (Explain in B) X Depth (inches): Depth (inches):	eaves (B9) A, and 4B) ates (B13) Odor (C1) Oheres alo uced Iron uction in T sed Plants	(except)) ng Living R (C4) illed Soils ((D1) (LRR	Doots (C3)	Secondary India Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ar X FAC-Neuti Raised An Frost-Hear	eators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C9) iic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A) ve Hummocks (D7)
YDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface Wi Water Tabl Saturation (includes c	ydrology Indicators (minimum ce Water (A1) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ince Soil Cracks (B6) Ination Visible on An action Visible on Action Visible	ors: of one required; eriel Imagery (Bacave Surface (Bacave S	check all that apply) Water-Stained Leter MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfider Oxidized Rhizosper Presence of Rederat Iron Reduction Stunted or Stressen Other (Explain in B) X Depth (inches): Depth (inches):	eaves (B9) A, and 4B) ates (B13) COdor (C1 Oheres alo uced Iron uction in T sed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary India Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neut Raised An Frost-Hear	eators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C9) iic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A) ve Hummocks (D7)
YDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface W: Water Tabl Saturation (includes c	ydrology Indicators (minimum ce Water (A1) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ince Soil Cracks (B6) Ination Visible on An action Visible on Action Visible	ors: of one required; eriel Imagery (Bacave Surface (Bacave S	check all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in 8) X Depth (inches): Depth (inches):	eaves (B9) A, and 4B) ates (B13) COdor (C1 Oheres alo uced Iron uction in T sed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary India Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neut Raised An Frost-Hear	eators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C9) iic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A) ve Hummocks (D7)
YDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface W: Water Tabl Saturation (includes c	ydrology Indicators (minimum ce Water (A1) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ince Soil Cracks (B6) Ination Visible on An action Visible on Action Visible	ors: of one required; eriel Imagery (Bacave Surface (Bacave S	check all that apply) Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in 8) X Depth (inches): Depth (inches):	eaves (B9) A, and 4B) ates (B13) COdor (C1 Oheres alo uced Iron uction in T sed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary India Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neut Raised An Frost-Hear	eators (2 or more required) ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C9) iic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A) ve Hummocks (D7)



Photo Name: Photo_231109112544



Project/Site: Cascade Renewables	IIION DAIA	City/County:	Skamania	Sampling Date	_		
Applicant/Owner: Cascade Renewables		_ Only/ County.	State: WA	Sampling Bate	W11-P2 (U)		
Investigators: B DARBY, J MAZE			Section, Township,		WITH 2 (0)		
Landform (hillslope, terrace, etc.): Hillslope			ef (concave, convex,		Slope(%)· 75	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:	ci (concave, convex,	´	GS84	1). 13	
Soil Map Unit Name: Steever stony clay loam, 2 to			NIWI Classifi	cation: Unmapped			
Are climatic / hydrologic conditions on the site typical				(If No, explain in Rem	narke)		
Are Vegetation: Soil or Hydrology	significantly d		Are "Normal Circun	- ` ' '	Yes X	No	•
Are Vegetation: Soil or Hydrology Are Vegetation: Soil or Hydrology	naturally prob			any answers in Remark			
SUMMARY OF FINDINGS - Attach a sit				•	•	oto	
			point locations	, transects, impor	tant reatures	s, etc.	
Hydrophytic Vegetation Present? Yes	No_X	l					
Hydric Soil Present? Yes	No _X		Sampled Area	V			
Wetland Hydrology Present? Yes	No _X	Within	a Wetland?	Yes _		No X	
Remarks:							
This data plot was located on the steep slopes adjathe active channel. No wetland criteria are met within			The upland boundar	y is very abrupt and fol	lows the rise in to	pograph	ny from
VEGETATION – Use scientific names o	of plants.						
	Absolute	Dominant	Indicator	Dominance Test We	orksheet:		
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominant	Species		
1. Abies grandis	25	Yes	FACU	That Are OBL, FACW	/, or FAC:	3	(A)
Pseudotsuga menziesii	10	Yes	FACU	Total Number of Dom	ninant		_
3.				Species Across All St	trata:	6	(B)
4.				Percent of Dominant	Species		_
	35	= Total Cover		That Are OBL, FACW	/, or FAC:	50	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index w	orksheet:		
Acer circinatum	60	Yes	FAC	Total % Cover of:	Multiply	<u>by:</u>	
2. Rubus armeniacus	15	Yes	FAC	OBL species	x1=		
3.				FACW species	x2=	0	_
4.				FAC species	115 x3=	345	_
5.				FACU species	80 x4=	320	_
	75	= Total Cover		UPL species	x5=	0	_
Herb Stratum (Plot size: 10 feet)				Column Totals:	195 (A)	665	– (B)
Equisetum arvense	40	Yes	FAC	_			_
Geranium robertianum	30	Yes	FACU	Prevalence Index	C = B/A =	3.4	1
Polystichum munitum	15	No	FACU	Hydrophytic Vegeta	tion Indicators:		
4.				1 - Rapid Test	for Hydrophytic \	egetation	n
5.				2 - Dominance	Test is >50%		
6.				3 - Prevalence	Index is ≤3.0¹		
7.				4 - Morphologic	cal Adaptations1	Provide	
8.				data in Re	marks or on a se	oarate s	heet)
9.				5 - Wetland No	n-Vascular Plant	S ¹	
10.				Problematic Hy	drophytic Vegeta	ation¹ (E	xplain)
11.				¹ Indicators of hydric s	oil and wetland h	ydrolog	y
	85	= Total Cover		must be present, unle	ess disturbed or p	roblema	atic.
Woody Vine Stratum (Plot size: 10 feet)					<u> </u>		
1.				Hydrophytic			
2.				Vegetation	Yes No	Х	
		= Total Cover		Present?			_
% Bare Ground in Herb Stratum 15							
Remarks:				_1			

Multistoried vegetative canopy. Bare ground is attributed to unvegetated rock and soil on the steep slopes within the sample plot. Sample plot does not meet indicators for hydrophytic vegetation.

(inches) Color (moist) % 0-24 10YR 3/2 100 Type: C= Concentration, D= Depletion, RM=Reduced Hydric Soil Indicators: (Applicable to all LRRs, unlethistosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Remarks: No indicators of hydric soils are present. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Saturation Present? Yes No X		Coated Sand Grains (F1) (except MLRLA F2) F6)	Indicators for Problem 2 cm Muck (A10 Red Parent Mate Very Shallow Da Other (Explain in	o)) erial (TF2) ark Surface (TF12)
Type: C= Concentration, D= Depletion, RM=Reduced lydric Soil Indicators: (Applicable to all LRRs, unled Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Itemarks: Ite	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6)	(F1) (except MLRLA F2) F6) e (F7)	Indicators for Problem 2 cm Muck (A10 Red Parent Mate Very Shallow Da Other (Explain in	natic Hydric Soils³: 0) erial (TF2) ark Surface (TF12)
ydric Soil Indicators: (Applicable to all LRRs, unleading Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): emarks: o indicators of hydric soils are present. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes No X	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6)	(F1) (except MLRLA F2) F6) e (F7)	Indicators for Problem 2 cm Muck (A10 Red Parent Mate Very Shallow Da Other (Explain in	natic Hydric Soils³: 0) erial (TF2) ark Surface (TF12)
ydric Soil Indicators: (Applicable to all LRRs, unleading Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): emarks: Dividicators of hydric soils are present. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check as Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes No X	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6)	(F1) (except MLRLA F2) F6) e (F7)	Indicators for Problem 2 cm Muck (A10 Red Parent Mate Very Shallow Da Other (Explain in	natic Hydric Soils³: 0) erial (TF2) ark Surface (TF12)
ydric Soil Indicators: (Applicable to all LRRs, unleading Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): emarks: Dividicators of hydric soils are present. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check as Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes No X	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6)	(F1) (except MLRLA F2) F6) e (F7)	Indicators for Problem 2 cm Muck (A10 Red Parent Mate Very Shallow Da Other (Explain in	natic Hydric Soils³: 0) erial (TF2) ark Surface (TF12)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): emarks: Dindicators of hydric soils are present. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6)	(F1) (except MLRLA F2) F6) e (F7)	Indicators for Problem 2 cm Muck (A10 Red Parent Mate Very Shallow Da Other (Explain in	natic Hydric Soils³: 0) erial (TF2) ark Surface (TF12)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): emarks: Dindicators of hydric soils are present. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6)	(F1) (except MLRLA F2) F6) e (F7)	Indicators for Problem 2 cm Muck (A10 Red Parent Mate Very Shallow Da Other (Explain in	natic Hydric Soils³: 0) erial (TF2) ark Surface (TF12)
ydric Soil Indicators: (Applicable to all LRRs, unleading Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): emarks: Dividicators of hydric soils are present. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check as Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes No X	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6)	(F1) (except MLRLA F2) F6) e (F7)	Indicators for Problem 2 cm Muck (A10 Red Parent Mate Very Shallow Da Other (Explain in	natic Hydric Soils³: 0) erial (TF2) ark Surface (TF12)
ydric Soil Indicators: (Applicable to all LRRs, unleading Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): emarks: Dividicators of hydric soils are present. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check as Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes No X	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6)	(F1) (except MLRLA F2) F6) e (F7)	Indicators for Problem 2 cm Muck (A10 Red Parent Mate Very Shallow Da Other (Explain in	natic Hydric Soils³: 0) erial (TF2) ark Surface (TF12)
ydric Soil Indicators: (Applicable to all LRRs, unleading Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): emarks: o indicators of hydric soils are present. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes No X	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6)	(F1) (except MLRLA F2) F6) e (F7)	Indicators for Problem 2 cm Muck (A10 Red Parent Mate Very Shallow Da Other (Explain in	natic Hydric Soils³: 0) erial (TF2) ark Surface (TF12)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): emarks: Dindicators of hydric soils are present. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6)	(F1) (except MLRLA F2) F6) e (F7)	Indicators for Problem 2 cm Muck (A10 Red Parent Mate Very Shallow Da Other (Explain in	natic Hydric Soils³: 0) erial (TF2) ark Surface (TF12)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): emarks: Dindicators of hydric soils are present. Primary Indicators (minimum of one required; check at Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6)	F2) F6)	2 cm Muck (A10 Red Parent Mate 1) Very Shallow Da Other (Explain ir	o)) erial (TF2) ark Surface (TF12)
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): emarks: Dindicators of hydric soils are present. Primary Indicators (minimum of one required; check at Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Staturation Present? Yes X No	Stripped Matrix (S6) Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2 Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F	F2) F6)	Red Parent Mate Very Shallow Da Other (Explain ir	erial (TF2) ark Surface (TF12)
Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Primarks: Dindicators of hydric soils are present. Primary Indicators (minimum of one required; check at Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Staturation Present? Yes No X Staturation Present? Yes No X	Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2 Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F	F2) F6)	Other (Explain in all Indicators of hydroph	ark Surface (TF12)
Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Primarks: Dindicators of hydric soils are present. Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X	Loamy Gleyed Matrix (F2 Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F	F2) F6)	Other (Explain in	
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Primarks: Dindicators of hydric soils are present. Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Water Table Present? Yes No X Water Table Present? Yes No X Staturation Present? Yes X	Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F	F6)	³ Indicators of hydroph	i riomanio,
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Primarks: Dindicators of hydric soils are present. Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Staturation Present? Yes No X	Redox Dark Surface (F6) Depleted Dark Surface (F	(F7)		
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Primarks: Dindicators of hydric soils are present. Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X	Depleted Dark Surface (F	(F7)		nytic vegetation and
Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Pemarks: Dindicators of hydric soils are present. Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X	•		wetland hydrology r	· -
Restrictive Layer (if present): Type: Depth (inches): emarks: Dindicators of hydric soils are present. PTPROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No		-)	unless disturbed or	•
Type: Depth (inches): Permarks: Dindicators of hydric soils are present. PYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No				F. 54.5
Depth (inches): emarks: D indicators of hydric soils are present. PYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check a Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X				
Primary Indicators (minimum of one required; check at Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No			Hydric Soil Present?	? Yes No
Primary Indicators (minimum of one required; check as Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No			,	
Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No				
High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	Il that apply)		Secondary Indicators	(2 or more required)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	Water-Stained Leaves (B	(B9) (except	Water Stained L	eaves (B9) (MRLA 1, 2,
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	MRLA 1, 2, 4A, and 4	4B)	4A, and 4B)	
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	Salt Crust (B11)		Drainage Patteri	ns (B10)
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	Aquatic Invertebrates (B1	B13)	Dry-Season Wat	ter Table (C2)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	. Hydrogen Sulfide Odor (0	· (C1)	Saturation Visible	le on Aeriel Imagery (C9)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	Oxidized Rhizospheres a	along Living Roots ((C3) Geomorphic Pos	sition (D2)
Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	Presence of Reduced Iro		Shallow Aquitare	d (D3)
Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	Recent Iron Reduction in	in Tilled Soils (C6)	FAC-Neutral Tes	st (D5)
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	Stunted or Stressed Plan			inds (D6) (LRR A)
Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No	Other (Explain in Remark	arks)	Frost-Heave Hui	mmocks (D7)
Surface Water Present? Yes No X Water Table Present? Yes No X Saturation Present? Yes X No				
Water Table Present? Yes No X Saturation Present? Yes X No				
Saturation Present? Yes X No				
	Depth (inches):			
(includes capillary fringe)	Depth (inches):	20.0 Wet	tland Hydrology Present?	Yes No
	· · · · · 			
escribe Recorded Date (stream gauge, monitoring we	Depth (inches):	l	ailable:	
	Depth (inches):	s inspections), if ava		
emarks:	Depth (inches):	I is inspections), if ava		
o primary or secondary indicators of wetland hydrolog	Depth (inches):	is inspections), if ava		
, ,	Depth (inches): Depth (inches): II, aerial photos, previous	ls inspections), if ava		







Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	ite: 11/9/2023	3	
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W12-P1 (W)	
Investigators: B DARBY, J MAZE			Section, Township, I	Range:			
Landform (hillslope, terrace, etc.): Hillslope		Local Reli	ef (concave, convex,	none): Concave	Slo	pe(%): 5	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84		
Soil Map Unit Name: Steever stony clay loam, 2 to	o 30 percent slope	es	NWI Classific	cation: Unmapped			
Are climatic / hydrologic conditions on the site typic	cal for this time of	year? Yes	X No	(If No, explain in Ro	emarks)		
Are Vegetation: Soil or Hydrology _	significantly di	sturbed?	Are "Normal Circum	nstances" present?	Yes	X N	lo
Are Vegetation: Soil or Hydrology _	naturally prob	ematic?	(If needed, explain	any answers in Rem	arks.)		
SUMMARY OF FINDINGS - Attach a si	te map showi	ng sampling	point locations	, transects, imp	ortant feat	ures, etc.	
Hydrophytic Vegetation Present? Yes	X No						
Hydric Soil Present? Yes	X No	Is the	Sampled Area				
Wetland Hydrology Present? Yes	X No	withi	n a Wetland?	Yes	Х	No	
Remarks:							
Wetland 12 is located within slow draining roadside culvert. Wetland criteria for hydrophytic vegetation,				etland conditions do	not extend to	the west pas	st the
VEGETATION – Use scientific names	of plants.						
	Absolute	Dominant	Indicator	Dominance Test	Worksheet:		
Tree Statum (Plot size: 10 feet)	% Cover	Species?	Status	Number of Domina	nt Species		
1.		-		That Are OBL, FAC	CW, or FAC:	3	(A)
2.				Total Number of Do	ominant		
3.				Species Across All	Strata:	4	(B)
4.				Percent of Domina	nt Species		_
		= Total Cover		That Are OBL, FAC	CW, or FAC:	75	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index	worksheet:		
1.				Total % Cover of:	<u>Mu</u>	ıltiply by:	
2.				OBL species	25 x1=	= 25	
3.				FACW species	x2=	= 0	
4.				FAC species	45 x3=	= 135	
5				FACU species	25 x4=	= 100	
		= Total Cover		UPL species	x5=	=0	
Herb Stratum (Plot size: 10 feet)				Column Totals:	95 (A)	260	(B)
Typha latifolia	25	Yes	OBL_				
Schedonorus arundinaceus	15	Yes	FAC	Prevalence Ind		2.7	'4
3. Vicia americana	15	Yes	- FAC	Hydrophytic Vege			
4. Daucus carota	15	Yes	FACU		st for Hydroph	-	on
5. Poa annua	10	No No	FAC	X 2 - Dominano			
6. Cynodon dactylon		No No	FACU FAC		ce Index is ≤3.		_
7. Scirpus spp.	5	No	- <u>FAC</u>		gical Adaptati	,	
8. 9.					Remarks or on Non-Vascular		sileet)
10.			- ——		Hydrophytic V		Evnlain)
11.				¹Indicators of hydric		-	
	95	= Total Cover		must be present, u			
Woody Vine Stratum (Plot size: 10 feet)		= 10tal 00Vel		muot be present, u	inoo disturbe	a or problem	
1.				Hydrophytic			
2.				Vegetation	Yes X	No	
		= Total Cover		Present?			_
% Bare Ground in Herb Stratum 5							
Remarks:				1			
Observations of vegetation are limited to the ditch	and did not extend	Lunslone into ros	ad cut. Dominance te	st for hydronhytic ver	netation is met	t	
223. rations of regulation are limited to the ditent	and the exterio		Jan Dominano le	or or injuropriyate veg	,		

Depth	Matrix		Rede	x Feature							
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture		Rer	narks	
0-9	7.5YR 4/1	90	5YR 4/6	5	С	М	Sandy Loam				
	•		2.5YR 2.5/4	5	С	М					
9-20	7.5YR 4/1	60	2.5YR 2.5/4	5	С	М	Sandy Loam	Gravels	present		
		·	5YR 4/4	35	С	М					
	•	·	_				•				
pe: C= C	oncentration, D= Dep	letion, RM=Red	uced Matrix, CS=Covere	ed or Coat	ted Sand G	rains.	²L0	cation: PL=	=Pore Lin	ing, M=	=Matrix
dric Soil I	ndicators: (Applica	ble to all LRRs,	unless otherwise not	ed.)			Indicators for Pro	oblematic	Hydric S	oils³:	
Histos	sol (A1)		Sandy Redox (S5	5)			2 cm Muck	(A10)			
Histic	Epipedon (A2)		Stripped Matrix (S	86)			Red Paren	t Material (TF2)		
Black	Histic (A3)		Loamy Mucky Mir	neral (F1)	(except ML	RLA 1)	Very Shalle	ow Dark Su	ırface (TF	12)	
	ogen Sulfide (A4)		Loamy Gleyed Ma	atrix (F2)			Other (Exp	lain in Rem	narks)		
Deple	eted Below Dark Surfa	ce (A11)	X Depleted Matrix (I	F3)							
	Dark Surface (A12)		Redox Dark Surfa				³ Indicators of hy		-		
	y Mucky Mineral (S1)		Depleted Dark Su)		wetland hydro			ıt,	
Sandy	y Gleyed Matrix (S4)		Redox Depression	ns (F8)			unless disturb	ed or probl	ematic.		
Restrictive	e Layer (if present):										
Type:											
Donth	n (inches):						Hydric Soil Pre	sent?	Yes	ΧΙ	No
marks: ils meet th	e depleted matrix (F3) indicator for hy	dric wetland soils.						_		
emarks: ills meet th YDROLO Wetland H	DGY ydrology Indicators										
emarks: ils meet th YDROLO Wetland H Primary Inc	DGY ydrology Indicators dicators (minimum of		eck all that apply)				Secondary Indic				
YDROLO Wetland H Primary Inc X Surface	DGY ydrology Indicators dicators (minimum of acce Water (A1)		eck all that apply) Water-Stained Le	` '	` •		Secondary Indic	ned Leaves			
YDROLO Wetland H Primary Inc X Surfac X High	DGY ydrology Indicators dicators (minimum of the Water (A1) Water Tables (A2)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A	` '	` •		Secondary Indic	ned Leaves	s (B9) (M		
YDROLO Vetland H Primary Inc X Surfac X High V X Satura	DGY ydrology Indicators dicators (minimum of oce Water (A1) Water Tables (A2) ation (A3)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	, and 4B)			Secondary Indic Water Stai 4A, and Drainage F	ned Leaves 4B) Patterns (B	s (B9) (M		
YDROLO Vetland H Primary Inc X Surfac X High X Satura Water	DGY ydrology Indicators dicators (minimum of oce Water (A1) Water Tables (A2) ation (A3) r Marks (B1)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra	ates (B13)			Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso	ned Leaves 4B) Patterns (B ² n Water Ta	s (B9) (M 10) able (C2)	RLA 1,	, 2,
YDROLO Wetland H Primary Inc X Surfar X High X Satura Water Sedin	pe depleted matrix (F3 DGY ydrology Indicators dicators (minimum of ace Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide	, and 4B) ates (B13) Odor (C1))	oots (C2)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation	ned Leaves 4B) Patterns (B' n Water Ta	s (B9) (M 10) able (C2) Aeriel Ima	RLA 1,	, 2,
YDROLO Vetland H Primary Inc X Surfac X High X Satura Water Sedin Drift E	pe depleted matrix (F3 DGY ydrology Indicators dicators (minimum of acce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp	ates (B13) Odor (C1)) ng Living R	oots (C3)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph	ned Leaves 4B) Patterns (B ² n Water Ta Visible on a ic Position	s (B9) (Mil 10) able (C2) Aeriel Ima (D2)	RLA 1,	, 2,
YDROLO Vetland H Primary Inc X Surfac X High X Satura Water Sedin Drift D Algal	DGY ydrology Indicators dicators (minimum of oce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	ates (B13) Odor (C1) heres alor) ng Living R (C4)		Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac	ned Leaves 4B) Patterns (B' n Water Ta Visible on a ic Position quitard (D3)	s (B9) (M i 10) able (C2) Aeriel Ima (D2)	RLA 1,	, 2,
YDROLO Wetland H Primary Inc X Surfac X High X Satura Water Sedin Drift E Algal Iron D	pe depleted matrix (F3 DGY ydrology Indicators dicators (minimum of acce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	ates (B13) Odor (C1) heres alor uced Iron () ng Living R (C4) Iled Soils (C6)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac	ned Leaves 4B) Patterns (B' n Water Ta Visible on A ic Position quitard (D3) ral Test (D5	s (B9) (M 10) able (C2) Aeriel Ima (D2))	RLA 1,	, 2,
YDROLO Wetland H Primary Inc X Surfar X High V X Satura Water Sedin Drift E Algal Iron E Surfar	pe depleted matrix (F3 DGY ydrology Indicators dicators (minimum of acce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6)	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants) ng Living R (C4) lled Soils ((D1) (LRR	C6)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leaves 4B) Patterns (B' n Water Ta Visible on a ic Position quitard (D3) al Test (D5 t Mounds (I	s (B9) (Mi 10) able (C2) Aeriel Ima (D2)) 5) D6) (LRR	RLA 1,	, 2,
YDROLO Wetland H Primary Inc X Surfac X High V X Satura Watel Sedim Drift E Algal Iron E Surfac	pe depleted matrix (F3 DGY ydrology Indicators dicators (minimum of acce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aerie	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants) ng Living R (C4) lled Soils ((D1) (LRR	C6)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leaves 4B) Patterns (B' n Water Ta Visible on A ic Position quitard (D3) ral Test (D5	s (B9) (Mi 10) able (C2) Aeriel Ima (D2)) 5) D6) (LRR	RLA 1,	, 2,
YDROLO Wetland H Primary Inc X Surfac X High V X Satura Water Sedin Drift E Algal Iron E Surfac Inund Spars	pe depleted matrix (F3 DGY ydrology Indicators dicators (minimum of action (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeries sley Vegetated Conca	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants) ng Living R (C4) lled Soils ((D1) (LRR	C6)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leaves 4B) Patterns (B' n Water Ta Visible on a ic Position quitard (D3) al Test (D5 t Mounds (I	s (B9) (Mi 10) able (C2) Aeriel Ima (D2)) 5) D6) (LRR	RLA 1,	, 2,
Marks: ills meet th Primary Inc X Surfar X High V X Saturar Water Sedim Drift E Algal Iron E Surfar Inund Spars	pogy ydrology Indicators dicators (minimum of acce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aerie sley Vegetated Conca	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants	ng Living R (C4) lled Soils ((D1) (LRR	C6)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leaves 4B) Patterns (B' n Water Ta Visible on a ic Position quitard (D3) al Test (D5 t Mounds (I	s (B9) (Mi 10) able (C2) Aeriel Ima (D2)) 5) D6) (LRR	RLA 1,	, 2,
Marks: ills meet th Primary Inc X Surfac X High X Satura Water Sedim Drift D Algal Iron D Surfac Inund Spars Field Obse Surface Wa	pogy ydrology Indicators dicators (minimum of acce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aerie sley Vegetated Conca	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants	ng Living R (C4) Iled Soils ((D1) (LRR	C6)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leaves 4B) Patterns (B' n Water Ta Visible on a ic Position quitard (D3) al Test (D5 t Mounds (I	s (B9) (Mi 10) able (C2) Aeriel Ima (D2)) 5) D6) (LRR	RLA 1,	, 2,
marks: ills meet the //DROLO //Vetland H Primary Inc X Surfact X High X Satura Water Sedin Drift E Algal Iron E Surfact Inund Spars Field Obse Surface Water Vater Table	pe depleted matrix (F3 DGY ydrology Indicators dicators (minimum of acce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aerie sley Vegetated Conca	I Imagery (B ve Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants) ng Living R (C4) lled Soils ((D1) (LRR 1.00 0.0	C6) A)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised An Frost-Heav	ned Leaves 4B) Patterns (B' n Water Ta Visible on A ic Position quitard (D3) ral Test (D5 t Mounds (I re Hummod	s (B9) (Mil 10) able (C2) Aeriel Ima (D2)) 5) D6) (LRR cks (D7)	RLA 1,	, 2 ,
YDROLO Vetland H Primary Inc X Surfar X High V X Satura Water Sedin Drift D Algal Iron D Surfar Inund Spars Field Obse Surface Wa	pe depleted matrix (F3 pogy ydrology Indicators dicators (minimum of ace Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aerie sley Vegetated Conca prvations: ater Present? Yes le Present? Yes Present? Yes	one required; ch	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants	ng Living R (C4) Iled Soils ((D1) (LRR	C6) A)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leaves 4B) Patterns (B' n Water Ta Visible on A ic Position quitard (D3) ral Test (D5 t Mounds (I re Hummod	s (B9) (Mi 10) able (C2) Aeriel Ima (D2)) 5) D6) (LRR	RLA 1,	, 2,
YDROLO Vetland H Primary Inc X Surfac X High X Satura Water Sedim Drift D Algal Iron D Surfac Inund Spars Field Obse Surface Wa Water Tabl Saturation includes ca	pogy ydrology Indicators dicators (minimum of acce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aerie sley Vegetated Conca prvations: ater Present? Yes Present? Yes apillary fringe)	I Imagery (B ve Surface (B8) X No X No X No	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1) heres alor uced Iron (action in Ti ed Plants Remarks)	1.00 0.0	C6) A) Wetland	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised And Frost-Heav	ned Leaves 4B) Patterns (B' n Water Ta Visible on A ic Position quitard (D3) ral Test (D5 t Mounds (I re Hummod	s (B9) (Mil 10) able (C2) Aeriel Ima (D2)) 5) D6) (LRR cks (D7)	RLA 1,	, 2 ,
YDROLO Wetland H Primary Inc X Surfac X High V X Satura Water Sedim Drift E Algal Iron E Surfac Inund Spars Field Obse Surface Wa Water Tabl Saturation Includes co	pogy ydrology Indicators dicators (minimum of acce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aerie sley Vegetated Conca prvations: ater Present? Yes Present? Yes apillary fringe)	I Imagery (B ve Surface (B8) X No X No X No	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1) heres alor uced Iron (action in Ti ed Plants Remarks)	1.00 0.0	C6) A) Wetland	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised And Frost-Heav	ned Leaves 4B) Patterns (B' n Water Ta Visible on A ic Position quitard (D3) ral Test (D5 t Mounds (I re Hummod	s (B9) (Mil 10) able (C2) Aeriel Ima (D2)) 5) D6) (LRR cks (D7)	RLA 1,	, 2 ,
YDROLO Wetland H Primary Inc X Surfac X High V X Satura Water Sedim Drift E Algal Iron E Surfac Inund Spars Field Obse Surface Wa Water Tabl Saturation (includes co	pogy ydrology Indicators dicators (minimum of acce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aerie sley Vegetated Conca prvations: ater Present? Yes Present? Yes apillary fringe)	I Imagery (B ve Surface (B8) X No X No X No	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1) heres alor uced Iron (action in Ti ed Plants Remarks)	1.00 0.0	C6) A) Wetland	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised And Frost-Heav	ned Leaves 4B) Patterns (B' n Water Ta Visible on A ic Position quitard (D3) ral Test (D5 t Mounds (I re Hummod	s (B9) (Mil 10) able (C2) Aeriel Ima (D2)) 5) D6) (LRR cks (D7)	RLA 1,	, 2 ,
Marks: ills meet th Primary Inc X Surfac X High X Satura Water Sedim Drift D Algal Iron D Surfac Inund Spars Field Obse Surface Wa Vater Tabl Saturation includes ca	pogy ydrology Indicators dicators (minimum of acce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aerie sley Vegetated Conca prvations: ater Present? Yes Present? Yes apillary fringe)	I Imagery (B ve Surface (B8) X No X No X No	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1) heres alor uced Iron (action in Ti ed Plants Remarks)	1.00 0.0	C6) A) Wetland	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised And Frost-Heav	ned Leaves 4B) Patterns (B' n Water Ta Visible on A ic Position quitard (D3) ral Test (D5 t Mounds (I re Hummod	s (B9) (Mil 10) able (C2) Aeriel Ima (D2)) 5) D6) (LRR cks (D7)	RLA 1,	, 2 ,



Photo Name: Photo_231109130021



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Dat	e: 11/9/2	2023		
Applicant/Owner: Cascade Renewables			State: WA	Sampling	W12-I	P2 (U)		
Investigators: B DARBY, J MAZE			Section, Township,	Range:				
Landform (hillslope, terrace, etc.): Hillslope		Local Reli	ef (concave, convex	, none): Concave		Slope((%): 3	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	NGS84	-		
Soil Map Unit Name: Steever stony clay loam, 2 to	30 percent slope	es	NWI Classifi	cation: Unmapped				
Are climatic / hydrologic conditions on the site typical	al for this time of	year? Yes	X No	(If No, explain in Re	marks)			
Are Vegetation: Soil or Hydrology	significantly d	isturbed?	Are "Normal Circur	nstances" present?	Yes	Х	N	0
Are Vegetation: Soil or Hydrology	naturally prob	lematic?	(If needed, explain	any answers in Rema	rks.)			
SUMMARY OF FINDINGS - Attach a sit	e map showi	ng sampling	point locations	, transects, impo	ortant f	eature	es, etc.	
Hydrophytic Vegetation Present? Yes	No X							
Hydric Soil Present? Yes	No X	Is the	Sampled Area					
Wetland Hydrology Present? Yes X	No	within	n a Wetland?	Yes			No X	
Remarks:				_		_		
Upland plot located upslope of wetland plot outside indicator is met but assumed to be a false positive finvestigation and not likely to persist. VEGETATION – Use scientific names of	or hydrology due							,
VEGETATION - Use scientific fiames c	•	Dani's and	La d'a a tan	D T T W	VI I	- 1		
Trace Chatters (District 40 foot)	Absolute	Dominant	Indicator	Dominance Test V				
Tree Statum (Plot size: 10 feet)	% Cover	Species?	Status	Number of Dominar	•		0	(4)
1.				That Are OBL, FAC	•	U: _	0	_ ^(A)
2.				Total Number of Do			1	(D)
3.			_	Species Across All S		_	- 1	– ^(B)
4		= Total Cover		Percent of Dominan	•		0	(A /D)
Conding (Church Churchung (Diet sings 40 feet)		= Total Cover		That Are OBL, FAC			0	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)					worksnee		h . le	
1.				Total % Cover of:		Multip	<u>ly by:</u>	
2.				OBL species		.x1= _		_
3.				FACW species	40	.x2= _	0	_
4.				FAC species	10	. x3= _	30	_
5.		= Total Cover		FACU species UPL species	75	· ×4= —	300	_
Llark Stratum (Plat size, 10 fact)		= Total Cover		_ · _	05	- ^{x5=} –		– (D)
Herb Stratum (Plot size: 10 feet)	GE.	Vaa	FACU	Column Totals:	85	- ^(A)	330	_ ^(B)
1. Cynodon dactylon	65	Yes	- FACU	. Drawalawaa kada	D/A		2.0	0
2. Poa annua	10	No No	FAC FACU	Prevalence Inde			3.8	<u> </u>
3. Daucus carota	10	No	- <u>FACU</u>	Hydrophytic Veget				
4.				1 - Rapid Tes 2 - Dominanc	•		vegetatio	JII
5.				· 				
6.				3 - Prevalence			1 (Duai dala	
7.				4 - Morpholog				
8.				data in R				neet)
9.				5 - Wetland N				vnloin)
10.			_	Problematic F		_		
11		Total Causes		¹Indicators of hydric			-	-
Manda Vina Chratura (Diet eines 40 fact)	85	= Total Cover		must be present, un	iless disti	irbea o	r problema	atic.
Woody Vine Stratum (Plot size: 10 feet)				Usalnombustio				
1				Hydrophytic	Vaa		la V	
2				Vegetation	Yes		lo X	_
2		= Total Cover	_	Present?				

Depth	Matrix	<u> </u>	Red	ox Feature	<u> </u>						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture		Remai	·ks	
0-8	7.5YR 2.5/1	100					Clay Loam	Gravelly	у		
8-16	10YR 3/2	99	10YR 3/6	1	С	М	Clay Loam				
16-24	2.5Y 3/3	90	10YR 3/6	10	С	М	Clay Loam				
		. <u></u> -									
ype: C= C	oncentration, D= Dep	letion, RM=Red	uced Matrix, CS=Cover	ed or Coat	ted Sand G	rains.	²Lo	cation: PL	_=Pore Lining	ı, M=Matı	rix.
ydric Soil I	ndicators: (Applica	ble to all LRRs,	, unless otherwise not	ted.)			Indicators for Pro	oblematic	Hydric Soil	s³:	
Histos	sol (A1)		Sandy Redox (St	5)			2 cm Muck	(A10)			
Histic	Epipedon (A2)	•	Stripped Matrix (S	S6)			Red Paren	t Material	(TF2)		
Black	Histic (A3)	•	Loamy Mucky Mi	neral (F1)	(except ML	.RLA 1)	Very Shalle	ow Dark S	urface (TF12)	
— Hydro	gen Sulfide (A4)	•	Loamy Gleyed M	atrix (F2)			Other (Exp	lain in Rei	marks)		
 Deple	ted Below Dark Surfa	ace (A11)	Depleted Matrix (F3)							
Thick	Dark Surface (A12)	•	Redox Dark Surfa	ace (F6)			³ Indicators of hy	drophytic	vegetation ar	nd	
Sandy	y Mucky Mineral (S1)	•	Depleted Dark Su	urface (F7)			wetland hydro	logy must	be present,		
Sandy	Gleyed Matrix (S4)		Redox Depression	ns (F8)			unless disturb	ed or prob	lematic.		
Restrictive	Layer (if present):										
Туре:											
							Hydric Soil Pre	sent?	Yes	No	
emarks: edox conce	OGY		oo bright to meet hydric	soil criteria	a.		.,,				<u>-</u>
emarks: edox conce YDROLO Wetland H	ntration observed bu OGY ydrology Indicators	· 		soil criteria	a.						
emarks: edox conce YDROLO Wetland Hy Primary Inc	ntration observed bu DGY ydrology Indicators dicators (minimum of	· 	eck all that apply)				Secondary Indic	eators (2 o			
emarks: edox conce YDROLO Wetland Hy Primary Inc	DGY ydrology Indicators dicators (minimum of	· 	eck all that apply) Water-Stained Le	eaves (B9)			Secondary Indic	cators (2 o	r more requir es (B9) (MRL		
YDROLC Wetland Hy Primary Inc Surfac X High \(\)	ontration observed but DGY ydrology Indicators (minimum of the Water (A1) Water Tables (A2)	· 	eck all that apply) Water-Stained Le	eaves (B9)			Secondary Indic	cators (2 o	es (B9) (MRL		
YDROLO Wetland Hy Primary Inc Surfac X High N X Satura	ontration observed but DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3)	· 	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	eaves (B9)	(except		Secondary Indic Water Stai 4A, and Drainage F	cators (2 o ned Leave 4B) Patterns (B	es (B9) (MRL 310)		
YDROLO Wetland Hy Primary Inc Surfac X High \ X Satura Water	ontration observed but DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) Marks (B1)	· 	water-Stained Le Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr	eaves (B9) a, and 4B) ates (B13)	(except		Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso	cators (2 or ned Leave 4B) Patterns (B n Water T	es (B9) (MRL 310) able (C2)	A 1, 2,	
YDROLO Wetland Hy Primary Inc Surfac X High \ X Satura Water Sedim	portation observed but the property of the pro	· 	water-Stained Le Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide	eaves (B9) A, and 4B) ates (B13) Odor (C1)	(except	ooto (C2)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation	cators (2 o ned Leave 4B) Patterns (B n Water Ta Visible on	es (B9) (MRL B10) able (C2) Aeriel Image	A 1, 2,	
YDROLO Wetland Hy Primary Inc X High \ X Satura Water Sedim Drift D	portion observed but the property of the prope	· 	Water-Stained Le WRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp	eaves (B9) A, and 4B) ates (B13) Codor (C1)	(except) ng Living R	oots (C3)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph	cators (2 o. ned Leave 4B) Patterns (B n Water T Visible on ic Position	es (B9) (MRL 310) able (C2) Aeriel Image (D2)	A 1, 2,	-
YDROLO Wetland Hy Primary Inc Surfac X High \ X Satura Water Sedim Drift D	portation observed but the property of the pro	· 	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red	eaves (B9) A, and 4B) ates (B13) Odor (C1) oheres alor uced Iron ((except) ng Living R (C4)		Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac	eators (2 or ned Leave 4B) Patterns (B n Water T Visible on ic Position quitard (D3	es (B9) (MRL 310) able (C2) Aeriel Image a (D2) 3)	A 1, 2,	
YDROLO Wetland Hy Primary Inc Surfac X High \ X Satura Water Sedim Drift D Algal Iron D	portion observed but the property of the prope	· 	water-Stained Lee MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red	eaves (B9) a, and 4B) ates (B13) c Odor (C1) cheres alor uced Iron (uction in Ti	(except) ng Living R C4) Illed Soils (C6)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac	cators (2 or ned Leave 4B) Patterns (B n Water To Visible on ic Position quitard (D3 ral Test (D	es (B9) (MRL 310) able (C2) Aeriel Image (D2) 3) 5)	A 1, 2 , ery (C9)	
YDROLO Wetland Hy Primary Inc Surfac X High V X Satura Water Sedim Drift D Algal Iron D Surfac	portion observed but the property of the prope	: one required; ch	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Tile	(except) ng Living R C4) Illed Soils (C6)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	cators (2 or ned Leave 4B) Patterns (B n Water To Visible on ic Position quitard (D3 ral Test (D5 t Mounds (es (B9) (MRL B10) able (C2) Aeriel Image (D2) B) 5) (D6) (LRR A)	A 1, 2 , ery (C9)	-
YDROLO Wetland Hy Primary Inc X High V X Satura Water Sedim Drift D Iron D Surfac	portion observed but the property of the prope	: one required; ch	water-Stained Lee MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Tile	(except) ng Living R C4) Illed Soils (C6)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac	cators (2 or ned Leave 4B) Patterns (B n Water To Visible on ic Position quitard (D3 ral Test (D5 t Mounds (es (B9) (MRL B10) able (C2) Aeriel Image (D2) B) 5) (D6) (LRR A)	A 1, 2 , ery (C9)	
emarks: edox conce YDROLC Wetland Hy Primary Inc Surfac X High N X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Spars	portion observed but the property of the prope	: one required; ch	water-Stained Lee MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Tile	(except) ng Living R C4) Illed Soils (C6)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	cators (2 or ned Leave 4B) Patterns (B n Water To Visible on ic Position quitard (D3 ral Test (D5 t Mounds (es (B9) (MRL B10) able (C2) Aeriel Image (D2) B) 5) (D6) (LRR A)	A 1, 2 , ery (C9)	<u> </u>
Primary Inc. X High V X Satura Water Sedim Drift D Algal Iron D Surfac Inunda Spars	portation observed but the property of the pro	: one required; ch I Imagery (B ve Surface (B8)	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Tile	(except) ng Living R C4) Illed Soils (C6)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	cators (2 or ned Leave 4B) Patterns (B n Water To Visible on ic Position quitard (D3 ral Test (D5 t Mounds (es (B9) (MRL B10) able (C2) Aeriel Image (D2) B) 5) (D6) (LRR A)	A 1, 2 , ery (C9)	-
Primary Inc X High V X Satura Water Sedim Drift D Algal I Iron D Surface Inund: Spars Field Obse	portation observed but the property of the policy of the p	: one required; ch I Imagery (B ve Surface (B8)	water-Stained Lee MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Tile	(except) ng Living R (C4) Illed Soils ((D1) (LRR	C6)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	cators (2 or ned Leave 4B) Patterns (B n Water To Visible on ic Position quitard (D3 ral Test (D5 t Mounds (es (B9) (MRL B10) able (C2) Aeriel Image (D2) B) 5) (D6) (LRR A)	A 1, 2 , ery (C9)	-
Primary Inc. Surface X High N X Satura Water Sedim Drift D Algal I Iron D Surface Spars Field Obse Surface Water Table	portation observed but the property of the pro	I Imagery (B ve Surface (B8)	water-Stained Lee MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Tile	(except) ng Living R C4) Illed Soils ((D1) (LRR	C6) A)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised An Frost-Heav	eators (2 or ned Leave 4B) Patterns (B n Water To Visible on ic Position quitard (D3 ral Test (D3 t Mounds (es (B9) (MRL 310) able (C2) Aeriel Image (D2) 3) 5) (D6) (LRR A) ocks (D7)	A 1, 2,	-
emarks: edox conce YDROLO Wetland Hy Primary Inc Surfac X High V X Satura Water Sedim Drift D Algal Iron D Surfac Inunda Spars Field Obse Surface Wa Water Tabl Saturation	portion observed but the present? Portion of the present of the present? Portion of the present of the presen	: one required; ch I Imagery (B ve Surface (B8)	water-Stained Lee MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Codor (C1) bheres alor uced Iron (uction in Tiled Plants	(except) ng Living R (C4) Illed Soils ((D1) (LRR	C6) A)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	eators (2 or ned Leave 4B) Patterns (B n Water To Visible on ic Position quitard (D3 ral Test (D3 t Mounds (es (B9) (MRL B10) able (C2) Aeriel Image (D2) B) 5) (D6) (LRR A)	A 1, 2,	<u>-</u>
emarks: edox conce YDROLO Wetland Hy Primary Inc Surface Algal Innuct Inuct Spars Field Obse Surface Wa Water Tabl Saturation (includes ca	portion observed but the property of the prope	I Imagery (B ve Surface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redi Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	eaves (B9) ates (B13) Odor (C1) oheres alor uced Iron (uction in Ti ed Plants Remarks)	(except) ng Living R C4) Illed Soils (((D1) (LRR	C6) A) Wetland	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised And Frost-Heav	eators (2 or ned Leave 4B) Patterns (B n Water To Visible on ic Position quitard (D3 ral Test (D3 t Mounds (es (B9) (MRL 310) able (C2) Aeriel Image (D2) 3) 5) (D6) (LRR A) ocks (D7)	A 1, 2,	
emarks: edox conce YDROLO Wetland Hy Primary Inc Surface Algal Innuct Inuct Spars Field Obse Surface Wa Water Tabl Saturation (includes ca	portion observed but the property of the prope	I Imagery (B ve Surface (B8)	water-Stained Lee MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	eaves (B9) ates (B13) Odor (C1) oheres alor uced Iron (uction in Ti ed Plants Remarks)	(except) ng Living R C4) Illed Soils (((D1) (LRR	C6) A) Wetland	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised And Frost-Heav	eators (2 or ned Leave 4B) Patterns (B n Water To Visible on ic Position quitard (D3 ral Test (D3 t Mounds (es (B9) (MRL 310) able (C2) Aeriel Image (D2) 3) 5) (D6) (LRR A) ocks (D7)	A 1, 2,	
emarks: edox conce YDROLO Wetland Hy Primary Inc Surface Vater Sedim Drift D Algal I Iron D Surface Inund: Spars Field Obse Surface Wa Water Tabl Saturation I (includes calescribe Recommend)	portion observed but the property of the prope	I Imagery (B ve Surface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redi Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	eaves (B9) ates (B13) Odor (C1) oheres alor uced Iron (uction in Ti ed Plants Remarks)	(except) ng Living R C4) Illed Soils (((D1) (LRR	C6) A) Wetland	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised And Frost-Heav	eators (2 or ned Leave 4B) Patterns (B n Water To Visible on ic Position quitard (D3 ral Test (D3 t Mounds (es (B9) (MRL 310) able (C2) Aeriel Image (D2) 3) 5) (D6) (LRR A) ocks (D7)	A 1, 2,	
emarks: edox conce IYDROLC Wetland H; Primary Inc Surfac X High \ X Satura Water Sedim Drift D Iron D Surfac Inunda Spars Field Obse Surface Wa Water Tabl Saturation (includes caescribe Recommendate)	ontration observed but DGY ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aeric ley Vegetated Concatervations: ater Present? Yes e Present? Yes Present? Yes apillary fringe) corded Date (stream	I Imagery (B ve Surface (B8) X No X No gauge, monitorin	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redi Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	eaves (B9) ates (B13) Odor (C1) oheres alor uced Iron (uction in Ti sed Plants Remarks)	(except) ng Living R C4) Illed Soils ((D1) (LRR 7.0 3.0 pections),	Wetland	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised And Frost-Heav d Hydrology Pres e:	eators (2 or ned Leave 4B) Patterns (Brown Water Town Water Town Water Town Water Town Water Town Water Mounds (Control of the Mounds (Control of the Water Town Wate	es (B9) (MRL 310) able (C2) Aeriel Image (D2) 3) 5) (D6) (LRR A) ocks (D7)	A 1, 2, ery (C9)	



Photo Name: Photo_231109131101



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	ate: 11/9/2023	3	
Applicant/Owner: Cascade Renewables			State: WA	Sampling	W13-P1 ((W)	
Investigators: B DARBY, J MAZE			Section, Township,	Range:			
Landform (hillslope, terrace, etc.): Toeslope		Local Reli	ief (concave, convex,	none): Concave	Slo	ope(%): 3	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:	:	Datum:	WGS84		
Soil Map Unit Name: Steever stony clay loam, 2 to	o 30 percent slope	s	NWI Classific	cation: Unmapped			
Are climatic / hydrologic conditions on the site typic	al for this time of y	ear? Yes	s X No	(If No, explain in R	emarks)		
Are Vegetation: Soil or Hydrology _	significantly dis	sturbed?	Are "Normal Circum	nstances" present?	Yes	X N	0
Are Vegetation: Soil or Hydrology	naturally probl	ematic?	(If needed, explain	any answers in Rem	arks.)		
SUMMARY OF FINDINGS - Attach a sit	te map showir	ng sampling	point locations	, transects, imp	ortant feat	tures, etc.	
Hydrophytic Vegetation Present? Yes	(No						
Hydric Soil Present? Yes 2	K No	Is the	e Sampled Area				
Wetland Hydrology Present? Yes	K No	withi	n a Wetland?	Yes	Χ	No	
Remarks:				<u>'</u>			
Wetland plot located in the westernmost extent of r vegetation, hydric soils and wetland hydrology are		n of Ash Lake R	oad exhibiting wetlan	d signatures. Positive	e indicators of	f hydrophytic	
VEGETATION – Use scientific names of	of plants.						
	Absolute	Dominant	Indicator	Dominance Test	Worksheet:		
<u>Tree Statum</u> (Plot size: 10 feet)	% Cover	Species?	Status	Number of Domina	•		
1				That Are OBL, FAC		2	_ (A)
2				Total Number of Do			
3				Species Across All		2	_ (B)
4				Percent of Domina			
		= Total Cover	f	That Are OBL, FAC		100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index			
1				Total % Cover of:	· · · · · · · · · · · · · · · · · · ·	ultiply by:	
2.				OBL species	x1:		_
3				FACW species	30 x2		_
4				FAC species	65 x3		_
5				FACU species	5 x4		_
Harb Otratura (Plateira 40 (aut)		= Total Cover		UPL species	x5		– (D)
Herb Stratum (Plot size: 10 feet)	6 5	Vaa	FAC	Column Totals:	(A)) 275	_ ^(B)
Poa annua Phalaris arundinacea	<u>65</u> 30	Yes	_ FAC FACW	Prevalence Ind	lov D/A	0.7	, E
	 5	Yes	_ FACW FACU			2.7	5
3. Dactylis glomerata		No	_ <u>FACU</u>	Hydrophytic Vege			
4					ce Test is >50	hytic Vegetatio	On
5. 6.					ce rest is >50 ce Index is ≤3		
7.				——		ions¹ (Provide	2
8.						n a separate s	
9.					Non-Vascular		silect)
10.				——		≀ เฉเนร √egetation¹ (E	-ynlain)
11.				¹Indicators of hydri		-	
···	100	= Total Cover	-	must be present, u		-	
Woody Vine Stratum (Plot size: 10 feet)		- 1 Jiui 00vei		made bo proderit, u		or problem	
1.				Hydrophytic			
2.				Vegetation	Yes X	(No	
		= Total Cover		Present?			_
% Bare Ground in Herb Stratum 0							
Remarks:	<u> </u>						
	and did not outor -	unclose into re-	ad out Dominance to	at for hydronhydia	notation is ~-	x †	
Observations of vegetation are limited to the ditch a	ana ala noi extend	apsiope iiito 108	ad cut. Dominance le	scrot frydropflytic ve(jolaliOH iS HIE		

Depth	Matrix		Red	ox Feature	<u> </u>			
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks
0-5	7.5 YR 2.5/1	100					Sandy Loam	
5-20	2.5Y 4/2	65	10YR 4/6	35	С	M	Sandy Loam	
vpe: C= C	oncentration, D= Deple	tion RM=Red	luced Matrix, CS=Cove	red or Coa	ted Sand G	rains.	²l ocatio	n: PL=Pore Lining, M=Matrix
			, unless otherwise no				Indicators for Problem	
	sol (A1)		Sandy Redox (St	-			2 cm Muck (A1	•
	Epipedon (A2)		Stripped Matrix (Red Parent Ma	
	Histic (A3)		Loamy Mucky Mi	,	(except MI	RI A 1)		ark Surface (TF12)
	ogen Sulfide (A4)		Loamy Gleyed M		(oxoopt=		Other (Explain	
	eted Below Dark Surfac	e (A11)	X Depleted Matrix (Out of (Explain)	iii rtomanoj
	Dark Surface (A12)	- \ /	Redox Dark Surf				³ Indicators of hydrop	hytic vegetation and
	y Mucky Mineral (S1)		Depleted Dark S)		wetland hydrology	-
	y Gleyed Matrix (S4)		Redox Depression		,		unless disturbed of	
	Layer (if present):			(* *)				. F
Type:	(inches):		-				Hydric Soil Present	? Yes X No
-1								
ydric soil in	dicator for depleted ma	trix (F3) is me	t.				·	
YDROLO	· 	trix (F3) is me	t.					
ydric soil in YDROLO Wetland H	DGY							s (2 or more required)
ydric soil ind YDROLO Wetland H Primary Ind	OGY ydrology Indicators:			eaves (B9)	(except		Secondary Indicator	s (2 or more required) Leaves (B9) (MRLA 1, 2,
YDROLO Wetland H Primary Inc	DGY ydrology Indicators: dicators (minimum of or		neck all that apply)	,	•		Secondary Indicator	Leaves (B9) (MRLA 1, 2,
YDROLO Wetland H Primary Inc	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2)		neck all that apply) Water-Stained Le	,	•		Secondary Indicators Water Stained	Leaves (B9) (MRLA 1, 2,
YDROLO Wetland H Primary Inc Surfar X High V X Satura	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2)		neck all that apply) Water-Stained Le	A, and 4B)			Secondary Indicator Water Stained 4A, and 4B)	Leaves (B9) (MRLA 1, 2,
YDROLO Wetland H Primary Ind Surfar X High V X Satura Water	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3)		neck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	A, and 4B) rates (B13)			Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa	Leaves (B9) (MRLA 1, 2,
YDROLO Wetland H Primary Inc X High V X Satura Watel Sedin	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1)		meck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr	A, and 4B) rates (B13) e Odor (C1)	oots (C3)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9)
YDROLO Wetland H Primary Inc Surfac X High V X Satura Water Sedin Drift E	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2)		water-Stained Le Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebron	A, and 4B) rates (B13) e Odor (C1 pheres alor)) ng Living R	oots (C3)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2)
YDROLO Wetland H Primary Inc Surfar X High V X Satura Water Sedin Drift D Algal	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3)		meck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosg	A, and 4B) rates (B13) e Odor (C1 oheres alou uced Iron)) ng Living R (C4)	,	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) brid (D3)
YDROLO Wetland H Primary Inc X High X Satura Watel Sedin Drift E Algal Iron D	ydrology Indicators: dicators (minimum of or		meck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red	A, and 4B) rates (B13) e Odor (C1 pheres alou uced Iron (uction in Ti)) ng Living R (C4) illed Soils (0	C6)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita X FAC-Neutral Te	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) brid (D2) rd (D3)
YDROLO Wetland H Primary Inc X High V X Satura Watel Sedim Drift D Algal Iron D Surfac	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4)	ne required; ch	meck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu	A, and 4B) rates (B13) Prates (C13) Prates alored line (C13) Prates (B13) Prate	ng Living R (C4) illed Soils ((D1) (LRR	C6)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita X FAC-Neutral Te	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) rd (D3) est (D5) unds (D6) (LRR A)
YDROLO Wetland H Primary Inc Surfac X High V X Satura Water Sedin Drift D Algal Iron D Surfac	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6)	ne required; ch	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) Prates (C13) Prates alored line (C13) Prates (B13) Prate	ng Living R (C4) illed Soils ((D1) (LRR	C6)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) rd (D3) est (D5) unds (D6) (LRR A)
YDROLO Wetland H Primary Inc Surfac X High X Satura Water Sedin Drift E Algal Iron E Surfac Inund Spars	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aeriel I	ne required; ch	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) Prates (C13) Prates alored line (C13) Prates (B13) Prate	ng Living R (C4) illed Soils ((D1) (LRR	C6)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) rd (D3) est (D5) unds (D6) (LRR A)
YDROLO Wetland H Primary Inc Surfac X High V X Satura Water Sedin Drift E Algal Iron E Surfac Inund Spars	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aeriel I	ne required; ch	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) Prates (C13) Prates alored line (C13) Prates (B13) Prate	ng Living R (C4) illed Soils ((D1) (LRR	C6)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) rd (D3) est (D5) unds (D6) (LRR A)
YDROLO Wetland H Primary Inc Surfac X High V X Satura Water Sedin Drift D Algal Iron D Surfac Inund Spars Field Obse	ydrology Indicators: dicators (minimum of or	magery (B e Surface (B8)	MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizospersence of Red Recent Iron Reduction Stunted or Stress Other (Explain in	A, and 4B) rates (B13) Prates (C13) Prates alored line (C13) Prates (B13) Prate	ng Living R (C4) illed Soils ((D1) (LRR	C6)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) rd (D3) est (D5) unds (D6) (LRR A)
YDROLO Wetland H Primary Inc Surfar X High V X Satura Water Sedin Drift E Algal Iron E Surfar Inund Spars Field Obse Surface Wa	ydrology Indicators: dicators (minimum of or or or water (A1) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ince Soil Cracks (B6) Ination Visible on Aeriel Intelligence Vegetated Concaverations: Intelligence of the present? Intelligence of the present of the	magery (B e Surface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) Prates (C13) Prates alored line (C13) Prates (B13) Prate	ng Living R (C4) illed Soils (((D1) (LRR	C6) A)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
ydric soil ind YDROLO Wetland H Primary Ind Surfact X High X Satura Water Sedim Drift E Algal Iron E Surfact Inund Spars Field Obse Surface Water Tabl Saturation	ydrology Indicators: dicators (minimum of or or or water (A1) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ince Soil Cracks (B6) Ination Visible on Aeriel Intelligence Vegetated Concavers Exervations: Intelligence Concavers Inte	magery (B e Surface (B8)	MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redi Stunted or Stress Other (Explain in	A, and 4B) rates (B13) Prates (C13) Prates alored line (C13) Prates (B13) Prate	ng Living R (C4) illed Soils (((D1) (LRR	C6) A)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant Moo Frost-Heave Ho	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland H Primary Inc Surfac X High V X Satura Water Sedin Drift D Algal Iron D Surfac Inund Spars Field Obse Surface Wa Water Tabl Saturation (includes co	ydrology Indicators: dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Indicators (B6) Ation Visible on Aeriel Indicators Indicators (B6) Attention Visible on Aeriel Indicators Indicators (B1) Attention Visible on Aeriel Indicators Indicators (B1) Attention Visible on Aeriel Indicators Indicators (B6) Attention Visible on Aeriel Indicators Indicators	magery (B e Surface (B8) No X No	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	rates (B13) Parates (B13) Parates (B13) Parates (B13) Parates alor Par	10.0 4.0	C6) A) Wetland	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant Mod Frost-Heave Ho	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland H Primary Inc Surfac X High V X Satura Water Sedin Drift D Algal Iron D Surfac Inund Spars Field Obse Surface Wa Water Tabl Saturation (includes co	ydrology Indicators: dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Indicators (B6) Ation Visible on Aeriel Indicators Indicators (B6) Attention Visible on Aeriel Indicators Indicators (B1) Attention Visible on Aeriel Indicators Indicators (B1) Attention Visible on Aeriel Indicators Indicators (B6) Attention Visible on Aeriel Indicators Indicators	magery (B e Surface (B8) No X No	MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redi Stunted or Stress Other (Explain in	rates (B13) Parates (B13) Parates (B13) Parates (B13) Parates alor Par	10.0 4.0	C6) A) Wetland	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant Mod Frost-Heave Ho	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland H Primary Inc Surfar X High V X Satura Water Sedin Drift D Algal Iron D Surfar Inund Spars Field Obse Surface Wa Water Tabl Saturation (includes coescribe Recommend)	ydrology Indicators: dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Indicators (B6) Ation Visible on Aeriel Indicators Indicators (B6) Attention Visible on Aeriel Indicators Indicators (B1) Attention Visible on Aeriel Indicators Indicators (B1) Attention Visible on Aeriel Indicators Indicators (B6) Attention Visible on Aeriel Indicators Indicators	magery (B e Surface (B8) No X No	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	rates (B13) Parates (B13) Parates (B13) Parates (B13) Parates alor Par	10.0 4.0	C6) A) Wetland	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant Mod Frost-Heave Ho	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland H Primary Inc Surfac X High V X Satura Watel Sedim Drift E Algal Iron E Surface Wa Water Tabl Saturation (includes coescribe Recoescribe Recoescrib	ydrology Indicators: dicators (minimum of or or or water (A1) Water Tables (A2) ation (A3) If Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Deposits (B5) Deposits (B6) ation Visible on Aeriel Indicate Present? Alter Present? Yes Deposits (Present? Yes) Deposits (Present. Yes) Deposits	magery (B e Surface (B8)	MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizose Presence of Red Recent Iron Rede Stunted or Stress Other (Explain in X Depth (inches): Depth (inches): Depth (inches):	rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants Remarks)	ng Living R (C4) illed Soils (C4) (D1) (LRR 10.0 4.0 spections),	Wetland	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant Moi Frost-Heave Hu	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) best (D3) est (D5) unds (D6) (LRR A) ummocks (D7) Yes X No
YDROLO Wetland H Primary Inc Surfac X High V X Satura Watel Sedin Drift E Algal Iron E Surface Wa Water Tabl Saturation (includes conscribe Reconstruction) emarks: edrology is	ydrology Indicators: dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Inent Deposits (B6) Deposits	magery (Besurface (B8)	MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizose Presence of Red Recent Iron Rede Stunted or Stress Other (Explain in X Depth (inches): Depth (inches): Depth (inches):	A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants Remarks)	ng Living R (C4) illed Soils (C4) (D1) (LRR 10.0 4.0 spections),	Wetland f available	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita X FAC-Neutral Te Raised Ant Mod Frost-Heave Ho d Hydrology Present? e:	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)



Photo Name: Photo_231109143352



Photo Name: Photo_231109143343



Subregion (LRR): A - Northwest Forest and Lat: Long: Datum: WGS84 Soil Map Unit Name: Steever stony clay loam, 2 to 30 percent slopes Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No Clif No. explain in Remarks) Are Vegetation: Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes Are Vegetation: Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important feature Hydrophytic Vegetation Present? Yes No X Is the Sampled Area within a Wetland? Yes Wetland Hydrology Present? Yes No X within a Wetland? Yes Wetland Hydrology Present? Yes No X Subject No. X No Wetland Problematic? (If needed, explain any answers in Remarks.) VEGETATION - Use scientific names of plants. Absolute Dominant Indicator Status Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Area Species Cover of Species Cover Species 10 x2= FAC species 15 x3= FAC species 15 x3= FAC species 15 x3= FAC species 70 x4= Herb Stratum (Plot size: 10 feet) 1. Dactylis glomerata 70 Yes FACU	x No)
Landform (hillslope, terrace, etc.): Toeslope	X No No X	
Subregion (LRR): A - Northwest Forest and Lat: Long: Datum: WGS84 Soil Map Unit Name: Steever stony clay loam, 2 to 30 percent slopes 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 Are Vegetation: Soil or Hydrology anturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important feature hydrophytic Vegetation Present? Yes No X Is the Sampled Area within a Wetland? Yes Hydric Soil Present? Yes No X Is the Sampled Area within a Wetland? Yes Remarks: Upland plot located west of wetland plot by roughly 10 feet where a distinct change in vegetation is observed. No wetland indicators are met. VEGETATION – Use scientific names of plants. Absolute Dominant Indicator Status Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species 1.	X No No X)
Soil Map Unit Name: Steever stony clay loam, 2 to 30 percent slopes Are climatic / hydrologic conditions on the site typical for this time of year? Are climatic / hydrologic conditions on the site typical for this time of year? Are Vegetation: Soil or Hydrology significantly disturbed? Are Nomal Circumstances' present? Yes Are Vegetation: Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important feature hydrophytic Vegetation Present? Yes No X Is the Sampled Area within a Wetland? Wetland Hydrology Present? Yes No X within a Wetland? Yes Wetland Plot located west of wetland plot by roughly 10 feet where a distinct change in vegetation is observed. No wetland indicators are met. VEGETATION — Use scientific names of plants. Tree Statum (Plot size: 10 feet) Absolute Dominant Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multi 2.	No X	
Are Vegetation: Soil or 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 Are Vegetation: Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important feature Hydrophytic Vegetation Present? Yes No X Is the Sampled Area within a Wetland Pydrology Present? Yes No X Is the Sampled Area within a Wetland? Yes Wetland Hydrology Present? Yes No X Is the Sampled Area within a Wetland? Yes Wetland Hydrology Present? Yes No X Is the Sampled Area within a Wetland? Yes Wetland Pydrology Present? Yes No X Is the Sampled Area within a Wetland? Yes Wetland Indicators are met. VEGETATION – Use scientific names of plants. VEGETATION – Use scientific names of plants. VEGETATION – Use scientific names of plants. Absolute Dominant Indicator Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Aross All Strata: 4.	No X	
Are Vegetation: Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes Are Vegetation: Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important feature Hydrophytic Vegetation Present? Yes No X Is the Sampled Area within a Wetland? Yes Wetland Hydrology Present? Yes No X within a Wetland? Yes Wetland Hydrology Present? Yes No X Within a Wetland? Yes Wetland Plot located west of wetland plot by roughly 10 feet where a distinct change in vegetation is observed. No wetland indicators are met. VEGETATION – Use scientific names of plants. VEGETATION – Use scientific names of plants. Tree Statum (Plot size: 10 feet) Absolute Dominant Indicator Status Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Are Percent of Dominant Species Are Percent of Dominant Species Are Percent of Dominant Species Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiple Cover of: National Species Area (Plot size: 10 feet) 1. Dactylis glomerata 70 Yes FACU	No X)
Are Vegetation: Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important feature Hydrophytic Vegetation Present? Yes No X Is the Sampled Area within a Wetland? Wetland Hydrology Present? Yes No X within a Wetland? Yes No X Is the Sampled Area within a Wetland? Yes Wetland Hydrology Present? Yes No X Wetland Hydrology Present? Yes No X Within a Wetland? Yes Mo X Within a W	No X	
SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important feature Hydrophytic Vegetation Present? Yes No X Is the Sampled Area within a Wetland? Wetland Hydrology Present? Yes No X Within a Wetland? Yes No X Within a Wetland? Remarks: Upland plot located west of wetland plot by roughly 10 feet where a distinct change in vegetation is observed. No wetland indicators are met. VEGETATION — Use scientific names of plants. Absolute Dominant Indicator Status Number of Dominant Species 1. That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multicator Species 15 x3= FACW species 15 x3= FACW species 70 x4= Herb Stratum (Plot size: 10 feet) 1. Dactylis glomerata 70 Yes FACU	No X	
Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Hydrophytic Soil Present? Wetland Hydrology Present? Yes No X within a Wetland? Wetland? Wetland? No W Within a Wetland? Yes Within a Wetland? Wetland? Yes Within a Wetland? Yes Wothin a Wetland?	No X	
Hydric Soil Present? Wetland Hydrology Present? Wetland Hydrology Present? Yes No X Within a Wetland? No X Within a Wetland? No X Within a Wetland? Yes No X X X Yes No X X Yes No X X Yes No Wetland indicators are met. YEGETATION — Use scientific names of plants. Absolute Dominant Indicator Species? Status Number of Dominant Species? That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: OBL species X1= FACW species 10 x2= FACW species 10 x2= FACW species 70 x4= ETotal Cover UPL species 70 x4= Herb Stratum (Plot size: 10 feet) 1. Dactylis glomerata 70 Yes FACU	0	
Wetland Hydrology Present? Yes No X within a Wetland? Wetland Plot located west of wetland plot by roughly 10 feet where a distinct change in vegetation is observed. No wetland indicators are met. WEGETATION – Use scientific names of plants. Tree Statum (Plot size: 10 feet) Absolute Dominant Indicator Status Number of Dominant Species? That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: 4. Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: DoBL species 10 k2= FACW species 10 k2= FACW species 15 k3= FACU species 70 k4= UPL species 70 k4= UPL species x5= Column Totals: 95 (A)	0	
Remarks: Upland plot located west of wetland plot by roughly 10 feet where a distinct change in vegetation is observed. No wetland indicators are met. VEGETATION – Use scientific names of plants. Tree Statum (Plot size: 10 feet)	0	
VEGETATION – Use scientific names of plants. Absolute Dominant Indicator Species? Status Number of Dominant Species 1. Total Number of Dominant Species 3. Species Across All Strata: 4. Percent of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Mult Cover of: Total % Cover of: All Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: OBL species That Are OBL, FACW species That Are OBL, FACW species That Are OBL, FACW species Total % Cover of: All Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: FACW species Total % Cover of: All Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: All Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: All Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: All Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: All Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: All Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: All Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: All Species Across All Strata: All Species Across All		
VEGETATION – Use scientific names of plants. Absolute Dominant Indicator Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: OBL species 10 x2= FACW species 10 x2= FACW species 70 x4= UPL species x5= Column Totals: 95 (A)		
VEGETATION – Use scientific names of plants. Absolute Dominant Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: Tree Statum (Plot size: 10 feet) % Cover Species? Status That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Pervalence Index worksheet: Total % Cover of: Multicator Number of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multicator Number of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multicator Number of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multicator Number of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multicator Number of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multicator Number of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multicator Number of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multicator Number of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multicator Number of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total Cover OBL Species Total Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total Cover OBL Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total Cover OBL Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total Cover OBL Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total Cover OBL Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total Cover OBL Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total Cover OBL Spe		
Absolute Dominant Indicator Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multication of Cover Species		
Absolute Dominant Indicator Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multication of Cover Species		
Absolute Dominant Indicator Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multication of Cover Species		
Tree Statum (Plot size: 10 feet)		
That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: OBL species X1= FACW species 10 x2= FAC species 15 x3= FACU species 70 x4= UPL species x5= Column Totals: 95 (A)		
Total Number of Dominant Species Across All Strata: Percent of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiple		(A)
Species Across All Strata: Percent of Dominant Species	1	_ ` ′
Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiple		(B)
That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multi OBL species x1=		- ` ′
Prevalence Index worksheet: Total % Cover of: Multiple	0	(A/B)
2. OBL species x1= 3. FACW species 10 x2= 4. FAC species 15 x3= FACU species 70 x4= FACU species 70 x4= UPL species x5= Column Totals: 95 (A) 1. Dactylis glomerata 70 Yes FACU		
2. OBL species x1= 3. FACW species 10 x2= 4. FAC species 15 x3= FACU species 70 x4= FAC species 70 x4= TOTAL Cover UPL species x5= Column Totals: 95 (A) Dactylis glomerata 70 Yes FACU	tiply by:	
FACW species 10 x2=		
4. FAC species 15 x3= 5. FACU species 70 x4= FACU species 70 x4= FACU species 70 x4= FACU species 70 x4= UPL species x5= Column Totals: 95 (A) Column Totals: 95 (A)	20	-
5.	45	_
Herb Stratum (Plot size: 10 feet) 1. Dactylis glomerata 70 Yes FACU Column Totals: 95 (A)	280	_
1. Dactylis glomerata 70 Yes FACU	0	_
1. Dactylis glomerata 70 Yes FACU	345	(B)
2. Poa annua 15 No FAC Prevalence Index = B/A=		_
	3.63	3
3. Phalaris arundinacea 10 No FACW Hydrophytic Vegetation Indicato	ors:	
4. 1 - Rapid Test for Hydrophy	rtic Vegetatio	n
5. 2 - Dominance Test is >50%	6	
6. 3 - Prevalence Index is ≤3.0)1	
7. 4 - Morphological Adaptation	ns¹ (Provide	
8. data in Remarks or on a	a separate sh	neet)
9 5 - Wetland Non-Vascular P	lants¹	
10. Problematic Hydrophytic Ve	getation¹ (Ex	xplain)
11. Indicators of hydric soil and wetland	nd hydrology	/
95 = Total Cover must be present, unless disturbed	or problema	ıtic.
Woody Vine Stratum (Plot size: 10 feet)		
1 Hydrophytic		
2. Vegetation Yes	No X	_
= Total Cover Present?		-
% Bare Ground in Herb Stratum 5		
Remarks:		
nemains.		
кетагкs: No criteria for hydrophytic vegetation are met.		

Depth	Matrix		Redo	ox Features					
(inches)	Color (moist)	%	Color (moist)		ype¹	Loc ²	Texture	Remarks	
0-8	10YR 2/2	100							
8-22	2.5Y 4/2	100					Sandy Loam		
¹Type: C= Co	oncentration D= Deple	tion RM=Rec	duced Matrix, CS=Cover	ed or Coated S	Sand G	rains	²l ocation	n: PL=Pore Lining, M=Matrix	x
			s, unless otherwise not				Indicators for Probler		
-	sol (A1)		Sandy Redox (S5	-			2 cm Muck (A10	•	
	Epipedon (A2)		Stripped Matrix (S				Red Parent Mat		
	Histic (A3)		Loamy Mucky Min	,	ept ML	RLA 1)		ark Surface (TF12)	
	gen Sulfide (A4)		Loamy Gleyed Ma		•	,	Other (Explain i		
	ted Below Dark Surfac	e (A11)	Depleted Matrix (,	
Thick	Dark Surface (A12)		Redox Dark Surfa	ace (F6)			³ Indicators of hydropl	nytic vegetation and	
Sandy	/ Mucky Mineral (S1)		Depleted Dark Su	urface (F7)			wetland hydrology	must be present,	
Sandy	/ Gleyed Matrix (S4)		Redox Depressio	ns (F8)			unless disturbed or	problematic.	
Restrictive	Layer (if present):								
Type:									
Depth	(inches):		-				Hydric Soil Present	? Yes No	Х
HYDROLO	OGY								
-	ydrology Indicators:	ao roquirod: el	hock all that apply)				Socondany Indicators	e (2 or more required)	
Wetland Hy	ydrology Indicators: licators (minimum of or	ne required; cl		22V65 (B0) (24 V6	cent			s (2 or more required)	
Wetland Hy Primary Ind	ydrology Indicators: dicators (minimum of or ce Water (A1)	ne required; cl	Water-Stained Le	, , ,	cept		Water Stained L	s (2 or more required) Leaves (B9) (MRLA 1, 2,	
Wetland Hy Primary Ind Surface High V	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2)	ne required; cl	Water-Stained Le	, , ,	cept		Water Stained L 4A, and 4B)	Leaves (B9) (MRLA 1, 2,	
Primary Ind Surface High V	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3)	ne required; cl	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	a, and 4B)	cept		Water Stained L 4A, and 4B) Drainage Patter	ns (B10)	
Primary Ind Surface High V Satura Water	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3)	ne required; cl	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra	ates (B13)	cept		Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa	ns (B10) tter Table (C2)	
Primary Ind Surface High V Satura Water Sedim	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2)	ne required; cl	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide	ates (B13) Odor (C1)		pots (C3)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib	ns (B10) ter Table (C2) le on Aeriel Imagery (C9)	
Primary Ind Surface High V Satura Water Sedim	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3)	ne required; cl	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra	ates (B13) Codor (C1) Coheres along Li		oots (C3)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2)	
Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I	dicators (minimum of or	ne required; cl	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp	ates (B13) Odor (C1) Oheres along Li uced Iron (C4)	ving Ro		Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3)	
Primary Ind Surface High V Satura Water Sedim Drift D Iron D	ydrology Indicators: dicators (minimum of or	ne required; cl	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	ates (B13) Codor (C1) Coheres along Li Cuced Iron (C4) Cuction in Tilled	ving Ro	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3)	
Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface	ydrology Indicators: dicators (minimum of or the Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	·	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	ates (B13) Codor (C1) Cheres along Li Luced Iron (C4) Luction in Tilled Seed Plants (D1)	ving Ro	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	Leaves (B9) (MRLA 1, 2, Ins (B10) Inter Table (C2) Ile on Aeriel Imagery (C9) Isition (D2) Id (D3) Ist (D5) Inds (D6) (LRR A)	
Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda	dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Deposits (B6)	Imagery (B	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Codor (C1) Cheres along Li Luced Iron (C4) Luction in Tilled Seed Plants (D1)	ving Ro	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	Leaves (B9) (MRLA 1, 2, Ins (B10) Inter Table (C2) Ile on Aeriel Imagery (C9) Isition (D2) Id (D3) Ist (D5) Inds (D6) (LRR A)	
Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6) ation Visible on Aeriel ley Vegetated Concave	Imagery (B	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Codor (C1) Cheres along Li Luced Iron (C4) Luction in Tilled Seed Plants (D1)	ving Ro	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	Leaves (B9) (MRLA 1, 2, Ins (B10) Inter Table (C2) Ile on Aeriel Imagery (C9) Isition (D2) Id (D3) Ist (D5) Inds (D6) (LRR A)	
Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6) ation Visible on Aeriel ley Vegetated Concave	Imagery (B	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Codor (C1) Cheres along Li Luced Iron (C4) Luction in Tilled Seed Plants (D1)	ving Ro	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	Leaves (B9) (MRLA 1, 2, Ins (B10) Inter Table (C2) Ile on Aeriel Imagery (C9) Isition (D2) Id (D3) Ist (D5) Inds (D6) (LRR A)	
Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Water Water Table	dicators (minimum of or	Imagery (B e Surface (B8 No	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	ates (B13) Odor (C1) Oheres along Li uced Iron (C4) uction in Tilled 3 and Plants (D1) Remarks)	ving Ro	C6) A)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	ceaves (B9) (MRLA 1, 2, cons (B10) cons (B10	
Primary Ind Surface High V Satura Water Sedim Drift D Iron D Surface Inunda Spars Field Obse Surface Wa Water Table Saturation I	ydrology Indicators: dicators (minimum of or	Imagery (B e Surface (B8	Water-Stained Lee MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Oheres along Li uced Iron (C4) uction in Tilled 3 and Plants (D1) Remarks)	ving Ro	C6) A)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	Leaves (B9) (MRLA 1, 2, Ins (B10) Inter Table (C2) Ile on Aeriel Imagery (C9) Isition (D2) Id (D3) Ist (D5) Inds (D6) (LRR A)	x
Primary Ind Surface High V Satura Water Sedim Drift D Iron D Surface Inunda Spars Field Obse Surface Wa Water Table Saturation I	dicators (minimum of or	Imagery (B e Surface (B8 No	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	ates (B13) Odor (C1) Oheres along Li uced Iron (C4) uction in Tilled 3 and Plants (D1) Remarks)	ving Ro	C6) A)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	ceaves (B9) (MRLA 1, 2, cons (B10) cons (B10	x
Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Wa Water Table Saturation I (includes ca	dicators (minimum of or	Imagery (B e Surface (B8 No X No X No	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	ates (B13) Codor (C1) Coheres along Li L	ving Ro Soils (C (LRR)	C6) A) Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	ceaves (B9) (MRLA 1, 2, cons (B10) cons (B10	х
Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Wa Water Table Saturation I (includes ca	dicators (minimum of or	Imagery (B e Surface (B8 No X No X No	Water-Stained Lee MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in) X Depth (inches): Depth (inches):	ates (B13) Codor (C1) Coheres along Li L	ving Ro Soils (C (LRR)	C6) A) Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	ceaves (B9) (MRLA 1, 2, cons (B10) cons (B10	x
Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Water Table Saturation I (includes ca	dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeriel ation Visible on Aeriel ater Present? Yes Present? Yes Present? Yes apillary fringe) corded Date (stream gas	Imagery (B e Surface (B8 X No X No x No	Water-Stained Lee MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in) X Depth (inches): Depth (inches): Depth (inches):	ates (B13) Codor (C1) Coheres along Li cuced Iron (C4) cuction in Tilled Seed Plants (D1) Remarks)	ving Ro Soils (C (LRR)	Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) ands (D6) (LRR A) ammocks (D7) YesNoNo	x
Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Field Obse Surface Water Table Saturation I (includes ca	dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeriel ation Visible on Aeriel ater Present? Yes Present? Yes Present? Yes apillary fringe) corded Date (stream gas	Imagery (B e Surface (B8 X No X No x No	Water-Stained Lee MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in) X Depth (inches): Depth (inches):	ates (B13) Codor (C1) Coheres along Li cuced Iron (C4) cuction in Tilled Seed Plants (D1) Remarks)	ving Ro Soils (C (LRR)	Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) ands (D6) (LRR A) ammocks (D7) YesNoNo	x



Photo Name: Photo_231109145230



Photo Name: Photo_231109144406



	_		,	,			
Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Date	te: 11/10/2023	3	
Applicant/Owner: Cascade Renewables			State: WA	Sampling	W14-P1 (W	√)	
Investigators: B DARBY, J MAZE			Section, Township,	Range:			
Landform (hillslope, terrace, etc.): Depression		Local Reli	ef (concave, convex,	none): Concave	Slop	oe(%): 3	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84		
Soil Map Unit Name: Arents, 0 to 5 percent slopes			NWI Classific	cation: Not mapped			
Are climatic / hydrologic conditions on the site typica	I for this time of	year? Yes	X No	(If No, explain in Re	marks)		
Are Vegetation: Soil or Hydrology	significantly d	isturbed?	Are "Normal Circun	- nstances" present?	Yes	X No	0
Are Vegetation: Soil or Hydrology	naturally prob	lematic?	(If needed, explain	any answers in Rema	arks.)		
SUMMARY OF FINDINGS - Attach a site	— e map showi	ng sampling	point locations	, transects, impo	ortant featu	ıres, etc.	
Hydrophytic Vegetation Present? Yes X		<u> </u>		, ,			
Hydric Soil Present? Yes X		Is the	Sampled Area				
Wetland Hydrology Present? Yes X			n a Wetland?	Yes 2	×	No	
veitand Hydrology Frederic:		Within	Ta Welland:	-			
Remarks: Wetland 14 occurs is a depressional area adjacent t	o Ashes Lake ar	nd roughly 30 feet	t below grade of Ash	Lake Road and SR-1	4. This wetland	d and Wetla	nd 15
located upstream and to the east were likely one we classified by the NWI as a R5UBH water. Sample pl						Lake and is	;
VECETATION Has as a conference of	f 1 1 -			-			
VEGETATION – Use scientific names o				T			
	Absolute	Dominant	Indicator	Dominance Test V			
<u>Tree Statum</u> (Plot size: 3m)	% Cover	Species?	Status	Number of Dominar	•		
1. Alnus rubra	20	Yes	_ FAC	That Are OBL, FAC	•	4	_ (A)
2.				Total Number of Do			(D)
3.				Species Across All		4	_ ^(B)
4		= Total Cover		Percent of Dominar	•	100	(A /D)
Sapling/Shrub Stratum (Plot size: 2m)	20	= Total Cover		That Are OBL, FAC		100	(A/B)
Sapling/Shrub Stratum (Plot size: 2m) 1. Rubus armeniacus	5	Yes	FAC	Total % Cover of:		tiply by:	
2.		165		OBL species	60 x1=		
3.			- ———	FACW species	35 x2=		-
4.			_	FAC species	25 x3=		-
5.				FACU species	x4=	0	-
·	5	= Total Cover		UPL species	x5=		-
Herb Stratum (Plot size: 1m)				Column Totals:	120 (A)	205	— (B)
Typha latifolia	60	Yes	OBL	-			_ (_)
2. Phalaris arundinacea	35	Yes	FACW	Prevalence Inde	ex = B/A =	1.7	1
3.				Hydrophytic Veget			-
4.				1 , , ,	st for Hydrophy		on
5.				X 2 - Dominano		_	
6.				X 3 - Prevalenc			
7.				4 - Morpholog	gical Adaptation	ns¹ (Provide)
8.					emarks or on a		
9.					Non-Vascular P		,
10.		-		Problematic I	Hydrophytic Ve	egetation¹ (E	xplain)
11.				¹ Indicators of hydric	soil and wetla	nd hydrolog	У
	95	= Total Cover		must be present, ur	nless disturbed	or problema	atic.
Woody Vine Stratum (Plot size: 2m)							
1.				Hydrophytic			
2.				Vegetation	Yes X	No	
		= Total Cover		Present?			_
% Bare Ground in Herb Stratum 5							
Remarks:				1			
Multistoried vegetation canopy. Vegetation within sa	mple plot meets	the dominance to	est for hydrophytic ve	getation.			

Profile Desc	ription: (Describ	e to the depth ne	eded to document the i	ndicator	or confirm	the abse	ence of indicators	.)
Depth	M	atrix	Redo	x Feature	es			
(inches)	Color (moist) %	Color (moist)	%	Type ¹	Loc²	Texture	Remarks
0-8	10YR3/2	93	7.5YR4/6	7			Loam	Mucky modified
8-22	5Y3/1	100					Loam	Mucky modified
								mucky meanined
		<u> </u>					<u> </u>	
								-
	-							-
17		Danielia DM Da	deced Matrice 00, Occur				21 -	and an Discount Patrick M. Matrix
			duced Matrix, CS=Cover		ited Sand G			cation: PL=Pore Lining, M=Matrix.
_		licable to all LKK	s, unless otherwise not	-				oblematic Hydric Soils ³ :
	sol (A1)		Sandy Redox (S5	•			2 cm Muck	,
l ——	Epipedon (A2)		Stripped Matrix (S	,	(NAI	DI A 4)		t Material (TF2)
	Histic (A3)		X Loamy Mucky Mir		(except ML	.RLA 1)		ow Dark Surface (TF12)
	gen Sulfide (A4)	· · · · · · · · · · · · · · · · · · ·	Loamy Gleyed Ma	, ,			Other (Exp	lain in Remarks)
l —	ted Below Dark S	` ,	Depleted Matrix (,			21 11	
	Dark Surface (A1	,	X Redox Dark Surfa	` '	`		-	drophytic vegetation and
	/ Mucky Mineral (Depleted Dark Su)		· ·	logy must be present,
	/ Gleyed Matrix (S	•	Redox Depressio	ns (F8)			uniess disturbe	ed or problematic.
Restrictive	Layer (if preser	nt):						
Type:			_					
Depth	(inches):		_				Hydric Soil Pre	sent? Yes X No
								ox was observed as concentrations in ucky mineral (F1) and redox dark
HYDROLO	OGY							
Wetland Hy	ydrology Indicat	ors:						
Primary Ind	licators (minimum	of one required;	check all that apply)				Secondary Indic	eators (2 or more required)
Surfac	ce Water (A1)	·	Water-Stained Le	aves (B9)	(except		Water Stair	ned Leaves (B9) (MRLA 1, 2,
X High \	Nater Tables (A2))	MRLA 1, 2, 4A	, and 4B))		4A, and	4B)
X Satura	ation (A3)		Salt Crust (B11)				Drainage F	Patterns (B10)
Water	Marks (B1)		Aquatic Invertebra	ates (B13))		Dry-Seaso	n Water Table (C2)
Sedim	nent Deposits (B2)	X Hydrogen Sulfide	Odor (C1)		Saturation	Visible on Aeriel Imagery (C9)
Drift D	Deposits (B3)		Oxidized Rhizosp	heres alo	ng Living R	oots (C3)	Geomorph	ic Position (D2)
Algal I	Mat or Crust (B4)		Presence of Redu	ced Iron	(C4)		Shallow Ac	quitard (D3)
Iron D	eposits (B5)		Recent Iron Redu	ction in T	illed Soils (0	C6)	X FAC-Neutr	al Test (D5)
Surfac	ce Soil Cracks (Bo	6)	Stunted or Stress	ed Plants	(D1) (LRR	A)	Raised Ant	Mounds (D6) (LRR A)
Inunda	ation Visible on A	eriel Imagery (B	Other (Explain in	Remarks))		Frost-Heav	ve Hummocks (D7)
Spars	ley Vegetated Co	ncave Surface (B	B)					
Field Obse	ervations:							
Surface Wa	ater Present?	Yes No	X Depth (inches):					
Water Table	e Present?	Yes X No	Depth (inches):		7.0			
Saturation I	Present?	Yes X No	Depth (inches):		4.0	Wetlan	d Hydrology Pres	ent? Yes X No
(includes ca	apillary fringe)							
Describe Rec	corded Date (strea	am gauge, monitoi	ing well, aerial photos, pr	evious ins	spections), i	f availabl	e:	
Domostic:								
Remarks:	the in the country of the	Inches to Other Co.					and have been	incompate for high control (1) (20)
, 0,			I and Ashes Lake. The sa Secondary wetland hydro			•	, ,, ,	irements for high water table (A2), et.
1								



Photo Name: Photo_231110094620



	_						
Project/Site: Cascade Renewables		City/County: Sk	amania	Sampling Date:	11/10/2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W14-P2 (U)		
Investigators: B DARBY, J MAZE		Sec	ction, Township,	Range:			
Landform (hillslope, terrace, etc.): Depression		Local Relief (c	concave, convex	, none): None	Slope	(%): 50	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum: Wo	GS84		
Soil Map Unit Name: Arents, 0 to 5 percent slope:	<u> </u>		NWI Classifi	cation: Unmapped			
Are climatic / hydrologic conditions on the site typic	cal for this time of	year? Yes	X No	(If No, explain in Rem	arks)		
Are Vegetation: Soil or Hydrology	significantly of	disturbed? Are	e "Normal Circur	mstances" present?	Yes X	No	0
Are Vegetation: Soil or Hydrology	naturally prob	olematic? (If	needed, explain	any answers in Remark	s.)		
SUMMARY OF FINDINGS - Attach a si	te map show	ing sampling po	int locations	, transects, impor	tant featur	es, etc.	
Hydrophytic Vegetation Present? Yes	X No						
Hydric Soil Present? Yes	NoX	Is the Sar	mpled Area				
Wetland Hydrology Present? Yes	No X	within a V	Wetland?	Yes		No X	
Remarks:							
Upland data plot was taken upslope of wetland bot sample plot but no wetland indicators for hydric soi	ils nor hydrology		grade of Ash La	ke Road. Hydrophytic ve	egetation is pre	esent within	n the
	Absolute	Dominant	Indicator	Dominance Test Wo	orksheet:		
Tree Statum (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominant			
1. Alnus rubra	10		FAC	That Are OBL, FACW	'	3	(A)
2.				Total Number of Dom	·		_ (' '
3.				Species Across All St		3	(B)
4.				Percent of Dominant S	_		_ (_)
	10	= Total Cover		That Are OBL, FACW	•	100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index wo	_		
1. Rubus armeniacus	90	Yes	FAC	Total % Cover of:	Multip	ly by:	
2.				OBL species	x1=		
3.				FACW species	7 x2=	14	_
4.				FAC species	103 x3=	309	_
5.				FACU species	x4=	0	_
	90	= Total Cover		UPL species	x5=	0	_
Herb Stratum (Plot size: 10 feet)				Column Totals:	110 (A)	323	(B)
Phalaris arundinacea	7	Yes	FACW		·· _		_
2. Equisetum arvense	3	Yes	FAC	Prevalence Index	= B/A=	2.93	3
3.				Hydrophytic Vegetat	ion Indicator	s:	
4.				1 - Rapid Test f	or Hydrophytic	: Vegetatio	on
5.				X 2 - Dominance	Test is >50%		
6.				X 3 - Prevalence	Index is ≤3.0¹		
7.				4 - Morphologic	al Adaptations	¹ (Provide	;
8.				data in Rer	narks or on a	separate s	heet)
9.				5 - Wetland No	n-Vascular Pla	ints¹	
10.				Problematic Hy	drophytic Veg	etation¹ (E	xplain)
11.				¹ Indicators of hydric s	oil and wetland	d hydrolog	у
	10	= Total Cover		must be present, unle	ss disturbed o	r problema	atic.
Woody Vine Stratum (Plot size: 10 feet)							
1.				Hydrophytic			
2.				Vegetation	Yes X N	10	
		= Total Cover		Present?			_
% Bare Ground in Herb Stratum 90							
	_			1			

Vegetation observed within sample plot meet the dominance test for hydrophytic vegetation. High percentage of bare ground attributed to mainly blackberry growth on roadbed fill material.

Glober (moist) Score (moist) Score (moist) Score (moist) Score Texture Remarks	0-14	Color (moist)			ox Feature						
14-18 2.5Y5/i 30 10VR4/4 2 M Clay Loem Gravelly Type: C = Concentration, D = Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C = Concentration, D = Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C = Concentration, D = Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C = Concentration, D = Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C = Concentration, D = Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C = Concentration, D = Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Third Sand Sand Sand Sand Sand Sand Sand San			%	Color (moist)	%	Type ¹	Loc²	Texture		Remarks	
Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: Golf Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox, (S5) 2 cm Muck (A10) Black Histosic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Depleted Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix, (F2) Depleted Below Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): Remarks: Remarks: Remarks: Popth (inches): Remarks: Hydric Soil Present? Yes No Salt Crust (S1) Sand Valved (Laves (S9) (MRLA 1, 2, 4A, and 4B) Salt Crust (S1) Salt Crust (S1) Salt Crust (S1) Salt Crust (S1) Salt Crust (S1) Depleted Leaves (S9) (except Water (A11) Department of Leaves (S9) (MRLA 1, 2, 4A, and 4B) Salt Crust (S1) Salt Crust (S1) Depleted Leaves (S9) (except Water (S1) Depleted Leaves (S9) (MRLA 1, 2, 4A, and 4B) Salt Crust (S1) Deposits (S3) Depleted Leaves (S9) (except Water Stained Leaves (S9) (MRLA 1, 2, 4A, and 4B) Salt Crust (S1) Deposits (S3) Depleted Leaves (S9) (Except Water Stained Leaves (S9) (MRLA 1, 2, 4A, and 4B) Salt Crust (S1) Deposits (S3) Depleted (S1) Salt Crust (S1) Depleted (S1) Salt Crust (S1) Depleted (S1) Salt Crust (S1) Salt Crust (S1) Salt Crust (S1) Salt Crust (S1) Depleted (S1) Salt Crust	14-18	2.5Y3/2	100					Clay Loam	Gravelly	у	
Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. **Jordic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histor Epipedon (A2) Black Histor (A3) Sandy Medox (S5) Black Histor (A3) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Redox Derpessions (F8) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Redox Depressions (F8) Thick Dark Surface (A12) Redox Depressions (F8) **Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Restrictive Layer (if present): Type: Depth (inches): **Primary indicators in top layer are too bright. No hydric soils present. Hydric Soil present? Yes		2.5Y5/1	30					Clay Loam	Gravelly	у	
Histosol (A1) Histosol (A2) Sandy Redox (S5) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Popeleted Below Dark Surface (A11) Depleted Matrix (S6) Sandy Matrix (F5) Depleted Below Dark Surface (A11) Depleted Matrix (F5) Sandy Mucky Mineral (F1) (except MLRLA 1) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) (except MLRLA 1) Popeleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) "Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Popelth (inches): Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Sediment Deposits (B3) Agail Mat or Crust (B4) Presence of Reduced Iron (C4) Sparsely Vegetated Concave Surface (B8) Finel Observations: Surface Water (A1) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Surface Water Present? Yes No No Wetland Hydrology Present? Yes No Wetlan		2.5Y3/2	68	10YR4/4	2		M				
ydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Black Histosol (A2) Stripped Matrix (S6) Stripped Matrix (S6) Black Histor (A2) Black Histor (A2) Black Histor (A2) Black Histor (A2) Black Histor (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Sandy Gleyed Matrix (F3) Sandy Mucky Mineral (F1) Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Water Sandy Gle											
ydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histosol (A1) Sandy Redox (S5) Black Historol (A2) Stripped Matrix (S6) Black Historol (A2) Bedeved Badrix (F2) Beleted Below Dark Surface (A11) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (F3) Bepeted Dark Surface (F6) Redox Depressions (F8) Redox Depressions of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Pemark: Stravels in soil due to proximity of sample plot to roadbed of Ash Lake Road. Soils do not meet A11 because depleted layer starts too deep nor A12 because oils colors in top layer are too bright. No hydric soils present. Redox Depressions (P8) Wetland Hydrology Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of one required; check all that apply) Secondary Indicators (MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Saturation Visible on Aeriel Imagery (C9) Saturation Visible on Aeriel Imagery (C9) Saturation Visible on Aeriel Imagery (C9) Sparisley Vegetated Concave Surface (B8) Frost-H											
ydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Black Histosol (A2) Stripped Matrix (S6) Stripped Matrix (S6) Black Histor (A2) Black Histor (A2) Black Histor (A2) Black Histor (A2) Black Histor (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Sandy Gleyed Matrix (F3) Sandy Mucky Mineral (F1) Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Water Sandy Gleyed Matrix (F1) Water Sandy Gle											
Histosol (A1) Histosol (A2) Sandy Redox (S5) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Popeleted Below Dark Surface (A11) Depleted Matrix (S6) Sandy Matrix (F5) Depleted Below Dark Surface (A11) Depleted Matrix (F5) Sandy Mucky Mineral (F1) (except MLRLA 1) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) (except MLRLA 1) Popeleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) "Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Popelth (inches): Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Sediment Deposits (B3) Agail Mat or Crust (B4) Presence of Reduced Iron (C4) Sparsely Vegetated Concave Surface (B8) Finel Observations: Surface Water (A1) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Surface Water Present? Yes No No Wetland Hydrology Present? Yes No Wetlan											
Histosol (A1) Histosol (A2) Sandy Redox (S5) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Popeleted Below Dark Surface (A11) Depleted Matrix (S6) Sandy Matrix (F5) Depleted Below Dark Surface (A11) Depleted Matrix (F5) Sandy Mucky Mineral (F1) (except MLRLA 1) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) (except MLRLA 1) Popeleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) "Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Popelth (inches): Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Sediment Deposits (B3) Agail Mat or Crust (B4) Presence of Reduced Iron (C4) Sparsely Vegetated Concave Surface (B8) Finel Observations: Surface Water (A1) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Surface Water Present? Yes No No Wetland Hydrology Present? Yes No Wetlan											
Histosol (A1) Histic Epipedon (A2) Stripped Matrix (56) Black Histic (A3) Loamy Worky Mineral (F1) (except MLRLA 1) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F5) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Permary Indicators in soil due to proximity of sample plot to roadbed of Ash Lake Road. Soils do not meet A11 because depleted layer starts too deep nor A12 because of the proximity of sample plot to roadbed of Ash Lake Road. Soils do not meet A11 because depleted layer starts too deep nor A12 because of the primary Indicators (Primary	Гуре: C= Con	centration, D= Deple	tion, RM=Red	uced Matrix, CS=Cover	ed or Coat	ted Sand G	rains.	²Lo	cation: PL	_=Pore Lining, M=	Matrix.
Histic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Uvery Shallow Dark Surface (TF12) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Redox Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Redox Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F7) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F7) Redox Dark Surface (F8) Redox Dark Surface (F7) Redox Dark Surface (F7) Redox Dark Surface (F8) Redox Dark Sur	ydric Soil Ind	licators: (Applicabl	e to all LRRs,	unless otherwise not	ed.)			Indicators for Pr	oblematic	: Hydric Soils³:	
Black Histic (A3)	Histosol	(A1)		Sandy Redox (S5	5)			2 cm Mucl	(A10)		
Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No Depleted Dark Surface (F7) Wetland Hydrology Indicators Brimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Northebrates (B13) Saturation (A3) Salt Crust (B11) Northebrates (B13) Northe	Histic E	pipedon (A2)	•	Stripped Matrix (S	S6)			Red Parer	t Material	(TF2)	
Depleted Below Dark Surface (A11)	Black Hi	istic (A3)	,	Loamy Mucky Mi	neral (F1)	(except ML	RLA 1)	Very Shall	ow Dark S	Surface (TF12)	
Thick Dark Surface (A12) Redox Dark Surface (F6) Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Permarks: Stravels in soil due to proximity of sample plot to roadbed of Ash Lake Road. Soils do not meet A11 because depleted layer starts too deep nor A12 because oils colors in top layer are too bright. No hydric soils present. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquatiar (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) X FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Field Observations: Water Table Present? Yes No X Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches):	—— Hydroge	en Sulfide (A4)	•	Loamy Gleyed M	atrix (F2)			Other (Exp	lain in Rei	marks)	
Sandy Mucky Mineral (S1)	Deplete	d Below Dark Surface	e (A11)	Depleted Matrix (F3)						
Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes	Thick Da	ark Surface (A12)		Redox Dark Surfa	ace (F6)			3Indicators of hy	drophytic	vegetation and	
Restrictive Layer (if present): Type: Depth (inches): Depth (inches): Remarks: Cravels in soil due to proximity of sample plot to roadbed of Ash Lake Road. Soils do not meet A11 because depleted layer starts too deep nor A12 because coils colors in top layer are too bright. No hydric soils present. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Tables (A2) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Sunface Soil Cracks (B6) Sunface Soil Cracks (B6) Sunface Soil Cracks (B8) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Wetland Hydrology Present? Yes No Eppth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Pr	Sandy N	Mucky Mineral (S1)		Depleted Dark Su	urface (F7))		wetland hydro	logy must	be present,	
Type: Depth (inches): Hydric Soil Present? Yes	Sandy C	Gleyed Matrix (S4)		Redox Depressio	ns (F8)			unless disturb	ed or prob	olematic.	
Remarks: Bravels in soil due to proximity of sample plot to roadbed of Ash Lake Road. Soils do not meet A11 because depleted layer starts too deep nor A12 because oils colors in top layer are too bright. No hydric soils present. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Surface Soil Cracks (B8) Field Observations: Surface Vater Present? Yes No No Depth (inches): Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) A4A, and 4B) Drainage Patterns (B10) Dyn-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Saturation Visible on Aeriel Imagery (C9) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No No Wetland Hydrology Present? Yes No No No No No No No No No N	Restrictive L	ayer (if present):									
Remarks: Stravels in soil due to proximity of sample plot to roadbed of Ash Lake Road. Soils do not meet A11 because depleted layer starts too deep nor A12 because oils colors in top layer are too bright. No hydric soils present. HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except) High Water Tables (A2) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Sturted or Stressed Plants (D1) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Frest-Heave Hummocks (D7) Frest-Heave Hummocks (D7) Saturation Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No	Type:										
A Saturation (A3) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Drift Deposits (B5) Algal Mat or Crust (B4) In Deposits (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Suth Crust (B6) Algal Mat or Crust (B6) Suth Crust (B6) Suth Crust (B6) Algal Mat or Crust (B6) Suth Crust (B6) Suth Crust (B6) Algal Mat or Crust (B6) Suth Crust (B6) Suth Crust (B6) Algal Mat or Crust (B6) Surface Soil Cracks (B6) Drift Deposits (B8) Algal Mat or Crust (B4) Algal Mat or Crust (B4) Algal Mat or Crust (B6) Surface Soil Cracks (B6) Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No No Wetland Hydrology Present? Yes No No No No No No No No No N	Depth (i	nches):						Hydric Soil Pre	sent?	Yes N	٧o
Surface Water (A1) Water-Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) X FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Mater Table Present? Yes X No Depth (inches): Metland Hydrology Present? Yes No		 BY									
High Water Tables (A2) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No MRLA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Saturation Visible on Aeriel Imagery (C9) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Saturation Present (C4) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No No No No No No No No No N	HYDROLOG Wetland Hyd	rology Indicators:									
Saturation (A3) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Saturation (C3) Saturation Visible on Aeriel Imagery (C9) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Saturation Visible on Aeriel Imagery (C9) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Saturation Present? Yes No X Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Mater Table Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Mater Table Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): S	HYDROLOG Wetland Hyd Primary Indica	Irology Indicators: ators (minimum of or	ne required; ch								
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Table Present? Yes No Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Saturation Visible on Aeriel Imagery (C9) Shallow Aquitard (D3) Fresence of Reduced Iron (C4) Shallow Aquitard (D3) Freded Observations: Surface Water Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No No Wetland Hydrology Present? Yes No	HYDROLOG Wetland Hyd Primary Indica	Irology Indicators: ators (minimum of or Water (A1)	ne required; ch	Water-Stained Le	` '	(except		Water Sta	ned Leave		2,
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B6) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Saturation Visible on Aeriel Imagery (Page 18.0) Mydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Saturation Visible on (C4) Saturation Visible on Aeriel Imagery (C9) Saturation Visible on (C4) Saturation Vis	Wetland Hyd Primary Indica Surface High Wa	rology Indicators: ators (minimum of or Water (A1) ater Tables (A2)	ne required; ch	Water-Stained Le	` '	(except		Water Star	ned Leave	es (B9) (MRLA 1 ,	2,
Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Saturation Present? Yes X No Depth (inches): 18.0 Wetland Hydrology Present? Yes No	Wetland Hyd Primary Indica Surface High Wa	ators (minimum of or Water (A1) ater Tables (A2) on (A3)	ne required; ch	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	, and 4B)	` .		Water Stai 4A, and Drainage I	ned Leave 4B) Patterns (B	es (B9) (MRLA 1,	2,
Algal Mat or Crust (B4)	Wetland Hyd Primary Indica Surface High Wa Saturatio Water M	ators (minimum of or Water (A1) ater Tables (A2) on (A3) farks (B1)	ne required; ch	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr	a, and 4B)	•		Water Stai 4A, and Drainage I Dry-Seaso	ned Leave 4B) Patterns (E n Water T	es (B9) (MRLA 1 , 310) Table (C2)	
Iron Deposits (B5)	Wetland Hyd Primary Indica Surface High Wa Saturatio Water M Sedimen	Arks (B1) Irology Indicators: ators (minimum of or Water (A1) ater Tables (A2) on (A3) flarks (B1) Int Deposits (B2)	ne required; ch	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide	ates (B13) Odor (C1))		Water Stai 4A, and Drainage I Dry-Seaso Saturation	ned Leave 4B) Patterns (E In Water T Visible on	es (B9) (MRLA 1, B10) Table (C2) A Aeriel Imagery (C	
Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): 18.0 Wetland Hydrology Present? Yes No	Primary Indication Surface High Water M Sedimer Drift Dep	Architecture (A1) Attention (A3) Architecture (B1) Architecture (B2) Architecture (B2) Architecture (B2) Architecture (B2) Architecture (B2) Architecture (B3)	ne required; ch	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp	ates (B13) Odor (C1) Oheres alor) ng Living R	oots (C3)	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph	ned Leave 4B) Patterns (E n Water T Visible on ic Position	es (B9) (MRLA 1, B10) Table (C2) In Aeriel Imagery (Cn (D2)	
Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes X No Depth (inches): 18.0 Wetland Hydrology Present? Yes No	Primary Indication Surface High Water M Sedimer Drift Dep Algal Ma	ators (minimum of or Water (A1) ater Tables (A2) on (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4)	ne required; ch	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redi	ates (B13) Odor (C1) Oheres alor uced Iron () ng Living R (C4)		Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A	ned Leave 4B) Patterns (E in Water T Visible on ic Position quitard (D3	es (B9) (MRLA 1, B10) Table (C2) A Aeriel Imagery (Cn (D2) B3)	
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes X No Depth (inches): 18.0 Wetland Hydrology Present? Yes No	Primary Indication Surface High Water M Sedimer Drift Dep Algal Ma	Arks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	ne required; ch	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Til) ng Living R (C4) Iled Soils (G	C6)	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr	ned Leave 4B) Patterns (E in Water T Visible on ic Position quitard (D3 ral Test (D	es (B9) (MRLA 1, B10) Table (C2) A Aeriel Imagery (C D (D2) B3)	
Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes X No Depth (inches): 18.0 Wetland Hydrology Present? Yes No	Primary Indication Surface High Water M Sedimer Drift Dep Algal Mater M Surface Under M Surface Algal Mater M Surface Algal Mater M Surface	Architecture (A1) Architecture (A2) Architecture (A3) Architecture		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Til) ng Living R (C4) lled Soils (((D1) (LRR	C6)	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neuti Raised An	ned Leave 4B) Patterns (E in Water T Visible on ic Position quitard (D3 ral Test (D	es (B9) (MRLA 1, B10) Fable (C2) In Aeriel Imagery (C In (D2) B3) B5) (D6) (LRR A)	
Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes X No Depth (inches): 18.0 Wetland Hydrology Present? Yes No	Primary Indicates Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati	Archive the control of the control o	magery (B	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Til) ng Living R (C4) lled Soils (((D1) (LRR	C6)	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neuti Raised An	ned Leave 4B) Patterns (E in Water T Visible on ic Position quitard (D3 ral Test (D	es (B9) (MRLA 1, B10) Fable (C2) In Aeriel Imagery (C In (D2) B3) B5) (D6) (LRR A)	
Water Table Present? Yes No X Depth (inches): 18.0 Wetland Hydrology Present? Yes No	Primary Indication Primary Indication Surface High Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundation Sparsley	Archive the content of the content o	magery (B	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Til) ng Living R (C4) lled Soils (((D1) (LRR	C6)	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neuti Raised An	ned Leave 4B) Patterns (E in Water T Visible on ic Position quitard (D3 ral Test (D	es (B9) (MRLA 1, B10) Fable (C2) In Aeriel Imagery (C In (D2) B3) B5) (D6) (LRR A)	
Saturation Present? Yes X No Depth (inches): 18.0 Wetland Hydrology Present? Yes No	Primary Indicates Surface High Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundati Sparsley Field Observ	Archive department of the control of	magery (B e Surface (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Til) ng Living R (C4) lled Soils (((D1) (LRR	C6)	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neuti Raised An	ned Leave 4B) Patterns (E in Water T Visible on ic Position quitard (D3 ral Test (D	es (B9) (MRLA 1, B10) Fable (C2) In Aeriel Imagery (C In (D2) B3) B5) (D6) (LRR A)	
	Primary Indication Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsley Surface Water W	Arrology Indicators: ators (minimum of or Water (A1) ater Tables (A2) on (A3) Arrks (B1) ant Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeriel I by Vegetated Concave arrations:	magery (B e Surface (B8)	Water-Stained Let MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Rede Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Til) ng Living R (C4) lled Soils (((D1) (LRR	C6)	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neuti Raised An	ned Leave 4B) Patterns (E in Water T Visible on ic Position quitard (D3 ral Test (D	es (B9) (MRLA 1, B10) Fable (C2) In Aeriel Imagery (C In (D2) B3) B5) (D6) (LRR A)	
(includes capillary filinge)	Primary Indicates Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsley Field Observ Surface Water Water Table M	ators (minimum of or Water (A1) ater Tables (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeriel I by Vegetated Concave vations: er Present? Yes Present? Yes	magery (B e Surface (B8) No	Water-Stained Let MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redi Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): X Depth (inches):	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Til) ng Living R (C4) Iled Soils (((D1) (LRR	C6) A)	Water Stai 4A, and Drainage I Dry-Seasc Saturation Geomorph Shallow Ar X FAC-Neut Raised An Frost-Hear	ned Leave 4B) Patterns (E In Water T Visible on ic Position quitard (D3 ral Test (D t Mounds (ve Hummo	es (B9) (MRLA 1, B10) Table (C2) In Aeriel Imagery (C In (D2) B3) (D6) (LRR A) Docks (D7)	C9)
	Primary Indicates Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsley Field Observ Surface Water Water Table If Saturation Primary Indicates Indicates Indicates Surface Field Observ Surface Water Table If Saturation Primary Indicates I	ators (minimum of or Water (A1) ater Tables (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeriel I by Vegetated Concave vations: ar Present? Yes Present? Yes esent? Yes	magery (B e Surface (B8) No	Water-Stained Let MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redi Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): X Depth (inches):	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Til) ng Living R (C4) Iled Soils (((D1) (LRR	C6) A)	Water Stai 4A, and Drainage I Dry-Seasc Saturation Geomorph Shallow Ar X FAC-Neut Raised An Frost-Hear	ned Leave 4B) Patterns (E In Water T Visible on ic Position quitard (D3 ral Test (D t Mounds (ve Hummo	es (B9) (MRLA 1, B10) Table (C2) In Aeriel Imagery (C In (D2) B3) (D6) (LRR A) Docks (D7)	C9)
	Primary Indica Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsley Field Observ Surface Water Table If Saturation Pro (includes cap	Archive the control of the control o	magery (B e Surface (B8) No No X No	Water-Stained Let MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redi Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): X Depth (inches):	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Til ed Plants Remarks)	ng Living R (C4) Iled Soils (I (D1) (LRR	C6) A) Wetland	Water Stai 4A, and Drainage I Dry-Seasc Saturation Geomorph Shallow Ac X FAC-Neut Raised An Frost-Hear	ned Leave 4B) Patterns (E In Water T Visible on ic Position quitard (D3 ral Test (D t Mounds (ve Hummo	es (B9) (MRLA 1, B10) Table (C2) In Aeriel Imagery (C In (D2) B3) (D6) (LRR A) Docks (D7)	C9)



Photo Name: Photo_231110100437



Photo Name: Photo_231110100459



Project/Site: Cascade Renewables	City/County:	Skamania	Sampling Date:	11/9/2023	
Applicant/Owner: Cascade Renewables		State: WA	- Sampling	W15-P1 (W)	
Investigators: B DARBY, J MAZE		Section, Township, Range:			
Landform (hillslope, terrace, etc.): Depression	Local Reli	ef (concave, convex, none):	Concave	Slope(%): 3	3
Subregion (LRR): A - Northwest Forest and Lat:	Long:		Datum: WG	GS84	
Soil Map Unit Name: Steever stony clay loam, 2 to 30 percentage	ent slopes; Arents, 0 to 5	NWI Classification:	Not mapped		
Are climatic / hydrologic conditions on the site typical for this	time of year? Yes	S X No (If No	o, explain in Rema	arks)	
Are Vegetation: Soil or Hydrology signif	icantly disturbed?	Are "Normal Circumstance	es" present?	Yes X	No
Are Vegetation: Soil or Hydrology nature	ally problematic?	(If needed, explain any an	swers in Remark	s.)	
SUMMARY OF FINDINGS - Attach a site map	showing sampling	point locations, tran	sects, impor	tant features, et	c.
Hydrophytic Vegetation Present? Yes X No					
Hydric Soil Present? Yes X No	Is the	Sampled Area			
Wetland Hydrology Present? Yes X No	within	n a Wetland?	Yes X	No	
Remarks:	<u> </u>				
Wetland 15 occurs is a depressional area roughly 30 feet be the west were likely one wetland prior to the construction of is classified by the NWI as a R5UBH water. Sample plot mediate the construction of the construction	Ash Lake Road. Stream 1 tets wetland criteria for hyd	11 drains the wetland via a d	culvert beneath th	ne road into Ashes La	
VEGETATION – Use scientific names of plant					
Abso			ninance Test Wo		
Tree Statum (Plot size: 30 feet) % Co	over Species?		ber of Dominant S	•	
1			Are OBL, FACW,		(A)
2			Number of Domi		
3			cies Across All Str		(B)
4			ent of Dominant S	•	
	= Total Cover		Are OBL, FACW,		(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)		_	alence Index wo	rksheet:	
1			% Cover of:	Multiply by:	
2			species	x1=	
3			· —	100 x2= 200	
4			species	x3=0	
5			U species	x4=0	
	= Total Cover		species	x5=0	
Herb Stratum (Plot size: 10 feet)			mn Totals:	100 (A) <u>200</u>	(B)
1. Phalaris arundinacea 9		_ FACW			
2. Juncus effusus 1	0 No		Prevalence Index :		2.00
3		Hydr	ophytic Vegetat		
4			_	or Hydrophytic Veget	ation
5		X	2 - Dominance		
6		X	3 - Prevalence I	Index is ≤3.0¹	
7			4 - Morphologic	al Adaptations¹ (Prov	vide .
8			data in Rem	narks or on a separat	e sheet)
9			5 - Wetland Nor	n-Vascular Plants ¹	
10			Problematic Hyd	drophytic Vegetation ¹	(Explain)
11		1Indic	cators of hydric so	oil and wetland hydro	logy
10	= Total Cover	must	be present, unles	ss disturbed or proble	ematic.
Woody Vine Stratum (Plot size: 10 feet)					
1			ophytic		
2		Vege	etation	Yes X No	
	= Total Cover	Pres	ent?		
% Bare Ground in Herb Stratum 0					

Sample plot meets the dominance test for hydrophytic vegetation. The forested riparian corridor at the northern boundary of wetland is comprised mainly of red alder (Alnus rubra, FAC), bigleaf maple (Acer macrophyllum, FACU), Oregon ash (Fraxinus latifolia, FACW) and vine maple (Acer circinatum, FAC).

		the depth nee	ded to document the i			the abse	ence of indicators.)
Depth	Matrix			ox Feature				
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-8	10YR3/2	100					Organic	Mucky peat
8-14	2.5Y4/1	85	7.5YR4/6	15	C	M	Sandy Loam	Mucky mineral, organics present
14-20	5Y4/1	90	7.5YR4/6	10	C	RC_	Sandy Clay Loam	Mucky mineral, organics present
	<u>.</u>		uced Matrix, CS=Cover		ted Sand G			ation: PL=Pore Lining, M=Matrix.
_		le to all LRRs	, unless otherwise not	-				blematic Hydric Soils³:
	sol (A1)		Sandy Redox (S5	•			2 cm Muck	,
	Epipedon (A2)		Stripped Matrix (S	,				Material (TF2)
	Histic (A3)		X Loamy Mucky Min		(except ML	RLA 1)		w Dark Surface (TF12)
	gen Sulfide (A4)	(* (*)	Loamy Gleyed M				Other (Expl	ain in Remarks)
l ——	ted Below Dark Surfac	e (A11)	X Depleted Matrix (a	
	Dark Surface (A12)		Redox Dark Surfa	` ,			•	drophytic vegetation and
	Mucky Mineral (S1)		Depleted Dark Su)		-	ogy must be present,
	Gleyed Matrix (S4)		Redox Depressio	ons (F8)			uniess disturbe	ed or problematic.
	Layer (if present):							
Type:								
Depth	(inches):		•				Hydric Soil Pres	sent? Yes <u>X</u> No
HYDROLO Wetland Hy	ydrology Indicators:							
Primary Ind	licators (minimum of o	ne required; ch	eck all that apply)				Secondary Indica	ators (2 or more required)
Surfac	ce Water (A1)		Water-Stained Le	eaves (B9)	(except		Water Stair	ned Leaves (B9) (MRLA 1, 2,
	Vater Tables (A2)		MRLA 1, 2, 4A	, and 4B)			4A, and	4B)
X Satura	` '		Salt Crust (B11)					atterns (B10)
	Marks (B1)		Aquatic Invertebr	` '				Water Table (C2)
	ent Deposits (B2)		Hydrogen Sulfide					Visible on Aeriel Imagery (C9)
	Peposits (B3)		Oxidized Rhizosp		0 0	oots (C3)		c Position (D2)
l —	Mat or Crust (B4)		Presence of Red			20)	Shallow Aq	, ,
	eposits (B5)		Recent Iron Redu				FAC-Neutra	
	ce Soil Cracks (B6)	Imagan, (D	Stunted or Stress			A)		Mounds (D6) (LRR A) e Hummocks (D7)
	ation Visible on Aeriel	0 , (Other (Explain in	Remarks)			Frost-Heav	e Hummocks (D7)
	ley Vegetated Concav	e Suriace (Do)						
Field Obse		No	V Donth (inches)					
Water Table	ater Present? Yes e Present? Yes	No	X Depth (inches): Depth (inches):		10.0			
Saturation I		X No -	Depth (inches):		7.0	Wetlan	d Hydrology Prese	ent? Yes X No
	apillary fringe)		Ворит (птопоз).		7.0	Victiani	a riyarology r rest	<u> </u>
		ugo monitorin	ng well, aerial photos, pi	rovious ins	nootiona) i	f availabl	lo:	
Describe Nec	orded Date (Stream go	auge, monitorii	ig well, aeriai priolos, pi	revious iris	speciions), і	i avallabi		
Remarks:								
		to Stream 11	and Ashes Lake. The sa	ample plot	meets prim	ary wetla	and hydrology requi	rements for high water table (A2) and
saturation (A3	ارد.							



Photo Name: Photo_231109153523



Photo Name: Photo_231109153613





Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	ite: 11/9/2	2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W15-	P2 (U)		
Investigators: B DARBY, J MAZE			Section, Township,	Range:				
Landform (hillslope, terrace, etc.): Hillslope		Local Reli	ef (concave, convex,	none): None		Slope	e(%): 50	
Subregion (LRR): Northwest Forest and Coasts	Lat:	Long:		Datum:	WGS84	-		
Soil Map Unit Name: Steever stony clay loam, 2 to	30 percent slope	es; Arents, 0 to 5	NWI Classific	cation: Unmapped				
Are climatic / hydrologic conditions on the site typica	al for this time of	year? Yes	s X No	(If No, explain in Re	emarks)			
Are Vegetation: Soil or Hydrology	significantly d	isturbed?	Are "Normal Circun	- nstances" present?	Yes	· >	(N	0
Are Vegetation: Soil or Hydrology	naturally prob	lematic?	(If needed, explain	any answers in Rema	arks.)			
SUMMARY OF FINDINGS - Attach a site	_ e map showi	ng sampling	point locations	, transects, imp	ortant f	eatur	es, etc.	
Hydrophytic Vegetation Present? Yes	No X							
Hydric Soil Present? Yes	No X	Is the	Sampled Area					
Wetland Hydrology Present? Yes	No X	withir	n a Wetland?	Yes			No X	
Remarks:				•		_		
Upland data plot is located on a toe of road fill slope	which is steen!	v graded roughly	30 feet below roadb	ed and located rough	ılv 3 feet f	rom we	etland plot	
opiana data piot is located on a toe of road iii slope	, writer is steepi	y graded, rouginy	30 ICCI DCIOW IOAGD	ca ana localea roagi	ily o lect i	TOTTI WC	ziiaria piot.	•
VEGETATION – Use scientific names o	f plants.							
	Absolute	Dominant	Indicator	Dominance Test	Workshe	et.		
Tree Statum (Plot size: 30 feet)	% Cover	Species?	Status	Number of Domina				
1.	70 0010.			That Are OBL, FAC			1	(A)
2.		-		Total Number of Do		-	•	_ (' ')
3.				Species Across All			2	(B)
4.				Percent of Domina		-		_` ′
		= Total Cover		That Are OBL, FAC	•		50	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index	-			
1.				Total % Cover of:			oly by:	
2.				OBL species		x1=		
3.				FACW species	6	x2=	12	_
4.				FAC species	35	x3=	105	_
5.				FACU species	50	x4= -	200	_
		= Total Cover		UPL species		x5= -	0	_
Herb Stratum (Plot size: 10 feet)				Column Totals:	91	(A)	317	(B)
1. Rubus ursinus	50	Yes	FACU	1				_
2. Cirsium arvense	25	Yes	FAC	Prevalence Ind	ex = B/A =	:	3.4	8
3. Equisetum arvense	10	No	FAC	Hydrophytic Vege	tation Inc	dicator	s:	
4. Phalaris arundinacea	5	No	FACW	1 - Rapid Te	st for Hyd	rophyti	c Vegetati	on
5. Equisetum hyemale	1	No	FACW	2 - Dominano	ce Test is	>50%		
6.				3 - Prevalend	ce Index is	s ≤3.0¹		
7.				4 - Morpholo	gical Ada _l	ptation	s¹ (Provide)
8				data in F	Remarks o	r on a	separate s	sheet)
9.				5 - Wetland I	Non-Vasc	ular Pla	ants¹	
10				Problematic	Hydrophy	tic Veg	etation¹ (E	xplain)
11				¹ Indicators of hydric	soil and	wetlan	d hydrolog	IY
	91	= Total Cover		must be present, u	nless distu	urbed c	or problem	atic.
Woody Vine Stratum (Plot size: 10 feet)								
1.				Hydrophytic				
2.				Vegetation	Yes	'	No X	_
		= Total Cover		Present?				
% Bare Ground in Herb Stratum 9	<u> </u>							
Remarks:								
Bare ground is dead reed canarygrass and horsetail	likely from road	side maintenance	e activities. No indica	tors of hydrophytic ve	egetation a	are me	t.	

Depth	Mat	-	eded to document the Re	dox Feature				•			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture		Remar	ks	
0-6	10YR3/2	100		_			Sandy Loam	Cobble	and rip rap fr	om road	bed
		_			·						
				_							
				_							
Type: C= C	concentration, D= D	epletion, RM=Re	duced Matrix, CS=Cov	ered or Coa	ted Sand G	rains.	²Loc	ation: PL	_=Pore Lining	, M=Matr	rix.
Hydric Soil I	Indicators: (Appli	cable to all LRR	s, unless otherwise n	oted.)			Indicators for Pro	blematic	Hydric Soils	s³:	
Histos	sol (A1)		Sandy Redox (S5)			2 cm Muck	(A10)			
Histic	Epipedon (A2)		Stripped Matrix	(S6)			Red Parent	Material	(TF2)		
Black	Histic (A3)		Loamy Mucky N	Mineral (F1)	(except ML	RLA 1)	Very Shallo	w Dark S	urface (TF12)	
Hydro	ogen Sulfide (A4)		Loamy Gleyed	Matrix (F2)			Other (Expl	ain in Rei	marks)		
Deple	eted Below Dark Su	rface (A11)	Depleted Matrix	(F3)							
	Dark Surface (A12		Redox Dark Su				³ Indicators of hyd		_	d	
	y Mucky Mineral (S		Depleted Dark)		wetland hydrolo				
Sand	y Gleyed Matrix (S ²	1)	Redox Depress	sions (F8)			unless disturbe	d or prob	lematic.		
Restrictive	e Layer (if present):									
Type:	: Rock/cobble/ripra	ар	_								
Depth	n (inches): 6		_				Hydric Soil Pres	ent?	Yes	No	X
	lydrology Indicato		المراجعة عاملا المراجعة				Canadan India	-t (O -		()	
	dicators (minimum o	or one requirea; o	Water-Stained	L (DO)	\		Secondary Indica		es (B9) (MRL		-
	ce Water (A1) Water Tables (A2)		MRLA 1, 2, 4	` '	•		4A, and		es (D9) (IVIRL	4 1, 2,	
	ration (A3)		Salt Crust (B11		'		Drainage Pa	,	810)		
	r Marks (B1)		Aquatic Inverte	•)		Dry-Season				
	nent Deposits (B2)		Hydrogen Sulfic						Aeriel Image	rv (C9)	
	Deposits (B3)		Oxidized Rhizo			oots (C3)	Geomorphic		_	, (,	
	Mat or Crust (B4)		Presence of Re			` ,	Shallow Aqı	uitard (D3	3)		
Iron D	Deposits (B5)		Recent Iron Re	duction in T	illed Soils (0	C6)	FAC-Neutra	l Test (D	5)		
Surfa	ce Soil Cracks (B6)	1	Stunted or Stre	ssed Plants	(D1) (LRR	A)	Raised Ant	Mounds	(D6) (LRR A)		
Inund	dation Visible on Ae	riel Imagery (B	Other (Explain	in Remarks))		Frost-Heave	e Hummo	ocks (D7)		
Spars	sley Vegetated Con	cave Surface (B8	3)								
Field Obse	ervations:										
Surface Wa	ater Present? Ye	es No	X Depth (inches):								
	le Present? Ye	esNo	X Depth (inches):								
Saturation		es No	X Depth (inches):			Wetland	d Hydrology Prese	nt?	Yes	No	X
(includes c	capillary fringe)										
Describe Red	corded Date (strear	n gauge, monitor	ing well, aerial photos,	previous in:	spections), i	f available	e:				
Pamarka:											
Remarks:	s of wetland hydrolo	av procest within	sample plat								
NO INDICATORS	s or welianu nvarolo	DIESENI WITHIN									
	, , , , , , , , , , , , , , , , , , , ,	gy present within	i sample plot.								



Photo Name: Photo_231109155319



Photo Name: Photo_231109155258



Project/Site: Cascade Renewables	(City/County:	Skamania	Sampling Dat	e: 11/10/2023		
Applicant/Owner: Cascade Renewables			State: WA	Sampling	W16-P1 (W)		
Investigators: B DARBY, J MAZE			Section, Township, F	Range:			
Landform (hillslope, terrace, etc.): Channel		Local Relie	ef (concave, convex,	none): Concave	Slope	(%): 2	
Subregion (LRR): Northwest Forest and Coasts La	it:	Long:		Datum: V	WGS84		
Soil Map Unit Name: Steever stony clay loam, 2 to 30 p	ercent slopes		NWI Classific	ation: Unmapped			
Are climatic / hydrologic conditions on the site typical for	this time of yea	ar? Yes	X No	(If No, explain in Re	marks)		
Are Vegetation: Soil or Hydrology sig	gnificantly distu	irbed?	Are "Normal Circum	stances" present?	Yes X	(No)
Are Vegetation: Soil or Hydrology na	turally problem	natic?	(If needed, explain a	any answers in Rema	rks.)		
SUMMARY OF FINDINGS - Attach a site ma	ap showing	sampling	point locations,	transects, impo	ortant featur	es, etc.	
Hydrophytic Vegetation Present? Yes X	No						
Hydric Soil Present? Yes X	No	Is the	Sampled Area				
Wetland Hydrology Present? Yes X	No	within	a Wetland?	Yes >	〈	No	
Remarks:							
Sample plot located at the western boundary of wetland seast of the plot. Wetland criteria for hydrophytic vegetation	n, hydric soils			southwest. Signature	es were somewh	nat intermit	tent
VEGETATION – Use scientific names of pla	ants.			,			
	bsolute	Dominant	Indicator	Dominance Test V			
	Cover _	Species?	Status	Number of Dominan			
1				That Are OBL, FAC	_	2	_ (A)
2				Total Number of Doi		_	
3				Species Across All S	_	2	– ^(B)
4		T		Percent of Dominan	•	400	(A (D)
Operation (Objects Operations (Plantains 40 (and))		= Total Cover		That Are OBL, FAC	_	100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index v			
1				Total % Cover of:	Multip		
2.				OBL species	10 x1= _	10	_
3				FACW species	42 x2= _	84	_
4				FAC species	37 x3= _	111	_
5		Total Cayor	· —	FACU species	$\frac{6}{x^{4}}$	0	-
Horb Stratum (Diat aiza: 10 faat)	<u> </u>	= Total Cover		UPL species Column Totals:	95 (A)	229	- (D)
<u>Herb Stratum</u> (Plot size: 10 feet) 1. Holcus lanatus	35	Yes	FAC	Column Totals. –	(A)		– ^(B)
Juncus ensifolius	35 -	Yes	FACW	Prevalence Inde	ν – <i>Β</i> /Λ–	2.41	I
Typha latifolia	10	No	OBL	Hydrophytic Veget	•		
4. Epilobium ciliatum	5 -	No	FACW		t for Hydrophytic		n
5. Cynodon dactylon	3 -	No	FACU		e Test is >50%	, vogotano	,,,,
6. Vicia americana	2 -	No	FAC		e Index is ≤3.0¹		
7. Senecio jacobaea		No	FACU		ical Adaptations	s¹ (Provide	
8. Juncus effusus	2	No	FACW		emarks or on a s		
9. Daucus carota	1 -	No	FACU		lon-Vascular Pla		,
10.				Problematic H	Hydrophytic Vege	etation¹ (E:	xplain)
11.				¹ Indicators of hydric	-		
	95	= Total Cover		must be present, un			
Woody Vine Stratum (Plot size: 10 feet)							
1.				Hydrophytic			
2.				Vegetation	Yes X N	No	
		Total Cover		Present?			-
% Bare Ground in Herb Stratum 5							
Remarks:				1			
Wetland vegetation was confined to lowest topographic lo	ocation within o	litch. Sample p	olot meets the domina	ance test for hydrophy	tic vegetation.		

Depth	Matrix		Reuc	ox Feature				
nches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8	10YR 2/1	100						
8-20	10YR 3/2	60	2.5 YR 3/3	40	С	М		
oe: C= C	oncentration, D= Deple	tion, RM=Redu	uced Matrix, CS=Cover	ed or Coat	ted Sand G	rains.	²Location	n: PL=Pore Lining, M=Matri
iric Soil I	ndicators: (Applicabl	e to all LRRs,	unless otherwise not	ed.)			Indicators for Probler	natic Hydric Soils³:
Histo	sol (A1)	_	Sandy Redox (S5	5)			2 cm Muck (A10	0)
Histic	Epipedon (A2)	_	Stripped Matrix (S	S6)			Red Parent Mat	terial (TF2)
Black	Histic (A3)	_	Loamy Mucky Mir	neral (F1)	(except ML	RLA 1)	Very Shallow D	ark Surface (TF12)
Hydro	ogen Sulfide (A4)	_	Loamy Gleyed Ma	atrix (F2)			Other (Explain i	n Remarks)
Deple	eted Below Dark Surface	e (A11)	Depleted Matrix (F3)				
Thick	Dark Surface (A12)	<u>-</u>	X Redox Dark Surfa	ace (F6)			³ Indicators of hydropl	hytic vegetation and
Sand	y Mucky Mineral (S1)	-	Depleted Dark Su	ırface (F7))		wetland hydrology	must be present,
Sand	y Gleyed Matrix (S4)	-	Redox Depression	ns (F8)			unless disturbed or	problematic.
estrictive	E Layer (if present):							
Type:								
Depth	(inches):						Hydric Soil Present	? Yes X No
marks: Is within s	cample plot meet the hy	dric soil indicat	or for redox dark surfac	ce (F6).		I		
marks: ils within s	OGY ydrology Indicators:			ce (F6).				
marks: ils within s /DROLO Vetland H Primary Ind	DGY ydrology Indicators: dicators (minimum of or		eck all that apply)					s (2 or more required)
marks: Is within s /DROLO /etland H /rimary Ind X Surfa	DGY ydrology Indicators: dicators (minimum of or ce Water (A1)		eck all that apply) Water-Stained Le	aves (B9)	(except		Water Stained L	s (2 or more required) Leaves (B9) (MRLA 1, 2,
TOROLO Vetland H Primary Ind X Surfa X High	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A	aves (B9)	(except		Water Stained L 4A, and 4B)	Leaves (B9) (MRLA 1, 2,
rmarks: Is within s Primary Inc X Surfa X High X Satur	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	eaves (B9)	•		Water Stained L 4A, and 4B) Drainage Patter	Leaves (B9) (MRLA 1, 2,
rmarks: Ils within s IDROLO Vetland H Primary Ind X Surfa X High X Satur Wate	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra	eaves (B9) ., and 4B) ates (B13)			Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa	rns (B10) ater Table (C2)
Marks: Ils within s OPTOLO Vetland H Primary Ind X Surfa X High X Satur Wate Sedin	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide	eaves (B9) , and 4B) ates (B13) Odor (C1))	oots (C3)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9)
Marks: Ils within s //DROLO //OROLO //OROLO	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp	eaves (B9) and 4B) ates (B13) Odor (C1) heres alor) ng Living Ro	oots (C3)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2)
rmarks: Is within s rDROLO Vetland H rimary Ind X Surfa X High X Satur Wate Sedin Drift [Algal	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	aves (B9) ates (B13) Odor (C1) beres alor uced Iron () ng Living Ro (C4)		Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) rd (D3)
rmarks: ills within s rimary Inc X Surfa X High X Satur Wate Sedin Drift I Algal Iron I	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	aves (B9) ates (B13) Odor (C1) heres alor uced Iron () ng Living Ro (C4) Illed Soils (C	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sistion (D2) rd (D3) est (D5)
Marks: ills within s //DROLO //Vetland H //Primary Ind X Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6)	e required; che	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	eaves (B9) ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants) ng Living Ro (C4) lled Soils (C (D1) (LRR	C6)	Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou	ceaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) (LRR A)
Marks: Ils within s //DROLO //OROLO //OROLO	ydrology Indicators: dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Aeriel I	e required; che	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	eaves (B9) ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants) ng Living Ro (C4) lled Soils (C (D1) (LRR	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te	ceaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) (LRR A)
Marks: ills within s //DROLO Vetland H Primary Inc X Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeriel I	e required; che	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	eaves (B9) ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants) ng Living Ro (C4) lled Soils (C (D1) (LRR	C6)	Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou	ceaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) (LRR A)
marks: ills within s //DROLO Vetland H Primary Ind X Surfa X High X Satur Wate Sedin Drift [Algal Iron [Surfa Inund Spars	ydrology Indicators: dicators (minimum of or	e required; che	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants) ng Living Ro C4) Iled Soils (0 (D1) (LRR	C6)	Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou	ceaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) (LRR A)
Marks: Is within s //DROLO //etland H //rimary Ind X Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars //ield Obse	ydrology Indicators: dicators (minimum of or or or or water (A1) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Indicators (B6) Indicators (B2) Indicators (B3) Indicators (B3) Indicators (B3) Indicators (B3) Indicators (B4)	e required; che magery (B Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants) ng Living Re(C4) Illed Soils (C4) (D1) (LRR	C6)	Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou	ceaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) (LRR A)
TOROLO Vetland H Trimary Inc X Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars ield Obse	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeriel I sley Vegetated Concave ervations: later Present? Yes le Present? Yes	magery (B Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	eaves (B9) ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants) ng Living Re(C4) Illed Soils (C) (D1) (LRR)	C6) A)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	ceaves (B9) (MRLA 1, 2, cms (B10) ater Table (C2) ble on Aeriel Imagery (C9) sistion (D2) cd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
Marks: ills within s Formary Inc. X Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface Within s	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeriel I sley Vegetated Concave ervations: later Present? Yes le Present? Yes Present? Yes	e required; che magery (B Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) ates (B13) Odor (C1) heres alor uced Iron (action in Tiled Plants) ng Living Re(C4) Illed Soils (C4) (D1) (LRR	C6) A)	Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou	ceaves (B9) (MRLA 1, 2, cms (B10) ater Table (C2) ble on Aeriel Imagery (C9) bisition (D2) cd (D3) cst (D5) cunds (D6) (LRR A) cummocks (D7)
YDROLO Wetland H Primary Ind X Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface Water Table Saturation includes c	ydrology Indicators: dicators (minimum of or	magery (B Surface (B8) X No X No	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	aves (B9) ates (B13) Odor (C1) cheres alor uced Iron (uction in Ti ed Plants Remarks)	1.00 0.0	C6) A) Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	ceaves (B9) (MRLA 1, 2, cms (B10) ater Table (C2) ble on Aeriel Imagery (C9) bisition (D2) cd (D3) cst (D5) cunds (D6) (LRR A) cummocks (D7)
YDROLO Wetland H Primary Ind X Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface Water Table Saturation includes c	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeriel I sley Vegetated Concave ervations: later Present? Yes le Present? Yes Present? Yes	magery (B Surface (B8) X No X No	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	aves (B9) ates (B13) Odor (C1) cheres alor uced Iron (uction in Ti ed Plants Remarks)	1.00 0.0	C6) A) Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	ceaves (B9) (MRLA 1, 2, cms (B10) ater Table (C2) ble on Aeriel Imagery (C9) bisition (D2) cd (D3) cst (D5) cunds (D6) (LRR A) cummocks (D7)
YDROLO Wetland H Primary Ind X Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface Wi Water Tabl Saturation Includes c	ydrology Indicators: dicators (minimum of or	magery (B Surface (B8) X No X No	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	aves (B9) ates (B13) Odor (C1) cheres alor uced Iron (uction in Ti ed Plants Remarks)	1.00 0.0	C6) A) Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	ceaves (B9) (MRLA 1, 2, cms (B10) ater Table (C2) ble on Aeriel Imagery (C9) sistion (D2) cd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland H Primary Ind X Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface Water Table Saturation includes c	ydrology Indicators: dicators (minimum of or	magery (B Surface (B8) X No X No	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	aves (B9) ates (B13) Odor (C1) cheres alor uced Iron (uction in Ti ed Plants Remarks)	1.00 0.0	C6) A) Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	ceaves (B9) (MRLA 1, 2, cms (B10) ater Table (C2) ble on Aeriel Imagery (C9) sistion (D2) cd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)



Photo Name: Photo_231110104435



Photo Name: Photo_231110104410





Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	te: 11/10/20)23	
Applicant/Owner: Cascade Renewables		-	State: WA	Sampling	W16-P2	(U)	
Investigators: B DARBY, J MAZE			Section, Township,	Range			
Landform (hillslope, terrace, etc.): Channel		Local Reli	ef (concave, convex	, none): Concave	SI	lope(%): 5	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84		
Soil Map Unit Name: Steever stony clay loam, 2 to	o 30 percent slopes	,	NWI Classifi	cation: Unmapped			
Are climatic / hydrologic conditions on the site typic	cal for this time of ye	ear? Yes	X No	(If No, explain in Re	marks)		
Are Vegetation: Soil or Hydrology	significantly dis	turbed?	Are "Normal Circur	mstances" present?	Yes	X N	lo
Are Vegetation: Soil or Hydrology	naturally proble	matic?	(If needed, explain	any answers in Rema	arks.)		
SUMMARY OF FINDINGS - Attach a si	te map showin	g sampling	point locations	, transects, imp	ortant fea	itures, etc.	
Hydrophytic Vegetation Present? Yes	No X						
Hydric Soil Present? Yes	No X	Is the	Sampled Area				
Wetland Hydrology Present? Yes	X No	withir	n a Wetland?	Yes		No X	
Remarks:							
Upland sample plot located at western boundary of hydrology due to higher-than-normal precipitation r hydrophytic vegetation observed.	eceived in the area						
VEGETATION – Use scientific names	of plants.						
	Absolute	Dominant	Indicator	Dominance Test \	Norksheet:		
<u>Tree Statum</u> (Plot size: 10 feet)	% Cover	Species?	Status	Number of Domina	nt Species		
1				That Are OBL, FAC	W, or FAC:	1	(A)
2.				Total Number of Do			
3				Species Across All		3	(B)
4				Percent of Dominar	•		
		= Total Cover		That Are OBL, FAC		33	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index			
1				Total % Cover of:		lultiply by:	
2.				OBL species		1=	_
3.				FACW species		2= 4	_
4.				FAC species		3= 120	_
5.				FACU species		4= 232	_
		= Total Cover		UPL species		5= 0	
Herb Stratum (Plot size: 10 feet)		.,	540	Column Totals:	100 (A	A) 356	(B)
1. Poa annua	30	Yes	FAC	. Donata a sa Jad	D/A	0.5	
2. Daucus carota	30	Yes	FACU	Prevalence Inde		3.5	Ю
3. Cynodon dactylon	25	Yes	FACU	Hydrophytic Vege			
4. Holcus lanatus	5	No No	FAC	2 - Dominand		hytic Vegetati	on
5. Vicia americana	5	No	FAC FACU	3 - Prevalence			
Lactuca serriola Juncus effusus	2	No No	FACU	·			•
		NO	FACW	· 		itions¹ (Provide on a separate s	
8. 9.				5 - Wetland N		•	sileet)
10.				· 		Vegetation¹ (E	=vnlain\
11.				¹Indicators of hydrid		_	
	100	= Total Cover		must be present, ur		, .	
Woody Vine Stratum (Plot size: 10 feet)	100	- Total Cover		must be present, ur	iless distuible	ed of problem	auc.
1.				Hydrophytic			
2.				Vegetation	Yes	No X	
<u> </u>		= Total Cover		Present?			_
% Bare Ground in Herb Stratum 0		TOTAL COVE		, rootine:			
	<u> </u>			1			
Remarks:	inaton for by	diat- "					
Vegetation is dominated by upland species; no indi	icators for nydrophy	ruc vegetation n	iet.				

•	Color (moist) 10YR2/2 2.5Y3/1 10YR3/3	% 100 90 10	Color (moist)	% 	Type ¹	Loc²	Texture Sandy Loam Sandy Loam	Gravels	Remarks	<u> </u>
12-22 ype: C= Conc	2.5Y3/1	90						Gravels		
ype: C= Conc				·		<u> </u>	Sandy Loam	Gravels		
•	10YR3/3			·						
•		:		·						
•										
•										
			ced Matrix, CS=Covere		d Sand Gi				Pore Lining, I	
		e to all LRRs,	unless otherwise note	-		ı	Indicators for Pro		lydric Soils ³ :	:
Histosol (` ,	_	Sandy Redox (S5)				2 cm Muck			
	pipedon (A2)	_	Stripped Matrix (S	•			Red Parent	,	•	
Black His		_	Loamy Mucky Min		xcept MLI	RLA 1)			rface (TF12)	
	n Sulfide (A4)		Loamy Gleyed Ma				Other (Exp	ain in Rem	arks)	
	Below Dark Surface	e (A11) -	Depleted Matrix (F							
	rk Surface (A12)	_	Redox Dark Surface	. ,			³ Indicators of hyd		_	
	lucky Mineral (S1)	_	Depleted Dark Sur	. ,			wetland hydrol			
_	leyed Matrix (S4)		Redox Depression	S (F8)			unless disturbe	a or proble	matic.	
	ayer (if present):									
Type: _										
Depth (in	nches):						Hydric Soil Pres	sent?	Yes	_ No _
-	rology Indicators:									
	ators (minimum of on	ie required; che					Secondary Indic			
X Surface \	, ,	_	Water-Stained Lea	` , `	except				(B9) (MRLA	1, 2,
	ter Tables (A2)		MRLA 1, 2, 4A,	and 4B)			4A, and	,	0)	
X Saturatio		_	Salt Crust (B11)	too (P12)			Drainage P Dry-Seasor	•	•	
— Water Ma	` ,	_	Aquatic Invertebra	, ,			<u> </u>		Ne (C2) Aeriel Imagery	, (CO)
	nt Deposits (B2) posits (B3)	_	Hydrogen Sulfide (Oxidized Rhizosph		Living De	note (C3)	Geomorphi			/ (C9)
	it or Crust (B4)	_	Presence of Redu	•	_	JOIS (C3)	Shallow Aq	`	` '	
	osits (B5)	_	Recent Iron Reduc	•	,	:6)	FAC-Neutra			
	Soil Cracks (B6)	_	Stunted or Stresse) 06) (LRR A)	
	on Visible on Aeriel I	magery (B	Other (Explain in F	•	/	· •)	Frost-Heav			
	Vegetated Concave	_		1011101110)					(2.)	
						I				
Sparsley					1.00					
Sparsley Field Observa	ations:	X No	Depth (inches):							
Sparsley Field Observa Surface Water	ations: r Present? Yes		Depth (inches): Depth (inches):		0.0	ı				No
Sparsley Field Observa Surface Water Water Table P	ations: r Present? Yes Present? Yes	X No	Depth (inches): Depth (inches): Depth (inches):		0.0	 Wetland	Hydrology Prese	ent?	Yes X	INU
Sparsley Field Observa Surface Water Water Table P Saturation Pre	ations: r Present? Yes Present? Yes esent? Yes	X No	Depth (inches):			Wetland	Hydrology Prese	ent? '	Yes X	_ '' .
Sparsley Field Observa Surface Water Water Table P Saturation Pre (includes capil	r Present? Yes	X No X No	Depth (inches): Depth (inches):	wious inspe	0.0			ent? `	Yes X	_ '' .
Sparsley Field Observa Surface Water Water Table P Saturation Pre (includes capil	r Present? Yes	X No X No	Depth (inches):	evious inspe	0.0			ent? `	Yes X	
Sparsley Field Observa Surface Water Water Table P Saturation Pre (includes capil	r Present? Yes	X No X No	Depth (inches): Depth (inches):	evious inspe	0.0			ent? `	Yes <u>X</u>	



Photo Name: Photo_231110110411



Photo Name: Photo_231110110420



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Date:	•	
Applicant/Owner: Cascade Renewables		_ City/County.	State: WA		W16-P3 (W)	
Investigators: B DARBY, J MAZE			Section, Township,		VV 10-1 3 (VV)	
Landform (hillslope, terrace, etc.): Channel			of (concave, convex,		Slope(%): 3	
Subregion (LRR): A - Northwest Forest and	l Lat:	<u> </u>	(concave, convex,	Datum: WG		
Soil Map Unit Name: Steever stony clay loam,		Long:	NIMI Classifi	cation: Unmapped		
					rlso)	
Are climatic / hydrologic conditions on the site to				(If No, explain in Rema	•	No
Are Vegetation: Soil or Hydrolog	· — ·		Are "Normal Circum	·		No
Are Vegetation: Soil or Hydrolog				any answers in Remarks		_
SUMMARY OF FINDINGS - Attach a		ng sampling	point locations	, transects, import	ant features, etc	<u> </u>
Hydrophytic Vegetation Present? Yes						
Hydric Soil Present? Yes			Sampled Area			
Wetland Hydrology Present? Yes	X No	within	a Wetland?	Yes X	No	
Remarks:		•				
Sample plot taken at the eastern (upstream) bo	undary of the Wetlan	d 16. Indicators of	hydrophytic vegeta	tion, hydric soils and wetl	land hydrology are m	et.
VEGETATION - Use scientific name	es of plants.					
	Absolute	Dominant	Indicator	Dominance Test Wor	ksheet:	
Tree Statum (Plot size: 10 feet)	% Cover	Species?	Status	Number of Dominant S	pecies	
1.		<u> </u>		That Are OBL, FACW,		(A)
2.	_			Total Number of Domin	nant	— `´
3.	_			Species Across All Stra	ata: 2	(B)
4.				Percent of Dominant S		— ` ′
		= Total Cover		That Are OBL, FACW,	•	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index wor		(/
1.				Total % Cover of:	Multiply by:	
2.					20 x1= 20	
3.					40 x2= 80	
4.				· -	55 x3= 165	
5.					5 x4= 20	_
		= Total Cover		UPL species	x5= 0	_
Herb Stratum (Plot size: 10 feet)					120 (A) 285	— (B)
Holcus lanatus	45	Yes	FAC		(,,	(-/
Phalaris arundinacea		Yes	FACW	Prevalence Index =	= B/A= 2	2.38
3. Carex spp.	15	No	FACW	Hydrophytic Vegetation		
4. Equisetum arvense	10	No	FAC		or Hydrophytic Vegeta	ation
5. Typha latifolia	10	No	OBL	X 2 - Dominance T		
6. Veronica americana	10	No	OBL	X 3 - Prevalence Ir		
7. Medicago lupulina		No	FACU	4 - Morphologica	al Adaptations¹ (Provi	de
8. Juncus ensifolius		No	FACW		arks or on a separate	
9.	_			5 - Wetland Non-		,
10.					rophytic Vegetation¹	(Explain)
11.				¹Indicators of hydric soi		
	120	= Total Cover		must be present, unless	•	••
Woody Vine Stratum (Plot size: 10 feet)		. 3.0. 30701				
1.				Hydrophytic		
2.					Yes X No	
		= Total Cover		Present?		_
% Bare Ground in Herb Stratum 0		. 5.0. 50001				
						

Remarks:

Multistoried herb layer. Area was also observed in the April site visit; algal mats and a relatively high occurrence of Persicaria hydropiper and Veronia americana were present at that time but were absent at November survey. Sample plot meets the dominance test for hydrophytic vegetation.

Depth	Matrix		Reuc	ox Feature					
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	F	Remarks
0-8	10YR2/2	100					Loam	Organics with	gravel
8-10	5B 2.5/1	40	2.5YR 4/2	20	С	М	Sandy Loam	Gravelly with o	obbles
	10GY 3/1	25	10YR 5/4	10	С	М			
10-15	5B 2.5/1	50	10YR 3/2	10	C	M	Sandy Loam	Gravelly with o	obbles
	10GY 3/1	40							
							-		
			luced Matrix, CS=Cover		ted Sand G			cation: PL=Pore	
		le to all LRRs	, unless otherwise not	-			Indicators for Pro	•	Soils ³ :
	sol (A1)		Sandy Redox (S5				2 cm Muck		
	Epipedon (A2)		Stripped Matrix (S	,	, , , , , , , , , , , , , , , , , , , ,	DI 4 4)		t Material (TF2)	(TE 40)
	Histic (A3)		Loamy Mucky Mir		(except ML	RLA 1)		ow Dark Surface	(TF12)
	ogen Sulfide (A4)	- (044)	Loamy Gleyed Ma				Other (Exp	lain in Remarks)	
	eted Below Dark Surfact Dark Surface (A12)	e (ATT)	Depleted Matrix (3Indicators of his	drophytic vegetat	tion and
	y Mucky Mineral (S1)		X Redox Dark Surfa Depleted Dark Su		١			drophytic vegetai	
	y Gleyed Matrix (S4)		Redox Depressio	` '	,		-	ed or problemation	
	e Layer (if present):			(1 0)		1	unicoo diotalb		•
Type:									
• •			-				Hydric Soil Pre	sent? Yes	X No
Denth								Jent: 103	7 110
imple plot r	meets the hydric soil in	dicator for red	ox dark surface (F6).				, , , , , , , , , , , , , , , , , , , ,		
emarks: emple plot r YDROLO Wetland H	meets the hydric soil in OGY ydrology Indicators:						•		
emarks: ample plot r YDROLO Wetland H Primary Inc	DGY ydrology Indicators:		neck all that apply)				Secondary India	eators (2 or more	
emarks: ample plot r YDROLC Wetland H Primary Inc. Surface	DGY ydrology Indicators: dicators (minimum of or ce Water (A1)		neck all that apply)Water-Stained Le	` '	` •		Secondary Indic	ned Leaves (B9)	
YDROLO Wetland H Primary Inc X High N	DGY ydrology Indicators: dicators (minimum of or one Water (A1) Water Tables (A2)		neck all that apply) Water-Stained Le MRLA 1, 2, 4A	` '	` •		Secondary Indic	ned Leaves (B9)	
YDROLO Wetland H Primary Inc Surfac X High V X Satura	DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3)		neck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	, and 4B)	` •		Secondary India Water Stai 4A, and	ned Leaves (B9) 4B) Patterns (B10)	(MRLA 1, 2,
YDROLO Wetland H Primary Inc Surfac X High V X Satura Water	DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1)		meck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra	a, and 4B) ates (B13))		Secondary Indic Water Stai 4A, and Drainage F	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C	(MRLA 1, 2,
YDROLO Wetland H Primary Inc Surfac X High \ X Satura Water Sedim	property of the hydric soil in the hydric soil in the hydric soil in the hydric soil in the hydrology Indicators: dicators (minimum of or		water-Stained Le Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide	ates (B13) Odor (C1	` .))	(02)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel	(MRLA 1, 2,
YDROLO Wetland H Primary Inc X High V X Satura Water Sedim Drift E	prediction of the property of		meck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp	ates (B13) Odor (C1) Oheres alor)) ng Living R	oots (C3)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2)	(MRLA 1, 2,
YDROLO Wetland H Primary Inc Surfac X High V X Satura Water Sedim Drift D Algal	meets the hydric soil in DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4)		water-Stained Le Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	ates (B13) Codor (C1) Coheres alor)) ng Living R (C4)		Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2) quitard (D3)	(MRLA 1, 2,
YDROLO Wetland H Primary Inc Surfac X High V X Satura Water Sedim Drift D Algal Iron D	proposits (B4) DGY Indicators (minimum of or		water-Stained Le Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	ates (B13) Odor (C1) Oheres alor uced Iron ()) ng Living R (C4) illed Soils (G	C6)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2) quitard (D3) al Test (D5)	(MRLA 1, 2, 2) Imagery (C9)
YDROLO Wetland H Primary Inc Surfac X High V X Satura Water Sedim Drift D Algal Iron D Surfac	meets the hydric soil in DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6)	ne required; cl	Mater-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Ti) ng Living R (C4) illed Soils (((D1) (LRR	C6)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr Raised An	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2) quitard (D3) al Test (D5) t Mounds (D6) (L	(MRLA 1, 2, 2) Imagery (C9)
YDROLO Wetland H Primary Inc X High V X Satura Water Sedim Drift D Algal Iron D Surfac	meets the hydric soil in DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeriel	ne required; cl	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Ti) ng Living R (C4) illed Soils (((D1) (LRR	C6)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr Raised An	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2) quitard (D3) al Test (D5)	(MRLA 1, 2, 2) Imagery (C9)
YDROLO Wetland H Primary Inc Surfac X High V X Satura Water Sedim Drift D Algal Iron D Surfac Inund Spars	property (B4) DGY Indicators: Indicators	ne required; cl	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Ti) ng Living R (C4) illed Soils (((D1) (LRR	C6)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr Raised An	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2) quitard (D3) al Test (D5) t Mounds (D6) (L	(MRLA 1, 2, 2) Imagery (C9)
YDROLO Wetland H Primary Inc X High \ X Satura Water Sedim Drift E Algal Iron E Surfac Inund Spars Field Obse	meets the hydric soil in DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeriel sley Vegetated Concavery	ne required; cl Imagery (B e Surface (B8)	Mater-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Ti) ng Living R (C4) illed Soils (((D1) (LRR	C6)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr Raised An	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2) quitard (D3) al Test (D5) t Mounds (D6) (L	(MRLA 1, 2, 2) Imagery (C9)
YDROLO Wetland H Primary Inc X High V X Satura Water Sedim Drift D Algal Iron D Surfac Inund Spars Field Obse	meets the hydric soil in DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeriel sley Vegetated Concave ervations: ater Present? Yes	ne required; cl	Mater-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Ti) ng Living R (C4) illed Soils (((D1) (LRR	C6)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr Raised An	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2) quitard (D3) al Test (D5) t Mounds (D6) (L	(MRLA 1, 2, 2) Imagery (C9)
YDROLO Wetland H Primary Inc X High V X Satura Water Sedim Drift D Algal Iron D Surfac Inund Spars Field Obse	meets the hydric soil in DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeriel sley Vegetated Concaveryations: ater Present? Yes le Present? Yes	ne required; cl Imagery (B e Surface (B8)	Mater-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Ti) ng Living R (C4) illed Soils (((D1) (LRR	C6) A)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (L ve Hummocks (D'	(MRLA 1, 2, 2) Imagery (C9)
YDROLO Wetland H Primary Inc Surfac X High I X Satura Water Sedim Drift D Algal Iron D Surfac Inund Spars Field Obse Surface Wa Water Tabl Saturation	meets the hydric soil in DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeriel sley Vegetated Concave ervations: ater Present? Yes Present? Yes	Imagery (B e Surface (B8)	Mater-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Ti) ng Living Ri (C4) illed Soils (C4) (D1) (LRR	C6) A)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr Raised An	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (L ve Hummocks (D'	(MRLA 1, 2, 2) Imagery (C9) RR A) 7)
YDROLO Wetland H Primary Inc Surface Water Sedim Drift D Algal Iron D Surface Inund Spars Field Obse Surface Wa Water Tabl Saturation (includes ca	meets the hydric soil in DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeriel sley Vegetated Concave ervations: ater Present? Yes le Present? Yes apillary fringe)	Imagery (B e Surface (B8)	Mater-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Ti sed Plants Remarks)	7.0 0.0	C6) A) Wetland	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (L ve Hummocks (D'	(MRLA 1, 2, 2) Imagery (C9) RR A) 7)
YDROLO Wetland H Primary Inc Surface Water Sedim Drift D Algal Iron D Surface Inund Spars Field Obse Surface Wa Water Tabl Saturation (includes ca	meets the hydric soil in DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeriel sley Vegetated Concave ervations: ater Present? Yes le Present? Yes apillary fringe)	Imagery (B e Surface (B8)	Mater-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Ti sed Plants Remarks)	7.0 0.0	C6) A) Wetland	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (L ve Hummocks (D'	(MRLA 1, 2, 2) Imagery (C9) RR A) 7)
YDROLO Wetland H Primary Inc Surface Water Sedim Drift D Algal Iron D Surface Inund Spars Field Obse Surface Wa Water Tabl Saturation (includes ca	meets the hydric soil in DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeriel sley Vegetated Concave ervations: ater Present? Yes le Present? Yes apillary fringe)	Imagery (B e Surface (B8)	Mater-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Ti sed Plants Remarks)	7.0 0.0	C6) A) Wetland	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (L ve Hummocks (D'	(MRLA 1, 2, 2) Imagery (C9) RR A) 7)
YDROLO Wetland H Primary Inc Surface Water Sedim Drift D Algal Iron D Surface Inund Spars Field Obse Surface Wa Water Tabl Saturation (includes ca	meets the hydric soil in DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aeriel sley Vegetated Concave ervations: ater Present? Yes le Present? Yes apillary fringe)	Imagery (B e Surface (B8)	Mater-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	ates (B13) Odor (C1) Oheres alor uced Iron (uction in Ti sed Plants Remarks)	7.0 0.0	C6) A) Wetland	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) 4B) Patterns (B10) n Water Table (C Visible on Aeriel ic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (L ve Hummocks (D'	(MRLA 1, 2, 2) Imagery (C9) RR A) 7)



Photo Name: Photo_231110114203



Photo Name: Photo_231110114817



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	ite: 11/1	0/2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling		6-P4 (U)		
Investigators: B DARBY, J MAZE			Section, Township,			. ,		
Landform (hillslope, terrace, etc.): Channel		Local Reli	ef (concave, convex,			Slope	e(%): 2	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84	_		
Soil Map Unit Name: Steever stony clay loam, 2 to				cation: Unmapped				
Are climatic / hydrologic conditions on the site typic				(If No, explain in R	emarks)			
Are Vegetation: Soil or Hydrology	significantly di		Are "Normal Circun	- ` ' '	Ye	e \	(N	lo
Are Vegetation: Soil or Hydrology	naturally probl			any answers in Rem				
SUMMARY OF FINDINGS - Attach a sit				•	•	featur	as atc	
Hydrophytic Vegetation Present? Yes			point locations	, transects, imp	Ortant	Teatur	es, etc.	
Hydric Soil Present? Yes	No X	lo the	Sampled Area					
<i>-</i>			n a Wetland?	Voo			No V	
Wetland Hydrology Present? Yes >	No	Within	n a welland?	Yes		_	No X	
Remarks:								
Upland plot established just upgradient of wetland p				ators of hydrophytic	vegetatio	n obser	ved and w	etland
hydrology is met but are attributed to recent heavy	rainfall; no hydric	soils indicators a	are met.					
VEGETATION – Use scientific names o	of plants.							
	Absolute	Dominant	Indicator	Dominance Test	Worksh	eet:		
Tree Statum (Plot size: 10 feet)	% Cover	Species?	Status	Number of Domina	nt Speci	es		
1.				That Are OBL, FAC	CW, or F	AC:	3	(A)
2.				Total Number of Do	ominant	-		_
3.				Species Across All	Strata:		3	(B)
4.				Percent of Domina	nt Specie	es -		
		= Total Cover		That Are OBL, FAC	CW, or F	AC:	100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index	worksh	eet:		
1.				Total % Cover of:		Multir	oly by:	
2.			_	OBL species		x1=		
3.				FACW species	25		50	_
4.				FAC species	60	- x3= -	180	_
5.			-	FACU species	15	- x4= -	60	_
		= Total Cover	.	UPL species	- 10	_ ^ x5=	0	_
Herb Stratum (Plot size: 10 feet)		= Total Cover		Column Totals:	100	- (A)	290	— (B)
1. Poa annua	30	Yes	FAC	Column Totals.	100	— ^(A) –	290	— ^(B)
Phalaris arundinacea	25	Yes	FACW	Prevalence Ind	ov – <i>B</i> //	_	2.9	10
	20	Yes	FACV	Hydrophytic Vege				
			FAC	' ' '				
4. Vicia americana	10	No No		1 - Rapid Te	-		c vegetati	On
5. Medicago lupulina		No	- FACU	X 2 - Dominan				
6. Daucus carota	5	No	FACU	X 3 - Prevalen			1 (5	
7.				4 - Morpholo	•	•	,	
8							separate s	sheet)
9				5 - Wetland				
10				Problematic		-		
11				¹ Indicators of hydri				
	100	= Total Cover		must be present, u	nless dis	turbed o	or problem	atic.
Woody Vine Stratum (Plot size: 10 feet)								
1			_	Hydrophytic				
2.				Vegetation	Yes	XI	No	_
		= Total Cover		Present?				
% Bare Ground in Herb Stratum 0								
Remarks:				1				
Sample plot meets the dominance test for hydrophy	tic vegetation.							

(inches)	Matrix		Redox	x Features			
(IIICHES)	Color (moist)	%	Color (moist)	% Type¹	Loc²	Texture	Remarks
0-18	10YR 3/2	100	<u> </u>			Sand	Large rocks and cobble throughout
							-
			_				
						-	
							,
¹Type: C= Cc	oncentration D= Deple	tion RM-Redu	ced Matrix, CS=Covere	d or Coated Sand	Grains	·	cation: PL=Pore Lining, M=Matrix.
			unless otherwise note		<u> </u>		oblematic Hydric Soils ³ :
Histos		,	Sandy Redox (S5)	-		2 cm Muck	•
	Epipedon (A2)	_	Stripped Matrix (S				t Material (TF2)
	Histic (A3)	-	Loamy Mucky Min	,	LRLA 1)		ow Dark Surface (TF12)
	gen Sulfide (A4)	_	Loamy Gleyed Ma	. ,			lain in Remarks)
	ted Below Dark Surfac	e (A11)	Depleted Matrix (F				
	Dark Surface (A12)	_	Redox Dark Surface			3Indicators of hy	drophytic vegetation and
	Mucky Mineral (S1)	-	Depleted Dark Sur				logy must be present,
	Gleyed Matrix (S4)	-	Redox Depression				ed or problematic.
	Layer (if present):						·
Type:	Layor (ii procent).						
	(inches):					Hydric Soil Pre	sent? Yes No X
_	drology Indicators:						
	icators (minimum of or						
		ne required; che					eators (2 or more required)
	ce Water (A1)	ne required; che	Water-Stained Lea	`		Water Stai	ned Leaves (B9) (MRLA 1, 2,
X High V	Vater Tables (A2)	ne required; che -	Water-Stained Lea	`		Water Stai	ned Leaves (B9) (MRLA 1, 2, 4B)
X High V	Vater Tables (A2) ation (A3)	ne required; che - -	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11)	and 4B)		Water Stai 4A, and Drainage F	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10)
X High W X Satura Water	Vater Tables (A2) ation (A3) Marks (B1)	ne required; che - - -	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra	and 4B) tes (B13)		Water Stai 4A, and Drainage F Dry-Seaso	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2)
X High V X Satura Water Sedim	Vater Tables (A2) ation (A3) Marks (B1) ent Deposits (B2)	ne required; che - - - -	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide (and 4B) tes (B13) Odor (C1)	2	Water Stai 4A, and Drainage F Dry-Seaso Saturation	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9)
X High V X Satura Water Sedim Drift D	Vater Tables (A2) ation (A3) Marks (B1) eent Deposits (B2) deposits (B3)	ne required; che - - - - -	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide (Oxidized Rhizosph	and 4B) tes (B13) Odor (C1) heres along Living	Roots (C3)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2)
X High V X Satura Water Sedim Drift D Algal N	Vater Tables (A2) Ation (A3) Marks (B1) Dent Deposits (B2) Deposits (B3) Mat or Crust (B4)	ne required; che - - - - -	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide (Oxidized Rhizosph Presence of Redu	and 4B) tes (B13) Odor (C1) neres along Living loced Iron (C4)		Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2) quitard (D3)
X High V X Satura Water Sedim Drift D Algal N	Vater Tables (A2) ation (A3) Marks (B1) eent Deposits (B2) eeposits (B3) Mat or Crust (B4) eeposits (B5)	ne required; che - - - - - - -	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide (Oxidized Rhizosph Presence of Reduction Recent Iron Reduction	and 4B) tes (B13) Odor (C1) neres along Living loced Iron (C4) ction in Tilled Soils	(C6)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2) Iquitard (D3) Ial Test (D5)
X High V X Satura Water Sedim Drift D Algal N Iron Do Surface	Vater Tables (A2) ation (A3) Marks (B1) bent Deposits (B2) deposits (B3) Wat or Crust (B4) deposits (B5) de Soil Cracks (B6)	- - - - - -	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide of Oxidized Rhizosph Presence of Reduct Recent Iron Reduct Stunted or Stresse	and 4B) tes (B13) Odor (C1) heres along Living loced Iron (C4) ction in Tilled Soils and Plants (D1) (LRI	(C6)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2) Iquitard (D3) Ial Test (D5) It Mounds (D6) (LRR A)
X High V X Satura Water Sedim Drift D Algal N Iron Do Surfac	Vater Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) ment Deposits (B3) Mat or Crust (B4) meposits (B5) mesonits (B5) mesonits (B6) metion Visible on Aeriel	- - - - - - - - - -	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide (Oxidized Rhizosph Presence of Reduction Recent Iron Reduction	and 4B) tes (B13) Odor (C1) heres along Living loced Iron (C4) ction in Tilled Soils and Plants (D1) (LRI	(C6)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2) Iquitard (D3) Ial Test (D5)
X High V X Satura Water Sedim Drift D Algal N Iron Do Surfac Inunda Sparsl	Vater Tables (A2) ation (A3) Marks (B1) pent Deposits (B2) peposits (B3) Mat or Crust (B4) peposits (B5) per Soil Cracks (B6) ation Visible on Aeriel (B4) pey Vegetated Concave	- - - - - - - - - -	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide of Oxidized Rhizosph Presence of Reduct Recent Iron Reduct Stunted or Stresse	and 4B) tes (B13) Odor (C1) heres along Living loced Iron (C4) ction in Tilled Soils and Plants (D1) (LRI	(C6)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2) Iquitard (D3) Ial Test (D5) It Mounds (D6) (LRR A)
X High V X Satura Water Sedim Drift D Algal N Iron Do Surfac Inunda Sparsl	Vater Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) ment Deposits (B3) Mat or Crust (B4) meposits (B5) mesonic (B5) mesonic (B6) metion Visible on Aeriel (Metion Visib	- - - - - magery (B - e Surface (B8)	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide of Oxidized Rhizosph Presence of Reduct Recent Iron Reduct Stunted or Stresse Other (Explain in Four Iron Reduct Iron Iron Reduct Iron Iron Reduct Iron Iron Reduct Iron Iron Iron Iron Iron Iron Iron Iron	and 4B) tes (B13) Odor (C1) neres along Living led Iron (C4) ction in Tilled Soils ed Plants (D1) (LRF	(C6)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2) Iquitard (D3) Ial Test (D5) It Mounds (D6) (LRR A)
X High V X Satura Water Sedim Drift D Algal N Iron Do Surfac Inunda Sparsl Field Obser Surface Wa	Vater Tables (A2) Ation (A3) Marks (B1) Ment Deposits (B2) Meposits (B3) Mat or Crust (B4) Meposits (B5) Mesosil Cracks (B6) Metor Visible on Aeriel (Metor Vegetated Concave Atter Present? Yes	magery (B e Surface (B8)	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide (Oxidized Rhizosph Presence of Reduct Recent Iron Reduct Stunted or Stresse Other (Explain in F	and 4B) tes (B13) Odor (C1) heres along Living li	(C6)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2) Iquitard (D3) Ial Test (D5) It Mounds (D6) (LRR A)
X High V X Satura Water Sedim Drift D Algal N Iron Do Surfac Inunda Sparsl	Vater Tables (A2) Ation (A3) Marks (B1) Dent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Des Soil Cracks (B6) Deteror Visible on Aeriel I Deposits (B5) Deteror Visible on Aeriel I Deposits (B6) De	- - - - - magery (B - e Surface (B8)	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide (Oxidized Rhizosph Presence of Reduct Recent Iron Reduct Stunted or Stressed Other (Explain in F	and 4B) tes (B13) Odor (C1) neres along Living led Iron (C4) ction in Tilled Soils ed Plants (D1) (LRF	(C6) R A)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2) Iquitard (D3) Ial Test (D5) Is Mounds (D6) (LRR A) Ive Hummocks (D7)
X High W X Satura Water Sedim Drift D Algal M Iron Do Surface Inunda Sparsl Field Obser Surface Wa Water Table Saturation F	Vater Tables (A2) ation (A3) Marks (B1) Pent Deposits (B2) Peposits (B3) Mat or Crust (B4) Peposits (B5) Peposits (B6) Peposits	magery (B e Surface (B8) X No	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide (Oxidized Rhizosph Presence of Reduct Recent Iron Reduct Stunted or Stresse Other (Explain in F	and 4B) tes (B13) Odor (C1) heres along Living lived Iron (C4) ction in Tilled Soils ad Plants (D1) (LRI Remarks) 1.00 0.0	(C6) R A)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2) Iquitard (D3) Ial Test (D5) Is Mounds (D6) (LRR A) Ive Hummocks (D7)
X High W X Satura Water Sedim Drift D Algal N Iron Do Surfac Inunda Sparsl Field Obset Surface Wa Water Table Saturation F (includes ca	Vater Tables (A2) Ation (A3) Marks (B1) Ment Deposits (B2) Meposits (B3) Mat or Crust (B4) Mat or Crust (B4) Mat or Crust (B6) Mat or Crus	magery (B e Surface (B8) X No X No X No	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide (Oxidized Rhizosph Presence of Reduct Recent Iron Reduct Stunted or Stresse Other (Explain in Fill) Depth (inches): Depth (inches): Depth (inches):	and 4B) tes (B13) Odor (C1) neres along Living loced Iron (C4) etion in Tilled Soils and Plants (D1) (LRI Remarks) 1.00 0.0	(C6) R A)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2) Iquitard (D3) In Test (D5) It Mounds (D6) (LRR A) Ive Hummocks (D7)
X High W X Satura Water Sedim Drift D Algal N Iron Do Surfac Inunda Sparsl Field Obset Surface Wa Water Table Saturation F (includes ca	Vater Tables (A2) Ation (A3) Marks (B1) Ment Deposits (B2) Meposits (B3) Mat or Crust (B4) Mat or Crust (B4) Mat or Crust (B6) Mat or Crus	magery (B e Surface (B8) X No X No X No	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide (Oxidized Rhizosph Presence of Reduct Recent Iron Reduct Stunted or Stressed Other (Explain in F	and 4B) tes (B13) Odor (C1) neres along Living loced Iron (C4) etion in Tilled Soils and Plants (D1) (LRI Remarks) 1.00 0.0	(C6) R A)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2) Iquitard (D3) In Test (D5) It Mounds (D6) (LRR A) Ive Hummocks (D7)
X High W X Satura Water Sedim Drift D Algal N Iron Do Surfac Inunda Sparsl Field Obset Surface Wa Water Table Saturation F (includes ca	Vater Tables (A2) Ation (A3) Marks (B1) Ment Deposits (B2) Meposits (B3) Mat or Crust (B4) Mat or Crust (B4) Mat or Crust (B6) Mat or Crus	magery (B e Surface (B8) X No X No X No	Water-Stained Lea MRLA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide (Oxidized Rhizosph Presence of Reduct Recent Iron Reduct Stunted or Stresse Other (Explain in Fill) Depth (inches): Depth (inches): Depth (inches):	and 4B) tes (B13) Odor (C1) neres along Living loced Iron (C4) etion in Tilled Soils and Plants (D1) (LRI Remarks) 1.00 0.0	(C6) R A)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) (MRLA 1, 2, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (C9) Ic Position (D2) Iquitard (D3) In Test (D5) It Mounds (D6) (LRR A) Ive Hummocks (D7)



Photo Name: Photo_231110115552



Photo Name: Photo_231110115601





WEILAND DETERMIN Project/Site: Cascade Renewables	IAHON DATA	City/County:	Skamania	•	te: 11/10/2023		
Applicant/Owner: Cascade Renewables			State: WA	Sampling	W17-P1 (U)		
Investigators: B DARBY, J MAZE			Section, Township,				
Landform (hillslope, terrace, etc.): Toeslope		Local Reli	ef (concave, convex,	none): Concave	Slope	e(%): 3	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84	· · —	
Soil Map Unit Name: Steever stony clay loam, 2	to 30 percent slop		NWI Classific	cation: Unmapped			
Are climatic / hydrologic conditions on the site type			x No	(If No, explain in Re	marks)		
Are Vegetation: Soil or Hydrology	significantly	•	Are "Normal Circur	nstances" present?	,	X No	0
Are Vegetation: Soil or Hydrology	naturally pro			any answers in Rema			
SUMMARY OF FINDINGS - Attach a s				•	•	res. etc.	
Hydrophytic Vegetation Present? Yes	X No			,			
Hydric Soil Present? Yes	No X	Is the	Sampled Area				
Wetland Hydrology Present? Yes			n a Wetland?	Yes		No X	
wettand riyurology r resent:	<u> </u>	Within	i a vvetiana:				
Upland plot located slightly upslope and outside t present, weakly dominant hydrophytic vegetation VEGETATION – Use scientific names	and an assumed				eek Drive. No h	ydric soils	
	Absolute	Dominant	Indicator	Dominance Test V	Vorksheet:		
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominar	nt Species		
1. Alnus rubra	20	Yes	FAC	That Are OBL, FAC	W, or FAC:	6	(A)
Populus balsamifera	10	Yes	FAC	Total Number of Do	minant -		_
3.				Species Across All S	Strata:	7	(B)
4.				Percent of Dominan	t Species		_
	30	= Total Cover		That Are OBL, FAC	W, or FAC:	86	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index v	worksheet:		
Oemleria cerasiformis	10	Yes	FACU	Total % Cover of:	Multip	oly by:	
Populus balsamifera	5	Yes	FAC	OBL species	x1=		
3. Rubus armeniacus	5	Yes	FAC	FACW species	x2=	0	_
4.			-	FAC species	110 x3=	330	_
5.				FACU species	27 x4=	108	_
	20	= Total Cover		UPL species	x5=	0	_
Herb Stratum (Plot size: 10 feet)				Column Totals:	137 (A)	438	— (B)
Holcus lanatus	30	Yes	FAC	_	``.		- ` ′
2. Equisetum arvense	20	Yes	FAC	Prevalence Inde	ex = B/A =	3.20	0
3. Daucus carota	15	No	FACU	Hydrophytic Veget	ation Indicator	rs:	
4. Poa annua	10	No	FAC	1 - Rapid Tes	t for Hydrophyti	c Vegetatio	on
5. Schedonorus arundinaceus	10	No	FAC	X 2 - Dominanc	e Test is >50%		
6. Hypericum perforatum	2	No	FACU	3 - Prevalenc	e Index is ≤3.0¹		
7.				4 - Morpholog	gical Adaptation	s¹ (Provide)
8.			-		emarks or on a		
9.				5 - Wetland N	lon-Vascular Pl	ants¹	,
10.				Problematic H	Hydrophytic Veg	getation¹ (E	xplain)
11.				¹Indicators of hydric			
	87	= Total Cover	_	must be present, un			-
Woody Vine Stratum (Plot size: 10 feet)				, , , , , , , , , , , , , , , , , , ,		,	
1.				Hydrophytic			
2.			_	Vegetation	Yes X	No	
		= Total Cover	_	Present?			_
% Bare Ground in Herb Stratum 13							

Remarks:

Sample plot meets the dominance test for hydrophytic vegetation. Many facultative species within plot, common at wetland boundaries. Presence of FACU species.

Profile Desc Depth	Matri	X	Red	ox Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks	
0-2	10YR 2/1	_	_	· -			Silty Clay		
2-8	10YR 3/1	100					Silty Clay		
8-14	10YR 3/1	90					Silty Clay		
	10YR 5/2	10							
14-19	7.5 Y 3/1	90					Silty Clay		
	10YR 5/2	8	5 YR 5/8	2	С	M			
19-24	10YR 4/1	80	5YR 3/4	20	С	M	Silty Clay Loam		
Type: C= C	oncentration, D= De	oletion, RM=I	Reduced Matrix, CS=Cove	red or Coa	ated Sand G	rains.	² Location	n: PL=Pore Lining, M=	Matrix.
Hydric Soil I	Indicators: (Application	able to all LF	RRs, unless otherwise no	ted.)			Indicators for Problem	natic Hydric Soils³:	
Histor	sol (A1)		Sandy Redox (S	5)			2 cm Muck (A10))	
Histic	Epipedon (A2)		Stripped Matrix (,			Red Parent Mat	` ,	
	Histic (A3)		Loamy Mucky M			.RLA 1)		ark Surface (TF12)	
	ogen Sulfide (A4)		Loamy Gleyed M				Other (Explain i	n Remarks)	
	eted Below Dark Surf	ace (A11)	Depleted Matrix						
	Dark Surface (A12)		Redox Dark Surf				³ Indicators of hydroph	-	
	y Mucky Mineral (S1		Depleted Dark S	,	7)		wetland hydrology i		
	y Gleyed Matrix (S4)		Redox Depression	ons (F8)			unless disturbed or	problematic.	
Restrictive	e Layer (if present):								
Type:	:								
Danth	o (inahaa).						Hydric Soil Present	? Yes N	lo X
Remarks: No hydric soi									
Remarks: No hydric soi HYDROLO Wetland H	ils present. OGY lydrology Indicators								
Remarks: No hydric soi HYDROLO Wetland H Primary Ind	ils present. OGY lydrology Indicators dicators (minimum of		l; check all that apply)				Secondary Indicators	· · · · · · · · · · · · · · · · · · ·	
Remarks: No hydric soi HYDROLO Wetland H Primary Ind Surfa	DGY lydrology Indicators dicators (minimum of		Water-Stained L	,			Water Stained L	(2 or more required) eaves (B9) (MRLA 1,	2,
Remarks: No hydric soi HYDROLO Wetland H Primary Ind Surfa X High	DGY lydrology Indicators dicators (minimum of ice Water (A1) Water Tables (A2)		Water-Stained L MRLA 1, 2, 4	A, and 4B			Water Stained L 4A, and 4B)	eaves (B9) (MRLA 1,	2,
Remarks: No hydric soi HYDROLO Wetland H Primary Ind Surfa X High X Satur	Ils present. DGY Iydrology Indicators dicators (minimum of ince Water (A1) Water Tables (A2) ration (A3)		Water-Stained L MRLA 1, 2, 4 Salt Crust (B11)	A, and 4B)		Water Stained L 4A, and 4B) Drainage Patter	ns (B10)	2,
Remarks: No hydric soi HYDROLO Wetland H Primary Ind Surfa X High X Satur Wate	Ils present. DGY Iydrology Indicators dicators (minimum of once Water (A1) Water Tables (A2) ration (A3) r Marks (B1)		Water-Stained L MRLA 1, 2, 4, Salt Crust (B11) Aquatic Inverteb	A, and 4B	3)		Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa	ns (B10) ter Table (C2)	
Remarks: No hydric soi HYDROLO Wetland H Primary Ind Surfa X High X Satur Wate Sedin	ils present. DGY lydrology Indicators dicators (minimum of ice Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2)		Water-Stained L MRLA 1, 2, 4,4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide	A, and 4B rates (B13 e Odor (C	3) 1)	oots (C3)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib	ns (B10) ter Table (C2) le on Aeriel Imagery (C	
Remarks: No hydric soi HYDROLO Wetland H Primary Ind X High X Satur Wate Sedin Drift I	DGY lydrology Indicators dicators (minimum of ice Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3)		Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos	A, and 4B rates (B13 e Odor (Copheres alco	B) 1) nng Living R	oots (C3)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2)	
Remarks: No hydric soi HYDROLO Wetland H Primary Ind X High X Satur Wate Sedin Drift [Algal	ils present. DGY Iydrology Indicators dicators (minimum of one Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4)		Water-Stained L MRLA 1, 2, 4,4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec	A, and 4B rates (B13 e Odor (Copheres alcounted Iron	3) 1) ong Living R (C4)		Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3)	
Remarks: No hydric soi HYDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I Algal Iron I	Ills present. DGY Indicators (minimum of dicators (minimum of dicators (minimum of dicators (Material)) Water Tables (A2) Tation (A3) The Marks (B1) The Marks (B1) The Marks (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)		Water-Stained L MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red	A, and 4B rates (B13 e Odor (C pheres ald luced Iron uction in T	3) 1) nng Living R (C4) Filled Soils (C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3) st (D5)	
Remarks: No hydric soi HYDROLO Wetland H Primary Ind Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa	ils present. DGY lydrology Indicators dicators (minimum of ice Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ice Soil Cracks (B6)	one required	Water-Stained L MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres	A, and 4B rates (B13 e Odor (C pheres alc luced Iron uction in T sed Plants	B) ng Living R (C4) Filled Soils (LRR	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3) st (D5) nds (D6) (LRR A)	
Remarks: No hydric soi HYDROLO Wetland H Primary Ind X High X Satur Wate Sedin Drift I Algal Iron I Surfa	ils present. DGY lydrology Indicators dicators (minimum of nce Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) nce Soil Cracks (B6) dation Visible on Aeric	one required	Water-Stained L MRLA 1, 2, 4, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in	A, and 4B rates (B13 e Odor (C pheres alc luced Iron uction in T sed Plants	B) ng Living R (C4) Filled Soils (LRR	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3) st (D5) nds (D6) (LRR A)	
Remarks: No hydric soi HYDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars	ils present. DGY lydrology Indicators dicators (minimum of once Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) once Soil Cracks (B6) dation Visible on Aerics sley Vegetated Conce	one required	Water-Stained L MRLA 1, 2, 4, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in	A, and 4B rates (B13 e Odor (C pheres alc luced Iron uction in T sed Plants	B) ng Living R (C4) Filled Soils (LRR	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3) st (D5) nds (D6) (LRR A)	
Remarks: No hydric soi HYDROLO Wetland H Primary Ind Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars	ils present. DGY lydrology Indicators dicators (minimum of ice Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ice Soil Cracks (B6) dation Visible on Aericsley Vegetated Concervations:	one required el Imagery (B ave Surface (Water-Stained L MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in	A, and 4B rates (B13 e Odor (C pheres alc luced Iron uction in T sed Plants	B) ng Living R (C4) Filled Soils (LRR	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3) st (D5) nds (D6) (LRR A)	
Remarks: No hydric soi HYDROLO Wetland H Primary Ind Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface Wi	ils present. DGY lydrology Indicators dicators (minimum of nce Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) nce Soil Cracks (B6) dation Visible on Aericsley Vegetated Concervations: ater Present? Yes	one required el Imagery (Bave Surface (Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in B8) X Depth (inches):	A, and 4B rates (B13 e Odor (C pheres alc luced Iron uction in T sed Plants	B) 1) 2) 3) 3) 4) 5) 6) 6) 6) 7) 6) 7) 6) 7) 7) 8) 8) 8)	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3) st (D5) nds (D6) (LRR A)	
Remarks: No hydric soi HYDROLO Wetland H Primary Ind Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface Wi	ills present. DGY Iydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ace Soil Cracks (B6) dation Visible on Aeri sley Vegetated Concervations: ater Present? Yes le Present? Yes	el Imagery (Bave Surface (Water-Stained L MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in B8) X Depth (inches): Depth (inches):	A, and 4B rates (B13 e Odor (C pheres alc luced Iron uction in T sed Plants	B) ng Living R (C4) Filled Soils (LRR	C6) A)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)	
Remarks: No hydric soi HYDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface Water Table Saturation	ills present. DGY Iydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ice Soil Cracks (B6) dation Visible on Aeric sley Vegetated Conceervations: ater Present? Yes le Present? Yes	el Imagery (Bave Surface (Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in B8) X Depth (inches):	A, and 4B rates (B13 e Odor (C pheres alc luced Iron uction in T sed Plants	B) 1) 1) 2) 2) 3) 3) 4) 4) 5) 6) 6) 6)	C6) A)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)	C9)
Remarks: No hydric soi HYDROLO Wetland H Primary Ind Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface W: Water Tabl Saturation (includes c	ils present. DGY lydrology Indicators dicators (minimum of oce Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) oce Soil Cracks (B6) dation Visible on Aericsley Vegetated Concervations: later Present? Present? Present? Stappillary fringe)	el Imagery (Bave Surface (Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in B8) X Depth (inches): Depth (inches):	A, and 4B rates (B13 e Odor (C pheres ald luced Iron uction in T sed Plants a Remarks	(C4) Filled Soils (C4) (B) (C4) (B) (C4) (C4)	C6) A) Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu d Hydrology Present?	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)	C9)
Remarks: No hydric soi HYDROLO Wetland H Primary Ind Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface W: Water Tabl Saturation (includes c	ils present. DGY lydrology Indicators dicators (minimum of oce Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) oce Soil Cracks (B6) dation Visible on Aericsley Vegetated Concervations: later Present? Present? Present? Stappillary fringe)	el Imagery (Bave Surface (Water-Stained L MRLA 1, 2, 4/ Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in B8) X Depth (inches): Depth (inches):	A, and 4B rates (B13 e Odor (C pheres ald luced Iron uction in T sed Plants a Remarks	(C4) Filled Soils (C4) (B) (C4) (B) (C4) (C4)	C6) A) Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu d Hydrology Present?	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)	C9)
Remarks: No hydric soi HYDROLO Wetland H Primary Ind X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface Water Table Saturation (includes co	ils present. DGY lydrology Indicators dicators (minimum of oce Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) oce Soil Cracks (B6) dation Visible on Aericsley Vegetated Concervations: later Present? Present? Present? Stappillary fringe)	el Imagery (Bave Surface (Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in B8) X Depth (inches): Depth (inches):	A, and 4B rates (B13 e Odor (C pheres ald luced Iron uction in T sed Plants a Remarks	(C4) Filled Soils (C4) (B) (C4) (B) (C4) (C4)	C6) A) Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu d Hydrology Present?	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)	C9)
Remarks: No hydric soi HYDROLO Wetland H Primary Inc Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface W: Water Table Saturation (includes co	ills present. DGY Iydrology Indicators dicators (minimum of ice Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ice Soil Cracks (B6) dation Visible on Aericsley Vegetated Concervations: later Present? Yes aprillary fringe) corded Date (stream	el Imagery (Bave Surface (X No X No gauge, moni	Water-Stained L MRLA 1, 2, 44 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in B8) X Depth (inches): Depth (inches): toring well, aerial photos, p	A, and 4B rates (B13 e Odor (C pheres alc luced Iron uction in T sed Plants n Remarks	(C4) Filled Soils (C4) Filled	Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu d Hydrology Present?	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7) Yes X N	C9)
Remarks: No hydric soi HYDROLO Wetland H Primary Ind Surfa X High X Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars Field Obse Surface W: Water Tab Saturation (includes coordinates coor	ills present. DGY Iydrology Indicators dicators (minimum of ice Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ice Soil Cracks (B6) dation Visible on Aericsley Vegetated Concervations: later Present? Yes aprillary fringe) corded Date (stream	el Imagery (Bave Surface (Market No. 12 No. 12 No. 13 No. 14 No. 15 Gauge, moni	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in B8) X Depth (inches): Depth (inches):	A, and 4B rates (B13 e Odor (C pheres alc luced Iron uction in T sed Plants n Remarks	(C4) Filled Soils (C4) Filled	Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu d Hydrology Present?	ns (B10) ter Table (C2) le on Aeriel Imagery (Csition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7) Yes X N	C9)



Photo Name: Photo_231110123733



Photo Name: Photo_231110123739



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	te: 11/10/	2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W17-F			
Investigators: B DARBY, J MAZE			Section, Township, I					
Landform (hillslope, terrace, etc.): Toeslope		Local Reli	ef (concave, convex,			Slope(%): 5	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		, <u> </u>	WGS84		,.	
Soil Map Unit Name: Steever stony clay loam, 2 to				ation: Not mapped				
Are climatic / hydrologic conditions on the site typical				(If No, explain in Re	marks)			
Are Vegetation: Soil or Hydrology	significantly di		Are "Normal Circun	- ` '	Yes	Х	N	lo
Are Vegetation: Soil or Hydrology	naturally probl			any answers in Rema			'	
SUMMARY OF FINDINGS - Attach a sit	_ ′'		, ,	,	,	aatura	s otc	
Hydrophytic Vegetation Present? Yes X			point locations	, transects, imp	ortant it	Jature	3, 616.	
Hydric Soil Present? Yes X		lo the	Sampled Area					
<i>-</i>			n a Wetland?	Voo	v		No	
Wetland Hydrology Present? Yes X		Within	i a vvetianu?	Yes _			No	
Remarks:								
Sample plot located at the headwaters and boundar a roadside ditch, is partially culverted and discharge								rmed in
wetland hydrology.	s to wettand to	o trie east. Sam	ole plot meets maicat	ors for flydropflytic ve	egetation,	riyuric s	ouis ariu	
VEGETATION – Use scientific names o	of plants.							
	Absolute	Dominant	Indicator	Dominance Test \	Norkshee	et:		
Tree Statum (Plot size: 30 feet)	% Cover	Species?	Status	Number of Domina	nt Species	3		
Populus balsamifera	30	Yes	FAC	That Are OBL, FAC	W, or FAC	D: _	4	(A)
2.				Total Number of Do	minant			
3.				Species Across All	Strata:		4	(B)
4.				Percent of Dominar	nt Species	_		
	30	= Total Cover		That Are OBL, FAC	W, or FAC	D:	100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index	workshee	et:		
Populus balsamifera	10	Yes	FAC	Total % Cover of:		Multipl	y by:	
2.				OBL species		x1=		
3.				FACW species	30	x2= -	60	_
4.				FAC species	85	x3= —	255	_
5.				FACU species		x4= -	0	
	10	= Total Cover		UPL species		x5= -	0	_
Herb Stratum (Plot size: 10 feet)				Column Totals:	115	(A)	315	— (B)
1. Holcus lanatus	35	Yes	FAC	-			0.0	_(
Phalaris arundinacea	30	Yes	FACW	Prevalence Inde	ex = <i>B</i> / <i>A</i> =		2.7	'4
3. Equisetum arvense	10	No	FAC	Hydrophytic Vege		icators		•
4.				1 - Rapid Tes				on
5.				X 2 - Dominano	-		vogotati	OII
6.				X 3 - Prevalence				
7.				4 - Morpholo			1 (Drovida	•
							•	
8.					emarks o		•	sneet)
9.				5 - Wetland N				
10.				Problematic I		_		
11				¹Indicators of hydric				
	<u>75</u>	= Total Cover		must be present, ur	nless distu	rbed or	problem	atic.
Woody Vine Stratum (Plot size: 10 feet)								
1				Hydrophytic				
2				Vegetation	Yes	_X_N	o	_
		= Total Cover		Present?				
% Bare Ground in Herb Stratum 25								
Remarks:				•				
Sample plot meets the dominance test for hydrophy	rtic vegetation.							

0-2 10YR 2/1 100 Silt Loam Organics press 9-9 10YR 3/1 100 Silt Loam Silt Loam Silt Loam 10YR 3/1 30 Silt Loam 10YR 3/1 Silt Cart Silt Silt Silt Silt Silt Silt Silt Sil		Re	dox Feature	S				
2-9 10YR 3/1 100 Sill Loam 9-14 2.5Y 8/2 70 Sill Clay Loam 10YR 3/1 30 Sill Clay Loam 10YR 3/1 30 Sill Clay Loam 10YR 3/1 30 Sill Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2 2.5YR 3/6 10 C M Silly Clay Loam 14-22 10YR 3/1 90 2 2 2 C M McK 4/10 2 C M McK 4/10 2 2 C M McK 4/10 2 C M McK	Color (r (moist)	%	Type ¹	Loc²	Texture	Remarks	
9:14 2.5° 6/2 70 Silty Clay Loam 14:22 10 YR 3/1 30 1.422 10 YR 3/1 90 2.5 YR 3/6 10 C M Silty Clay Loam 14:22 10 YR 3/1 90 2.5 YR 3/6 10 C M Silty Clay Loam 14:22 10 YR 3/1 90 2.5 YR 3/6 10 C M Silty Clay Loam 14:22 10 YR 3/1 90 2.5 YR 3/6 10 C M Silty Clay Loam 14:22 10 YR 3/1 90 2.5 YR 3/6 10 C M Silty Clay Loam 15:25 YR 3/6 10 C M Silty Clay Loam 16:25 YR 3/6 10 C M Silty Clay Loam 16:25 YR 3/6 10 C M Silty Clay Loam 16:25 YR 3/6 YR						Silt Loam	Organics present	
14-22 10YR 3/1 30 2.5YR 3/6 10 C M Silty Clay Loam Per C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosc (A) Sandy Redox (S5) 2 c Mukic (A10) Histosc (A1) Sandy Redox (S5) 2 c Mukic (A10) Black Histo (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F3) Thick Dark Surface (A11) X Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Moky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (F3) Sandy Gleyed Matrix (F3) Redox Depressions (F8) "Indicators of the present): Type: Depth (Inches): Redox Depressions (F8) "Indicators of the present? Yes marks: Is within sample plot meet hydric soil indicators for depleted below dark surface (A11) and depleted matrix (F3) **Redox Depressions (F8) Secondary Indicators:* **Proceedings of the present of						Silt Loam		
14-22 10YR 3/1 90 2.5YR 3/6 10 C M Silty Clay Loam pe: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Stripped Matrix (S6) Black Histic (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shalour Stufface (A12) Very Shalour Stufface (H1) X Depleted Delow Dark Surface (A11) X Depleted Matrix (F2) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland Hydrology Indicators (Type: Unless disturbed or problematic Restrictive Layer (if present): Type: Depth (inches): Hydric soil indicators for depleted below dark surface (A11) and depleted matrix (F3) **CIRCLOGY** **Vettand Hydrology Indicators:** **Indicators (minimum of one required; check all that apply) X Surface Water (A1) Water-Stained Leaves (B9) (except Matrix (F3)) Water Marks (B1) Aqualic Invertebrates (B13) Water Marks (B1) Aqualic Invertebrates (B13) Water Marks (B1) Aqualic Invertebrates (B13) Diringape Patterns (B10) Diringape Patterns (B10) Diringape Patterns (B10) Presence of Reduced fron (C4) Salturation (A3) Salt Crust (B11) Frost-Heave Hummocks (D Sparley Vegetated Concave Surface (B8) **Indicators (B1) Area (B1) **Indicators (B1) Apple (B1) **Indicators (B1) Apple (B1) **Indicators (B1) **Indicator						Silty Clay Loam		
pe: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. **Location: PL=Pore dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosci (A1)								
Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosco (A1) Histosco (A1) Histosco (A1) Sandy Redox (S5) 2 cm Muck (A10) 2 cm Muck (A10) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Loamy Gleyed Matrix (F2) Cheptedow Oark Surface (A11) Thick Dark Surface (A12) Redox Dark Surface (F6) Thick Dark Surface (A12) Redox Dark Surface (F6) Thick Dark Surface (A12) Redox Dark Surface (F7) Thick Dark Surface (A12) Redox Dark Surface (F7) Sandy Mucky Mineral (S11) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Unless disturbed or problematic destrictive Layer (if present): Type: Depth (inches): Beth (inches): Be	2.5YF	YR 3/6	10	С	М	Silty Clay Loam		
Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosco (A1) Histosco (A1) Histosco (A1) Sandy Redox (S5) 2 cm Muck (A10) 2 cm Muck (A10) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Loamy Gleyed Matrix (F2) Cheptedow Oark Surface (A11) Thick Dark Surface (A12) Redox Dark Surface (F6) Thick Dark Surface (A12) Redox Dark Surface (F6) Thick Dark Surface (A12) Redox Dark Surface (F7) Thick Dark Surface (A12) Redox Dark Surface (F7) Sandy Mucky Mineral (S11) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Unless disturbed or problematic destrictive Layer (if present): Type: Depth (inches): Beth (inches): Be								
Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (Art) Histosol (Art) Histosol (Art) Sandy Redox (SS) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Thick Dark Surface (Art 1) Thick Dark Surface (Art 2) Redox Dark Surface (F6) Thick Dark Surface (Art 2) Redox Dark Surface (F6) Thick Dark Surface (Art 2) Redox Dark Surface (F7) Thick Dark Surface (Art 2) Redox Dark Surface (F7) Redox Dark Surface (F8) Redox Depressions (F8) Unless disturbed or problematic destrictive Layer (if present): Type: Depth (inches): Redox Depressions (F8) Phydric Soil Present? Wetland Hydrology Indicators: Water Table (C Secondary Indicators (E1) A and 4B) Dry-Season Water Table (C Secondary Indicators (B1) Dry-Season Water Table (C Secondary Indicators (B1) Dry-Season Wa								
Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosco (A1) Histosco (A1) Histosco (A1) Sandy Redox (S5) 2 cm Muck (A10) 2 cm Muck (A10) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Loamy Gleyed Matrix (F2) Cheptedow Oark Surface (A11) Thick Dark Surface (A12) Redox Dark Surface (F6) Thick Dark Surface (A12) Redox Dark Surface (F6) Thick Dark Surface (A12) Redox Dark Surface (F7) Thick Dark Surface (A12) Redox Dark Surface (F7) Sandy Mucky Mineral (S11) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Unless disturbed or problematic destrictive Layer (if present): Type: Depth (inches): Beth (inches): Be								
Histosol (A1) Histic Epipedon (A2) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Thick Dark Surface (A11) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Welland Hydrology must be presure the surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Welland Hydrology Indicators Brains: Is within sample plot meet hydric soil indicators for depleted below dark surface (A11) and depleted matrix (F3) **Primary Indicators (minimum of one required; check all that apply) **Veltand Hydrology Indicators **Primary Indicators (minimum of one required; check all that apply) **X Surface Water (A11) Water-Stained Leaves (B9) (except Water Tables (A2) MRLA 1, 2, 4A, and 4B) **Water Marks (B1) Water Marks (B1) Sediment Deposits (B2) Phydrogen Sulfide Odor (C1) Sediment Deposits (B2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Surface Soil Cracks	Reduced Matrix,	ix, CS=Cov	ered or Coat	ted Sand G	rains.	²Lo	cation: PL=Pore Lining, M=N	Matrix
Histic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) (except MLRLA 1) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (F3) Redox Dark Surface (F6) Plandicators of hydrophytic vegetal wetland hydrology must be pret unless disturbed or problematic veltage (F7) Redox Depressions (F8) Wetland Hydrology Indicators (F7) Wetland Hydrology Indicators: Wetland Hydrology Indicators (Indinumum of one required; check all that apply) Wetland Hydrology Indicators: Wetland Hydrology Indicators: Wetland Hydrology Indicators: Wetland Hydrology Indicators (Indinumum of one required; check all that apply) Wetland Hydrology Indicators (Indinumum of one required; check all that apply) Wetland Hydrology Indicators (Indinumum of one required; check all that apply) Water-Stained Leaves (B9) (except Water Stained Leaves (B9) Water Marks (B1)	Rs, unless oth	therwise n	oted.)			Indicators for Pro	oblematic Hydric Soils ³ :	
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) A Depleted Below Dark Surface (A11) X Depleted Matrix (F3) A Thick Dark Surface (A12) Redox Dark Surface (F6) A Indicators of hydrophytic vegetat wetland hydrology must be presured for the problematic starting of the problematic start	Sandy	dy Redox (S5)			2 cm Muck	: (A10)	
Hydrogen Sulfide (A4) X Depleted Below Dark Surface (A11) X Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Redox Depressions (F8) Unless disturbed or problematic vesticities Layer (if present): Type: Depth (inches): Bepth (inches): Brimany Indicators of hydrophytic vegetat wetland hydrology must be presuper in the problematic vesticities and problematic vesticities ves		•	` '				` ,	
Depleted Below Dark Surface (A11) X Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) *Indicators of hydrophytic vegetate Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be presured Sandy Gleyed Matrix (S4) Redox Depressions (F8) wetland hydrology must be presured Sandy Gleyed Matrix (S4) Redox Depressions (F8) wetland hydrology must be presured Sandy Gleyed Matrix (S4) Redox Depressions (F8) Water Soil Present? Yes marks: Hydric Soil Present? Yes marks: Swithin sample plot meet hydric soil indicators for depleted below dark surface (A11) and depleted matrix (F3)		-		(except ML	.RLA 1)		, ,	
Thick Dark Surface (A12) Redox Dark Surface (F6) and indicators of hydrophytic vegetat wetland hydrology must be presulted for problematic wetland hydrology for present? Yes marks: Is within sample plot meet hydric soil indicators for depleted below dark surface (A11) and depleted matrix (F3) Image: Problem of the problematic for depleted below dark surface (A11) and depleted matrix (F3) Image: Problem of the problematic for depleted below dark surface (A11) and depleted matrix (F3) Image: Problem of the problem of the problematic for depleted below dark surface (A11) and depleted matrix (F3) Image: Problem of the problem of			. ,			Other (Exp	lain in Remarks)	
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be presuntless disturbed or problematic sestrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes marks: Is within sample plot meet hydric soil indicators for depleted below dark surface (A11) and depleted matrix (F3) PROLOGY Present Present								
Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic Restrictive Layer (if present): Type: Depth (inches): Bestrictive Layer (A11) Bestrictive Layer (B10) Water Marks (B1) Water Tables (A2) Water Marks (B11) Water Marks (B1) Water Marks (B1) Drift Deposits (B2) Hydrogen Sulfide Odor (C11) Drift Deposits (B2) Dry-Season Water Table (C Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LI Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D Sparsley Vegetated Concave Surface (B8) Frost-Heave Hummocks (D Sparsley Vegetated Concave Surface (B8) Frost-Heave Hummocks (D Wetland Hydrology Present? Yes X No Depth (inches): Depth (i						-	· · ·	
Restrictive Layer (if present):								
Type: Depth (inches): Hydric Soil Present? Yes marks: Its within sample plot meet hydric soil indicators for depleted below dark surface (A11) and depleted matrix (F3) ### Vettand Hydrology Indicators: ### Virinary Indicators (minimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indicators (Parinimum of one required; check all that apply) ### Secondary Indica	Redox	dox Depress	sions (F8)			unless disturb	ed or problematic.	
Depth (inches): marks: ills within sample plot meet hydric soil indicators for depleted below dark surface (A11) and depleted matrix (F3) // CROLOGY // Vettand Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) X Surface Water (A1) X Bufface Water (A1) MRLA 1, 2, 4A, and 4B) X Saturation (A3) Salt Crust (B11) Mater Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C Sediment Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Water Present? A No Depth (inches): Sourface Water Present? Yes X No Depth (inches): Sourface Water Present? Yes X No Depth (inches): Sourface Water Present? Yes X No Depth (inches): Sourface Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Mater Table Present? **Wetland Hydrology Present? Yes **Includes capillary fringe) **Sourface Water Present? **Yes **Includes capillary fringe) *								
marks: ills within sample plot meet hydric soil indicators for depleted below dark surface (A11) and depleted matrix (F3) Proposition Proposition								
Its within sample plot meet hydric soil indicators for depleted below dark surface (A11) and depleted matrix (F3) Image: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more						Hydric Soil Pre	sent? Yes X No	٥ _
X Surface Water (A1) Water-Stained Leaves (B9) (except Water Stained Leaves (B9) X High Water Tables (A2) MRLA 1, 2, 4A, and 4B X Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) X FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (L1 Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D3 Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): 8.00 Water Table Present? Yes X No Depth (inches): 2.0 Saturation Present? Yes X No Depth (inches): 0.0 Wetland Hydrology Present? Yes Signification Present? Yes X No Depth (inches): 0.0 Wetland Hydrology Present? Yes Signification Present? Yes X No Depth (inches): 0.0 Yes 0.0 Saturation Present? Yes X No Depth (inches): 0.0 Yes 0.0 Saturation Present? Yes X No Depth (inches): 0.0 Yes 0.0 Saturation Present? Yes X No Depth (inches): 0.0 Yes 0.0 Yes 0.0 Saturation Present? Yes X No Depth (inches): 0.0 Yes 0.0 Yes 0.0 Saturation Present? Yes X No Depth (inches): 0.0 Yes				ATT) and C	еріетеа г	naux (F3)		
X High Water Tables (A2) MRLA 1, 2, 4A, and 4B) A4, and 4B) X Saturation (A3) Salt Crust (B11) Drainage Patterns (B10)				ATT) and C	lepietea r			
X Saturation (A3) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Frost-Heave Hummocks (D3) Water Table Present? Yes X No Depth (inches): Saturation Pres	<u> </u>	,			еріетеа г	Secondary Indic		
Water Marks (B1)	Water	ter-Stained	Leaves (B9)		еріетеа г	Secondary Indic	ned Leaves (B9) (MRLA 1, 2	2,
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) X FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (Li Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (Di Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): 8.00 Water Table Present? Yes X No Depth (inches): 2.0 Saturation Present? Yes X No Depth (inches): 0.0 Wetland Hydrology Present? Yes includes capillary fringe) scribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Water	ter-Stained	Leaves (B9) 4A, and 4B)		еріетеа г	Secondary Indic	ned Leaves (B9) (MRLA 1, 2 4B)	2,
Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (Linundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Solution Present? Yes X No	Water MR Salt C	ter-Stained IRLA 1, 2, 4 t Crust (B11	Leaves (B9) 4A, and 4B)	(except	еріетеа г	Secondary India Water Stai 4A, and	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10)	2,
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): 8.00 Nater Table Present? Yes X No Depth (inches): 2.0 Saturation Present? Yes X No Depth (inches): 0.0 Saturation Present? Yes X No Depth (inches): 10.0 Saturation Present? Yes X No Depth (inches): 10.0 Secribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Water MR Salt C Aquat	ter-Stained IRLA 1, 2, 4 Crust (B11 latic Inverte	Leaves (B9) 4A, and 4B)) brates (B13)	(except	еріетеа г	Secondary India Water Stai 4A, and Drainage F	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2)	
Iron Deposits (B5) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Ye	Water MR Salt C Aquat Hydro	ter-Stained IRLA 1, 2, 4 t Crust (B11 latic Inverte	Leaves (B9) 4 A, and 4B)) brates (B13) de Odor (C1)	(except		Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (C	
Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): 8.00 Nater Table Present? Yes X No Depth (inches): 2.0 Saturation Present? Yes X No Depth (inches): 0.0 Saturation Present? Yes X No Depth (inches): 10.0 Section Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Water MR Salt C Aquat Hydro Oxidiz	ter-Stained IRLA 1, 2, 4 Crust (B11 latic Inverte Irogen Sulfid	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor	(except) ng Living R		Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Csic Position (D2)	
Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (Disparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): 8.00 Water Table Present? Yes X No Depth (inches): 2.0 Saturation Present? Yes X No Depth (inches): 0.0 Wetland Hydrology Present? Yes includes capillary fringe) scribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Water MR Salt C Aquat Hydro Oxidiz Prese	ter-Stained IRLA 1, 2, 4 Crust (B11 latic Inverte lrogen Sulfid dized Rhizo sence of Re	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor educed Iron ((except) ng Living R (C4)	oots (C3)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Cs ic Position (D2) quitard (D3)	
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches): 8.00 Water Table Present? Yes X No Depth (inches): 2.0 Saturation Present? Yes X No Depth (inches): 0.0 Wetland Hydrology Present? Yes includes capillary fringe) Scribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Water MR Salt C Aquat Hydro Oxidiz Prese Recer	ter-Stained IRLA 1, 2, 4 Crust (B11 latic Inverte drogen Sulfid dized Rhizo sence of Re cent Iron Re	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor educed Iron (duction in Til	(except) ng Living R C4) Illed Soils (oots (C3)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Cic Position (D2) quitard (D3) ral Test (D5)	
Field Observations: Surface Water Present? Yes X No Depth (inches): 8.00 Vater Table Present? Yes X No Depth (inches): 2.0 Saturation Present? Yes X No Depth (inches): 0.0 Wetland Hydrology Present? Yes includes capillary fringe) Scribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Water MR Salt C Aquat Hydro Oxidiz Prese Recer Stunte	ter-Stained IRLA 1, 2, 4 Crust (B11 latic Inverte drogen Sulfic dized Rhizo sence of Re cent Iron Re inted or Stre	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor educed Iron (duction in Til ssed Plants	(except) ng Living R C4) Illed Soils (oots (C3)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Cic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A)	
Surface Water Present? Yes X No Depth (inches): 8.00 Water Table Present? Yes X No Depth (inches): 2.0 Saturation Present? Yes X No Depth (inches): 0.0 Wetland Hydrology Present? Yes includes capillary fringe) Secribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Water MR Salt C Aquat Hydro Oxidiz Prese Recer Stunte	ter-Stained IRLA 1, 2, 4 Crust (B11 latic Inverte drogen Sulfic dized Rhizo sence of Re cent Iron Re inted or Stre	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor educed Iron (duction in Til ssed Plants	(except) ng Living R C4) Illed Soils (oots (C3)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Cic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A)	
Water Table Present? Yes X No Depth (inches): 2.0 Saturation Present? Yes X No Depth (inches): 0.0 Wetland Hydrology Present? Yes Yes Cincludes capillary fringe) Secribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Water MR Salt C Aquat Hydro Oxidiz Prese Recer Stunte	ter-Stained IRLA 1, 2, 4 Crust (B11 latic Inverte drogen Sulfic dized Rhizo sence of Re cent Iron Re inted or Stre	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor educed Iron (duction in Til ssed Plants	(except) ng Living R C4) Illed Soils (oots (C3)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Cic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A)	
Saturation Present? Yes X No Depth (inches): 0.0 Wetland Hydrology Present? Yes includes capillary fringe) scribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: marks:	Water MR Salt C Aquat Hydro Oxidiz Prese Recer Stunte Other (B8)	ter-Stained IRLA 1, 2, 4 c Crust (B11 latic Inverte drogen Sulfid dized Rhizo sence of Re sent Iron Re inted or Stre er (Explain	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor educed Iron (duction in Til ssed Plants in Remarks)	(except) ng Living R (C4) Illed Soils ((D1) (LRR	oots (C3)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Cic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A)	
includes capillary fringe) scribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: marks:	Water MR Salt C Aquat Hydro Oxidiz Prese Recer Stunte Other (B8)	ter-Stained IRLA 1, 2, 4 c Crust (B11 latic Inverte drogen Sulfid dized Rhizo sence of Re sent Iron Re inted or Stre er (Explain	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor educed Iron (duction in Til ssed Plants in Remarks)	(except) ng Living R (C4) Illed Soils ((D1) (LRR	oots (C3)	Secondary Indic Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Cic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A)	
scribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: marks:	Water MR Salt C Aquat Hydro Oxidiz Prese Recer Stunte Other (B8)	ter-Stained IRLA 1, 2, 4 c Crust (B11 latic Inverte drogen Sulfid dized Rhizo sence of Re ent Iron Re inted or Stre er (Explain oth (inches):	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor educed Iron (duction in Til ssed Plants in Remarks)	(except) ng Living R C4) Illed Soils (i (D1) (LRR	oots (C3)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Cic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A) ve Hummocks (D7)	9)
emarks:	Water MR Salt C Aquat Hydro Oxidiz Prese Recer Stunte Other (B8)	ter-Stained IRLA 1, 2, 4 c Crust (B11 latic Inverte drogen Sulfid dized Rhizo sence of Re ent Iron Re inted or Stre er (Explain oth (inches):	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor educed Iron (duction in Til ssed Plants in Remarks)	(except) ng Living R C4) Illed Soils (i (D1) (LRR	oots (C3)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Cic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A) ve Hummocks (D7)	9)
	Water MR Salt C Aquat Hydro Oxidiz Prese Recer Stunte Other (B8) Depth Depth	ter-Stained IRLA 1, 2, 4 c Crust (B11 latic Inverte drogen Sulfid dized Rhizo sence of Re sent Iron Re inted or Stre er (Explain oth (inches): oth (inches):	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor educed Iron (duction in Til ssed Plants in Remarks)	(except) ng Living R C4) Illed Soils ((D1) (LRR 8.00 2.0 0.0	oots (C3) C6) A)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Cic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A) ve Hummocks (D7)	9)
	Water MR Salt C Aquat Hydro Oxidiz Prese Recer Stunte Other (B8) Depth Depth	ter-Stained IRLA 1, 2, 4 c Crust (B11 latic Inverte drogen Sulfid dized Rhizo sence of Re sent Iron Re inted or Stre er (Explain oth (inches): oth (inches):	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor educed Iron (duction in Til ssed Plants in Remarks)	(except) ng Living R C4) Illed Soils ((D1) (LRR 8.00 2.0 0.0	oots (C3) C6) A)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Cic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A) ve Hummocks (D7)	9)
	Water MR Salt C Aquat Hydro Oxidiz Prese Recer Stunte Other (B8) Depth Depth	ter-Stained IRLA 1, 2, 4 c Crust (B11 latic Inverte drogen Sulfid dized Rhizo sence of Re sent Iron Re inted or Stre er (Explain oth (inches): oth (inches):	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor educed Iron (duction in Til ssed Plants in Remarks)	(except) ng Living R C4) Illed Soils ((D1) (LRR 8.00 2.0 0.0	oots (C3) C6) A)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Cic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A) ve Hummocks (D7)	9)
ırface water between 2 and 8 inches deep was observed in the wetland (A1). Soils saturated to surface (A3) and high water table present	Water MR Salt C Aquat Hydro Oxidiz Prese Recer Stunte Other (B8) Depth Depth	ter-Stained IRLA 1, 2, 4 c Crust (B11 latic Inverte drogen Sulfid dized Rhizo sence of Re sent Iron Re inted or Stre er (Explain oth (inches): oth (inches):	Leaves (B9) 4A, and 4B)) brates (B13) de Odor (C1) spheres alor educed Iron (duction in Til ssed Plants in Remarks)	(except) ng Living R C4) Illed Soils ((D1) (LRR 8.00 2.0 0.0	oots (C3) C6) A)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac X FAC-Neutr Raised An Frost-Heav	ned Leaves (B9) (MRLA 1, 2 4B) Patterns (B10) n Water Table (C2) Visible on Aeriel Imagery (Cic Position (D2) quitard (D3) ral Test (D5) t Mounds (D6) (LRR A) ve Hummocks (D7)	9)



Photo Name: Photo_231110125650



Photo Name: Photo_231110125026



Project/Site: Cascade Renewables	TION DATA	City/County:	Skamania	Sampling Date:	_		
Applicant/Owner: Cascade Renewables			State: WA		W18-P1 (W)		
Investigators: B DARBY, J MAZE			Section, Township,		W1011 (W)		
Landform (hillslope, terrace, etc.): Depression			ef (concave, convex,		Slope(%)	· 1	
Subregion (LRR): A - Northwest Forest and	Lat:		er (concave, convex,	Datum: WG		· <u> </u>	
• · · · —		Long:	NIWI Classifi				
Soil Map Unit Name: Arents, 0 to 5 percent slope		fyran? Van		cation: Unmapped			
Are climatic / hydrologic conditions on the site typic		•		(If No, explain in Rema	,	No	
Are Vegetation: Soil or Hydrology	significantly		Are "Normal Circum	•	Yes X	No	
Are Vegetation: Soil or Hydrology	naturally pro		•	any answers in Remarks	•	-4-	
SUMMARY OF FINDINGS - Attach a si	<u> </u>	ing sampling	point locations	, transects, import	ant reatures	, etc.	
, , , <u> </u>	X No						
Hydric Soil Present? Yes	X No	Is the	Sampled Area				
Wetland Hydrology Present? Yes	X No	within	a Wetland?	Yes X		<u></u>	
Remarks:							
Wetland sample plot located adjacent to standing value Rock Cove. Plot meets indicators for hydrophytic value VEGETATION – Use scientific names	egetation, hydric			is slow moving and disc	harges to Stream	m 12 and	d
	Absolute	Dominant	Indicator	Dominance Test Wor			
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominant S			
1.	70 GOVC1	Орсскоз:	- Otalus	That Are OBL, FACW,	•	3	(A)
2.				Total Number of Domir			- (/\)
3.			· —	Species Across All Stra		3	(B)
4.				Percent of Dominant S			- (D)
4.		= Total Cover	· —		•	100	(A/B)
Conline/Chruh Ctratum (Diet size, 40 feet)		= Total Cover		That Are OBL, FACW, Prevalence Index wor		100	(A/D)
Sapling/Shrub Stratum (Plot size: 10 feet)	20	Vaa	EAC)4/				
1. Fraxinus latifolia	20	Yes	FACW	Total % Cover of:	Multiply b	-	
2. Spiraea douglasii	10	Yes	FACW	· —	10 x1=	10	-
3.			<u> </u>	· —		140	-
4					10 x3=	30	-
5				FACU species	x4=	0	-
(5)	30	= Total Cover		UPL species	x5=	0	
Herb Stratum (Plot size: 10 feet)		.,	5. 0.4.	Column Totals:	90 (A)	180	- ^(B)
Phalaris arundinacea	40	Yes	FACW		5.4		
2. Holcus lanatus	10	No	FAC	Prevalence Index =		2.00	
Callitriche stagnalis	10	No	OBL_	Hydrophytic Vegetation			
4			<u> </u>	1 - Rapid Test fo		egetation	n
5.			<u> </u>	X 2 - Dominance T			
6.				X 3 - Prevalence Ir			
7				4 - Morphologica			
8.					arks or on a sep		neet)
9				5 - Wetland Non-			
10				Problematic Hyd	rophytic Vegetat	tion¹ (Ex	(plain)
11				¹ Indicators of hydric so	il and wetland hy	ydrology	′
	60	= Total Cover		must be present, unles	s disturbed or pr	roblemat	tic.
Woody Vine Stratum (Plot size: 10 feet)							
1				Hydrophytic			
2.				Vegetation	Yes X No		_
		= Total Cover		Present?	_		
% Bare Ground in Herb Stratum 40							

Remarks:

Bare ground includes surface water with no vegetation rooted and leaf litter. Vegetation was recently cut to the ground, minimal regrowth observed at the time of the survey. Sample meets the dominance test for hydrophytic vegetation.

Depth	Matrix		Redd	ox Feature	*S			
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks
0-6	10YR 2/1	100	_				Sandy Loam	
6-18	10YR 3/2	93	7.5 Y 5/6	7	C		Sandy Loam	
vpe: C= Co	oncentration, D= Deple	tion, RM=Redu	ıced Matrix, CS=Cover	ed or Coa	ted Sand G	rains.	²Locatio	n: PL=Pore Lining, M=Matrix
-			unless otherwise not				Indicators for Probler	
	sol (A1)	•	Sandy Redox (S5	-			2 cm Muck (A1	•
	Epipedon (A2)	-	Stripped Matrix (S				Red Parent Ma	
	Histic (A3)	-	Loamy Mucky Min	,	(except ML	RLA 1)		ark Surface (TF12)
	gen Sulfide (A4)	-	Loamy Gleyed M	, ,	` '	,	Other (Explain i	
	ted Below Dark Surfac	e (A11)	Depleted Matrix (, ,				,
	Dark Surface (A12)	` ′ -	X Redox Dark Surfa				³ Indicators of hydrop	hytic vegetation and
	Mucky Mineral (S1)	-	Depleted Dark Su)		wetland hydrology	· ·
	Gleyed Matrix (S4)	-	Redox Depressio				unless disturbed or	
—— . Restrictive	Layer (if present):	_	<u> </u>					·
Type:								
• •	(inches):						Hydric Soil Present	? Yes X No
	le plot meet indicator fo	or redox dark s	urface (F6).					
oils in samp	le plot meet indicator fo	or redox dark s	urface (F6).					
YDROLO	OGY ydrology Indicators:							s (2 or more required)
YDROLO Wetland Hy Primary Ind	OGY ydrology Indicators: licators (minimum of or		eck all that apply)	paves (R9)	(except		Secondary Indicators	s (2 or more required)
YDROLC Wetland Hy Primary Ind Surface	OGY ydrology Indicators: licators (minimum of or		eck all that apply) Water-Stained Le	` '	•		Secondary Indicators Water Stained I	s (2 or more required) Leaves (B9) (MRLA 1, 2,
YDROLC Wetland Hy Primary Ind Surfac X High V	ydrology Indicators: licators (minimum of or be Water (A1) Water Tables (A2)		eck all that apply) Water-Stained Le	` '	•		Secondary Indicators Water Stained I 4A, and 4B)	Leaves (B9) (MRLA 1, 2,
YDROLO Wetland Hy Primary Ind Surfac X High W X Satura	ydrology Indicators: licators (minimum of or the Water (A1) Water Tables (A2) ation (A3)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	, and 4B)			Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter	Leaves (B9) (MRLA 1, 2,
YDROLO Wetland Hy Primary Ind Surfac X High V X Satura Water	ydrology Indicators: licators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) Marks (B1)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra	ates (B13)			Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa	rns (B10) ater Table (C2)
YDROLC Wetland Hy Primary Ind Surfac X High V X Satura Water Sedim	ydrology Indicators: licators (minimum of or the Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide	ates (B13) Odor (C1)	nots (C3)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Pattel Dry-Season Wa	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9)
YDROLO Wetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D	ydrology Indicators: licators (minimum of or the Water (A1) Water Tables (A2) ation (A3) Marks (B1) thent Deposits (B2) deposits (B3)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp	ates (B13) Odor (C1) ng Living R	oots (C3)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visite Geomorphic Po	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2)
YDROLO Wetland Hy Primary Ind Surfac X High W X Satura Water Sedim Drift D Algal I	ydrology Indicators: licators (minimum of or ce Water (A1) Vater Tables (A2) ation (A3) Marks (B1) tent Deposits (B2) Deposits (B3) Mat or Crust (B4)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	ates (B13) Odor (C1 heres alou)) ng Living R (C4)	, ,	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) rd (D3)
YDROLO Wetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D Algal I	ydrology Indicators: licators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) deposits (B3) Mat or Crust (B4) deposits (B5)		water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	ates (B13) Odor (C1 heres alou uced Iron (action in Ti)) ng Living R (C4) illed Soils (0	C6)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visite Geomorphic Po Shallow Aquitar X FAC-Neutral Te	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) astition (D2) rd (D3) est (D5)
YDROLO Wetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D Algal I Iron D Surfac	ydrology Indicators: licators (minimum of or the Water (A1) Water Tables (A2) ation (A3) Marks (B1) thent Deposits (B2) the posits (B3) Mat or Crust (B4) the posits (B5) the Soil Cracks (B6)	ne required; che - - - - - -	water-Stained Lessen MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	ates (B13) Odor (C1 heres alor uced Iron of uction in Ti ed Plants	ng Living R (C4) illed Soils ((D1) (LRR	C6)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Pattel Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquital X FAC-Neutral Te	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) rsition (D2) rd (D3) rest (D5) unds (D6) (LRR A)
YDROLO Wetland Hy Primary Ind Surface X High V X Satura Water Sedim Drift D Algal I Iron D Surface Inunda	ydrology Indicators: licators (minimum of or ce Water (A1) Vater Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) peposits (B3) Mat or Crust (B4) meposits (B5) mes Soil Cracks (B6) ation Visible on Aeriel I	ne required; che	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	ates (B13) Odor (C1 heres alor uced Iron of uction in Ti ed Plants	ng Living R (C4) illed Soils ((D1) (LRR	C6)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visite Geomorphic Po Shallow Aquitar X FAC-Neutral Te	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) rsition (D2) rd (D3) rest (D5) unds (D6) (LRR A)
YDROLO Wetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparsi	ydrology Indicators: licators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) deposits (B3) Mat or Crust (B4) heposits (B5) ce Soil Cracks (B6) ation Visible on Aeriel I ley Vegetated Concave	ne required; che	water-Stained Lessen MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	ates (B13) Odor (C1 heres alor uced Iron of uction in Ti ed Plants	ng Living R (C4) illed Soils ((D1) (LRR	C6)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Pattel Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquital X FAC-Neutral Te	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) rsition (D2) rd (D3) rest (D5) unds (D6) (LRR A)
YDROLO Wetland Hy Primary Ind Surfac X High V X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparsi	ydrology Indicators: licators (minimum of or the Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ident Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detaiton Visible on Aeriel I Deposits (B3) Mater Crust (B4) Deposits (B5) Detaitor Visible on Aeriel I Deposits (B6) Detaitor Visible on Aeriel I Deposits (B6) Descriptions:	ne required; che	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1 heres alor uced Iron of uction in Ti ed Plants	ng Living R (C4) illed Soils (((D1) (LRR	C6)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Pattel Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquital X FAC-Neutral Te	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) rsition (D2) rd (D3) rest (D5) unds (D6) (LRR A)
YDROLO Wetland Hy Primary Ind Surface X High V X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse	pdGY pdrology Indicators: licators (minimum of or one Water (A1) Nater Tables (A2) lation (A3) Marks (B1) lent Deposits (B2) leposits (B3) Mat or Crust (B4) leposits (B5) lee Soil Cracks (B6) lation Visible on Aeriel I ley Vegetated Concave leter Present? Yes	magery (B e Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1 heres alor uced Iron of uction in Ti ed Plants	ng Living R (C4) illed Soils ((D1) (LRR	C6)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Pattel Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquital X FAC-Neutral Te	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) rsition (D2) rd (D3) rest (D5) unds (D6) (LRR A)
YDROLO Wetland Hy Primary Ind Surfac X High W X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Spars Field Obse Surface Wa	pdgy ydrology Indicators: licators (minimum of or or or or water (A1) Nater Tables (A2) ation (A3) Marks (B1) ation Deposits (B2) deposits (B3) Mat or Crust (B4) deposits (B5) de Soil Cracks (B6) ation Visible on Aeriel I dey Vegetated Concave for vations: ater Present? Yes de Present? Yes	ne required; che	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizospe Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1 heres alor uced Iron of uction in Ti ed Plants	ng Living R (C4) illed Soils ((D1) (LRR	C6) A)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visite Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) best (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland Hy Primary Ind Surface X High W X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa Water Table Saturation I	pdgy ydrology Indicators: licators (minimum of or ce Water (A1) Nater Tables (A2) ation (A3) Marks (B1) ation Deposits (B2) deposits (B3) Mat or Crust (B4) deposits (B5) de Soil Cracks (B6) ation Visible on Aeriel I dey Vegetated Concave dervations: ater Present? Yes de Present? Yes	magery (B Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1 heres alor uced Iron of uction in Ti ed Plants	(C4) illed Soils ((D1) (LRR)	C6) A)	Secondary Indicators Water Stained I 4A, and 4B) Drainage Pattel Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquital X FAC-Neutral Te	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) best (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland Hy Primary Ind Surface X High W X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa Water Table Saturation I (includes ca	ydrology Indicators: dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Determinent Concave Mater Present? Persent? Persent? Persent? Yes Persent?	magery (B Surface (B8) X No X No	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants Remarks)	6.00 5.0 3.0	C6) A) Wetland	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) best (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland Hy Primary Ind Surface X High W X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa Water Table Saturation I (includes ca	ydrology Indicators: dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Determine the Water Present? Deposits (B5) Determine the Water Present? Deposits (B6) Deposits (B7) Deposits (B8) Deposits (B8) Deposits (B9) Deposits (B	magery (B Surface (B8) X No X No	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizospe Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants Remarks)	6.00 5.0 3.0	C6) A) Wetland	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) best (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland Hy Primary Ind Surface X High W X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa Water Table Saturation I (includes ca	ydrology Indicators: dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Determine the Water Present? Deposits (B5) Determine the Water Present? Deposits (B6) Deposits (B7) Deposits (B8) Deposits (B8) Deposits (B9) Deposits (B	magery (B Surface (B8) X No X No	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants Remarks)	6.00 5.0 3.0	C6) A) Wetland	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) best (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLO Wetland Hy Primary Ind Surface X High V X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa Water Table Saturation I (includes ca	ydrology Indicators: dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Determine the Water Present? Deposits (B5) Determine the Water Present? Deposits (B6) Deposits (B7) Deposits (B8) Deposits (B8) Deposits (B9) Deposits (B	magery (B Surface (B8) X No X No	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants Remarks)	6.00 5.0 3.0	C6) A) Wetland	Secondary Indicators Water Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar X FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) best (D3) est (D5) unds (D6) (LRR A) ummocks (D7)



Photo Name: Photo_231110141118



roject/Site: Cascade Renewables		City/County:	Skamania	Sampling Date	e: 11/10/	2023		
pplicant/Owner: Cascade Renewables		_	State: WA	Sampling	W18-F	P2 (U)		
vestigators: B DARBY, J MAZE			Section, Township,	Range:				
andform (hillslope, terrace, etc.): Hillslope		Local Relie	ef (concave, convex,	none): None	_	Slope	(%): 15	
ubregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum: V	VGS84		`	
oil Map Unit Name: Arents, 0 to 5 percent slop	es <u>—</u>		NWI Classific	ation: Unmapped				
re climatic / hydrologic conditions on the site typ	oical for this time o	f year? Yes		(If No, explain in Rer	marks)			
re Vegetation: Soil or Hydrology	significantly	•	Are "Normal Circum	- ` '	Yes	Х	N	lo
re Vegetation: Soil or Hydrology	naturally pro			any answers in Remai	·ks.)			
UMMARY OF FINDINGS - Attach a s	 site map show	ing sampling	point locations	. transects. impo	rtant fe	eatur	es. etc.	
	X No	<u> </u>		, , , , , , , , , , , , , , , , , , , ,			,	
ydric Soil Present? Yes	No X	Is the	Sampled Area					
/etland Hydrology Present? Yes			a Wetland?	Yes			No X	
- Cuana Hydrology Frederic.		Within	a Welland.				<u> </u>	
pland plot located near toe slope of SR-14 road ithin sample plot meets dominance test for hydr	ophytic vegetation		onditions occurs just	outside the influence	of standir	ng wate	er. Vegeta	ıtion
	Absolute	Dominant	Indicator	Dominance Test W	lorkehoo	4-		
(Plataina 20 fact)								
ree Statum (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominan	•		0	(4)
				That Are OBL, FACV		,. _	2	_ (A)
				Total Number of Dor			2	(D)
				Species Across All S		_	3	_ ^(B)
		= Total Cover		Percent of Dominant	•		67	/
onling/Shrub Stratum (Dlot size: 10 foot)		= Total Cover		That Are OBL, FACV	-		67	(A/B
apling/Shrub Stratum (Plot size: 10 feet)	E	Vaa	FAC				lu bu	
Rubus armeniacus	5	Yes	FAC	Total % Cover of:		Multip	<u>ıy by.</u>	
				OBL species _		x1= _		_
			<u> </u>	FACW species		x2= _	4	_
			- <u></u>	FAC species		x3= _	198	_
	- 	Total Cover		FACU species		x4= _	200	_
out Charture (Diet sine, 40 feet)	5	= Total Cover		UPL species		x5= _	0	– (D)
erb Stratum (Plot size: 10 feet)		V	FA.0	Column Totals:	118	(A) _	402	_ ^(B)
Poa spp. Daucus carota	55	Yes	FAC	Duni salaman Inda	D/4		2.4	
	40	Yes	FACU	Prevalence Inde			3.4	-11
Hypochaeris radicata		No No	FACU	Hydrophytic Vegeta				
Cirsium arvense	3	No No	FAC	1 - Rapid Test	•		vegetati	OH
Lathyrus latifolius	3	No	FAC	X 2 - Dominance				
		NI-		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		≤3.0°		_
	2	No	FACW	3 - Prevalence)
	2	No	FACW	4 - Morpholog	ical Adap		,	L 1
	2	No	FACW	4 - Morpholog data in Re	ical Adap emarks or	on a s	separate s	sheet)
	2	No	FACW	4 - Morpholog data in Re 5 - Wetland No	ical Adap emarks or on-Vascu	on a s	separate s ints¹	
D.	2	No	FACW	4 - Morpholog data in Re 5 - Wetland No	ical Adap emarks or on-Vascu ydrophyti	on a s lar Pla ic Veg	separate s ints¹ etation¹ (E	Explain)
).			FACW	4 - Morpholog data in Re 5 - Wetland No Problematic H Indicators of hydric	ical Adap emarks or on-Vascu ydrophyti soil and v	on a silar Pla ic Vegovetland	separate s ints¹ etation¹ (E d hydrolog	Explain) gy
Phalaris arundinacea O. Oody Vine Stratum (Plot size: 10 feet)	113	No = Total Cover	FACW	4 - Morpholog data in Re 5 - Wetland No	ical Adap emarks or on-Vascu ydrophyti soil and v	on a silar Pla ic Vegovetland	separate s ints¹ etation¹ (E d hydrolog	Explain) gy
7. Oody Vine Stratum (Plot size: 10 feet)			FACW	4 - Morpholog data in Re 5 - Wetland No Problematic H Indicators of hydric	ical Adap emarks or on-Vascu ydrophyti soil and v	on a silar Pla ic Vegovetland	separate s ints¹ etation¹ (E d hydrolog	Explain) gy
D			FACW	4 - Morpholog data in Re 5 - Wetland No Problematic H Indicators of hydric must be present, unl	ical Adap emarks or on-Vascu ydrophyti soil and v ess distu	on a silar Pla ic Vegovetland	separate s ints ¹ etation ¹ (E d hydrolog r problem	Explain) gy
7). 1. 2000 Vine Stratum (Plot size: 10 feet)			FACW	4 - Morpholog data in Re 5 - Wetland No Problematic H Indicators of hydric must be present, unl Hydrophytic	ical Adap emarks or on-Vascu ydrophyti soil and v ess distu	on a salar Pla ic Vegovetland	separate s ints ¹ etation ¹ (E d hydrolog r problem	Explain) By

Remarks: No hydric soils present. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Drainage Patterns (B10) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9 Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Field Observations: Surface Water Present? Ves No X Depth (inches): Water Table Present? Yes X No Depth (inches): 25condary Indicators (2 or more required) Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) Ada and 4B Orainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Saturation Visible on Aeriel Imagery (C9 Saturation Visible on Aeriel Imagery (C9 FAC-Neutral Test (D5) FAC-Neutral Test (D5) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7)	<i>(</i> : 1)	Matrix		Redu	ox Features			
Sandy Learn	(inches)	Color (moist)	%	Color (moist)	% Type¹	Loc²	Texture	Remarks
Type: C= Concentration, D= Depleton, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. "Location: PL=Pore Lining, M=M bydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (SS) 2 cm Muck (A10) Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histos (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (F12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Dark Surface (F6) Indicators of hydrophytic vegetation and wettand hydrology must be present, Sandy Gleyed Matrix (F3) Depleted Dark Surface (F7) unless disturbed or problematic. Restrictive Layer (If present): Type: Depth (inches): Hydric Soil Present? Yes No Wetand Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Water Stained Leaves (B8) (except Water Tables (A2) MRLA 1, 2, 4A, and 4B) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Solfide Deposits (B3) Oddized Rhizosphere along Living Roots (C3) Seminary Dry-Season Water Table (C2) Solfide Deposits (B3) Oddized Rhizosphere along Living Roots (C3) Shallow Aquitard (D3) Iron Deposits (B6) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Sparsley Vegetated Concave Surface (B8) Fried Observations: Surface Water Present? Yes No Depth (inches): Surface Soil Cracks (B6) Surface (B3) Solvator Present? Yes No Depth (inches): Solvator Received Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	0-2	10YR 2/2	100				Sandy Loam	
Histosal (A1) Histosal (A1) Sandy Radox (S5) Sirpped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Thick Dark Surface (A12) Red Dark Surface (A12) Red Dark Surface (F5) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): De	2-24	10YR 3/2	100				Sandy Loam	
Histosal (A1) Histosal (A1) Sandy Redox (S5) Histosal (A1) Sandy Redox (S5) Black Histo (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Martix (F2) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland Hydrology must be present, Type: Depth (inches): Dept								
Histosal (A1) Histosal (A1) Histosal (A1) Sandy Radox (S5) Black Histor (A2) Stripped Matrix (S6) Black Histor (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Popeleted Below Dark Surface (A11) Depleted Matrix (F2) Thick Dark Surface (A12) Redox Dark Surface (F5) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (A12) Redox Depressions (F8) Thick Dark Surface (A12) Redox Depressions (F8) R						_		
Histosal (A1) Histosal (A1) Sandy Redox (S5) Histosal (A1) Sandy Redox (S5) Black Histo (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Martix (F2) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland Hydrology must be present, Type: Depth (inches): Dept						_		
Histosal (A1) Histosal (A1) Sandy Redox (S5) Histosal (A1) Sandy Redox (S5) Black Histo (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Martix (F2) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland Hydrology must be present, Type: Depth (inches): Dept						_		
Histosal (A1) Sandy Radox (S5) 2 cm Muck (A10) Histosal (A1) Sandy Radox (S5) 2 cm Muck (A10) Histosal (A1) Sandy Radox (S5) 2 cm Muck (A10) Histosal (A1) Sandy Radox (S5) 2 cm Muck (A10) Histosal (A1) Sandy Radox (S5) 2 cm Muck (A10) Histosal (A2) Stripped Matrix (S6) Black Histor (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland Hydrology must be present, Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Depth (inche								
Histosal (A1) Sandy Radox (S5) 2 cm Muck (A10) Histosal (A1) Sandy Radox (S5) 2 cm Muck (A10) Histosal (A1) Sandy Radox (S5) 2 cm Muck (A10) Histosal (A1) Sandy Radox (S5) 2 cm Muck (A10) Histosal (A1) Sandy Radox (S5) 2 cm Muck (A10) Histosal (A2) Stripped Matrix (S6) Black Histor (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland Hydrology must be present, Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Depth (inche						_	·	
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histot Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Type: Depth (inches): Depleted Dark Surface (R12) Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Drainage Patterns (B10) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9 Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Saturation (V2) Surface Water (Carcks (B6) Stunde or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (C9 Surface Water Present? Ves X No Depth (inches): Water Table Present? Yes X No Depth (inches):	ype: C= Co	oncentration, D= Deple	tion, RM=Redu	uced Matrix, CS=Cover	ed or Coated Sand	Grains.	² Location	: PL=Pore Lining, M=Matrix.
Histic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (A12) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Depleted Below Dark Surface (A12) Redox Dark Surface (F6) Period Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F7) Redox Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Depleted Dark Surface (F7) Redox Dark Surface (F7) Redox Depressions (F8) Unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Surface Water (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10) Drainage Patterns (B10) Drift Deposits (B2) Pyriogen Sulfide Odor (C1) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface (B6) Surface (B6) Surface (B6) Surface (B6) Surface (B6) Surface (B6) Surface (B7) Wettand Hydrology Indicators (P7) Wettand Hydrology Indicators (P7) Water Marks (B1) Drainage Patterns (B10) Dry-Season Water Table (C2) Sedment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation (F3) Surface (B6) Surface (B7) Surfac	/dric Soil I	ndicators: (Applicabl	le to all LRRs,	unless otherwise not	ted.)		Indicators for Problem	natic Hydric Soils³:
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F3) Other (Explain in Remarks) Depleted Below Dark Surface (A12) Redox Dark Surface (F6) Indicators of hydrophytic vegetation and wetland hydrology must be present, sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Deplt (inches): Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Fresence Soil Cracks (B6) Sturde or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D7) Field Observations: Surface Water Present? Yes No Depth (inches): Surface Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Histos	sol (A1)		Sandy Redox (S5	5)		2 cm Muck (A10)
Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Redox Depressions (F8) Restrictive Layer (If present): Type: Depth (Inches): Hydric Soil Present? Yes	— Histic	Epipedon (A2)	-	Stripped Matrix (S	S6)		Red Parent Mate	erial (TF2)
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Redox Dark Surface (F6) Plant (Surface (F1) Redox Dark Surface (F7) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): Popth (inches): Popth (inches): Popth (inches): Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Pulped Water (A2) Pulped Water (A2) Pulped Water (A3) Pulped	Black	Histic (A3)	-	Loamy Mucky Mir	neral (F1) (except N	MLRLA 1)	Very Shallow Da	ark Surface (TF12)
Thick Dark Surface (A12)	— Hydro	gen Sulfide (A4)	-	Loamy Gleyed Ma	atrix (F2)		Other (Explain in	n Remarks)
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Depth (inches)	 Deple	ted Below Dark Surfac	e (A11)	Depleted Matrix (F3)			
Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present):	Thick	Dark Surface (A12)	_	Redox Dark Surfa	ace (F6)		³ Indicators of hydroph	ytic vegetation and
Restrictive Layer (if present): Type: Depth (inches):	Sandy	/ Mucky Mineral (S1)	_	Depleted Dark Su	urface (F7)		wetland hydrology n	nust be present,
Type: Depth (inches): Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Surface Water (A1) Water-Stained Leaves (B9) (except Water Stained Leaves (B9) (MRLA 1, 2, 4, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Water Marks (B1) Dainage Patterns (B10) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Iron Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Iron Deposits (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Water Present? Ves No Depth (inches): Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): 23.0 Saturation Present? Yes No Depth (inches): 23.0 Saturation Present? Yes No Depth (inches): Saturation Present? Yes No No Saturation Present? Yes No	Sandy	Gleyed Matrix (S4)		Redox Depressio	ns (F8)		unless disturbed or	problematic.
Depth (inches):	Restrictive	Layer (if present):						
Pyprology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Satt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Setiment Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Surface Water (A1) Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9 Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Water Present? Sourface Water Present? Ves No Depth (inches): Water Table (Pesent? Ves No Depth (inches): 23.0 Saturation Present? Ves No Depth (inches): 23.0 Wetland Hydrology Present? Yes No Includes capillary fringe) secribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Type:							
Pyprology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Surface Water (A2) High Water Tables (A2) Saturation (A3) Salt Crust (B11) Water Marks (B1) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Drift Deposits (B3) Drift Deposits (B4) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Water Table (A2) MRLA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9 Surface Soil Cracks (B6) Surface Water Posent? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Postons, if available:	Depth	(inches):					Hydric Soil Present?	Yes No
Surface Water (A1)	YDROLC	OGY						
High Water Tables (A2) Saturation (A3) Salt Crust (B11) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Sufface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B8) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Saturation Present? Field Observations: Surface Water Present? Water Table Present? Yes No Depth (inches): Saturation Visible on Aeriel Imague, monitoring well, aerial photos, previous inspections), if available:	Wetland Hy	ydrology Indicators:						
Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9 Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Secribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Wetland Hy Primary Ind	ydrology Indicators: licators (minimum of or	ne required; cho					
Water Marks (B1)	Wetland Hy Primary Ind Surfac	ydrology Indicators: licators (minimum of or ce Water (A1)	ne required; cho	Water-Stained Le	•		Water Stained L	
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9 Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): 23.0 Saturation Present? Yes X No Depth (inches): 20.0 Wetland Hydrology Present? Yes No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Wetland Hy Primary Ind Surfac High V	ydrology Indicators: licators (minimum of or ce Water (A1) Water Tables (A2)	ne required; che	Water-Stained Le	•		Water Stained Lo	eaves (B9) (MRLA 1, 2,
Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Secribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Wetland Hy Primary Ind Surfac High V Satura	ydrology Indicators: licators (minimum of or ce Water (A1) Water Tables (A2) ation (A3)	ne required; cho	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	a, and 4B)		Water Stained Lo 4A, and 4B) Drainage Patterr	eaves (B9) (MRLA 1, 2,
Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Secribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Wetland Hy Primary Ind Surfac High V Satura Water	ydrology Indicators: licators (minimum of or ce Water (A1) Water Tables (A2) ation (A3)	ne required; cho - - -	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra	a, and 4B)		Water Stained L 4A, and 4B) Drainage Patterr Dry-Season Wat	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2)
Iron Deposits (B5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes	Primary Ind Surfac High V Satura Water Sedim	ydrology Indicators: licators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2)	ne required; che - - -	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide	a, and 4B) ates (B13) Odor (C1)		Water Stained L 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9)
Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes	Primary Ind Surfac High V Satura Water Sedim Drift D	ydrology Indicators: licators (minimum of or one Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3)	ne required; cho - - - - -	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp	ates (B13) Odor (C1) Oheres along Living		Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2)
Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8)	Primary Ind Surfac High V Satura Water Sedim Drift D	ydrology Indicators: dicators (minimum of or	ne required; che - - - - - -	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	ates (B13) Odor (C1) Sheres along Living uced Iron (C4)	Roots (C3)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3)
Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes X No Depth (inches): 23.0 Saturation Present? Yes X No Depth (inches): 20.0 Wetland Hydrology Present? Yes No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Primary Ind Surface High V Satura Water Sedim Drift D Algal I	ydrology Indicators: licators (minimum of or the Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	ne required; che - - - - - -	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	ates (B13) Odor (C1) Oheres along Living uced Iron (C4) uction in Tilled Soils	Roots (C3)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wate Saturation Visible Geomorphic Pose Shallow Aquitard FAC-Neutral Test	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5)
Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes X No Depth (inches): 23.0 Saturation Present? Yes X No Depth (inches): 20.0 Wetland Hydrology Present? Yes No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface	ydrology Indicators: dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) deposits (B3) Mat or Crust (B4) deposits (B5) de Soil Cracks (B6)	- - - - - -	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	ates (B13) Odor (C1) Cheres along Living Luced Iron (C4) Luction in Tilled Soils Led Plants (D1) (LR	Roots (C3)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wate Saturation Visible Geomorphic Pose Shallow Aquitard FAC-Neutral Tese Raised Ant Mount	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes X No Depth (inches): 23.0 Saturation Present? Yes X No Depth (inches): 20.0 Wetland Hydrology Present? Yes No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda	ydrology Indicators: licators (minimum of or	- - - - - - - - - - - - - - - - - - -	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	ates (B13) Odor (C1) Cheres along Living Luced Iron (C4) Luction in Tilled Soils Led Plants (D1) (LR	Roots (C3)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wate Saturation Visible Geomorphic Pose Shallow Aquitard FAC-Neutral Tese Raised Ant Mount	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Water Table Present? Yes X No Depth (inches): 23.0 Saturation Present? Yes X No Depth (inches): 20.0 Wetland Hydrology Present? Yes No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsl	ydrology Indicators: licators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeriel I ley Vegetated Concave	- - - - - - - - - - - - - - - - - - -	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	ates (B13) Odor (C1) Cheres along Living Luced Iron (C4) Luction in Tilled Soils Led Plants (D1) (LR	Roots (C3)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wate Saturation Visible Geomorphic Pose Shallow Aquitard FAC-Neutral Tese Raised Ant Mount	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Saturation Present? Yes X No Depth (inches): 20.0 Wetland Hydrology Present? Yes No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsl	ydrology Indicators: licators (minimum of or one Water (A1) Water Tables (A2) lation (A3) Marks (B1) lent Deposits (B2) leposits (B3) Mat or Crust (B4) leposits (B5) lee Soil Cracks (B6) lation Visible on Aeriel I ley Vegetated Concave	lmagery (B e Surface (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Cheres along Living Luced Iron (C4) Luction in Tilled Soils Led Plants (D1) (LR	Roots (C3)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wate Saturation Visible Geomorphic Pose Shallow Aquitard FAC-Neutral Tese Raised Ant Mount	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
(includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsl	ydrology Indicators: dicators (minimum of or	lmagery (B e Surface (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Theres along Living Living Living (C4) Liction in Tilled Soils Lied Plants (D1) (LR Remarks)	Roots (C3) (C6) R A)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wate Saturation Visible Geomorphic Pose Shallow Aquitard FAC-Neutral Tese Raised Ant Mount	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa	drology Indicators: dicators (minimum of or or or water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detion Visible on Aeriel I Deposits (B5) Deteorated Concave Deteorated Con	Imagery (B e Surface (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Theres along Living Luced Iron (C4) Luction in Tilled Soils Lited Plants (D1) (LR Remarks)	Roots (C3) (C6) R A)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Water Saturation Visible Geomorphic Pose Shallow Aquitance FAC-Neutral Tese Raised Ant Mount Frost-Heave Hure	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
	Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsl Field Obse Surface Water Table Saturation I	ydrology Indicators: dicators (minimum of or or or water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detation Visible on Aeriel I Deposits (B5) Detation Visible on Aeriel I Deposits (B6) De	Imagery (B e Surface (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) Theres along Living Luced Iron (C4) Luction in Tilled Soils Lited Plants (D1) (LR Remarks)	Roots (C3) (C6) R A)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Water Saturation Visible Geomorphic Pose Shallow Aquitance FAC-Neutral Tese Raised Ant Mount Frost-Heave Hure	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
emarks:	Wetland Hy Primary Ind Surface High W Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Water Table Saturation I (includes ca	drology Indicators: dicators (minimum of or	Imagery (B e Surface (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	ates (B13) Odor (C1) Oheres along Living Luced Iron (C4) Liction in Tilled Soils Lied Plants (D1) (LR Remarks) 23.0 20.0	Roots (C3) (C6) R A) Wetlan	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
emarks:	Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsl Field Obse Surface Water Table Saturation I (includes ca	drology Indicators: dicators (minimum of or	Imagery (B e Surface (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	ates (B13) Odor (C1) Oheres along Living Luced Iron (C4) Liction in Tilled Soils Lied Plants (D1) (LR Remarks) 23.0 20.0	Roots (C3) (C6) R A) Wetlan	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
	Wetland Hy Primary Ind Surface High W Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Water Table Saturation I (includes ca	drology Indicators: dicators (minimum of or	Imagery (B e Surface (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	ates (B13) Odor (C1) Oheres along Living Luced Iron (C4) Liction in Tilled Soils Lied Plants (D1) (LR Remarks) 23.0 20.0	Roots (C3) (C6) R A) Wetlan	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)



Photo Name: Photo_231110144137



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Date: 1	•	
Applicant/Owner: Cascade Renewables		Oity/Oodinty.	State: WA		V18-P3 (W)	
Investigators: B DARBY, J MAZE			Section, Township,		V10-1 3 (VV)	
Landform (hillslope, terrace, etc.): Depression			ef (concave, convex,		Slope(%): 0	<u> </u>
	Lat:	<u> </u>	er (concave, convex,	Datum: WGS		,
	Lat:	Long:	NIWI Classifi	cation: Unmapped		
Soil Map Unit Name: Arents, 0 to 5 percent slope						
Are climatic / hydrologic conditions on the site typi		-		(If No, explain in Remark	,	NI-
Are Vegetation: Soil or Hydrology	significantly o		Are "Normal Circum	•	Yes X	No
Are Vegetation: Soil or Hydrology	naturally prol		•	any answers in Remarks.)		
SUMMARY OF FINDINGS - Attach a si	te map show	ing sampling	point locations	, transects, importa	nt features, et	:C.
Hydrophytic Vegetation Present? Yes	X No					
Hydric Soil Present? Yes	X No	Is the	Sampled Area			
Wetland Hydrology Present? Yes	X No	within	a Wetland?	Yes X	No _	
Remarks:						
Wetland plot located slightly upslope of slow moving installation of fill yard to the north. Sample plot me VEGETATION – Use scientific names	ets all three wetla		nuseum fill yard. Ro	cky material noted at the p	olot may be relic fro	om
TEGET/ATTOM GOO GOTOMATION MATTER	Absolute	Dominant	Indicator	Dominance Test Work	sheet:	
Tree Statum (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominant Sp		
1.		Species:	- Status	That Are OBL, FACW, o		(A)
2.				Total Number of Domina		(^)
3.				Species Across All Strat		(B)
4.				Percent of Dominant Sp		— ^(B)
		= Total Cover	· —	That Are OBL, FACW, o		(A/B)
Conline/Chruh Ctratum (Diet size, 10 feet)		= Total Cover				(A/D)
Sapling/Shrub Stratum (Plot size: 10 feet)	40	Vaa	EA C)A/	Prevalence Index work		
1. Fraxinus latifolia	40	Yes	FACW	Total % Cover of:	Multiply by:	
2. Rubus armeniacus		Yes	FAC	OBL species	x1=	
3. Spiraea douglasii	5	No	FACW	FACW species 7		<u> </u>
4.				FAC species 2		
5.				FACU species 5		
	65	= Total Cover		UPL species	x5= 0	
Herb Stratum (Plot size: 10 feet)				Column Totals: 9	5 (A) <u>220</u>	(B)
Phalaris arundinacea	25	Yes	FACW			
Galium aparine	5	No	FACU FACU	Prevalence Index = I		2.32
3				Hydrophytic Vegetation		
4				· ·	Hydrophytic Veget	tation
5				X 2 - Dominance Te		
6.				X 3 - Prevalence Inc		
7				4 - Morphological	Adaptations ¹ (Prov	/ide
8.			<u> </u>	data in Rema	rks or on a separat	te sheet)
9				5 - Wetland Non-\	/ascular Plants ¹	
10				Problematic Hydro	ophytic Vegetation ¹	¹ (Explain)
11.				¹ Indicators of hydric soil	and wetland hydro	logy
	30	= Total Cover		must be present, unless	disturbed or proble	ematic.
Woody Vine Stratum (Plot size: 10 feet)						
1	_		_	Hydrophytic		
2.			<u>-</u>	Vegetation Y	es X No	
		= Total Cover		Present?		
% Bare Ground in Herb Stratum 70						

Remarks:

Bare ground includes surface water with no vegetation rooted and leaf litter. Vegetation was recently cut to the ground, minimal regrowth observed at the time of the survey. Sample plot meets the dominance test for hydrophytic vegetation.

Depth	Matrix		Redo	x Feature	es :			
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8	10YR 2/1	100						
8-18	10YR 3/2	92	7.5YR 4/6	8			Sandy Loam	
	1011(3/2		7.511(4/0					
			111 / 20 0					DI D. III MAN
	oncentration, D= Deple				ted Sand G			on: PL=Pore Lining, M=Matrix
	ndicators: (Applicabl	e to all LRRS, I		-			Indicators for Proble	•
— Histos	` '	_	Sandy Redox (S5				2 cm Muck (A1	
	Epipedon (A2)	_	Stripped Matrix (S	,	/aveaut MI	DI A 4)	Red Parent Ma	
	Histic (A3)	_	Loamy Mucky Mir		(except IVIL	RLA 1)		Dark Surface (TF12)
	gen Sulfide (A4)	_ (0.4.4)	Loamy Gleyed Ma				Other (Explain	in Remarks)
	ed Below Dark Surface	= (A11)	Depleted Matrix (I				31-diantana of buduon	alaudia wa matatia a a mal
	Dark Surface (A12)	_	X Redox Dark Surfa	, ,				ohytic vegetation and
	Mucky Mineral (S1)	_	Depleted Dark Su)		wetland hydrology	
_	Gleyed Matrix (S4)	_	Redox Depression	ns (Fo)			unless disturbed o	problematic.
	Layer (if present):							
Type:	 							
Donth	(inchec).						Hydric Soil Presen	t? Yes X No
marks: ils within sa	(inches): ample plot meet hydric	soil indicator fo	r redox dark surface (F	- 6).			, , , , , , , , , , , , , , , , , , , ,	
emarks: oils within sa	ample plot meet hydric	soil indicator fo	r redox dark surface (F	F6).				
emarks: yDROLO Wetland Hy Primary Indi	ample plot meet hydric GY rdrology Indicators: icators (minimum of or		ck all that apply)				Secondary Indicator	rs (2 or more required)
YDROLO Wetland Hy Primary Indi X Surfac	ample plot meet hydric GY rdrology Indicators: icators (minimum of one Water (A1)		ck all that apply) Water-Stained Le	aves (B9)	•		Secondary Indicator Water Stained	rs (2 or more required) Leaves (B9) (MRLA 1, 2,
YDROLO Vetland Hy Primary Indi X Surfac X High V	ample plot meet hydric GY rdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2)		ck all that apply) Water-Stained Le MRLA 1, 2, 4A	aves (B9)	•		Secondary Indicator Water Stained 4A, and 4B)	rs (2 or more required) Leaves (B9) (MRLA 1, 2,
rmarks: ils within sa YDROLO Vetland Hy Primary Indi X Surfac X High V X Satura	rdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) ttion (A3)		ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	aves (B9)	` •		Secondary Indicator Water Stained 4A, and 4B) Drainage Patte	rs (2 or more required) Leaves (B9) (MRLA 1, 2,
YDROLO Vetland Hy Primary Indi X Surfac X High V X Satura Water	ample plot meet hydric GY rdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) tion (A3) Marks (B1)		ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra	aves (B9) , and 4B) ates (B13)			Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W	rs (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2)
YDROLO Wetland Hy Primary Indi X Surfac X High V X Satura Water Sedim	ample plot meet hydric GY rdrology Indicators: icators (minimum of or e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2)		ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide	aves (B9) , and 4B) ates (B13) Odor (C1)		Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visi	rs (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9)
YDROLO Vetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D	ample plot meet hydric OGY Varology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)		ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp	aves (B9) , and 4B) ates (B13) Odor (C1) heres alor)) ng Living R	oots (C3)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visit	rs (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2)
YDROLO Vetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D Algal N	ample plot meet hydric OGY Idrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)		ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	aves (B9) , and 4B) ates (B13) Odor (C1 heres alor)) ng Living R (C4)		Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visit Geomorphic Potential	rs (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3)
YDROLO Vetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D Algal M	ample plot meet hydric OGY Idrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)		ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	aves (B9) , and 4B) ates (B13) Odor (C1 heres alor uced Iron () ng Living R (C4) illed Soils (G	C6)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visi Geomorphic Po Shallow Aquita X FAC-Neutral To	rs (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) est (D5)
YDROLO Wetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D Algal M Iron Do	ample plot meet hydric PGY Pdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6)	e required; che	ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	aves (B9) , and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants	ng Living Ro (C4) (Iled Soils (CD1) (LRR	C6)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visii Geomorphic Pour Shallow Aquita X FAC-Neutral Tour Raised Ant Mo	ers (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) est (D5) unds (D6) (LRR A)
YDROLO Wetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D Algal N Iron Do Surfac	ample plot meet hydric IGY Idrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Aeriel I	e required; che	ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	aves (B9) , and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants	ng Living Ro (C4) (Iled Soils (CD1) (LRR	C6)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visi Geomorphic Po Shallow Aquita X FAC-Neutral To	ers (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) est (D5) unds (D6) (LRR A)
YDROLO Wetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D Algal M Iron Do Surfac Inunda Sparsl	ample plot meet hydric PGY Pdrology Indicators: Icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) Ient Deposits (B2) Ieposits (B3) Mat or Crust (B4) Ieposits (B5) Ieposits (B5) Ieposits (B6) Ieposits (B6) Indicators:	e required; che	ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	aves (B9) , and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants	ng Living Ro (C4) (Iled Soils (CD1) (LRR	C6)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visii Geomorphic Pour Shallow Aquita X FAC-Neutral Tour Raised Ant Mo	ers (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) est (D5) eunds (D6) (LRR A)
YDROLO Wetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D Algal M Iron Do Surfac Inunda Sparsl	ample plot meet hydric PGY Pdrology Indicators: Icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) Ient Deposits (B2) Ieposits (B3) Mat or Crust (B4) Ieposits (B5) Ieposits (B5) Ieposits (B6) Ieposits (B6) Indicators:	e required; che	ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	aves (B9) , and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants	ng Living Ro (C4) (Iled Soils (CD1) (LRR	C6)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visii Geomorphic Pour Shallow Aquita X FAC-Neutral Tour Raised Ant Mo	ers (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) est (D5) eunds (D6) (LRR A)
YDROLO Wetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D Algal N Iron Do Surfac Inunda Sparsl Field Obset	ample plot meet hydric IGY Idrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Aeriel I ey Vegetated Concave Iter Present? Yes	e required; che	ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	aves (B9) , and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants	ng Living R (C4) illed Soils (C (D1) (LRR	C6)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visii Geomorphic Pour Shallow Aquita X FAC-Neutral Tour Raised Ant Mo	ers (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) est (D5) eunds (D6) (LRR A)
YDROLO Wetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D Algal N Iron Do Surfac Inunda Sparsl Field Obset Surface Wa	ample plot meet hydric ample plot meet hydric arrology Indicators: icators (minimum of one e Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Aeriel I ey Vegetated Concave rvations: ter Present? Yes e Present? Yes	magery (B	ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	aves (B9) , and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants	(C4) illed Soils (CD1) (LRR 6.00 6.00	C6) A)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visi Geomorphic Po Shallow Aquita X FAC-Neutral To Raised Ant Mo Frost-Heave H	rs (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) est (D5) ands (D6) (LRR A) armocks (D7)
YDROLO Wetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D Algal M Iron De Surface Inunda Sparsl Field Obset Surface Wa Water Table Saturation F	ample plot meet hydric ample plot meet hydric arrotology Indicators: icators (minimum of one e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Aeriel I ey Vegetated Concave rvations: ter Present? Yes e Present? Yes Present? Yes	e required; che	ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	aves (B9) , and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants	ng Living R (C4) illed Soils (C (D1) (LRR	C6) A)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visii Geomorphic Pour Shallow Aquita X FAC-Neutral Tour Raised Ant Mo	rs (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) est (D5) ands (D6) (LRR A) armocks (D7)
YDROLO Wetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D Algal M Iron Do Surfac Inunda Sparsl Field Obse Surface Wa Water Table Saturation F (includes ca	ample plot meet hydric PGY Pdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) Indicators: Ition (A3) Marks (B1) Indicators: Ition (A3) Marks (B1) Indicators: Ition (A3) Marks (B4) Indicators: Ition (B4) Indicators: Ition (B4) Indicators: Ition (B6) Ition (Visible on Aeriel I I I I I I I I I I I I I I I I I I I	magery (B Surface (B8) X No X No	ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	aves (B9) , and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants Remarks)	6.00 6.00 2.0	C6) A) Wetland	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visi Geomorphic Pour Shallow Aquita X FAC-Neutral Tour Raised Ant Mount Frost-Heave H	ers (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) and (D3) est (D5) ands (D6) (LRR A) and (D7)
YDROLO Wetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D Algal M Iron Do Surfac Inunda Sparsl Field Obset Surface Wa Water Table Saturation F	ample plot meet hydric ample plot meet hydric arrotology Indicators: icators (minimum of one e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Aeriel I ey Vegetated Concave rvations: ter Present? Yes e Present? Yes Present? Yes	magery (B Surface (B8) X No X No	ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	aves (B9) , and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants Remarks)	6.00 6.00 2.0	C6) A) Wetland	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visi Geomorphic Pour Shallow Aquita X FAC-Neutral Tour Raised Ant Mount Frost-Heave H	ers (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) ard (D3) est (D5) ands (D6) (LRR A) armocks (D7)
YDROLO Wetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D Algal M Iron Do Surfac Inunda Sparsl Field Obset Surface Wa Water Table Saturation F	ample plot meet hydric PGY Pdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) Indicators: Ition (A3) Marks (B1) Indicators: Ition (A3) Marks (B1) Indicators: Ition (A3) Marks (B4) Indicators: Ition (B4) Indicators: Ition (B4) Indicators: Ition (B6) Ition (Visible on Aeriel I I I I I I I I I I I I I I I I I I I	magery (B Surface (B8) X No X No	ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	aves (B9) , and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants Remarks)	6.00 6.00 2.0	C6) A) Wetland	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visi Geomorphic Pour Shallow Aquita X FAC-Neutral Tour Raised Ant Mount Frost-Heave H	ers (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) and (D3) est (D5) ands (D6) (LRR A) and (D7)
YDROLO Wetland Hy Primary Indi X Surfac X High V X Satura Water Sedim Drift D Algal M Iron Do Surfac Inunda Sparsl Field Obset Surface Wa Water Table Saturation F	ample plot meet hydric PGY Pdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) Indicators: Ition (A3) Marks (B1) Indicators: Ition (A3) Marks (B1) Indicators: Ition (A3) Marks (B4) Indicators: Ition (B4) Indicators: Ition (B4) Indicators: Ition (B6) Ition (B6) Ition (Visible on Aeriel I Indicators: Itin (B4) Indicators: I	magery (B Surface (B8) X No X No	ck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	aves (B9) , and 4B) ates (B13) Odor (C1 heres alor uced Iron (action in Ti ed Plants Remarks)	6.00 6.00 2.0	C6) A) Wetland	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season W Saturation Visi Geomorphic Pour Shallow Aquita X FAC-Neutral Tour Raised Ant Mount Frost-Heave H	ers (2 or more required) Leaves (B9) (MRLA 1, 2, erns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) and (D3) est (D5) ands (D6) (LRR A) and (D7)



Photo Name: Photo_231110145815



Photo Name: Photo_231110150110



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	te: 11/10/202	3	
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	W18-P4 (l		
Investigators: B DARBY, J MAZE			Section, Township, I	Range:		,	
Landform (hillslope, terrace, etc.): Hillslope		Local Reli	ef (concave, convex,		Slop	pe(%): 10	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84		
Soil Map Unit Name: Arents, 0 to 5 percent slopes			NWI Classific	ation: Unmapped			
Are climatic / hydrologic conditions on the site typical	al for this time of	/ear? Yes	s X No	(If No, explain in Re	emarks)		
Are Vegetation: Soil or Hydrology	significantly di	sturbed?	Are "Normal Circum	- 'nstances" present?	Yes	X No	0
Are Vegetation: Soil or Hydrology	naturally probl	ematic?	(If needed, explain	any answers in Rema	arks.)		
SUMMARY OF FINDINGS - Attach a sit	— e map showi	ng sampling	point locations	, transects, impe	ortant featu	ıres, etc.	
Hydrophytic Vegetation Present? Yes	No X						
Hydric Soil Present? Yes	No X	Is the	Sampled Area				
Wetland Hydrology Present? Yes		within	n a Wetland?	Yes		No X	
Remarks:				-			
Upland plot evaluated upslope from wetland signatupresent.	ires. Upland cond	litions occur quic	kly with rise in topogi	raphy along fill slope.	No wetland in	dicators are	
VEGETATION – Use scientific names of	of plants.						
	Absolute	Dominant	Indicator	Dominance Test V	Norksheet:		
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominar	nt Species		
1				That Are OBL, FAC	W, or FAC:	1	(A)
2.				Total Number of Do	minant		_
3.				Species Across All	Strata:	2	(B)
4.				Percent of Dominar	nt Species		_
		= Total Cover		That Are OBL, FAC	W, or FAC:	50	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index	worksheet:	_	
1. Rubus armeniacus	90	Yes	FAC	Total % Cover of:	<u>Mul</u>	tiply by:	
2. Alnus rubra	5	No	FAC	OBL species	x1=		_
3.				FACW species	x2=	0	_
4.				FAC species	98 x3=	294	_
5.				FACU species	40 x4=	160	_
	95	= Total Cover		UPL species	x5=		_
Herb Stratum (Plot size: 10 feet)				Column Totals:	138 (A)	454	_ (B)
Galium aparine	40	Yes	FACU				
Lathyrus latifolius	3	No	FAC FAC	Prevalence Inde	•	3.29	9
3.				Hydrophytic Vege			
4.					st for Hydrophy	•	on
5.					e Test is >509		
6.					e Index is ≤3.0		
7.					gical Adaptatio	,	
8.					emarks or on	·	heet)
9.					lon-Vascular F		
10.					Hydrophytic Ve	-	
11				¹Indicators of hydric			
W 1 V 0 1 (D) (1 (0 ()	43	= Total Cover		must be present, ur	nless disturbed	or problema	atic.
Woody Vine Stratum (Plot size: 10 feet)							
1.				Hydrophytic		N V	
2		Total Com		Vegetation	Yes	_No _X	_
% Bare Ground in Herb Stratum 57		= Total Cover		Present?			
Remarks:							
Dense blackberry briars contribute to lack of herbac	eous vegetation.	Sample plot doe	s not meet indicators	for hydrophytic vege	tation.		

Color (moist) 0-18 10YR 3/2 Type: C= Concentration, D= Depletic Hydric Soil Indicators: (Applicable Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large ro Remarks: No hydric soils present. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	to all LRRs,	unless otherwise no Sandy Redox (Stripped Matrix (Strippe	ted.) 5) S6) ineral (F1) (except MI fatrix (F2)		Texture Sandy Clay Loam 2Location: Indicators for Problema 2 cm Muck (A10)	Remarks PL=Pore Lining, M=Matricatic Hydric Soils ³ :
Type: C= Concentration, D= Depletic Iydric Soil Indicators: (Applicable	on, RM=Redu to all LRRs,	unless otherwise no Sandy Redox (Stripped Matrix (Strippe	ted.) 5) S6) ineral (F1) (except MI fatrix (F2)		²Location:	
ydric Soil Indicators: (Applicable	to all LRRs,	unless otherwise no Sandy Redox (Stripped Matrix (Strippe	ted.) 5) S6) ineral (F1) (except MI fatrix (F2)		Indicators for Problema	
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large romarks: Depth (inches): Large romarks: Depth (inches): Large romarks: Depth Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave Stried Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	to all LRRs,	unless otherwise no Sandy Redox (Stripped Matrix (Strippe	ted.) 5) S6) ineral (F1) (except MI fatrix (F2)		Indicators for Problema	
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large romarks: Depth (inches): Large romark	to all LRRs,	unless otherwise no Sandy Redox (Stripped Matrix (Strippe	ted.) 5) S6) ineral (F1) (except MI fatrix (F2)		Indicators for Problema	
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large romarks: Depth (inches): Large romark	to all LRRs,	unless otherwise no Sandy Redox (Stripped Matrix (Strippe	ted.) 5) S6) ineral (F1) (except MI fatrix (F2)		Indicators for Problema	
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large romarks: Depth (Inches): Large romark	to all LRRs,	unless otherwise no Sandy Redox (Stripped Matrix (Strippe	ted.) 5) S6) ineral (F1) (except MI fatrix (F2)		Indicators for Problema	
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large romarks: Depth (inches): Large romark	to all LRRs,	unless otherwise no Sandy Redox (Stripped Matrix (Strippe	ted.) 5) S6) ineral (F1) (except MI fatrix (F2)		Indicators for Problema	
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large romarks: Depth (inches): Large romark	to all LRRs,	unless otherwise no Sandy Redox (Stripped Matrix (Strippe	ted.) 5) S6) ineral (F1) (except MI fatrix (F2)		Indicators for Problema	
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large romarks: Depth (inches): Large romarks: Depth (inches): Large romarks: Depth Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave Stried Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	to all LRRs,	unless otherwise no Sandy Redox (Stripped Matrix (Strippe	ted.) 5) S6) ineral (F1) (except MI fatrix (F2)		Indicators for Problema	
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large romarks: Depth (inches): Large romark	- - -	Sandy Redox (Stripped Matrix (Stripped Matrix (Stripped Mucky Mindows) Loamy Gleyed Modern Matrix (Stripped	5) S6) ineral (F1) (except MI latrix (F2)			atic Hydric Soils³:
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large roomarks: Depth (inches):	(A11) -	Stripped Matrix (Loamy Mucky Mi Loamy Gleyed M Depleted Matrix (S6) ineral (F1) (except MI latrix (F2)		2 cm Muck (A10)	
Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large rown and the second	(A11) -	Loamy Mucky Mi Loamy Gleyed M Depleted Matrix (ineral (F1) (except MI latrix (F2)		Z OIT WILLER (ATU)	
Hydrogen Sulfide (A4) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large rown Larg	(A11) -	Loamy Gleyed M Depleted Matrix (latrix (F2)		Red Parent Mate	rial (TF2)
Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large romarks: Depth (inc	(A11) -	Depleted Matrix (_RLA 1)	Very Shallow Dar	rk Surface (TF12)
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large roomarks: Depth of the present o	(A11) -		(F3)		Other (Explain in	Remarks)
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large romarks:	- - -		· •/			
Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 18 Depth (inches): Large rows in the present	-	Redox Dark Surf	ace (F6)		³ Indicators of hydrophy	tic vegetation and
Restrictive Layer (if present): Type: 18 Depth (inches): Large ro emarks: b hydric soils present. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	-	Depleted Dark S	urface (F7)		wetland hydrology m	ust be present,
Type: 18 Depth (inches): Large ro emarks: Demarks: Demark	<u>-</u>	Redox Depression	ons (F8)		unless disturbed or p	problematic.
Depth (inches): Large romarks: Demarks: Demarks						
emarks: b hydric soils present. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes						
Primary Indicators (minimum of one Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	ocks				Hydric Soil Present?	Yes No
Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes					0 1 1 " 1	6
High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	required; che		(D0) /		Secondary Indicators (
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	-		eaves (B9) (except			eaves (B9) (MRLA 1, 2,
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes		MRLA 1, 2, 4A			4A, and 4B)	o (D40)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	-	Salt Crust (B11)			Drainage Pattern: Dry-Season Wate	• •
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	-	Aquatic Invertebr Hydrogen Sulfide			 ′	, ,
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	-		pheres along Living R	Poots (C3)		e on Aeriel Imagery (C9)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	-	Presence of Red		.0013 (C3)	Shallow Aquitard	` ,
Surface Soil Cracks (B6) Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	-		uction in Tilled Soils (C6)	FAC-Neutral Test	
Inundation Visible on Aeriel Im Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	-		sed Plants (D1) (LRR		Raised Ant Moun	
Sparsley Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	agery (B	Other (Explain in		,	Frost-Heave Hum	
Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	-		,			,
Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	. ,			\top		
Water Table Present? Yes Saturation Present? Yes	No	X Depth (inches):				
Saturation Present? Yes		X Depth (inches):				
("		X Depth (inches):		Wetland	d Hydrology Present?	Yes No
(includes capillary fringe)						
escribe Recorded Date (stream gauge		g well, aerial photos, p	revious inspections).	if available	e:	
	ge, monitorin	g e, e.e pe., p	,,			
amarka.	ge, monitorin					
emarks: o primary or secondary indicators of	ge, monitorin					

Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Date	te: 11/8/2023		
Applicant/Owner: Cascade Renewables			State: WA	Sampling	W19-P1 (\	N)	
Investigators: B DARBY, J MAZE			Section, Township,	Range:			
Landform (hillslope, terrace, etc.): Hillslope		Local Reli	ief (concave, convex,	none): Concave	Slo	pe(%): 2	
Subregion (LRR): A - Northwest Forest and	Lat:	Long	:	Datum:	WGS84		
Soil Map Unit Name: Steever stony clay loam, 2 to	o 30 percent slopes	3	NWI Classific	cation: Unmapped			
Are climatic / hydrologic conditions on the site typic	cal for this time of y	ear? Yes	s_XNo	(If No, explain in Re	emarks)		
Are Vegetation: Soil or Hydrology	significantly dis	turbed?	Are "Normal Circun	nstances" present?	Yes	X N	lo
Are Vegetation: Soil X or Hydrology	naturally proble		•	any answers in Rema	•		
SUMMARY OF FINDINGS - Attach a si	te map showir	g sampling	point locations	, transects, impo	ortant feat	ures, etc.	
Hydrophytic Vegetation Present? Yes	X No						
Hydric Soil Present? Yes	X No	Is the	e Sampled Area				
Wetland Hydrology Present? Yes	X No	withi	n a Wetland?	Yes _	X	No	
Remarks:							
Wetland 19 is situated in a depression north of Asl (Stream 6). The sample plot meets indicators for h desktop resources indicate the partially blocked cultydric soils to exhibit wetland indicators. Soils wer	ydrophytic vegetation relivert may be contribe e determined hydric	on and wetland outing to the for	hydrology but lacks he mation of the wetland	ydric soil indicators. I but conditions have	-ield observat not been pres	ions and rev ent long eno	view of ough for
VEGETATION – Use scientific names	of plants.						
	Absolute	Dominant	Indicator	Dominance Test V	Vorksheet:		
Tree Statum (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominar	nt Species		
1				That Are OBL, FAC	W, or FAC:	1	(A)
2				Total Number of Do	minant		
3				Species Across All		1	(B)
4				Percent of Dominar	•		
		= Total Cover	r	That Are OBL, FAC	•	100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index			
1				Total % Cover of:	· ·	tiply by:	
2.				OBL species	x1=		_
3.				FACW species	100 x2=		_
4				FACILIANA SIA	x3=		_
5		= Total Cover		FACU species UPL species	x4= x5=		_
Herb Stratum (Plot size: 10 feet)		= Total Cover		Column Totals:		200	— (B)
Herb Stratum (Plot size: 10 feet) 1. Phalaris arundinacea	100	Yes	FACW	Column Totals.	100 (A)		— (B)
2.				Prevalence Inde	ey – Β/Δ–	2.0	١0
3.				Hydrophytic Veget			
4.				X 1 - Rapid Tes			on
 5.			_	X 2 - Dominano			
6.				X 3 - Prevalence			
7.				4 - Morpholog	gical Adaptatio	ons¹ (Provide	Э
8.				data in R	emarks or on	a separate s	sheet)
9.				5 - Wetland N	lon-Vascular I	Plants ¹	
10.			_	Problematic I	Hydrophytic V	egetation¹ (E	Explain)
11.				¹ Indicators of hydric	soil and wetla	and hydrolog	ЗУ
	100	= Total Cover	r —	must be present, ur	less disturbed	d or problem	atic.
Woody Vine Stratum (Plot size: 10 feet)							
1				Hydrophytic			
2.				Vegetation	Yes X	No	_
		= Total Cover		Present?			
% Bare Ground in Herb Stratum 0							
Remarks:							
Vegetation within the sample plot meets the rapid	test for hydrophytic	vegetation.					

Profile Descr	iption: (Describe to	the depth need	led to document the ir	ndicator o	or confirm	the abse	ence of indicators.)			
Depth	Matrix		Redo	x Feature	s					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	F	Remarks	
0-20	10YR 3/2	100	_				Silt Loam			
20-24	10YR 3/2	99	10YR 3/4	1	C		Sandy Loam			
	-									
	-									
		<u> </u>								
							·			
¹Type: C= Co	ncentration, D= Dep	letion, RM=Redu	ced Matrix, CS=Covere	ed or Coat	ted Sand G	rains.	²Loca	tion: PL=Pore	Lining, M	1=Matrix.
Hydric Soil Ir	ndicators: (Applica	ble to all LRRs,	unless otherwise note	ed.)			Indicators for Prob	lematic Hydric	Soils3:	
Histos	ol (A1)	_	Sandy Redox (S5))			2 cm Muck (A	A10)		
Histic I	Epipedon (A2)	_	Stripped Matrix (S	6)			Red Parent N	Naterial (TF2)		
Black I	Histic (A3)	_	Loamy Mucky Min	eral (F1)	(except ML	RLA 1)		Dark Surface	TF12)	
Hydrog	gen Sulfide (A4)	_	Loamy Gleyed Ma	trix (F2)			X Other (Explain	in in Remarks)		
l —— ·	ed Below Dark Surfa	ice (A11)	Depleted Matrix (F	,						
l ——	Dark Surface (A12)	_	Redox Dark Surfa	` '			³ Indicators of hydr	. , .		
l —	Mucky Mineral (S1)	_	Depleted Dark Su	` ')		wetland hydrolog	,	,	
	Gleyed Matrix (S4)		Redox Depression	ns (F8)			unless disturbed	or problematic	<u> </u>	
Restrictive	Layer (if present):									
Type:										
Depth	(inches):						Hydric Soil Prese	ent? Yes	X	No
Remarks:										
			ance for problematic so							
			o collect and retain wat getation community is s							
		lia off etaine tha	enil and macke radov fo	aturae						
HYDROLO										
1	drology Indicators:		and all that are had				0	(0		,
	cators (minimum of	one requirea; che		(DO)	/aat		Secondary Indicat	-		
l ——	e Water (A1) Vater Tables (A2)	-	Water-Stained Lea	` '	(except		4A, and 4	d Leaves (B9)	,WIRLA 1	I , Z ,
	tion (A3)		Salt Crust (B11)	aliu 4b)			Drainage Pat	,		
l ——	Marks (B1)	_	Aquatic Invertebra	ites (B13)				Water Table (C	2)	
	ent Deposits (B2)	-	Hydrogen Sulfide	` '			 ´	sible on Aeriel	,	(C9)
	eposits (B3)	-	Oxidized Rhizosph			oots (C3)				()
	Mat or Crust (B4)	_	Presence of Redu		-	(,	Shallow Aqui	` ,		
l —	eposits (B5)	_	Recent Iron Reduc	ction in Til	lled Soils (0	26)	X FAC-Neutral	, ,		
	e Soil Cracks (B6)	-	Stunted or Stresse	ed Plants	(D1) (LRR	A)		lounds (D6) (LI	RR A)	
Inunda	ation Visible on Aerie	I Imagery (B	Other (Explain in F	Remarks)			Frost-Heave	Hummocks (D7	')	
Sparsl	ey Vegetated Conca	ve Surface (B8)								
Field Obse	rvations:									
Surface Wa	ter Present? Yes	X No	Depth (inches):		3.00					
Water Table	Present? Yes	X No	Depth (inches):		2.0					
Saturation F	Present? Yes	X No	Depth (inches):		0.0	Wetland	d Hydrology Presen	t? Yes	X	No
(includes ca	pillary fringe)									
Describe Rec	orded Date (stream o	gauge, monitoring	g well, aerial photos, pre	evious ins	pections), i	f availabl	le:			
Remarks:										
	observed in the wet	land is attributed	to impoundment of pre-	cipitation i	runoff and	overhank	flow from Stream 6	caused by a na	rtially hle	ocked culvert
within the wet	land. The presence of	of surface water a	and saturated soil condi	tions likely	y occurs du	iring perio	ods of heavy rainfall I	but inundation o	does not	occur for
			I through the culvert and f strong hydric soil indic		e of the pres	sence of	relatively well-draining	ig sandy loam s	olis. The	ese two
İ	•	•	- •							



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	te: 11/9/20	23	
Applicant/Owner: Cascade Renewables		•	State: WA	Sampling	W19-P2	<u>2</u> (U)	
Investigators: B DARBY, J MAZE			Section, Township, F	Range:			
Landform (hillslope, terrace, etc.): Hillslope		Local Reli	ef (concave, convex,	none): None		Slope(%): 3	3
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84	_	
Soil Map Unit Name: Steever stony clay loam, 2 t	o 30 percent slopes	3	NWI Classific	ation: Unmapped			
Are climatic / hydrologic conditions on the site typic	cal for this time of y	ear? Yes	S X No	(If No, explain in Re	emarks)		
Are Vegetation: Soil or Hydrology	significantly dis	turbed?	Are "Normal Circum	stances" present?	Yes _	Х	No
Are Vegetation: Soil or Hydrology	naturally proble	ematic?	(If needed, explain	any answers in Rema	arks.)		
SUMMARY OF FINDINGS - Attach a si	te map showin	g sampling	point locations	, transects, imp	ortant fea	atures, et	tc.
Hydrophytic Vegetation Present? Yes	X No						
Hydric Soil Present? Yes	No X	Is the	Sampled Area				
Wetland Hydrology Present? Yes	No _X	withi	n a Wetland?	Yes		No 2	X
Remarks:		!					
Verification plot taken to confirm upland condition of Vegetation surveyed in the plot meets the dominar							begins.
VEGETATION – Use scientific names	of plants.						
	Absolute	Dominant	Indicator	Dominance Test \	Vorksheet:		
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Domina	nt Species		
1.				That Are OBL, FAC	W, or FAC:	2	(A)
2.				Total Number of Do	minant		
3.				Species Across All	Strata:	3	(B)
4.				Percent of Dominar	nt Species		
		= Total Cover		That Are OBL, FAC	W, or FAC:	67	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index	worksheet:		
1. Rubus armeniacus	10	Yes	FAC	Total % Cover of:	<u>N</u>	Multiply by:	
2				OBL species	x	(1=	
3.				FACW species	5 x	2= 10	
4.				FAC species		(3=105	
5				FACU species		4= 220)
	10	= Total Cover		UPL species		(5= 0	
Herb Stratum (Plot size: 10 feet)	40	.,	5 4011	Column Totals:	95 (A) 335	(B)
1. Cirsium vulgare	40	Yes	- FACU	Dun valanas lad	D/A		2.52
2. Urtica dioica	25	Yes	- FAC FACU	Prevalence Inde			3.53
Galium aparine Phalaris arundinacea	<u>15</u> 5	No No	- FACU FACW	Hydrophytic Vege			tation
4. Phalaris arundinacea5.		INU	- FACVV	1 - Rapid Tes			lalion
6.				3 - Prevalence			
7.				4 - Morpholog			vide
8.					-	on a separat	
9.				5 - Wetland N		•	,
10.				Problematic I			¹ (Explain)
11.				¹Indicators of hydric		-	
_	85	= Total Cover		must be present, ur		•	•
Woody Vine Stratum (Plot size: 10 feet)				•		· ·	
1.				Hydrophytic			
2.				Vegetation	Yes	X No	
		= Total Cover		Present?	_		
% Bare Ground in Herb Stratum 5							
Remarks:	<u> </u>			1			
Sample plot meets the dominance test for hydroph	ytic vegetation.						
, ,	•						

0-18 10° 18-24 10°	(A2) e (A4) Dark Surfactace (A12) ineral (S1) latrix (S4) present):	le to all LRR	educed		oted.) (S6) (ineral (F1) Matrix (F2) (F3) face (F6) Gurface (F7)	(except ML		Clay Loam Clay Loam Clay Loam 2Locatio Indicators for Proble 2 cm Muck (A1 Red Parent Ma Very Shallow D Other (Explain 3Indicators of hydrop wetland hydrology unless disturbed o	n: PL=Pore Li matic Hydric \$ 0) terial (TF2) Park Surface (T in Remarks) hytic vegetatio must be prese r problematic.	Soils ³ : F12)	rix.
Type: C= Concentrati ydric Soil Indicators Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (if Type: Depth (inches): emarks: o hydric soil indicator IYDROLOGY Wetland Hydrology Primary Indicators (in Surface Water (in High Water Tab Saturation (A3)	in, D= Deple (A2) (A2) (A2) (A2) (A2) (A2) (A2) (A2)	25 75 etion, RM=Re		Sandy Redox (S Stripped Matrix (Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf	oted.) (S6) (ineral (F1) Matrix (F2) (F3) face (F6) Gurface (F7)	(except ML		2Location 2Location 2Location 2Location 2 cm Muck (A1	matic Hydric \$ 0) terial (TF2) Park Surface (T in Remarks) Phytic vegetation must be prese r problematic.	Soils ³ : F12) on and ent,	
Type: C= Concentrati ydric Soil Indicators Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (if Type: Depth (inches): emarks: o hydric soil indicator IYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab. Saturation (A3)	on, D= Deple (Applicab (A2) e (A4) Dark Surfact ace (A12) ineral (S1) latrix (S4) present):	75 etion, RM=Re		Sandy Redox (S Stripped Matrix (Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf	oted.) (S6) (ineral (F1) Matrix (F2) (F3) face (F6) Gurface (F7)	(except ML		²Locatio Indicators for Proble 2 cm Muck (A1 Red Parent Ma Very Shallow D Other (Explain ³Indicators of hydrop wetland hydrology unless disturbed o	matic Hydric \$ 0) terial (TF2) Park Surface (T in Remarks) Phytic vegetation must be prese r problematic.	Soils ³ : F12) on and ent,	
Fype: C= Concentrati ydric Soil Indicators Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (if Type: Depth (inches): emarks: o hydric soil indicator IYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab Saturation (A3)	on, D= Deple (Applicab (A2) e (A4) Dark Surfact ace (A12) ineral (S1) latrix (S4) present):	etion, RM=Re		Sandy Redox (S Stripped Matrix (Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf	oted.) (S6) (ineral (F1) Matrix (F2) (F3) face (F6) Gurface (F7)	(except ML		Indicators for Proble 2 cm Muck (A1 Red Parent Ma Very Shallow E Other (Explain Indicators of hydrop wetland hydrology unless disturbed o	matic Hydric \$ 0) terial (TF2) Park Surface (T in Remarks) Phytic vegetation must be prese r problematic.	Soils ³ : F12) on and ent,	
Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (iff Type: Depth (inches): emarks: o hydric soil indicator YDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab Saturation (A3)	(A2) e (A4) Dark Surfactace (A12) ineral (S1) latrix (S4) present):	le to all LRR		Sandy Redox (S Stripped Matrix (Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf	oted.) (S6) (ineral (F1) Matrix (F2) (F3) face (F6) Gurface (F7)	(except ML		Indicators for Proble 2 cm Muck (A1 Red Parent Ma Very Shallow E Other (Explain Indicators of hydrop wetland hydrology unless disturbed o	matic Hydric \$ 0) terial (TF2) Park Surface (T in Remarks) Phytic vegetation must be prese r problematic.	Soils ³ : F12) on and ent,	
ydric Soil Indicators Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (iff Type: Depth (inches): emarks: o hydric soil indicator IYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab Saturation (A3)	(A2) e (A4) Dark Surfactace (A12) ineral (S1) latrix (S4) present):	le to all LRR		Sandy Redox (S Stripped Matrix (Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf	oted.) (S6) (ineral (F1) Matrix (F2) (F3) face (F6) Gurface (F7)	(except ML		Indicators for Proble 2 cm Muck (A1 Red Parent Ma Very Shallow E Other (Explain Indicators of hydrop wetland hydrology unless disturbed o	matic Hydric \$ 0) terial (TF2) Park Surface (T in Remarks) Phytic vegetation must be prese r problematic.	Soils ³ : F12) on and ent,	
Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (iff Type: Depth (inches): emarks: o hydric soil indicator YDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab Saturation (A3)	(A2) e (A4) Dark Surfactace (A12) ineral (S1) latrix (S4) present):	le to all LRR		Sandy Redox (S Stripped Matrix (Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf	oted.) (S6) (ineral (F1) Matrix (F2) (F3) face (F6) Gurface (F7)	(except ML		Indicators for Proble 2 cm Muck (A1 Red Parent Ma Very Shallow E Other (Explain Indicators of hydrop wetland hydrology unless disturbed o	matic Hydric \$ 0) terial (TF2) Park Surface (T in Remarks) Phytic vegetation must be prese r problematic.	Soils ³ : F12) on and ent,	
ydric Soil Indicators Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (iff Type: Depth (inches): emarks: o hydric soil indicator IYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab Saturation (A3)	(A2) e (A4) Dark Surfactace (A12) ineral (S1) latrix (S4) present):	le to all LRR		Sandy Redox (S Stripped Matrix (Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf	oted.) (S6) (ineral (F1) Matrix (F2) (F3) face (F6) Gurface (F7)	(except ML		Indicators for Proble 2 cm Muck (A1 Red Parent Ma Very Shallow E Other (Explain Indicators of hydrop wetland hydrology unless disturbed o	matic Hydric \$ 0) terial (TF2) Park Surface (T in Remarks) Phytic vegetation must be prese r problematic.	Soils ³ : F12) on and ent,	
ydric Soil Indicators Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (iff Type: Depth (inches): emarks: o hydric soil indicator IYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab Saturation (A3)	(A2) e (A4) Dark Surfactace (A12) ineral (S1) latrix (S4) present):	le to all LRR		Sandy Redox (S Stripped Matrix (Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf	oted.) (S6) (ineral (F1) Matrix (F2) (F3) face (F6) Gurface (F7)	(except ML		Indicators for Proble 2 cm Muck (A1 Red Parent Ma Very Shallow E Other (Explain Indicators of hydrop wetland hydrology unless disturbed o	matic Hydric \$ 0) terial (TF2) Park Surface (T in Remarks) Phytic vegetation must be prese r problematic.	Soils ³ : F12) on and ent,	
Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (iff Type: Depth (inches): emarks: o hydric soil indicator YDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab Saturation (A3)	(A2) e (A4) Dark Surfactace (A12) ineral (S1) latrix (S4) present):	le to all LRR		Sandy Redox (S Stripped Matrix (Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf	oted.) (S6) (ineral (F1) Matrix (F2) (F3) face (F6) Gurface (F7)	(except ML		Indicators for Proble 2 cm Muck (A1 Red Parent Ma Very Shallow E Other (Explain Indicators of hydrop wetland hydrology unless disturbed o	matic Hydric \$ 0) terial (TF2) Park Surface (T in Remarks) Phytic vegetation must be prese r problematic.	Soils ³ : F12) on and ent,	
Histosol (A1) Histic Epipedon Black Histic (A3) Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (if Type: Depth (inches): emarks: o hydric soil indicator YDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab Saturation (A3)	e (A4) Dark Surfactace (A12) ineral (S1) latrix (S4) present):		Rs, unle	Sandy Redox (S Stripped Matrix (Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf Depleted Dark S	(S6) (S6) dineral (F1) Matrix (F2) (F3) face (F6) durface (F7)			2 cm Muck (A1 Red Parent Ma Very Shallow D Other (Explain Indicators of hydrop wetland hydrology unless disturbed o	0) terial (TF2) bark Surface (T in Remarks) hytic vegetatio must be prese r problematic.	rF12) on and ent,	
Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (if Type: Depth (inches): Depth	e (A4) Dark Surfactace (A12) ineral (S1) latrix (S4) present):	e (A11)		Stripped Matrix (Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf Depleted Dark S	(S6) lineral (F1) Matrix (F2) (F3) face (F6) Surface (F7)		RLA 1)	Red Parent Ma Very Shallow D Other (Explain Indicators of hydrop wetland hydrology unless disturbed o	terial (TF2) bark Surface (T in Remarks) bytic vegetatio must be prese r problematic.	on and ent,	
Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (if Type: Depth (inches): emarks: o hydric soil indicator YDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab Saturation (A3)	e (A4) Dark Surfactace (A12) ineral (S1) latrix (S4) present):	ee (A11)		Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf Depleted Dark S	lineral (F1) Matrix (F2) (F3) face (F6) Surface (F7)		RLA 1)	Other (Explain 3Indicators of hydrop wetland hydrology unless disturbed o	Park Surface (Tin Remarks) hytic vegetation must be preser r problematic.	on and ent,	
Hydrogen Sulfice Depleted Belower Thick Dark Surfice Sandy Mucky Medication Sandy Gleyed Medication Type: Depth (inches): Dept	e (A4) Dark Surfactace (A12) ineral (S1) latrix (S4) present):	e (A11)		Loamy Gleyed M Depleted Matrix Redox Dark Surf Depleted Dark S	Matrix (F2) (F3) face (F6) Surface (F7)		RLA 1)	Other (Explain Indicators of hydrop wetland hydrology unless disturbed o	in Remarks) hytic vegetatio must be prese r problematic.	on and ent,	
Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (if Type: Depth (inches): emarks: o hydric soil indicator YDROLOGY Wetland Hydrology Primary Indicators (n Surface Water of High Water Tab Saturation (A3)	Dark Surfactace (A12) ineral (S1) latrix (S4) present):	ee (A11)		Depleted Matrix Redox Dark Surf Depleted Dark S	(F3) face (F6) surface (F7))		³ Indicators of hydrop wetland hydrology unless disturbed o	hytic vegetatio must be prese r problematic.	ent,	
Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (if Type: Depth (inches): emarks: o hydric soil indicator YDROLOGY Wetland Hydrology Primary Indicators (in Surface Water (in High Water Tab Saturation (A3)	ace (A12) ineral (S1) latrix (S4) present):	ee (A11)		Redox Dark Surf Depleted Dark S	face (F6) Surface (F7))		wetland hydrology unless disturbed o	must be prese r problematic.	ent,	
Sandy Mucky M Sandy Gleyed M Restrictive Layer (if Type: Depth (inches): emarks: Depth (inches): Phydric soil indicator YDROLOGY Wetland Hydrology Primary Indicators (n Surface Water High Water Tab Saturation (A3)	ineral (S1) latrix (S4) present):			Depleted Dark S	Surface (F7)			wetland hydrology unless disturbed o	must be prese r problematic.	ent,	_
Sandy Gleyed Mestrictive Layer (if Type: Depth (inches): emarks: hydric soil indicator YDROLOGY Wetland Hydrology Primary Indicators (in Surface Water (in High Water Tab.) Saturation (A3)	present):		<u>-</u>	_				unless disturbed o	r problematic.		
Restrictive Layer (if Type: Depth (inches): emarks: o hydric soil indicator IYDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab Saturation (A3)	present):			Redox Depressi	ons (F8)				·	No	
Type: Depth (inches): emarks: o hydric soil indicator YDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab.) Saturation (A3)			_					Hydric Soil Present	? Yes _	No	
Depth (inches): emarks: o hydric soil indicator YDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab Saturation (A3)	were met.		_					Hydric Soil Present	? Yes _	No	
wetland Hydrology Primary Indicators (n Surface Water (High Water Tab.) Saturation (A3)	were met.		_					Hydric Soil Present	Yes _	No	
YDROLOGY Wetland Hydrology Primary Indicators (n Surface Water (High Water Tab.) Saturation (A3)	were met.								_		_
Surface Water (High Water Tab Saturation (A3)											
High Water Tab Saturation (A3)		ne required; o	check a					Secondary Indicator			_
Saturation (A3)	•			_ Water-Stained L	, ,	` •		Water Stained	Leaves (B9) (N	//RLA 1, 2,	
	es (A2)			MRLA 1, 2, 4				4A, and 4B)			
Water Marks (H				Salt Crust (B11)				Drainage Patte			
	,			Aquatic Inverteb				Dry-Season Wa	` ′		
Sediment Depo				Hydrogen Sulfide			1 - (00)	Saturation Visil		nagery (C9)	
Drift Deposits (Oxidized Rhizos	•	0	oots (C3)	Geomorphic Po	` ,		
Algal Mat or Cru Iron Deposits (E				Presence of Red Recent Iron Red			26)	Shallow Aquita FAC-Neutral Te			
Surface Soil Cr	,			Stunted or Stres				Raised Ant Mo		RΔ)	
Inundation Visit		Imagery (B		Other (Explain in			Α)	Frost-Heave H			
Sparsley Veget			8)	-	ricinanoj				ammooko (D7)		
Field Observations:			<u> </u>				1				
Surface Water Prese	nt? Yes	No	Х	Depth (inches):							
Water Table Present		— No	$\frac{\lambda}{X}$	Depth (inches):							
Saturation Present?	Yes	No	$\frac{\lambda}{X}$	Depth (inches):			Wetland	d Hydrology Present?	Yes	No	
(includes capillary fri				_ (y			
		nugo monite:	rina ···-	oll porial abotas =	rovious is -	anactions)	f available	o:			
escribe Recorded Da	= (Sileaili ga	auge, monitor	ilig we	iii, aeriai priotos, p	nevious iris	spections), i	ıı avallablı	⊎.			
emarks:											
o primary or seconda			ydrolog	yy present.							



Photo Name: Photo_231109100408



Project/Site: Cascade	Renewables		City/County:	Skamania	Sampling Date	e: 11/6/2	2023		
Applicant/Owner: Cas	scade Renewables			State: WA	Sampling	VP-1	(WA)		
Investigators: B DARB	Y, JEN MAZE			Section, Township, F	Range:				
Landform (hillslope, terrac	e, etc.): Toeslope		Local Relie	ef (concave, convex,	none): Concave		Slope	(%): 2	
Subregion (LRR): A -	Northwest Forest and L	at:	Long:		Datum: V	VGS84	-		
Soil Map Unit Name: Are	nts, 0 to 5 percent slopes			NWI Classific	ation: Unmapped				
Are climatic / hydrologic co	onditions on the site typical for	this time of ye	ar? Yes	X No	(If No, explain in Rer	marks)			
Are Vegetation: Soil	l or Hydrology si	ignificantly dist	urbed?	Are "Normal Circum	stances" present?	Yes	×	(N	0
Are Vegetation: Soil	l or Hydrology n	aturally proble	matic?	(If needed, explain a	any answers in Rema	rks.)			
SUMMARY OF FIND	DINGS - Attach a site m	ap showin	g sampling	point locations,	transects, impo	rtant f	eatur	es, etc.	
Hydrophytic Vegetation Pr	resent? Yes	No X							
Hydric Soil Present?	Yes	No X	Is the	Sampled Area					
Wetland Hydrology Preser	nt? Yes	No X	withir	n a Wetland?	Yes			No X	
Remarks:									
Verification plot taken to v	erify the upland conditions adje e evaluated. Area determined								t.
VEGETATION - Use	e scientific names of pl	ants.							
	-	Absolute	Dominant	Indicator	Dominance Test W	orkshee	et:		
Tree Statum (Plot size	e: 30 feet)	% Cover	Species?	Status	Number of Dominan	t Species	S		
1.					That Are OBL, FAC	N, or FA	C: _	1	(A)
2.					Total Number of Dor	ninant			
3.					Species Across All S	Strata:	_	2	(B)
4.					Percent of Dominant	Species	3		
	_		= Total Cover		That Are OBL, FAC	N, or FA	C:	50	(A/B)
Sapling/Shrub Stratum	(Plot size: 10 feet)				Prevalence Index w	orkshee	et:		
1					Total % Cover of:		Multip	oly by:	
2.					OBL species		_x1= _		_
3.					FACW species		x2=	0	_
4.					FAC species	60	_x3= _	180	_
5.					FACU species	60	_ x4= _	240	_
	_		= Total Cover		UPL species		_ x5= _	0	_
Herb Stratum (Plot size	e: 10 feet)				Column Totals:	120	(A) _	420	_ (B)
Agrostis scabra		50	Yes	FAC					
Cichorium intybus		35	Yes	FACU FACU	Prevalence Inde.			3.5	0
 Hypochaeris radicata 	<u> </u>	20	No	FACU	Hydrophytic Vegeta				
4. Vicia americana		10	No	FAC	1 - Rapid Test	•		c Vegetation	on
5. Daucus carota		5	No	FACU	2 - Dominance				
6. 					3 - Prevalence				
7.					4 - Morpholog				
8.					data in Re				sheet)
9.					5 - Wetland N				
10.					Problematic H		_		
11		400	Tetal Cause		¹Indicators of hydric			-	-
Moody Vino Chrotime (Di		120	= Total Cover		must be present, unl	ess disti	urbed 0	n bropiem	atic.
Woody Vine Stratum (Plo	л size: ТО теет)				Hydrophydia				
						V		ula Y	
۷.			- Total Carra		_	res	r	νυ <u>Χ</u>	_
0/ Para Craund in Harl Cr	tratum 0		= rotal Cover		rresent?				
	.iatuiii <u>U</u>				<u> </u>				
1. 2. % Bare Ground in Herb St Remarks: Multistoried herb layer. Up	tratum 0	ghout the plot.	= Total Cover		Hydrophytic Vegetation Present?	Yes	1	No X	_

Profile Desc	ription: (Descri	be to the	e depth ne	eded to	document the	indicator o	or confirm	the abse	ence of indicators.)					
Depth	N	Matrix			Red	ox Feature	s							
(inches)	Color (mois	st)	%	C	olor (moist)	%	Type ¹	Loc²	Texture		R	emarks		
<u> </u>	-					·								
						·								
		_												
						· ——								
						· ——								
						· ——								
¹Type: C= Co	oncentration D-	- Denletic	n RM-Re	duced M	latrix, CS=Cove	red or Coat	ted Sand G			tion: PL	=Pore I	ining N	∕-Matr	iy
					s otherwise no		ica cana c		Indicators for Prob			<u> </u>	-iviati	i
-	sol (A1)	phoubic	to all Errit		Sandy Redox (S	-			2 cm Muck (. i y ui i o			
	Epipedon (A2)				Stripped Matrix (,			Red Parent I		(TF2)			
	Histic (A3)				oamy Mucky Mi	,	(except MI	RI A 1)	Very Shallov			TF12)		
	gen Sulfide (A4))			oamy Gleyed M		(0)(0)	,	Other (Expla			,		
	ted Below Dark		(A11)		Depleted Matrix (
	Dark Surface (A		,		Redox Dark Surf				³ Indicators of hydi	rophytic	vegetation	on and		
	/ Mucky Mineral				Depleted Dark S	, ,)		wetland hydrolo		-			
	/ Gleyed Matrix				Redox Depressio				unless disturbed					
	Layer (if prese				•	. ,								
Type:	, (,.												
1	(inches):			_					Hydric Soil Pres	ent?	Yes		No	Х
Remarks:	(_					.,					
HYDROLO														
	ydrology Indica													
	dicators (minimu	m of one	required; c						Secondary Indica					
	ce Water (A1)	-\		\	Vater-Stained Le	` ′	(except		Water Staine		es (B9) (I	MRLA 1	1, 2,	
	Nater Tables (A	2)			MRLA 1, 2, 4A	A, and 4B)			4A, and 4					
	ation (A3)				Salt Crust (B11)	(D40)			Drainage Pa	`	,			
	· Marks (B1)	2)			Aquatic Invertebr				Dry-Season				(CO)	
l —	nent Deposits (B	2)			Hydrogen Sulfide Dxidized Rhizosp	, ,	•	noto (C2)	Saturation V Geomorphic			nagery	(09)	
	Deposits (B3) Mat or Crust (B4	1)			Presence of Red		-	ous (C3)	Shallow Aqu		` '			
·	eposits (B5)	• /			Recent Iron Red		' '	:6)	FAC-Neutral	•	•			
	ce Soil Cracks (E	36)			Stunted or Stress				Raised Ant N			(RA)		
	ation Visible on		agerv (B		Other (Explain in			,	Frost-Heave		. , .	,		
	ley Vegetated C		• • •		()	,					(•		
Field Obse			`											
	ater Present?	Yes	No	Χ [Depth (inches):									
Water Tabl	e Present?	Yes			Depth (inches):									
Saturation	Present?	Yes	No -		Depth (inches):			Wetland	d Hydrology Presei	nt?	Yes		No	Х
(includes ca	apillary fringe)	_									-		•	
Describe Rec	orded Date (stre	eam gau	ae. monitor	ina well.	aerial photos, p	revious ins	pections), i	<u>ı</u> f availabl	e:					
		J	9-,				,, , , , , , , , , , , , , , , , , , , ,							
Remarks:														
No hydrology	indicators obse	rved adja	acent to Dit	ch 1. Flo	w within the dito	ch was roug	ghly 6 inche	s deep a	t the time of survey.					



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	ite: 11/6/2023	i	
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	VP-2 (WA	.)	
Investigators: B DARBY, J MAZE			Section, Township,	Range:		:	
Landform (hillslope, terrace, etc.): Toeslope		Local Reli	ef (concave, convex,	none): Concave	Slo	pe(%): 1	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84	· ` ´ —	
Soil Map Unit Name: Arents, 0 to 5 percent slopes				cation: Unmapped			
Are climatic / hydrologic conditions on the site typic		year? Yes		(If No, explain in Re	emarks)		
Are Vegetation: Soil or Hydrology	significantly d		Are "Normal Circum	- ` ' '	Yes	X N	lo
Are Vegetation: Soil or Hydrology	naturally prob			any answers in Rem			
SUMMARY OF FINDINGS - Attach a sit	<u> </u>		• •	•	•	ures. etc.	
Hydrophytic Vegetation Present? Yes				,			
Hydric Soil Present? Yes	No X	Is the	Sampled Area				
Wetland Hydrology Present? Yes	No X		n a Wetland?	Yes		No X	
Remarks: Verification plot recorded adjacent to Ditch 3 to doc subsurface hydrology were evaluated. Area determ verification plot meets the dominance test for hydro	ined to be upland	using field obse					
VEGETATION – Use scientific names of	of plants.						
	Absolute	Dominant	Indicator	Dominance Test	Worksheet:		
Tree Statum (Plot size: 30 feet)	% Cover	Species?	Status	Number of Domina	nt Species		
1.		-		That Are OBL, FAC	CW, or FAC:	1	(A)
2.				Total Number of Do	ominant		
3.				Species Across All	Strata:	1	(B)
4.				Percent of Domina	nt Species		
		= Total Cover		That Are OBL, FAC	CW, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index	worksheet:		
1.				Total % Cover of:	<u>Mu</u>	Itiply by:	
2.		-		OBL species	x1=	=	
3.				FACW species	x2=	= 0	
4.				FAC species	75 x3=	= 225	
5.				FACU species	21 x4=	= 84	
		= Total Cover		UPL species	10 x5=	= 50	
Herb Stratum (Plot size: 10 feet)				Column Totals:	106 (A)	359	— (B)
Agrostis scabra	65	Yes	FAC	1			_
2. Cichorium intybus	15	No	FACU	Prevalence Ind	ex = B/A =	3.3	39
3. Rumex crispus	10	No	FAC	Hydrophytic Vege	tation Indicat	ors:	
4. Geranium molle	10	No	UPL	1 - Rapid Te	st for Hydroph	ytic Vegetati	ion
5. Daucus carota	3	No	FACU	X 2 - Dominan	ce Test is >50	%	
6. Taraxacum officinale	3	No	FACU	3 - Prevalenc	ce Index is ≤3.	O ¹	
7.				4 - Morpholo	gical Adaptation	ons¹ (Provid	е
8.				data in F	Remarks or on	a separate :	sheet)
9.				5 - Wetland I	Non-Vascular	Plants ¹	
10.				Problematic	Hydrophytic V	egetation1 (E	Explain)
11.				¹ Indicators of hydric	c soil and wetl	and hydrolog	gy
	106	= Total Cover		must be present, u	nless disturbe	d or problem	atic.
Woody Vine Stratum (Plot size: 10 feet)							
1				Hydrophytic			
2.				Vegetation	Yes X	No	
		= Total Cover		Present?			
% Bare Ground in Herb Stratum 10							
Remarks:				1			
Multistoried herb layer. The verification plot met the	dominance test f	or hydrophytic ve	egetation; soils and s	ubsurface hydrology	were not evalu	uated.	

Depth (inches)	Mati	ix	Red	dox Features	S			
	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks
		_						
			-					
			-					
			-	- —				
			-					
Type: C= Cor	ncentration D= De	nletion RM=Re	educed Matrix, CS=Cove	red or Coat	ed Sand G	rains	²l ocation:	PL=Pore Lining, M=Matrix.
			s, unless otherwise no				Indicators for Problems	<u>~</u>
Histoso			Sandy Redox (S	-			2 cm Muck (A10)	•
	Epipedon (A2)		Stripped Matrix				Red Parent Mate	
	Histic (A3)		Loamy Mucky M	` ,	(except ML	RLA 1)	Very Shallow Dar	, ,
	en Sulfide (A4)		Loamy Gleyed N		(,	Other (Explain in	
	ed Below Dark Sur	face (A11)	Depleted Matrix					,
Thick D	Oark Surface (A12)	, ,	Redox Dark Sur	, ,			³ Indicators of hydrophy	tic vegetation and
	Mucky Mineral (S1		Depleted Dark S	Surface (F7)			wetland hydrology m	=
Sandy	Gleyed Matrix (S4)	Redox Depressi	ons (F8)			unless disturbed or p	roblematic.
Restrictive I	Layer (if present)	<u> </u>						
Type:	, , ,							
	(inches):		_				Hydric Soil Present?	Yes No
Remarks:			_				•	
_	drology Indicator							
	-	f one required; of	check all that apply)				Secondary Indicators (
	e Water (A1)		Water-Stained L		(except			aves (B9) (MRLA 1, 2,
	ater Tables (A2)		MRLA 1, 2, 4				4A, and 4B)	
	tion (A3)		Salt Crust (B11)				Drainage Pattern	
	Marks (B1)		Aquatic Inverteb				Dry-Season Wate	
	ent Deposits (B2)		Hydrogen Sulfid			. (00)		on Aeriel Imagery (C9)
Drift De	eposits (B3)		Oxidized Rhizos		-	oots (C3)	Geomorphic Posi	tion (D2)
	lat or Crust (B4)		Presence of Re	,	C4)			(D2)
Algal M	nacita (DE)		— Becant Iron Bea	'atian in Til		26)	Shallow Aquitard	` '
Algal M	eposits (B5)		Recent Iron Rec		lled Soils (0	,	FAC-Neutral Tes	(D5)
Algal M Iron De Surface	e Soil Cracks (B6)	iel Imagery (R	Stunted or Stres	sed Plants	lled Soils (0	,	FAC-Neutral Tes	t (D5) ds (D6) (LRR A)
Algal M Iron De Surface Inundat	e Soil Cracks (B6) tion Visible on Aer		Stunted or Stres Other (Explain in	sed Plants	lled Soils (0	,	FAC-Neutral Tes	t (D5) ds (D6) (LRR A)
Algal M Iron De Surface Inundat Sparsle	e Soil Cracks (B6) tion Visible on Aer ey Vegetated Cond		Stunted or Stres Other (Explain in	sed Plants	lled Soils (0	,	FAC-Neutral Tes	t (D5) ds (D6) (LRR A)
Algal M Iron De Surface Inundat Sparsle	e Soil Cracks (B6) tion Visible on Aer ey Vegetated Conc vations:	cave Surface (B8	Stunted or Stres Other (Explain in	sed Plants	lled Soils (0	,	FAC-Neutral Tes	t (D5) ds (D6) (LRR A)
Algal M Iron De Surface Inundat Sparsle Field Observ Surface Water	e Soil Cracks (B6) tion Visible on Aer ey Vegetated Cond vations: er Present? Ye	save Surface (B8	Stunted or Stres Other (Explain in X Depth (inches):	sed Plants	lled Soils (0	,	FAC-Neutral Tes	t (D5) ds (D6) (LRR A)
Algal M Iron De Surface Inundat Sparsle Field Observ Surface Water Table	e Soil Cracks (B6) tion Visible on Aer ey Vegetated Conc vations: er Present? Ye Present? Ye	s No s No	Stunted or Stres Other (Explain in X Depth (inches): X Depth (inches):	sed Plants	lled Soils (0	A)	FAC-Neutral Tesi Raised Ant Moun Frost-Heave Hum	t (D5) ds (D6) (LRR A) nmocks (D7)
Algal M Iron De Surface Inundat Sparsle Field Observ Surface Water Water Table Saturation Pr	e Soil Cracks (B6) tion Visible on Aer ey Vegetated Conc vations: er Present? Ye Present? Ye resent? Ye	s No s No	Stunted or Stres Other (Explain in X Depth (inches):	sed Plants	lled Soils (0	A)	FAC-Neutral Tes	t (D5) ds (D6) (LRR A)
Algal M Iron De Surface Inundat Sparsle Field Observ Surface Water Table Saturation Pr (includes cap	e Soil Cracks (B6) tion Visible on Aer ey Vegetated Conc vations: er Present? Ye Present? Ye resent? Ye pillary fringe)	s No s No s No	Stunted or Stres Other (Explain in X Depth (inches): X Depth (inches): X Depth (inches):	ssed Plants (lled Soils (C	Wetland	FAC-Neutral Test Raised Ant Moun Frost-Heave Hum d Hydrology Present?	t (D5) ds (D6) (LRR A) nmocks (D7)
Algal M Iron De Surface Inundat Sparsle Field Observ Surface Water Table Saturation Pr (includes cap	e Soil Cracks (B6) tion Visible on Aer ey Vegetated Conc vations: er Present? Ye Present? Ye resent? Ye pillary fringe)	s No s No s No	Stunted or Stres Other (Explain in X Depth (inches): X Depth (inches):	ssed Plants (lled Soils (C	Wetland	FAC-Neutral Test Raised Ant Moun Frost-Heave Hum d Hydrology Present?	t (D5) ds (D6) (LRR A) nmocks (D7)
Algal M Iron De Surface Inundat Sparsle Field Observ Surface Water Table Saturation Pr (includes cap	e Soil Cracks (B6) tion Visible on Aer ey Vegetated Conc vations: er Present? Ye Present? Ye resent? Ye pillary fringe)	s No s No s No	Stunted or Stres Other (Explain in X Depth (inches): X Depth (inches): X Depth (inches):	ssed Plants (lled Soils (C	Wetland	FAC-Neutral Test Raised Ant Moun Frost-Heave Hum d Hydrology Present?	t (D5) ds (D6) (LRR A) nmocks (D7)
Algal M Iron De Surface Inundat Sparsle Field Observ Surface Water Table Saturation Pr (includes cap Describe Reco	e Soil Cracks (B6) tion Visible on Aer ey Vegetated Cond vations: er Present? Ye Present? Ye resent? Ye pillary fringe)	s No s No s No s No s No s No s n gauge, monitor	Stunted or Stres Other (Explain in X Depth (inches): X Depth (inches): X Depth (inches):	n Remarks)	pections), i	Wetland	FAC-Neutral Test Raised Ant Moun Frost-Heave Hum d Hydrology Present?	t (D5) ds (D6) (LRR A) nmocks (D7)



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Date	e· 4/20/2023		
Applicant/Owner: Cascade Renewables			State: WA	Sampling	VP-3 (WA)		
Investigators: B DARBY, J MAZE			Section, Township, F		1 (11.0)		
Landform (hillslope, terrace, etc.): Depression			f (concave, convex,		Slope(%): 0	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:	r (concave, convex,		VGS84	,,,,	
Soil Map Unit Name: Arents, 0 to 5 percent slopes			NWI Classific	ation: Unmapped			
Are climatic / hydrologic conditions on the site typical	I for this time of	year? Yes	X No	(If No, explain in Rer	marks)		
Are Vegetation: Soil or Hydrology	significantly d	-	Are "Normal Circum	- ` '	Yes X	No	n
Are Vegetation: Soil or Hydrology	naturally prob			any answers in Remai		— ```	<u> </u>
SUMMARY OF FINDINGS - Attach a site	_		•	•	•	s etc	
Hydrophytic Vegetation Present? Yes	No X			, transcotto, impo	Tiani ioatai		
Hydric Soil Present? Yes	$-\frac{No}{No}\frac{X}{X}$	ls the	Sampled Area				
Wetland Hydrology Present? Yes	$-\frac{No}{No}\frac{X}{X}$		a Wetland?	Yes		No X	
welland rightloogy riesent:		Within	a welland:				
Remarks:							
Precipitation analysis showed drier than normal condepression approximately 30 feet wide and 1000 fee northeast. This area was determined to be upland.	t long. Culvert p						
VEGETATION – Use scientific names of				T			
-	Absolute	Dominant	Indicator	Dominance Test W			
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominan	•		(4)
Pseudotsuga menziesii	60	Yes	FACU	That Are OBL, FACV	_	1	_ (A)
2. Acer macrophyllum	15	No No	FACU	Total Number of Dor		2	(D)
3. Alnus rubra	10	No	FAC	Species Across All S	_	3	– ^(B)
4		Total Causer		Percent of Dominant	•	20	(A /D)
Openica of Objects Office to the Control of Openica of	85	= Total Cover		That Are OBL, FACV		33	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)	0.5	V	F40	Prevalence Index w			
1. Rubus armeniacus	35	Yes	FAC	Total % Cover of:	<u>Multipl</u>	<u>/ by:</u>	
2. Oemleria cerasiformis	15	Yes	FACU	OBL species	x1= _		_
Symphoricarpos albus	10	No	FACU	FACW species	x2= _	0	_
4				FACILIA PROPINS	45 x3= _	135	_
5		Total Causer		FACU species _	100 x4= _	400	_
Llorb Stratum (Diet sizes 40 feet)	60	= Total Cover		UPL species	$\frac{x_{5}}{x_{145}}$	0	- (B)
Herb Stratum (Plot size: 10 feet)				Column Totals: _	145 (A) _	535	_ (B)
1.				Prevalence Inde	. D/A	2.6	0
2. 3.				Hydrophytic Vegeta		3.69	9
				1			. n
4 5.					for Hydrophytic Test is >50%	vegetatio	JII
6.					e Index is ≤3.0¹		
7.					ical Adaptations	l (Provido	
8.					emarks or on a s		
9.					on-Vascular Plai	•	neer)
10.					ydrophytic Vege		vnlain)
11.				¹Indicators of hydric			
· · ·		= Total Cover		1		-	•
Woody Vine Stratum (Plot size: 10 feet)		= TOTAL COVER		must be present, unl	ะงจ นเจเนเม ย น 0โ	hionieilig	alio.
1.				Hydrophytic			
2.				Hydrophytic Vegetation	Yes N		
<u> </u>		= Total Cover		Present?	Yes N	o <u>X</u>	_
% Bare Ground in Herb Stratum 90		- Total Covel		i resent:			
	_						
Remarks:							

Multistoried vegetation canopy. Bare ground comprised of soil, rocks and forest debris; no herbs or forbs observed at verification plot. Some mosses present at forest floor.

Depth	Matrix		Red	dox Features	S				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks	
0-10	2.5Y 3/2	100					Clay Loam		
10-24	2.5Y 4/2	100					Sandy Clay Loam		
¹Type: C= Co	oncentration, D= Depl	etion, RM=Red	duced Matrix, CS=Cove	red or Coat	ed Sand G	rains.	Location:	PL=Pore Lining, M=Matr	ix.
* *			s, unless otherwise no				Indicators for Problem	<u>~</u>	
Histos	sol (A1)		Sandy Redox (S	5)			2 cm Muck (A10)	1	
Histic	Epipedon (A2)		Stripped Matrix ((S6)			Red Parent Mate	erial (TF2)	
Black	Histic (A3)		Loamy Mucky M	ineral (F1) ((except ML	.RLA 1)	Very Shallow Da	rk Surface (TF12)	
—— Hydro	gen Sulfide (A4)		Loamy Gleyed N	Matrix (F2)			Other (Explain in	Remarks)	
Deple	ted Below Dark Surfac	ce (A11)	Depleted Matrix	(F3)					
Thick	Dark Surface (A12)		Redox Dark Sur	face (F6)			³ Indicators of hydroph	ytic vegetation and	
Sandy	/ Mucky Mineral (S1)		Depleted Dark S	Surface (F7)			wetland hydrology m	nust be present,	
Sandy	Gleyed Matrix (S4)		Redox Depressi	ons (F8)			unless disturbed or p	oroblematic.	
Restrictive	Layer (if present):								
Type:			_						
Depth	(inches):						Hydric Soil Present?	Yes No	Χ
HYDROLO	OGY								
Wetland H	ydrology Indicators:	ne required: c	hock all that apply)				Secondary Indicators	(2 or more required)	
Wetland Hy	ydrology Indicators: licators (minimum of o	ne required; c		eaves (R9)	(except		Secondary Indicators Water Stained Le		
Wetland Hy Primary Inc	ydrology Indicators: dicators (minimum of o ce Water (A1)	ne required; c	Water-Stained L	` '	(except		Water Stained Le	(2 or more required) eaves (B9) (MRLA 1, 2,	
Wetland Hy Primary Inc Surfac High \	ydrology Indicators: dicators (minimum of o ce Water (A1) Water Tables (A2)	ne required; cl	Water-Stained L	A, and 4B)	(except		Water Stained Le	eaves (B9) (MRLA 1, 2,	
Primary Inc. Surface High \ Satura	ydrology Indicators: dicators (minimum of of ce Water (A1) Water Tables (A2) ation (A3)	ne required; cl	Water-Stained L MRLA 1, 2, 4	A, and 4B)			Water Stained Le 4A, and 4B) Drainage Patterr	eaves (B9) (MRLA 1, 2, as (B10)	
Primary Inc Surface High \ Satura Water	ydrology Indicators: dicators (minimum of of of other (A1) Water Tables (A2) ation (A3)	ne required; cl	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb	A, and 4B) rates (B13)			Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2)	
Primary Inc Surface High \ Satura Water Sedim	ydrology Indicators: dicators (minimum of of of open Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2)	ne required; c	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide	A, and 4B) rates (B13) e Odor (C1)		oots (C3)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9)	
Primary Inc Surface High \ Satura Water Sedim	ydrology Indicators: dicators (minimum of of of other (A1) Water Tables (A2) ation (A3)	ne required; cl	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb	A, and 4B) rates (B13) e Odor (C1) pheres alon	ng Living Ro	oots (C3)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2)	
Wetland Hy Primary Inc Surface High V Satura Water Sedim Drift D	ydrology Indicators: dicators (minimum of of of other Carlot) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3)	ne required; cl	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos	A, and 4B) rates (B13) e Odor (C1) pheres alon duced Iron (ng Living Ro		Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2) I (D3)	-
Primary Inc Surface High V Satura Water Sedim Drift D Iron D	ydrology Indicators: dicators (minimum of of of other celebrates) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4)	ne required; c	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec	A, and 4B) rates (B13) e Odor (C1) pheres alon duced Iron (luction in Til	ng Living Ro C4) lled Soils (0	C6)	Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2) I (D3)	
Wetland Hy Primary Inc Surface High N Satura Water Sedim Drift D Algal I Iron D Surface	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)		Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red	A, and 4B) rates (B13) e Odor (C1) pheres alon duced Iron (duction in Till sed Plants	ng Living Ro C4) lled Soils (0	C6)	Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2) I (D3) at (D5) ands (D6) (LRR A)	•
Wetland Hy Primary Inc Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda	dicators (minimum of once Water (A1) Water Tables (A2) Antion (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Deposits (B6)	Imagery (B	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in	A, and 4B) rates (B13) e Odor (C1) pheres alon duced Iron (duction in Till sed Plants	ng Living Ro C4) lled Soils (0	C6)	Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes Raised Ant Mour	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2) I (D3) at (D5) ands (D6) (LRR A)	-
Wetland Hy Primary Inc Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda	ydrology Indicators: dicators (minimum of once Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeriel Ley Vegetated Concav	Imagery (B	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in	A, and 4B) rates (B13) e Odor (C1) pheres alon duced Iron (duction in Till sed Plants	ng Living Ro C4) lled Soils (0	C6)	Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes Raised Ant Mour	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2) I (D3) at (D5) ands (D6) (LRR A)	
Wetland Hy Primary Inc Surface High V Satura Water Sedim Drift D Algal V Iron D Surface Inunda Spars Field Obse	ydrology Indicators: dicators (minimum of once Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeriel Ley Vegetated Concav	Imagery (B	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in	A, and 4B) rates (B13) e Odor (C1) pheres alon duced Iron (duction in Till sed Plants	ng Living Ro C4) lled Soils (0	C6)	Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes Raised Ant Mour	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2) I (D3) at (D5) ands (D6) (LRR A)	
Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal Iron D Surface Inunda Spars Field Obse Surface Water Water Table	dicators (minimum of of ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeriel ley Vegetated Concavervations: ater Present? Yes e Present? Yes	Imagery (B ve Surface (B8	Water-Stained L MRLA 1, 2, 4, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain ir) X Depth (inches): Depth (inches):	A, and 4B) rates (B13) e Odor (C1) pheres alon duced Iron (duction in Till sed Plants	ng Living Ro C4) lled Soils (0	C6) A)	Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2) (D3) at (D5) ads (D6) (LRR A) annocks (D7)	
Primary Inc Surface High V Satura Water Sedim Drift D Algal Iron D Surface Inund: Spars Field Obse Surface Wa Water Tabl Saturation	ydrology Indicators: dicators (minimum of or ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Des Soil Cracks (B6) Detation Visible on Aeriel Ley Vegetated Concavervations: Detater Present? Present? Yes Present? Yes	Imagery (B ve Surface (B8	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain ir	A, and 4B) rates (B13) e Odor (C1) pheres alon duced Iron (duction in Till sed Plants	ng Living Ro C4) lled Soils (0	C6) A)	Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes Raised Ant Mour	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2) I (D3) at (D5) ands (D6) (LRR A)	
Primary Inc Surface High V Satura Water Sedim Drift D Algal Iron D Surface Inund: Spars Field Obse Surface Wa Water Tabl Saturation	dicators (minimum of of ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeriel ley Vegetated Concaveryations: ater Present? Yes e Present? Yes	Imagery (B ve Surface (B8 No No	Water-Stained L MRLA 1, 2, 4, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain ir) X Depth (inches): Depth (inches):	A, and 4B) rates (B13) e Odor (C1) pheres alon duced Iron (duction in Till sed Plants	ng Living Ro C4) lled Soils (0	C6) A)	Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2) (D3) at (D5) ads (D6) (LRR A) annocks (D7)	x
Wetland Hy Primary Inc Surface High V Satura Water Sedim Drift D Algal Iron D Surface Inunda Spars Field Obse Surface Wa Water Tabl Saturation I (includes ca	dicators (minimum of of ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeriel ley Vegetated Concavervations: ater Present? Yes Present? Yes appillary fringe)	Imagery (B ve Surface (B8 No No No	Water-Stained L MRLA 1, 2, 4, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain ir) X Depth (inches): Depth (inches):	A, and 4B) rates (B13) e Odor (C1) pheres alon duced Iron (luction in Til sed Plants (n Remarks)	ng Living Ro C4) lled Soils (0 (D1) (LRR	C6) A) Wetlan	Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur d Hydrology Present?	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2) (D3) at (D5) ads (D6) (LRR A) annocks (D7)	. x
Wetland Hy Primary Ind Surface High V Satura Water Sedim Drift D Algal Iron D Surface Inunda Spars Field Obse Surface Wa Water Tabl Saturation I (includes ca	dicators (minimum of of ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeriel ley Vegetated Concavervations: ater Present? Yes Present? Yes appillary fringe)	Imagery (B ve Surface (B8 No No No	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain ir) X Depth (inches): X Depth (inches):	A, and 4B) rates (B13) e Odor (C1) pheres alon duced Iron (luction in Til sed Plants (n Remarks)	ng Living Ro C4) lled Soils (0 (D1) (LRR	C6) A) Wetlan	Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur d Hydrology Present?	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2) (D3) at (D5) ads (D6) (LRR A) annocks (D7)	x
Wetland Hy Primary Inc Surface High V Satura Water Sedim Drift D Algal Iron D Surface Inunda Spars Field Obse Surface Wa Water Tabl Saturation (includes ca Describe Rec	dicators (minimum of of ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Ation Visible on Aeriel Ley Vegetated Concaverations: Deposits (B5) Deposits (B5) Deposits (B5) Deposits (B5) Deposits (B5) Deposits (B6) Deposits	Imagery (B re Surface (B8 No No No auge, monitori	Water-Stained L MRLA 1, 2, 4, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in) X Depth (inches): X Depth (inches): Depth (inches):	A, and 4B) rates (B13) e Odor (C1) pheres alon duced Iron (luction in Til sed Plants (n Remarks)	ng Living Ro C4) lled Soils (0 (D1) (LRR	C6) A) Wetlan	Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur d Hydrology Present?	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2) (D3) at (D5) ads (D6) (LRR A) annocks (D7)	x
Wetland Hy Primary Inc Surface High V Satura Water Sedim Drift D Algal Iron D Surface Inunda Spars Field Obse Surface Wa Water Tabl Saturation I (includes ca Describe Rec	dicators (minimum of of ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeriel ley Vegetated Concavervations: ater Present? Yes Present? Yes appillary fringe)	Imagery (B re Surface (B8 No No No auge, monitori	Water-Stained L MRLA 1, 2, 4, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres Other (Explain in) X Depth (inches): X Depth (inches): Depth (inches):	A, and 4B) rates (B13) e Odor (C1) pheres alon duced Iron (luction in Til sed Plants (n Remarks)	ng Living Ro C4) lled Soils (0 (D1) (LRR	C6) A) Wetlan	Water Stained Le 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur d Hydrology Present?	eaves (B9) (MRLA 1, 2, as (B10) er Table (C2) e on Aeriel Imagery (C9) ition (D2) (D3) at (D5) ads (D6) (LRR A) annocks (D7)	x



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	ate: 11/7/2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	VP-4 (WA)		
Investigators: B DARBY, J MAZE			Section, Township, I	Range:			
Landform (hillslope, terrace, etc.): Toeslope		Local Reli	ef (concave, convex,	none): Concave	Slope	e(%): 2	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84		
Soil Map Unit Name: Steever sandy clay loam, 30	to 65 percent slo	pes	NWI Classific	cation: Unmapped			
Are climatic / hydrologic conditions on the site typic	al for this time of	year? Yes	S X No	(If No, explain in R	emarks)		
Are Vegetation: Soil or Hydrology _	significantly di	sturbed?	Are "Normal Circun	nstances" present?	Yes	X No	o
Are Vegetation: Soil or Hydrology _	naturally prob	ematic?	(If needed, explain	any answers in Rem	arks.)		
SUMMARY OF FINDINGS - Attach a sit	e map showi	ng sampling	point locations	, transects, imp	ortant featu	res, etc.	
Hydrophytic Vegetation Present? Yes _>	(No						
Hydric Soil Present? Yes	No _X	Is the	Sampled Area				
Wetland Hydrology Present? Yes	No _X	withi	n a Wetland?	Yes		No X	
Remarks:							
Verification plot established to verify upland conditional indicators present.	on in a roadside d	itch west of Strea	am 2. Hydrophytic ve	getation present but	no wetland soil	or hydrolog	у
VEGETATION – Use scientific names of	of plants.						
	Absolute	Dominant	Indicator	Dominance Test	Worksheet:		
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Domina	ant Species		
1.				That Are OBL, FAC	CW, or FAC:	2	(A)
2.				Total Number of D	ominant -		_
3.				Species Across All	Strata:	2	(B)
4.				Percent of Domina	nt Species		
		= Total Cover		That Are OBL, FAC	CW, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index	worksheet:		
1				Total % Cover of:	<u>Multi</u>	ply by:	
2.				OBL species	x1=		_
3.				FACW species	20 x2=	40	_
4.				FAC species	45 x3=	135	_
5.				FACU species	15 x4=	60	_
		= Total Cover		UPL species	x5=	0	_
Herb Stratum (Plot size: 10 feet)				Column Totals:	(A)	235	_ (B)
Equisetum arvense	40	Yes	_ FAC				
2. Phalaris arundinacea	20	Yes	FACW	Prevalence Inc		2.94	4
3. Galium aparine		No No	FACU	Hydrophytic Vege			
4. Rubus laciniatus	5	No No	- FACU		est for Hydrophyt	-	on
5. Schedonorus arundinaceus	3	No	FAC	X 2 - Dominan			
6. Cirsium arvense	2	No	FAC FAC		ce Index is ≤3.01		
7.				<u> </u>	ogical Adaptation	•	
8. 9.					Remarks or on a Non-Vascular Pl		neer)
10.			_		Hydrophytic Ve		vnlain)
11.			_	¹Indicators of hydri		-	
	80	= Total Cover		must be present, u		-	
Woody Vine Stratum (Plot size: 10 feet)		= 10tal 00Vel		made bo predent, u		o. probicilie	
1.				Hydrophytic			
2.				Vegetation	Yes X	No	
		= Total Cover		Present?			_
% Bare Ground in Herb Stratum 20		. 3.0. 30101					
Remarks:							
Bare ground is associated with patchy vegetation a	nd roadway shoul	der Verification	nlot maets the domin	ance test for hydron	hytic vegetation		
Date ground is associated with paterty vegetation a	na roadway Siloui	aoi. veiilleatiUH	piot modto the dollill	and tost for flydiop	inyuo vegetation.		

(inches) 0-4				- INCO	ox Feature	:5			
0-4	Color (moist)	%		Color (moist)	%	Type ¹	Loc²	Texture	Remarks
	7.5 YR 2.5/2	98		7.5 YR 3/1	1	С	M	Sand	
				7.5 YR 3/4	1	С	M		
4-24	7.5 YR 3/2	98		7.5 YR 3/4	1	C	M	Sandy Loam	
				7.5YR 3/1	1		M		
								· 	
								· 	
				_					
								· 	
/pe: C= Cc	ncentration. D= D	epletion, RM=	Reduced	d Matrix, CS=Cove	red or Coa	ted Sand G	rains.	·	: PL=Pore Lining, M=Matrix.
		<u> </u>		ess otherwise no				Indicators for Problem	
Histoso			,	Sandy Redox (St				2 cm Muck (A10	•
	Epipedon (A2)			Stripped Matrix (•			Red Parent Mate	,
	Histic (A3)			Loamy Mucky Mi	,	(except MI	RIA 1)		rk Surface (TF12)
	gen Sulfide (A4)			Loamy Gleyed M		(oxoopt iii		Other (Explain in	, ,
	ed Below Dark Su	ırface (A11)		Depleted Matrix (, ,			Outer (Explain ii	rromanoj
	Dark Surface (A12	, ,		Redox Dark Surf				³ Indicators of hydroph	vtic vegetation and
	Mucky Mineral (S	•	_	Depleted Dark S	` ')		wetland hydrology n	. •
	Gleyed Matrix (S			Redox Depression		•		unless disturbed or	•
_	Layer (if present	•			(. 0)				problematic.
	Layer (II present	.).							
Type:	(inches):							Hydric Soil Present?	Yes No
narks:									
<u> </u>	-CV								
		ors:							
Vetland Hy	GY rdrology Indicato		ed; check	all that apply)				Secondary Indicators	(2 or more required)
Vetland Hy Primary Indi	drology Indicatoricators (minimum		ed; check	1137	eaves (B9)	(except		·	(2 or more required) eaves (B9) (MRLA 1, 2,
Vetland Hy Primary Indi Surface	rdrology Indicatoricators (minimum e Water (A1)		ed; check	Water-Stained Le				·	· /
Vetland Hy Primary Indi Surface High W	rdrology Indicatoricators (minimum e Water (A1) Vater Tables (A2)		ed; check	Water-Stained Le				Water Stained Lo	eaves (B9) (MRLA 1, 2,
Primary Indi Surface High W Satura	rdrology Indicatoricators (minimum e Water (A1)		ed; check	Water-Stained Le	A, and 4B)			Water Stained Lo 4A, and 4B) Drainage Patterr	ns (B10)
Vetland Hy Primary Indi Surface High W Satura Water	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) tion (A3) Marks (B1)		ed; check	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr	A, and 4B) rates (B13)	1		Water Stained L 4A, and 4B) Drainage Patterr Dry-Season Wat	eaves (B9) (MRLA 1, 2, ns (B10) er Table (C2)
Primary Indi Surface High W Satura Water Sedime	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) tion (A3)		ed; check	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide	A, and 4B) rates (B13) e Odor (C1)	oots (C3)	Water Stained L 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9)
Primary Indi Surface High W Satura Water Sedime	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)		ed; check	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp	A, and 4B) rates (B13) e Odor (C1 pheres alor) ng Living R	oots (C3)	Water Stained L 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2)
Primary Indi Surface High W Satura Water Sedime Drift De	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)		ed; check	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red	A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron () ng Living R (C4)	, ,	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro	eaves (B9) (MRLA 1, 2, ns (B10) er Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	of one require	ed; check	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red	A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti) ng Living R (C4) Iled Soils (C6)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	eaves (B9) (MRLA 1, 2, ns (B10) er Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Surface	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6	of one require		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress	A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti sed Plants) ng Living R (C4) lled Soils ((D1) (LRR	C6)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Moun	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) d (D3) st (D5) nds (D6) (LRR A)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae	of one require	В	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red	A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti sed Plants) ng Living R (C4) lled Soils ((D1) (LRR	C6)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) d (D3) st (D5) nds (D6) (LRR A)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae	of one require	В	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress	A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti sed Plants) ng Living R (C4) lled Soils ((D1) (LRR	C6)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Moun	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) d (D3) st (D5) nds (D6) (LRR A)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae ey Vegetated Cor	of one require iriel Imagery (acave Surface	B (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti sed Plants) ng Living R (C4) lled Soils ((D1) (LRR	C6)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Moun	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) d (D3) st (D5) nds (D6) (LRR A)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae ey Vegetated Cor rvations:	of one require iriel Imagery (icave Surface esNo	B (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti sed Plants) ng Living R (C4) lled Soils ((D1) (LRR	C6)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Moun	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) d (D3) st (D5) nds (D6) (LRR A)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Water	rdrology Indicator (minimum e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae ey Vegetated Cor rvations: ter Present? Y	of one require riel Imagery (ncave Surface es No es No	B (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti sed Plants) ng Living R (C4) lled Soils ((D1) (LRR	C6) A)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Water Table Saturation F	rdrology Indicator (minimum e Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae ey Vegetated Cor rvations: ter Present? Present? Y	of one require iriel Imagery (icave Surface esNo	B (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1 oheres alor uced Iron (uction in Ti sed Plants) ng Living R (C4) lled Soils ((D1) (LRR	C6) A)	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Moun	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) d (D3) st (D5) nds (D6) (LRR A)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Surface Water Water Table Saturation F (includes ca	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae ey Vegetated Cor rvations: ter Present? Present? Y epillary fringe)	of one require of one require rical Imagery (cave Surface es No es No es No	B (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants Remarks)	ng Living R (C4) lled Soils (I (D1) (LRR	C6) A) Wetlan	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Moun Frost-Heave Hur	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Surface Water Water Table Saturation F (includes ca	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae ey Vegetated Cor rvations: ter Present? Present? Y epillary fringe)	of one require of one require rical Imagery (cave Surface es No es No es No	B (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants Remarks)	ng Living R (C4) lled Soils (I (D1) (LRR	C6) A) Wetlan	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Moun Frost-Heave Hur	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Surface Water Water Table Saturation F	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae ey Vegetated Cor rvations: ter Present? Present? Y epillary fringe)	of one require of one require rical Imagery (cave Surface es No es No es No	B (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants Remarks)	ng Living R (C4) lled Soils (I (D1) (LRR	C6) A) Wetlan	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Moun Frost-Heave Hur	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obset Surface Water Vater Table Saturation F includes ca	rdrology Indicator icators (minimum e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae ey Vegetated Cor rvations: ter Present? Present? Y epillary fringe)	of one require of one require rical Imagery (cave Surface es No es No es No	B (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	A, and 4B) rates (B13) e Odor (C1 pheres alor uced Iron (uction in Ti sed Plants Remarks)	ng Living R (C4) lled Soils (I (D1) (LRR	C6) A) Wetlan	Water Stained Lo 4A, and 4B) Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Moun Frost-Heave Hur	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) e on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)



Photo Name: Photo_231107124524



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Date	te: 11/9/2	023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	VP-5 (WA)		
Investigators: B DARBY, J MAZE			Section, Township,	Range:				
Landform (hillslope, terrace, etc.): Hillslope		Local Reli	ief (concave, convex,	none): Concave		Slope(%): 3	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84			
Soil Map Unit Name: Steever stony clay loam, 2 to	30 percent slope	s	NWI Classific	cation: Unmapped				
Are climatic / hydrologic conditions on the site typic	al for this time of y	ear? Yes	s X No	(If No, explain in Re	marks)			
Are Vegetation: Soil or Hydrology	significantly dis	sturbed?	Are "Normal Circum	nstances" present?	Yes	X	No	o
Are Vegetation: Soil or Hydrology	naturally probl	ematic?	(If needed, explain	any answers in Rema	ırks.)			
SUMMARY OF FINDINGS - Attach a sit	e map showir	ng sampling	point locations	, transects, impo	ortant fe	eatures	, etc.	
Hydrophytic Vegetation Present? Yes	No X							
Hydric Soil Present? Yes	No X	Is the	Sampled Area					
Wetland Hydrology Present? Yes X	No	withi	n a Wetland?	Yes		1	lo X	
Remarks:		1						
Verification point established to determine upland c verification. Wetland hydrology was met with two se			sional area north of A	sh Lake Road. A dep	ressional a	area occu	ırs norti	n of
VEGETATION – Use scientific names o				T				
	Absolute	Dominant	Indicator	Dominance Test V				
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominar	•			
1.			- —	That Are OBL, FAC): 	1	(A)
2.			_	Total Number of Do				(D)
3.				Species Across All			2	_ (B)
4		- Total Cours	. ———	Percent of Dominar			50	(A /D)
Cooling/Obert Otesture (Diet siese 40 foot)		= Total Cover		That Are OBL, FAC			50	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)	_	V	FACIL	Prevalence Index	worksnee			
Symphoricarpos albus	5	Yes	FACU	Total % Cover of:		Multiply I	<u>DV.</u>	
2.				OBL species		x1=	10	_
3.				FACW species FAC species	5 85	x2= x3=	10 255	_
4 5.			_	FACU species	8	x4=	32	-
J	5	= Total Cover	. ———	UPL species		x5=	0	-
Herb Stratum (Plot size: 10 feet)		- Total Cover		Column Totals:	98	(A)	297	(B)
Rubus armeniacus	80	Yes	FAC	- Coldinii Potalo.		()	201	_(5)
2. Urtica dioica	5	No	FAC	Prevalence Inde	ex = B/A=		3.03	3
3. Phalaris arundinacea	5	No	FACW	Hydrophytic Veget		icators:		
Polystichum munitum	3	No	FACU	1 - Rapid Tes			egetatio	on
5.			_	2 - Dominano				
6.				3 - Prevalenc	e Index is	≤3.0¹		
7.				4 - Morpholog	gical Adap	tations¹ (Provide	
8.				data in R	emarks or	on a sep	arate s	heet)
9.				5 - Wetland N	lon-Vascu	ılar Plants	S ¹	
10.				Problematic I	Hydrophyt	ic Vegeta	tion¹ (E	xplain)
11.				¹ Indicators of hydric	soil and v	wetland h	ydrolog	y
	93	= Total Cover	-	must be present, ur	ıless distu	rbed or p	roblema	atic.
Woody Vine Stratum (Plot size: 10 feet)								
1				Hydrophytic				
2.				Vegetation	Yes	No	X	_
		= Total Cover		Present?				
% Bare Ground in Herb Stratum 7	_							
Remarks:								
Verification plot does not meet criteria for hydrophy	tic vegetation.							

Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=F ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Parent Material (Ti Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surfl Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F6) Sandy Mucky Mineral (S1) Sandy Redox Dark Surface (F7) wetland hydrology must be sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Rocks	ial (TF2) k Surface (TF12) Remarks) tic vegetation and ust be present,
ype: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. **Juncation: PL=F ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Pepleted Below Dark Surface (A11) Depleted Matrix (F2) Other (Explain in Rema Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sendy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Wetland hydrology must be unless disturbed or problet (F9) Restrictive Layer (if present): Type: Rocks Depth (inches): 18 Hydric Soil Present? Yenarks:	PL=Pore Lining, M=Matritic Hydric Soils³: ial (TF2) k Surface (TF12) Remarks) tic vegetation and ust be present,
Histosol (A1) Histosol (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Redox Depressions (F8) Restrictive Layer (if present): Type: Rocks Depth (inches): 18 Indicators for Problematic House of Problematic House (A10) 2 cm Muck (A10) 2 cm Muck (A10) A cmarks: Indicators for Problematic House (A10) A cmark Redox (S5) 2 cm Muck (A10) A cmark Red Parent Material (Till (except MLRLA 1)) Very Shallow Dark Surface (F1) Nendox Depleted Matrix (F2) Other (Explain in Remarks) Popleted Dark Surface (F6) Redox Dark Surface (F7) wetland hydrology must be unless disturbed or problematic House (F8) Wetland hydrology must be unless disturbed or problematic House (F8) Hydric Soil Present? Yet (For Problematic House (F8) Poplematic House (F8) A comparison of Problematic House	tic Hydric Soils³: ial (TF2) k Surface (TF12) Remarks) tic vegetation and ust be present,
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F5) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Hydric Soil Present? Type: Rocks Depth (inches): 18 Hydric Soil Present? Yerroblematic Hodicators for Problematic Hodicators of Problemat	tic Hydric Soils³: ial (TF2) k Surface (TF12) Remarks) tic vegetation and ust be present,
dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Parent Material (Till (Except MLRLA 1)) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F5) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Wetland hydrology must be unless disturbed or problem (Sturbed or problem (Inches)): 18 Hydric Soil Present? Yery Shallow Dark Surface (F6) Pepleted Matrix (F2) Other (Explain in Remains): All Carlos Problematic House (F6) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Other (Explain in Remains): Pepleted Dark Surface (F6) Redox Dark Surface (F7) Wetland hydrology must be unless disturbed or problem (Inches): Type: Rocks Depth (Inches): 18 Hydric Soil Present? Yether Problematic House (F8) Per Muck (A10) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Other (Explain in Remains) Pepleted Matrix (F3) Redox Dark Surface (F6) Pepleted Dark Surface (F7) Wetland hydrology must be unless disturbed or problem (F8) Restrictive Layer (if present): Type: Rocks Depth (Inches): 18 Hydric Soil Present? Yether Problematic House (F8)	tic Hydric Soils³: ial (TF2) k Surface (TF12) Remarks) tic vegetation and ust be present,
dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Parent Material (Till (Except MLRLA 1)) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F2) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Redox Depresent): Type: Rocks Depth (inches): 18 Hydric Soil Present? Yellow (S5) 2 cm Muck (A10) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (Text) Very Shallow Dark Surface (F2) Other (Explain in Remains) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Other (Explain in Remains) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Other (Explain in Remains) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (F1) Very Shallow Dark Surface (F2) Problematic Heliots (F2) Red Parent Material (F1) Very Shallow Dark Surface (F2	tic Hydric Soils³: ial (TF2) k Surface (TF12) Remarks) tic vegetation and ust be present,
dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Parent Material (Till (Except MLRLA 1)) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F2) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Redox Depresent): Type: Rocks Depth (inches): 18 Hydric Soil Present? Yellow (S5) 2 cm Muck (A10) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (Text) Very Shallow Dark Surface (F2) Other (Explain in Remains) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Other (Explain in Remains) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Other (Explain in Remains) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (F1) Very Shallow Dark Surface (F2) Problematic Heliots (F2) Red Parent Material (F1) Very Shallow Dark Surface (F2	tic Hydric Soils³: ial (TF2) k Surface (TF12) Remarks) tic vegetation and ust be present,
dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Parent Material (Till (Except MLRLA 1)) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F2) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) Redox Depressions (F8) Redox Depresent): Type: Rocks Depth (inches): 18 Hydric Soil Present? Yerroblematic Holder Communication (S1) Sandy Redox (S5) 2 cm Muck (A10) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Other (Explain in Remains) Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Other (Explain in Remains) Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Sandy Mucky Mineral (S1) Pepleted Matrix (F3) Redox Dark Surface (F6) Parent Material (Till (Except MLRLA 1)) Per (Explain in Remains) Parent Material (Till (Except MLRLA 1)) New Surface (F6) Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Other (Explain in Remains) Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Pepleted Matrix (F2) Other (Explain in Remains) Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F6) Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F6) Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F6) Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F6) Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F6) Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F6) Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F6) Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F6) Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F6) Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F6) Parent Material (Till (Except MLRLA 1)	tic Hydric Soils³: ial (TF2) k Surface (TF12) Remarks) tic vegetation and ust be present,
dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Parent Material (Till (Except MLRLA 1)) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F2) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Redox Depresent): Type: Rocks Depth (inches): 18 Hydric Soil Present? Yellow (S5) 2 cm Muck (A10) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (Text) Very Shallow Dark Surface (F2) Other (Explain in Remains) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Other (Explain in Remains) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Other (Explain in Remains) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Problematic Heliots (F1) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (Till (Except MLRLA 1) Very Shallow Dark Surface (F2) Red Parent Material (F1) Very Shallow Dark Surface (F2) Problematic Heliots (F2) Red Parent Material (F1) Very Shallow Dark Surface (F2	tic Hydric Soils³: ial (TF2) k Surface (TF12) Remarks) tic vegetation and ust be present,
dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Parent Material (Till (Except MLRLA 1)) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F5) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Wetland hydrology must be unless disturbed or problem (Sturbed or problem (Inches)): 18 Hydric Soil Present? Yery Shallow Dark Surface (F6) Pepleted Matrix (F2) Other (Explain in Remains): All Carlos Problematic House (F6) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Other (Explain in Remains): Pepleted Dark Surface (F6) Redox Dark Surface (F7) Wetland hydrology must be unless disturbed or problem (Inches): Type: Rocks Depth (Inches): 18 Hydric Soil Present? Yether Problematic House (F8) Per Muck (A10) Red Parent Material (Till (Except MLRLA 1)) Very Shallow Dark Surface (F2) Other (Explain in Remains) Pepleted Matrix (F3) Redox Dark Surface (F6) Pepleted Dark Surface (F7) Wetland hydrology must be unless disturbed or problem (F8) Restrictive Layer (if present): Type: Rocks Depth (Inches): 18 Hydric Soil Present? Yether Problematic House (F8)	tic Hydric Soils³: ial (TF2) k Surface (TF12) Remarks) tic vegetation and ust be present,
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (F3) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Depleted Dark Surface (F8) Redox Depressions (F8) Hydric Soil Present? Year Muck (A10) Red Parent Material (Trick) Porty Shallow Dark Surface Other (Explain in Remains) Porty Shallow Dark Surface Other (Explain in Remains) Porty Shallow Dark Surface Porty Shallo	ial (TF2) k Surface (TF12) Remarks) tic vegetation and ust be present,
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) Redox Depressions (F8) Redox Depresent? Type: Rocks Depth (inches): 18 Stripped Matrix (S6) Red Parent Material (The Naterial (The	k Surface (TF12) Remarks) tic vegetation and ust be present,
Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Pepleted Dark Surface (F7) Redox Depressions (F8) Wetland hydrology must be unless disturbed or problem that the problem of the proble	k Surface (TF12) Remarks) tic vegetation and ust be present,
Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Redox Depressions (F8) Depleted Dark Surface (F7) Redox Depressions (F8) Wetland hydrology must be unless disturbed or problem that the problem of th	Remarks) tic vegetation and ust be present,
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Pepleted Dark Surface (F7) Redox Depressions (F8) Redox Depressions (F8) Redox Depressions (F8) Wetland hydrology must be unless disturbed or problem that the problem of the probl	tic vegetation and ust be present,
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Pepleted Dark Surface (F7) Redox Depressions (F8) Redox Depressions (F8) Unless disturbed or problem to the problem of the pr	ust be present,
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Wetland hydrology must be unless disturbed or problem Restrictive Layer (if present): Type: Rocks Depth (inches): 18 Hydric Soil Present? Yesparks:	ust be present,
Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Rocks Depth (inches): 18 Marks: Redox Depressions (F8) Hydric Soil Present?	•
Restrictive Layer (if present): Type: Rocks Depth (inches): 18 marks: Hydric Soil Present? Y	roblematic.
Type: Rocks Depth (inches): 18 Hydric Soil Present? Y	
Depth (inches): 18 Hydric Soil Present? Y	
marks:	
	Yes No
/etland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or n	
Surface Water (A1) Water-Stained Leaves (B9) (except Water Stained Leaves	aves (B9) (MRLA 1, 2,
High Water Tables (A2) MRLA 1, 2, 4A, and 4B) 4A, and 4B)	(D40)
Saturation (A3) Salt Crust (B11) X Drainage Patterns (B10) A sustia Investal Inves	
Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Tab	
	A I I (CO)
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on A	
Sediment Deposits (B2) Drift Deposits (B3) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) X Geomorphic Position (I	ion (D2)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Saturation Visible on Article (C3) X Geomorphic Position (I2) Shallow Aquitard (D3)	ion (D2) (D3)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Article Odor (C1) X Geomorphic Position (ID) Shallow Aquitard (D3) FAC-Neutral Test (D5)	ion (D2) (D3) (D5)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) A Geomorphic Position (I Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Saturation Visible on An Geomorphic Position (I Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6)	ion (D2) (D3) (D5) ds (D6) (LRR A)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) X Geomorphic Position (I Presence of Reduced Iron (C4) Shallow Aquitard (D3) FAC-Neutral Test (D5) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) Frost-Heave Hummock	ion (D2) (D3) (D5) ds (D6) (LRR A)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) Sparsley Vegetated Concave Surface (B8)	ion (D2) (D3) (D5) ds (D6) (LRR A)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Mydrogen Sulfide Odor (C1) Sequent Iron Reduction (C4) Shallow Aquitard (D3) FAC-Neutral Test (D5) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) Sparsley Vegetated Concave Surface (B8)	ion (D2) (D3) (D5) ds (D6) (LRR A)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) X Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches):	ion (D2) (D3) (D5) ds (D6) (LRR A)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Surface Water Present? Yes No X Depth (inches): Mater Table Presents (B3) Oxidized Rhizospheres along Living Roots (C3) X Geomorphic Position (I X Geomorphic Positi	ion (D2) (D3) (D5) ds (D6) (LRR A)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) X Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D0 Frost-Heave Hummock Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches):	ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)



Photo Name: Photo_231109120944



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	te: 4/21/2023	3	
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	VP-6 (WA	<u>, , , , , , , , , , , , , , , , , , , </u>	
Investigators: BRYAN DARBY, JEN MAZE			Section, Township,	Range:			
Landform (hillslope, terrace, etc.): Flat		Local Reli	ief (concave, convex,	none): None	Slo	pe(%): 1	
Subregion (LRR): A - Northwest Forest and	Lat:	Long:		Datum:	WGS84		
Soil Map Unit Name: Arents, 0 to 5 percent slopes			NWI Classific	ation: Unmapped			
Are climatic / hydrologic conditions on the site typica	al for this time of	year? Yes	s No X	(If No, explain in Re	emarks)		
Are Vegetation: Soil or Hydrology	significantly di	sturbed?	Are "Normal Circun	- nstances" present?	Yes	X N	lo
Are Vegetation: Soil or Hydrology	— naturally prob	lematic?	(If needed, explain	any answers in Rema	arks.)		
SUMMARY OF FINDINGS - Attach a sit	— e map showi	ng sampling	point locations	, transects, imp	ortant feat	ures, etc.	ı
Hydrophytic Vegetation Present? Yes X	. No						
Hydric Soil Present? Yes	No X	Is the	Sampled Area				
Wetland Hydrology Present? Yes	No X	withi	n a Wetland?	Yes		No X	
Remarks:							
Conditions drier than normal. Verification plot evaluate consists primarily of rocky gravel, and a restrictive lasspecies. Vegetation within verification plot meets do	ayer at approxima ominance test for	ately 12 inches. T	The majority of vegeta	ation growing within th	nis area are u	pland weedy	
VEGETATION – Use scientific names o	<u> </u>			T			
	Absolute	Dominant	Indicator	Dominance Test \			
Tree Statum (Plot size: 30 feet)	% Cover	Species?	Status	Number of Dominar	'	_	
1.				That Are OBL, FAC		2	(A)
2.				Total Number of Do			(5)
3.				Species Across All		3	(B)
4		Tatal Cause	- ———	Percent of Dominar	•	07	(A (D)
Conding (Church Churchung (Diet sings 40 feet)		= Total Cover		That Are OBL, FAC	•	67	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index		ا د ا منادا،	
1.				Total % Cover of:		ıltiply by:	
2.				OBL species	x1=		
3.				FACW species	x2=		
4 5.				FAC species FACU species	40 x3=		
J		= Total Cover	.	UPL species	15 x5=		_
Herb Stratum (Plot size: 10 feet)		= Total Cover		Column Totals:	67 (A)		— (B)
1. Poa spp.	15	Yes	FAC	-	(/1)		— ^(B)
2. Geranium molle	15	Yes	UPL	Prevalence Inde	ex = B/A =	3.6	63
3. Lolium perenne	10	Yes	FAC	Hydrophytic Vege			
4. Trifolium repens	9	No	FAC	1 - Rapid Tes			ion
5. Daucus carota	5	No	FACU	X 2 - Dominano		-	
6. Holcus lanatus	3	No	FAC	3 - Prevalenc	e Index is ≤3.	.0¹	
7. Rumex crispus	3	No	FAC	4 - Morpholo	gical Adaptati	ons¹ (Provid	е
8. Matricaria discoidea	3	No	FACU	data in R	emarks or on	a separate:	sheet)
9. Plantago lanceolata	3	No	FACU	5 - Wetland N	lon-Vascular	Plants ¹	
10. Melilotus officinalis	1	No	FACU	Problematic I	Hydrophytic V	egetation1 (F	Explain)
11.				¹ Indicators of hydric	soil and wetl	and hydrolog	gy
	67	= Total Cover		must be present, ur	nless disturbe	d or problem	natic.
Woody Vine Stratum (Plot size: 10 feet)							
1				Hydrophytic			
2.				Vegetation	Yes X	No	_
		= Total Cover		Present?			_
% Bare Ground in Herb Stratum 33							
Remarks:				•			
Vegetation within verification plot meets dominance	test for hydrophy	rtic vegetation.					

Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Thick Dark (A10) Histoscopic (A1) Sandy Macky Mineral (B1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (B1) Sandy Mucky Mine	10-12 10YR 4/2 99 7.5YR 5/8 1 C M Sandy Loam Dec C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Ric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosic (A1) Histosic Epipedon (A2) Black Histic (A3) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Plydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) Redox Dark Surface (F7) Redox Dark Surface (F7) Wetland Hydrology must be present, unless disturbed or problematic. Sandy (Reyed Matrix (S4) Redox Dark Surface (F7) Bandy Gleyed Matrix (S4) Redox Dark Surface (F7) Redox Dark Surface (F7) Bandy Gleyed Matrix (S4) Redox Dark Surface (F7) Redox Dark Surface (F7) Redox Dark Surface (F7) Wetland Hydrology must be present, unless disturbed or problematic. Sandy Micky Mineral (S1) Depth (inches): 12 Hydric Soil Present? Yes No Play Mater Saired Leaves (B9) (except MLRLA 1) High Water Table (A2) MRLA 1, 2, 4A, and 4B) Sauration (A3) Sauration (A3) Saluration (A3) Saluration (A3) Saluration (A3) Saluration (A3) Saluration (A4) Presence of Reduced (Final Color) Judicators (B10) Depassen Water Table (C2) Saluration (A3) Saluration (F7) Secondary Indicators (2 or more required) Water Sairat Laures (B9) (MRLA 1, 2, 4A, and 4B) Driange Patterns (B10) Sediment Deposits (B3) Outlaced Rhizospheres along Living Roots (C3) Seluration Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) Saturation Present? Yes No X Depth (inches): Saturation Pre	O-12 10YR 4 Type: C= Concentration, I Hydric Soil Indicators: (A Histosol (A1) Histic Epipedon (A2 Black Histic (A3) Hydrogen Sulfide (A Depleted Below Da Thick Dark Surface Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): Remarks: Restrictive layer at 12 inches HYDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	D= Deplet Applicable (A12) ral (S1) rx (S4) sent): , gravel 12 es. No indi	tion, RM=Re e to all LRR	7.5YR 5/8 7.5YR 5/8 7.5YR 5/8 7.5YR 5/8 7.5YR 5/8 7.5YR 5/8 Aduced Matrix, CS=Cov Sandy Redox (Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	rered or Coated S noted.) S5) ((S6) Mineral (F1) (excel Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)	M M	2Location 2Location Indicators for Problen 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in 3Indicators of hydroph wetland hydrology in unless disturbed or	n: PL=Pore Lining, M=Matrix natic Hydric Soils³: 0) erial (TF2) ark Surface (TF12) n Remarks) nytic vegetation and must be present, problematic.
Fype: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Plastic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Popleted Matrix (F2) Depleted Matrix (F2) Thick Dark Surface (A11) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Pepleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Redox Depressions (F8) *Indicators of hydrophytic vegetation are wetland hydrology must be present, unless disturbed or problematic. *Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 **Hydric Soil Present?** *Yes *IPDROLOGY *Wetland Hydrology Indicators: *Primary Indicators (minimum of one required; check all that apply) Saturation (A3) Salt Crust (B11) Water Fables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Saturation (A3) Salt Crust (B11) Water Marks (B1) Saturation (A3) Salt Crust (B11) Water Marks (B1) Saturation (A3) Salt Crust (B1) Presence of Reduced Iron (C4) Saturation Visible on Aeriel Image of Presence of Reduced Iron (C4) Saturation Visible on Aeriel Image of Presence of Reduced Iron (C4) Saturation Visible on Aeriel Image of Presence of Reduced Iron (C4) Saturation Visible on Aeriel Image of Presence of Reduced Iron (C4) Saturation Visible on Aeriel Image of Presence of Reduced Iron (C4) Saturation Visible on Aeriel Image of Presence of Reduced Iron (C4) Saturation Visible on Aeriel Image of Presence of Reduced Iron (C4) Saturation Visible on Aeriel Image of Research (Reduced Iron (C4) Saturation Visible on Aeriel Image of Research (Reduced Iron (C4) Saturation Visible on Aeriel Image of Research (Reduced Iron (C4) Saturation Visible on Aeriel Image of Research (Reduced Iron (C4) Saturation Visible on Aeriel Image of Research (Reduced Iron (C4) Saturation (Dee: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ### Indicators: (Applicable to all LRRs, unless otherwise noted.) ### Histic Epipedon (A2) ### Sandy Redox (S5) ### Deepleted Dearth (S6) ### Depleted Dearth (S6) ### Depleted Matrix (F2) ### Depleted Matrix (F3) ### Thick Dark Surface (A11) ### Depleted Matrix (F3) ### Thick Dark Surface (A12) ### Sandy Mucky Mineral (S1) ### Depleted Matrix (F3) ### Thick Dark Surface (A12) ### Sandy Mucky Mineral (S1) ### Depleted Dark Surface (F5) ### Probleted Dearth (S6) ### Sandy Mucky Mineral (S1) ### Depleted Dark Surface (F6) ### Probleted Dark (S6) ### Sandy Mucky Mineral (S1) ### Depleted Dark Surface (F7) ### Sandy Gleyed Matrix (S4) ### Depleted Dark Surface (F7) ### Sandy Gleyed Matrix (S4) ### Depleted Dark Surface (F7) ### Depleted Dark Surface (F7) ### Sandy Gleyed Matrix (S4) ### Depleted Dark Surface (F7) ### Sandy Gleyed Matrix (S4) ### Depleted Dark Surface (F7) ### Sandy Gleyed Matrix (S4) ### Depleted Dark Surface (F7) ### Sandy Gleyed Matrix (S4) ### Depleted Dark Surface (F7) ### Sandy Gleyed Matrix (S4) ### Depleted Dark Surface (F7) ### Sandy Gleyed Matrix (S4) ### Depleted Dark Surface (F7) ### Sandy Gleyed Matrix (S4) ### Depleted Dark Surface (F7) ### Sandy Gleyed Matrix (S4) ### Depleted Dark Surface (F7) ### Sandy Gleyed Matrix (S4) ### Depleted Dark Surface (F7) ### Sandy Gleyed Matrix (S4) ### Depleted Dark Surface (F7) ### Sandy Gleyed Matrix (S4) ### Depleted Dark Surface (F8) ### Probleted Dark Surface (F8) ### Dark Surface Matrix (S4) ### Dark Surface Matrix (Type: C= Concentration, I Iydric Soil Indicators: (A Histosol (A1) Histic Epipedon (A2 Black Histic (A3) Hydrogen Sulfide (A Depleted Below Da Thick Dark Surface Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): Itemarks: Itemarks: Itemarks: Itemarks: Itemary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	D= Deplet Applicable (A12) rk Surface (A12) ral (S1) x (S4) sent): , gravel 12 es. No ind	tion, RM=Re e to all LRR	educed Matrix, CS=Cov S, unless otherwise n Sandy Redox (Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	vered or Coated S noted.) (S5) (S6) Mineral (F1) (excel Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)	and Grains.	2Location Indicators for Problen 2 cm Muck (A10 Red Parent Mat) Very Shallow Da Other (Explain in 3Indicators of hydroph wetland hydrology r unless disturbed or	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks) nytic vegetation and must be present, problematic.
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) 3 Indicators of hydrophytic vegetation are wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil in excavated soils. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except High Water Tables (A2) MRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Image Carlot (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histos (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Pinick Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Pinick Surface (A11) Depleted Dark Surface (F7) Wetland Mydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland hydrology must be present, unless disturbed or problematic. Sartictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil in excavated soils. DROLOGY Tetland Hydrology Indicators: Indicators (minimum of one required; check all that apply) Surface Water (A1) Water (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizosphrers along Living Roots (C3) Geomorphic Position (D2) Sediment Deposits (B3) Sunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inun Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Noutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Wetland Hydrology Present? Yes No X Depth (inches): attractive Present? Yes No X Depth (inches):	Histosol (A1) Histic Epipedon (A2 Black Histic (A3) Hydrogen Sulfide (A Depleted Below Da Thick Dark Surface Sandy Mucky Minet Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inches IYDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	Applicable (A12) (A12) (A12) (A13) (A14) (A15) (A17)	e to all LRR	Sandy Redox (Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	Moted.) (S5) ((S6) Mineral (F1) (excelled) Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)		Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in 3Indicators of hydroph wetland hydrology in unless disturbed or	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks) nytic vegetation and must be present, problematic.
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Je m Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12 Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes Permarks: Bestrictive layer at 12 inches. No indicators of hydric soil in excavated soils. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except Hifp Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B3) Oxidized Rhizospheres (B4) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Red Parent Material (TF2) Pother (Explain in Rearks) Pother (Explain in Redication in Tilled Soils (C6) Red Parent Material (TF2) Pother (Explain in Redication in Tilled Soils (C6) Red Parent Material (TF2) Pother (Explain in Redication in Tilled Soils (C6) Red Parent Material (TF2) Pother (Explain in Redication in Tilled Soils (C6) Red Parent Material (TF2) Pother (Explain in Redication in Tilled Soils (C6) Red Parent Material (T	Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histos (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Pinick Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Pinick Surface (A11) Depleted Dark Surface (F7) Wetland Mydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland hydrology must be present, unless disturbed or problematic. Sartictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil in excavated soils. DROLOGY Tetland Hydrology Indicators: Indicators (minimum of one required; check all that apply) Surface Water (A1) Water (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizosphrers along Living Roots (C3) Geomorphic Position (D2) Sediment Deposits (B3) Sunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inun Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Noutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Wetland Hydrology Present? Yes No X Depth (inches): attractive Present? Yes No X Depth (inches):	Histosol (A1) Histic Epipedon (A2 Black Histic (A3) Hydrogen Sulfide (A Depleted Below Da Thick Dark Surface Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inche YDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables (Saturation (A3) Water Marks (B1)	Applicable (A12) (A12) (A12) (A13) (A14) (A15) (A17)	e to all LRR	Sandy Redox (Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	Moted.) (S5) ((S6) Mineral (F1) (excelled) Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)		Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in 3Indicators of hydroph wetland hydrology in unless disturbed or	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks) nytic vegetation and must be present, problematic.
Arice Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Je m Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (F1) Pepleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (S1) Secondary Indicators of hydrophytic vegetation are wetland hydrology must be present, unless disturbed or problematic. **Primary Indicators (primary Indicators (Present): Surface Water (A1) High Water Tables (A2) Muter Stained Leaves (B9) (except Muter Stained Leaves (B9) (MRL High Water Tables (A2) Muter Stained Leaves (B9) (except Muter Stained Leaves (B9) (MRL High Water Tables (A2) Salt Crust (B11) Drainage Patterns (B10) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Salturation Visible on Aeriel Image Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Hydrogen Sulfide Odor (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5)	Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histos (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Pinick Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Pinick Surface (A11) Depleted Dark Surface (F7) Wetland Mydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland hydrology must be present, unless disturbed or problematic. Sartictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil in excavated soils. DROLOGY Tetland Hydrology Indicators: Indicators (minimum of one required; check all that apply) Surface Water (A1) Water (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizosphrers along Living Roots (C3) Geomorphic Position (D2) Sediment Deposits (B3) Sunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inun Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Noutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Wetland Hydrology Present? Yes No X Depth (inches): attractive Present? Yes No X Depth (inches):	Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A2) Depleted Below Day Thick Dark Surface Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if predictive Layer (if predictive Layer) Type: Large rocks Depth (inches): Depth (inches): Destrictive layer at 12 inches D	Applicable (A12) (A12) (A12) (A13) (A14) (A15) (A17)	e to all LRR	Sandy Redox (Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	Moted.) (S5) ((S6) Mineral (F1) (excelled) Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)		Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in 3Indicators of hydroph wetland hydrology in unless disturbed or	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks) nytic vegetation and must be present, problematic.
Histosol (A1) Histosol (A2) Histosol (A2) Black Histic (A3) Depleted Matrix (S6) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (F1) (except MLRLA 1) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (F1) Pepleted Dark Surface (F6) Sandy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Pepleted Dark Surface (F6) Sandy Mucky Mineral (F1) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (F1) Pepleted Dark Surface (F6) Sandy Mucky Mineral (F1) Pepleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Pepleted Matrix (F3) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Pepleted Matrix (F2) Depleted Matrix (F3) Redox Depressions (F8) Indicators of hydrophytic vegetation are wetland hydrology must be present, unless disturbed or problematic. **Property Indicators (F7) **Wetland Hydrology Indicators (F8) **Property Indicators (F8) **Wetland Hydrology Indicators (F8) **Property Indicators (F8) **Wetland Hydrology Indicators (F8) **Wetland Hydro	Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histos (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Pinick Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Pinick Surface (A11) Depleted Dark Surface (F7) Wetland Mydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland hydrology must be present, unless disturbed or problematic. Sartictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil in excavated soils. DROLOGY Tetland Hydrology Indicators: Indicators (minimum of one required; check all that apply) Surface Water (A1) Water (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizosphrers along Living Roots (C3) Geomorphic Position (D2) Sediment Deposits (B3) Sunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inun Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Noutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Wetland Hydrology Present? Yes No X Depth (inches): attractive Present? Yes No X Depth (inches):	Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A2) Depleted Below Day Thick Dark Surface Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if predictive Layer (if predictive Layer) Type: Large rocks Depth (inches): Depth (inches): Destrictive layer at 12 inches Depth (Inches): Destrictive layer at 12 inches Depth (Inches): Destrictive layer at 12 inches Destrictive layer	Applicable (A12) (A12) (A12) (A13) (A14) (A15) (A17)	e to all LRR	Sandy Redox (Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	Moted.) (S5) ((S6) Mineral (F1) (excelled) Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)		Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in 3Indicators of hydroph wetland hydrology in unless disturbed or	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks) nytic vegetation and must be present, problematic.
Histosol (A1) Histosol (A2) Histosol (A2) Black Histic (A3) Depleted Matrix (S6) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (F1) (except MLRLA 1) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (F1) Pepleted Dark Surface (F6) Sandy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Pepleted Dark Surface (F6) Sandy Mucky Mineral (F1) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (F1) Pepleted Dark Surface (F6) Sandy Mucky Mineral (F1) Pepleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Pepleted Matrix (F3) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Pepleted Matrix (F2) Depleted Matrix (F3) Redox Depressions (F8) Indicators of hydrophytic vegetation are wetland hydrology must be present, unless disturbed or problematic. **Property Indicators (F7) **Wetland Hydrology Indicators (F8) **Property Indicators (F8) **Wetland Hydrology Indicators (F8) **Property Indicators (F8) **Wetland Hydrology Indicators (F8) **Wetland Hydro	Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histos (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Pinick Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Pinick Surface (A11) Depleted Dark Surface (F7) Wetland Mydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland hydrology must be present, unless disturbed or problematic. Sartictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil in excavated soils. DROLOGY Tetland Hydrology Indicators: Indicators (minimum of one required; check all that apply) Surface Water (A1) Water (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizosphrers along Living Roots (C3) Geomorphic Position (D2) Sediment Deposits (B3) Sunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inun Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Noutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Wetland Hydrology Present? Yes No X Depth (inches): attractive Present? Yes No X Depth (inches):	Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A2) Depleted Below Day Thick Dark Surface Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if predictive Layer (if predictive Layer) Type: Large rocks Depth (inches): Depth (inches): Destrictive layer at 12 inches Depth (Inches): Destrictive layer at 12 inches Depth (Inches): Destrictive layer at 12 inches Destrictive layer	Applicable (A12) (A12) (A12) (A13) (A14) (A15) (A17)	e to all LRR	Sandy Redox (Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	Moted.) (S5) ((S6) Mineral (F1) (excelled) Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)		Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in 3Indicators of hydroph wetland hydrology in unless disturbed or	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks) nytic vegetation and must be present, problematic.
Histosol (A1) Histosol (A2) Histosol (A2) Black Histic (A3) Depleted Matrix (S6) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (F1) (except MLRLA 1) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (F1) Pepleted Dark Surface (F6) Sandy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Pepleted Dark Surface (F6) Sandy Mucky Mineral (F1) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (F1) Pepleted Dark Surface (F6) Sandy Mucky Mineral (F1) Pepleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Pepleted Matrix (F3) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Pepleted Matrix (F2) Depleted Matrix (F3) Redox Depressions (F8) Indicators of hydrophytic vegetation are wetland hydrology must be present, unless disturbed or problematic. **Property Indicators (F7) **Wetland Hydrology Indicators (F8) **Property Indicators (F8) **Wetland Hydrology Indicators (F8) **Property Indicators (F8) **Wetland Hydrology Indicators (F8) **Wetland Hydro	Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histos (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Pinick Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Pinick Surface (A11) Depleted Dark Surface (F7) Wetland Mydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland hydrology must be present, unless disturbed or problematic. Sartictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil in excavated soils. DROLOGY Tetland Hydrology Indicators: Indicators (minimum of one required; check all that apply) Surface Water (A1) Water (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizosphrers along Living Roots (C3) Geomorphic Position (D2) Sediment Deposits (B3) Sunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inun Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Noutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Wetland Hydrology Present? Yes No X Depth (inches): attractive Present? Yes No X Depth (inches):	Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A2) Depleted Below Day Thick Dark Surface Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if predictive Layer (if predictive Layer) Type: Large rocks Depth (inches): Depth (inches): Destrictive layer at 12 inches Depth (Inches): Destrictive layer at 12 inches Depth (Inches): Destrictive layer at 12 inches Destrictive layer	Applicable (A12) (A12) (A12) (A13) (A14) (A15) (A17)	e to all LRR	Sandy Redox (Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	Moted.) (S5) ((S6) Mineral (F1) (excelled) Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)		Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in 3Indicators of hydroph wetland hydrology in unless disturbed or	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks) nytic vegetation and must be present, problematic.
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) 3 Indicators of hydrophytic vegetation are wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil in excavated soils. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except High Water Tables (A2) MRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Image Carlot (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histos (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Pinick Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Pinick Surface (A11) Depleted Dark Surface (F7) Wetland Mydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland hydrology must be present, unless disturbed or problematic. Sartictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil in excavated soils. DROLOGY Tetland Hydrology Indicators: Indicators (minimum of one required; check all that apply) Surface Water (A1) Water (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizosphrers along Living Roots (C3) Geomorphic Position (D2) Sediment Deposits (B3) Sunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inun Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Noutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Wetland Hydrology Present? Yes No X Depth (inches): attractive Present? Yes No X Depth (inches):	Histosol (A1) Histic Epipedon (A2 Black Histic (A3) Hydrogen Sulfide (A Depleted Below Da Thick Dark Surface Sandy Mucky Minet Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inches IYDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	Applicable (A12) (A12) (A12) (A13) (A14) (A15) (A17)	e to all LRR	Sandy Redox (Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	Moted.) (S5) ((S6) Mineral (F1) (excelled) Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)		Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in 3Indicators of hydroph wetland hydrology in unless disturbed or	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks) nytic vegetation and must be present, problematic.
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) 3 Indicators of hydrophytic vegetation are wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil in excavated soils. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except High Water Tables (A2) MRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Image Carlot (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histos (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Pinick Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Pinick Surface (A11) Depleted Dark Surface (F7) Wetland Mydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland hydrology must be present, unless disturbed or problematic. Sartictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil in excavated soils. DROLOGY Tetland Hydrology Indicators: Indicators (minimum of one required; check all that apply) Surface Water (A1) Water (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Seturation (A3) Salt Crust (B11) Drainage Patterns (B10) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizosphrers along Living Roots (C3) Geomorphic Position (D2) Sediment Deposits (B3) Sunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inun Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Noutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Wetland Hydrology Present? Yes No X Depth (inches): attractive Present? Yes No X Depth (inches):	Histosol (A1) Histic Epipedon (A2 Black Histic (A3) Hydrogen Sulfide (A Depleted Below Da Thick Dark Surface Sandy Mucky Minet Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inches IYDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	Applicable (A12) (A12) (A12) (A13) (A14) (A15) (A17)	e to all LRR	Sandy Redox (Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	Moted.) (S5) ((S6) Mineral (F1) (excelled) Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)		Indicators for Problem 2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in 3Indicators of hydroph wetland hydrology in unless disturbed or	natic Hydric Soils³: D) erial (TF2) ark Surface (TF12) n Remarks) nytic vegetation and must be present, problematic.
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12 Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes Berarks: Bestrictive layer at 12 inches. No indicators of hydric soil in excavated soils. PYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Resent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) HistoEpipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Indicators of hydrophytic vegetation and wetland hydrology must be present, wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Sardy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Setrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes No narks: strictive layer at 12 inches. No indicators of hydric soil in excavated soils. **DROLOGY** The Mydrology Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) Surface Water (A1) Aguatic Invertebrates (B13) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry,-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation (Val) Shallow Aquitard (V3) Iron Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (V3) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Wetland Hydrology Present? Yes No X Depth (inches): attention Present? Yes No X Depth (inches): attention Present? Yes No X Depth (inches):	Histosol (A1) Histic Epipedon (A2 Black Histic (A3) Hydrogen Sulfide (A Depleted Below Dai Thick Dark Surface Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inche YDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	(A1) rk Surface (A12) ral (S1) rx (S4) resent):	e (A11)	Sandy Redox (Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	S5) ((S6) Mineral (F1) (excelled the second	ept MLRLA 1	2 cm Muck (A10 Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or	erial (TF2) erial (TF2) ark Surface (TF12) n Remarks) nytic vegetation and must be present, problematic.
Histic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Redox Dark Surface (F6) Indicators of hydrophytic vegetation are wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): Depth (inches): I2 Wetland Hydrology Indicators Sarriace Water (A1) Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Saturation (A3) Salt Crust (B11) Water Marks (B1) Sedomorphic Position (D2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Redox Parent Material (TF2) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Pother (Explain in Remarks) Indicators of hydrophytic vegetation are wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes Phydric Soil Present? Yes Phydric Soil Present? Yes Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Water Stained Leaves (B9) (MRL 4A, and 4B) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Sediment Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6)	Histic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. serrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Depth (inches): 12 Briticitive layer at 12 inches. No indicators of hydric soil in excavated soils. TOROLOGY Teland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water Stained Leaves (B9) (except MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Water Marks (B1) Aquatic Invertebrates (B13) Por Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) John Season Water Table (C2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Loamy Mucky Mineral (F1) (except Marks (B1) Surface Soil Cracks (B6) Frost-Heave Hummooks (D7) Sparsley Vegetated Concave Surface (RF) Ves No No Wettand Hydrology Present? Yes No But Depth (inches): Wettand Hydrology Present? Yes No Wettand Hydrology Present? Yes No But Depth (inches): Wettand Hydrology Present? Yes No Wettand Hydrology Present? Yes No But Depth (inches): Wettand Hydrology Present? Yes No No Wettand Hydrology Present? Yes No No No Surface Water Present? Yes No Depth (inches):	Histic Epipedon (A2 Black Histic (A3) Hydrogen Sulfide (A2 Depleted Below Dai Thick Dark Surface Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inche YDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	rk Surface (A12) ral (S1) rx (S4) sent): , gravel 12		Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	Mineral (F1) (exce Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)	ept MLRLA 1	Red Parent Mat Very Shallow Da Other (Explain in Indicators of hydroph wetland hydrology in unless disturbed or	erial (TF2) ark Surface (TF12) n Remarks) nytic vegetation and must be present, problematic.
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12 Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Inchick Dark Surface (A12) Depleted Dark Surface (F6) Inchick Dark Surface (F7) Wetland hydrology must be present, wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes emarks: estrictive layer at 12 inches. No indicators of hydric soil in excavated soils. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) (except Water Stained Leaves (B9) (MRL High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Image Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquatiard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Redox Dark Surface (F6) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Type: Large rocks, gravel Depth (inches): 12 Type: Large rocks, gravel Depth (inches): No indicators of hydric soil in excavated soils. **DROLOGY** Type: Large rocks, gravel Depth (inches): No indicators of hydric soil in excavated soils. **DROLOGY** Type: Large rocks, gravel Depth (inches): No indicators of hydric soil in excavated soils. **DROLOGY** Type: Large rocks, gravel Depth (inches): No indicators of hydric soil in excavated soils. **DROLOGY** Type: Large rocks, gravel Depth (inches): No indicators of hydric soil in excavated soils. **DROLOGY** Type: Large rocks, gravel Depth (inches): No indicators of hydric soil in excavated soils. **DROLOGY** Tetanah Hydrology Indicators: **Intrictive layer at 12 inches. No indicators of hydric soil in excavated soils. **DROLOGY** Tetanah Hydrology Indicators: **Intrictive layer at 12 inches. No indicators of hydric soil in excavated soils. **DROLOGY** Tetanah Hydrology Indicators: **Intrictive layer at 12 inches. No indicators of hydric soil in excavated soils. **DROLOGY** Tetanah Hydrology Indicators: **Intrictive layer at 12 inches. No indicators of hydric soil in excavated soils. **DROLOGY** Tetanah Hydrology Indicators: **Intrictive layer at 12 inches. No indicators of hydric soil in excavated soils. **DROLOGY** Tetanah Hydrology Indicators: **Intrictive layer Intrictive layer (P7) **Secondary Indicators (P7) **Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) **Drological Research (P8) **Water Marks (B1) **Drological Research (P8) **Water Marks (B1) **Drological Research (B1) **Drological Research (B1) **Drological Research (B1) **Drological Research (B1) **Drologic	Black Histic (A3) Hydrogen Sulfide (A) Depleted Below Date Thick Dark Surface Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inches YDROLOGY Wetland Hydrology Indi Primary Indicators (mining Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	rk Surface (A12) ral (S1) rx (S4) sent): , gravel 12		Loamy Mucky I Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	Mineral (F1) (excellent (F2) (excellent (F2) (excellent (F3) (excellent (F6) (excellent (F7) (excellent (F7) (excellent (F8) (ept MLRLA 1	Other (Explain in all others) 3 Indicators of hydroph wetland hydrology in unless disturbed or	ark Surface (TF12) n Remarks) nytic vegetation and must be present, problematic.
Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Redox Depressions (F8) Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Redox Depressions (P8) Pindicators of hydrophytic vegetation ar wetland hydrology must be present, unless disturbed or problematic. Pland Hydric Soil Present? Yes Hydric Soil Present? Yes Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Water Stained Leaves (B9) (MRL 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Image (C2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6)	Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Depleted Below Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland Hydrology must be present, unless disturbed or problematic. Bestrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes No Depth (inches): Strictive layer at 12 inches. No indicators of hydric soil in excavated soils. DROLOGY Tetland Hydrology Indicators: Inimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Tables (A2) High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Drainage Patterns (B10) Drainage Patterns (B10) Drift Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Surface Soil Cracks (B6) Surface Water Present? Yes No X Depth (inches): Vetant Table Present? Yes No X Depth (inches): Vetant Table Present? Yes No X Depth (inches):	Hydrogen Sulfide (A Depleted Below Da Thick Dark Surface Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inche YDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	rk Surface (A12) ral (S1) x (S4) sent): , gravel 12 es. No ind		Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)	ept MLRLA 1	Other (Explain in all others) Other (Explain in all others) of hydroph wetland hydrology runless disturbed or	n Remarks) nytic vegetation and must be present, problematic.
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes estrictive layer at 12 inches. No indicators of hydric soil in excavated soils. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Tables (A2) Salt Crust (B11) Saturation (A3) Salt Crust (B11) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Oxidized Nicospheres along Living Roots (C3) Redox Dark Surface (F6) Plandicators of hydrophytic vegetation are wetland hydrology must be present, unless disturbed or problematic. Ptype: Hydric Soil Present? Yes Hydric Soil Present? Yes Brownary Indicators (2 or more required) Secondary Indicators (2 or more required) Water Stained Leaves (B9) (MRL 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Image Cambric Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6)	Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Setrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Depth (inches): 12 Depth (inches): Surface Water (A11) Water-Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Darianage Patterns (B10) Water Marks (B1) Sediment Deposits (B2) Depth (B1) Dirift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Present? Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Present? Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Present? Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Present? Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Present? Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Present? Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Present? Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Present? Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Present? Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Present? Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Concave Surface (B8) Inches): Sparsley Vegetated Concave Surface (B8)	Depleted Below Dai Thick Dark Surface Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inche YDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	rk Surface (A12) ral (S1) x (S4) sent): , gravel 12 es. No ind		Depleted Matrix Redox Dark Su Depleted Dark Redox Depress	x (F3) urface (F6) Surface (F7) sions (F8)		³ Indicators of hydroph wetland hydrology r unless disturbed or	nytic vegetation and must be present, problematic.
Thick Dark Surface (A12) Redox Dark Surface (F6) and Indicators of hydrophytic vegetation are wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes Permarks: estrictive layer at 12 inches. No indicators of hydric soil in excavated soils. Pyprology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Image Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Thick Dark Surface (A12) Redox Dark Surface (F6) alndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Sestrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes No narks: strictive layer at 12 inches. No indicators of hydric soil in excavated soils. DROLOGY Surface Water (A1) Water-Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Aq, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Sturted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) (E1d Observations: Vegetation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches):	Thick Dark Surface Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inche YDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	(A12) ral (S1) x (S4) sent): , gravel 12 es. No ind		Redox Dark Su Depleted Dark Redox Depress	urface (F6) Surface (F7) sions (F8)		wetland hydrology i unless disturbed or	must be present, problematic.
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes emarks: estrictive layer at 12 inches. No indicators of hydric soil in excavated soils. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) High Water Tables (A2) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Sediment Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) For Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Sestrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes No marks: strictive layer at 12 inches. No indicators of hydric soil in excavated soils. DROLOGY Settland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Sparsley Vegetated Concave Surface (B8) leid Observations: urlace Water Present? Yes No X Depth (inches): attertable Present? Yes No X Depth (inches): attertable Present? Yes No X Depth (inches): attertable Present? Yes No X Depth (inches):	Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inche YDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	ral (S1) x (S4) sent): , gravel 12 es. No indi	licators of hy	Depleted Dark Redox Depress	Surface (F7) sions (F8)		wetland hydrology i unless disturbed or	must be present, problematic.
Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes emarks: estrictive layer at 12 inches. No indicators of hydric soil in excavated soils. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water (A1) Saturation (A3) Salt Crust (B11) Water Marks (B1) Sadiment Deposits (B2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Sturted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. estrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes No marks: strictive layer at 12 inches. No indicators of hydric soil in excavated soils. DROLOGY [etland Hydrology Indicators: trimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) leid Observations: urdace Water Present? Yes No X Depth (inches): atter Table Present? Yes No X Depth (inches): atter Table Present? Yes No X Depth (inches): atter Table Present? Yes No X Depth (inches):	Sandy Gleyed Matri Restrictive Layer (if pre Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inche YDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	x (S4) sent): , gravel 12 es. No ind	licators of hy	Redox Depress	sions (F8)		unless disturbed or	problematic.
Restrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12 Hydric Soil Present? Yes emarks: estrictive layer at 12 inches. No indicators of hydric soil in excavated soils. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required): Surface Water (A1) Water-Stained Leaves (B9) (except Water Stained Leaves (B9) (MRL High Water Tables (A2) MRLA 1, 2, 4A, and 4B) 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Image Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	estrictive Layer (if present): Type: Large rocks, gravel Depth (inches): 12	Restrictive Layer (if pre Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inche IYDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	sent): , gravel 12 es. No indi	licators of hy					
Type: Large rocks, gravel Depth (inches): 12 emarks: estrictive layer at 12 inches. No indicators of hydric soil in excavated soils. Proposition (A3)	Type: Large rocks, gravel Depth (inches): 12	Type: Large rocks Depth (inches): emarks: estrictive layer at 12 inches IYDROLOGY Wetland Hydrology Indi Primary Indicators (mining Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	, gravel 12 es. No ind	licators of hy	/dric soil in excavated s	soils.		Hydric Soil Present	? YesNo _
Depth (inches): 12 Hydric Soil Present? Yes emarks: estrictive layer at 12 inches. No indicators of hydric soil in excavated soils. YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Sturlace Oxidized Rhizosphenes along Living Roots (C3) Raised Ant Mounds (D6) (LRR A)	Depth (inches): 12	Depth (inches): emarks: estrictive layer at 12 inche YDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	12 es. No ind	licators of hy	dric soil in excavated s	soils.		Hydric Soil Present	? YesNo
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) High Water Tables (A2) Saturation (A3) Satt Crust (B11) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Water (A1) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted on Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	DROLOGY Secondary Indicators (2 or more required) Secondary Indicators (2 or more required)	emarks: estrictive layer at 12 inche YDROLOGY Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)	es. No ind	licators of hy	/dric soil in excavated s	soils.		Hydric Soil Present	? YesNo
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Tables (A2) Water Marks (B1) Saturation (A3) Salt Crust (B11) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Water (A1) Presence of Reduced Iron (C4) Are Not and Are soil Crust (B1) Presence of Reduced Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Raised Ant Mounds (D6) (LRR A)	DROLOGY	Wetland Hydrology Indi Primary Indicators (minin Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)		licators of hy	dric soil in excavated s	soils.			
Surface Water (A1) High Water Tables (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Water Stained Leaves (B9) (except Water Stained Leaves (B9) (MRL 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aeriel Image Geomorphic Position (D2) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Water Stained Leaves (B9) (MRL 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aeriel Image Geomorphic Position (D2) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Surface Water (A1) High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No X Depth (inches): Algal Mator Crust (B4) Drainage Patterns (B10) Ada, and 4B) AA, and 4B) Drainage Patterns (B10) Saturation Visible on Aeriel Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No No	Surface Water (A1) High Water Tables Saturation (A3) Water Marks (B1)							
High Water Tables (A2) Saturation (A3) Salt Crust (B11) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) MRLA 1, 2, 4A, and 4B) Aquatic Invertebrates (B13) Aquatic Invertebrates (B10) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Aquatic Invertebrates (B10) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Aquatic Invertebrates (B10) Aquatic Invertebrates (B13) Aquatic Invertebrates (B10) Aquatic Invertebrates (B10) Aq	High Water Tables (A2) Saturation (A3) Salt Crust (B11) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) ARLA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Saturation Visible on Aeriel Imagery (C9) Presence of Reduced Iron (C4) Shallow Aquitard (D3) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) Adver Table Present? Yes No X Depth (inches): Auturation Present? Yes No No	High Water Tables Saturation (A3) Water Marks (B1)	ium of one	e required; o					
Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Image Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Saturation (C1) Saturation Visible on Aeriel Imagery (C9) Adjusted Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Sield Observations: Urface Water Present? Yes No X Depth (inches): Advantic Invertebrates (B13) Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No No Wetland Hydrology Present? Yes No	Saturation (A3) Water Marks (B1)	(4.0)			` , `	ept		.eaves (B9) (MRLA 1, 2,
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Saturation Visible on Aeriel Image Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Self Observations: Urface Water Present? Yes No X Depth (inches): Vater Table Present? Yes No X Depth (inches): Vater Table Present? Yes No X Depth (inches): Vater Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No	Water Marks (B1)	A2)					,	(5.4.6)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Saturation Visible on Aeriel Image Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)	Sediment Deposits (B2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Ield Observations: urface Water Present? Yes No X Depth (inches): daturation Present? Yes No X Depth (inches): daturation Present? Yes No X Depth (inches): Metland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No								
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)	Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Ield Observations: urface Water Present? Yes No X Depth (inches): aturation Present? Yes No X Depth (inches): aturation Present? Yes No X Depth (inches): Ature Table Present? Yes No X Depth (inches): Ature Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No No Wetland Hydrology Present? Yes No No No No No No No No No N	Sediment Deposits	(DO)					<u> </u>	` '
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Surface Water Present? Yes No X Depth (inches): Auturation Present? Yes No X Depth (inches): Destination (C4) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) FAC-Neutral Test (D5) FAC-Neutral Test (D5) FAC-Neutral Test (D5) Factive (D5) Factive (D5) Fost-Heave Hummocks (D7) Frost-Heave Hu		(B2)				in a Dente (• • • •
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Iron Deposits (B5)		D 4)				ing Roots (C	' '	` ,
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Prost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8)		54 <i>)</i>				Coilo (CG)		
	Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsley Vegetated Concave Surface (B8) ield Observations: urface Water Present? Yes No X Depth (inches): /ater Table Present? Yes No X Depth (inches): aturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No		(B6)				, ,		
Trustation visible on Aeriel imagery (B Other (Explain in Nemarks) 1103t-1leave Huminocks (B7)	Sparsley Vegetated Concave Surface (B8) ield Observations: urface Water Present? Yes No X Depth (inches): /ater Table Present? Yes No X Depth (inches): aturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No			magery (B			(LKK A)		
Sparsley Venetated Concave Surface (R8)	ield Observations: urface Water Present? Yes No X Depth (inches): /ater Table Present? Yes No X Depth (inches): aturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No					iii iteiliaiks)		I Tost-Heave Hu	minocks (D1)
	urface Water Present? Yes No X Depth (inches): //ater Table Present? Yes No X Depth (inches): aturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No	 · · ·	Ooncave	- Ouriace (Be	<i>5)</i>		<u> </u>		
	/ater Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches):		Voc	No	Y Donth (inches):				
	aturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No		-						
			-				— Wetl	and Hydrology Present?	Yes No
(includes capillary fringe)	ICHUUES CADIIIATY TITTUE)		-	— · · · ·			— ···•		
(metados sapinar) migo,								-1.1-	
Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	/ and American American Institute and anti-		tream gau	uge, monitor	ring well, aerial photos,		ons), ii avaii		
Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	(Sanga,	Remarks:	tream gau	uge, monitor	ring well, aerial photos,		ons), ii avaii		



Photo Name: Photo_230421121230



Project/Site: Cascade Renewables		City/County:	Skamania	Sampling Da	ate: 11/10/2023		
Applicant/Owner: Cascade Renewables		_	State: WA	Sampling	VP-7 (WA)		
Investigators: B DARBY, J MAZE			Section, Township,	Range:			
Landform (hillslope, terrace, etc.): Flat		Local Reli	ef (concave, convex,		Slope	e(%): 0	
Subregion (LRR): A - Northwest Forest and	Lat:	 Long:	, ,	Datum:	WGS84	` ′	
Soil Map Unit Name: Arents, 0 to 5 percent slope	_		NWI Classific	cation: Unmapped			
Are climatic / hydrologic conditions on the site typic		vear? Yes		(If No, explain in R	emarks)		
Are Vegetation: Soil or Hydrology	significantly d		Are "Normal Circun	- ` ' '	,	K No	1
Are Vegetation: Soil or Hydrology	naturally prob			any answers in Rem		<u> </u>	· —
SUMMARY OF FINDINGS - Attach a si			•	-	•	es, etc.	
Hydrophytic Vegetation Present? Yes	No X		<u> </u>				
Hydric Soil Present? Yes	No X	Is the	Sampled Area				
Wetland Hydrology Present? Yes	No X	withir	n a Wetland?	Yes		No X	
Remarks:							
Verification plot evaluated within proposed landing ground surface, non-hydric soils are assumed. No	wetland indicators		lumbia River. Restric	tive hardpan layer, e	ncountered at 6	nches belo)W
VEGETATION – Use scientific names							
	Absolute	Dominant	Indicator	Dominance Test			
<u>Tree Statum</u> (Plot size: 30 feet)	% Cover	Species?	Status	Number of Domina	•		
Pseudotsuga menziesii	40	Yes	FACU	That Are OBL, FAC	CW, or FAC:	2	_ (A)
Populus balsamifera	10	No	FAC	Total Number of Do	ominant		
Acer macrophyllum	10	No	_ FACU	Species Across All	-	5	– (B)
4				Percent of Domina	·		
	60	= Total Cover		That Are OBL, FAC	CW, or FAC:	40	(A/B)
Sapling/Shrub Stratum (Plot size: 10 feet)				Prevalence Index	worksheet:		
1. Rubus armeniacus	15	Yes	FAC	Total % Cover of:	<u>Multi</u> p	oly by:	
Quercus garryana	5	Yes	FACU	OBL species	x1=		_
3.				FACW species	x2=	0	_
4				FAC species	90 x3=	270	_
5.				FACU species	135 x4=	540	_
	20	= Total Cover		UPL species	x5=	0	_
Herb Stratum (Plot size: 10 feet)				Column Totals:	225 (A)	810	(B)
Poa pratensis	40	Yes	FAC				
2. Daucus carota	30	Yes	FACU	Prevalence Ind	lex = B/A =	3.60)
Vicia americana	25	No	FAC	Hydrophytic Vege	tation Indicator	s:	
Plantago lanceolata	25	No	FACU	1 - Rapid Te	st for Hydrophyti	c Vegetatio	วท
Hypochaeris radicata	20	No	FACU	2 - Dominan	ce Test is >50%		
6. Cichorium intybus	5	No	FACU	3 - Prevalen	ce Index is ≤3.0¹		
7.				4 - Morpholo	gical Adaptation	s¹ (Provide	
8.				data in F	Remarks or on a	separate s	heet)
9.				5 - Wetland	Non-Vascular Pla	ants1	
10.				Problematic	Hydrophytic Veg	etation¹ (E	xplain)
11.				¹Indicators of hydri	c soil and wetlan	d hydrolog	y
	145	= Total Cover		must be present, u		-	-
Woody Vine Stratum (Plot size: 10 feet)						·	
1.				Hydrophytic			
2.				Vegetation	Yes I	No X	
		= Total Cover		Present?			-
% Bare Ground in Herb Stratum 0							
							
Remarks:	o for budrock # -	(ogototics					
Vegetation within sample plot does not meet criteri	a for frydropffydd '	vogetation.					

(inches)	Matrix		Re	edox Feature	es				
	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks	
0-6	10YR3/2	100	-					Gravel, restrictive at 6 in	ches
				_					
				_					
				_					
ype: C= Co	oncentration, D= Depl	letion, RM=Re	duced Matrix, CS=Cov	vered or Coa	ted Sand G	rains.	²Lo	cation: PL=Pore Lining, Ma	=Matrix.
dric Soil Ir	ndicators: (Applical	ble to all LRR	s, unless otherwise r	noted.)			Indicators for Pro	blematic Hydric Soils ³ :	
Histoso	ol (A1)		Sandy Redox	(S5)			2 cm Muck	(A10)	
Histic I	Epipedon (A2)		Stripped Matrix	k (S6)			Red Paren	t Material (TF2)	
Black I	Histic (A3)		Loamy Mucky	Mineral (F1)	(except ML	.RLA 1)	Very Shallo	ow Dark Surface (TF12)	
Hydroς	gen Sulfide (A4)		Loamy Gleyed	Matrix (F2)			Other (Exp	lain in Remarks)	
Deplet	ed Below Dark Surfa	ce (A11)	Depleted Matri	x (F3)					
Thick [Dark Surface (A12)		Redox Dark St	, ,			•	drophytic vegetation and	
	Mucky Mineral (S1)		Depleted Dark)		•	ogy must be present,	
Sandy	Gleyed Matrix (S4)		Redox Depres	sions (F8)			unless disturbe	ed or problematic.	
Restrictive	Layer (if present):								
Type:	Hardpan		_						
Depth	(inches): 6		_				Hydric Soil Pre	sent? Yes	No
Netland Hv	dralami Indiaatara.								
-	drology Indicators:						0 1 1 "		
Primary Indi	icators (minimum of o		,	L (D0)				ators (2 or more required)	
Primary Indi	icators (minimum of c		Water-Stained	` '	` •		Water Stair	ned Leaves (B9) (MRLA 1	, 2,
Primary Indi Surface High W	icators (minimum of c e Water (A1) Vater Tables (A2)		Water-Stained MRLA 1, 2,	4A, and 4B)	` •		Water Stair	ned Leaves (B9) (MRLA 1,	, 2,
Primary Indi Surface High W	icators (minimum of one Water (A1) Vater Tables (A2) ution (A3)		Water-Stained MRLA 1, 2, Salt Crust (B1	4A , and 4B)	` •		Water Stain 4A, and Drainage F	ned Leaves (B9) (MRLA 1, 4B) Patterns (B10)	, 2,
Primary Indi Surface High W Satura Water	icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1)		Water-Stained MRLA 1, 2, Salt Crust (B1	4A , and 4B) 1) ebrates (B13))		Water Stain 4A, and Drainage F Dry-Seaso	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) n Water Table (C2)	
Primary Indi Surface High W Satura Water Sedime	icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2)		Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverte Hydrogen Sulf	4A, and 4B) bebrates (B13) delide Odor (C1)	` .))	oots (C3)	Water Stair 4A, and Drainage F Dry-Seaso Saturation	ned Leaves (B9) (MRLA 1 4B) latterns (B10) In Water Table (C2) Visible on Aeriel Imagery (
Primary Indi Surface High W Satura Water Sedime	icators (minimum of content of the Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3)		Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverte Hydrogen Sulfi Oxidized Rhize	4A, and 4B) brates (B13) de Odor (C1 ospheres alor)) ng Living R	oots (C3)	Water Stail 4A, and Drainage F Dry-Seaso Saturation Geomorph	ned Leaves (B9) (MRLA 1, 4B) Patterns (B10) In Water Table (C2) Visible on Aeriel Imagery (c Position (D2)	
Primary Indi Surface High W Satura Water Sedime Drift De	icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)		Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo	4A, and 4B) brates (B13) de Odor (C1 ospheres alor educed Iron)) ng Living R (C4)		Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) in Water Table (C2) Visible on Aeriel Imagery (ic Position (D2) juitard (D3)	
Primary Indi Surface High W Satura Water Sedime Drift De Algal M	icators (minimum of content of the Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3)		Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhize Presence of Re Recent Iron Re	4A, and 4B) betates (B13) ide Odor (C1 ospheres aloueduced Iron (eduction in Ti)) ng Living R (C4) illed Soils (0	C6)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) in Water Table (C2) Visible on Aeriel Imagery (ic Position (D2) juitard (D3) al Test (D5)	
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De	icators (minimum of one Water (A1) Vater Tables (A2) Intion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	one required; o	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo	4A, and 4B) brates (B13) de Odor (C1 ospheres alor educed Iron of eduction in Tilessed Plants) ng Living R (C4) illed Soils (((D1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) in Water Table (C2) Visible on Aeriel Imagery (ic Position (D2) juitard (D3)	
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda	icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) In Soil Cracks (B6)	one required; o	Water-Stained MRLA 1, 2, Salt Crust (B1: Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Recent Iron Re Stunted or Stre Other (Explain	4A, and 4B) brates (B13) de Odor (C1 ospheres alor educed Iron of eduction in Tilessed Plants) ng Living R (C4) illed Soils (((D1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) in Water Table (C2) Visible on Aeriel Imagery (c Position (D2) luitard (D3) al Test (D5) Mounds (D6) (LRR A)	
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle	icators (minimum of one Water (A1) Vater Tables (A2) Intion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ie Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concar	one required; o	Water-Stained MRLA 1, 2, Salt Crust (B1: Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Recent Iron Re Stunted or Stre Other (Explain	4A, and 4B) brates (B13) de Odor (C1 ospheres alor educed Iron of eduction in Tilessed Plants) ng Living R (C4) illed Soils (((D1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) in Water Table (C2) Visible on Aeriel Imagery (c Position (D2) luitard (D3) al Test (D5) Mounds (D6) (LRR A)	
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle	icators (minimum of one Water (A1) Vater Tables (A2) Intion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ie Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concar	one required; o	Water-Stained MRLA 1, 2, Salt Crust (B1: Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Recent Iron Re Stunted or Stre Other (Explain	4A, and 4B) brates (B13) de Odor (C1 ospheres alor educed Iron (eduction in Ti essed Plants in Remarks)) ng Living R (C4) illed Soils (((D1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) in Water Table (C2) Visible on Aeriel Imagery (c Position (D2) luitard (D3) al Test (D5) Mounds (D6) (LRR A)	
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Water	icators (minimum of one Water (A1) Vater Tables (A2) Intion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) The Soil Cracks (B6) Attion Visible on Aeriel ey Vegetated Concar rvations: Iter Present? Yes	one required; o	Water-Stained MRLA 1, 2, Salt Crust (B1' Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Ro Recent Iron Ro Stunted or Stre Other (Explain	4A, and 4B) brates (B13) ide Odor (C1 brates aloreduced Iron (eduction in Tiessed Plants in Remarks)) ng Living R (C4) illed Soils (((D1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) in Water Table (C2) Visible on Aeriel Imagery (c Position (D2) luitard (D3) al Test (D5) Mounds (D6) (LRR A)	
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Water Water Table	icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ee Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concar rvations: ter Present? Yes ee Present? Yes	I Imagery (B	Water-Stained MRLA 1, 2, Salt Crust (B1: Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Recent Iron Re Stunted or Stre Other (Explain X Depth (inches)	4A, and 4B) brates (B13) de Odor (C1 bepheres aloreduced Iron (eduction in Tiessed Plants in Remarks)) ng Living R (C4) illed Soils (((D1) (LRR	C6) A)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) n Water Table (C2) Visible on Aeriel Imagery (c Position (D2) juitard (D3) al Test (D5) Mounds (D6) (LRR A) le Hummocks (D7)	
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation F	icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ee Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concar rvations: ter Present? Yes ee Present? Yes	I Imagery (B	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain X Depth (inches)	4A, and 4B) brates (B13) de Odor (C1 bepheres aloreduced Iron (eduction in Tiessed Plants in Remarks)) ng Living R (C4) illed Soils (((D1) (LRR	C6) A)	Water Stail 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) n Water Table (C2) Visible on Aeriel Imagery (c Position (D2) juitard (D3) al Test (D5) Mounds (D6) (LRR A) le Hummocks (D7)	C9)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation F (includes ca	icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ee Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concar rvations: ter Present? Yes e Present? Yes epillary fringe)	I Imagery (B ve Surface (B8	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain X Depth (inches)	4A, and 4B) brates (B13) de Odor (C1 bespheres aloreduced Iron (eduction in Ti essed Plants in Remarks)) ng Living R (C4) illed Soils ((D1) (LRR	C6) A) Wetland	Water Stail 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) n Water Table (C2) Visible on Aeriel Imagery (c Position (D2) juitard (D3) al Test (D5) Mounds (D6) (LRR A) le Hummocks (D7)	C9)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation F (includes ca	icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ee Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concar rvations: ter Present? Yes e Present? Yes epillary fringe)	I Imagery (B ve Surface (B8	Water-Stained MRLA 1, 2, Salt Crust (B1: Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Recent Iron Re Stunted or Stree Other (Explain X Depth (inches) X Depth (inches)	4A, and 4B) brates (B13) de Odor (C1 bespheres aloreduced Iron (eduction in Ti essed Plants in Remarks)) ng Living R (C4) illed Soils ((D1) (LRR	C6) A) Wetland	Water Stail 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) n Water Table (C2) Visible on Aeriel Imagery (c Position (D2) juitard (D3) al Test (D5) Mounds (D6) (LRR A) le Hummocks (D7)	C9)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation F (includes ca	icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ee Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concar rvations: ter Present? Yes e Present? Yes epillary fringe)	I Imagery (B ve Surface (B8	Water-Stained MRLA 1, 2, Salt Crust (B1: Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Recent Iron Re Stunted or Stree Other (Explain X Depth (inches) X Depth (inches)	4A, and 4B) brates (B13) de Odor (C1 bespheres aloreduced Iron (eduction in Ti essed Plants in Remarks)) ng Living R (C4) illed Soils ((D1) (LRR	C6) A) Wetland	Water Stail 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) n Water Table (C2) Visible on Aeriel Imagery (c Position (D2) juitard (D3) al Test (D5) Mounds (D6) (LRR A) le Hummocks (D7)	C9)
Primary Indi Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation F (includes ca escribe Reco	icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ee Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concar rvations: ter Present? Yes e Present? Yes epillary fringe)	I Imagery (B ve Surface (B8 No No No gauge, monitor	Water-Stained MRLA 1, 2, Salt Crust (B1' Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Recent Iron Re Stunted or Stree Other (Explain X Depth (inches) X Depth (inches) X Depth (inches) Cring well, aerial photos	4A, and 4B) brates (B13) de Odor (C1 bespheres aloreduced Iron (eduction in Ti essed Plants in Remarks)) ng Living R (C4) illed Soils ((D1) (LRR	C6) A) Wetland	Water Stail 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (B9) (MRLA 1, 4B) latterns (B10) n Water Table (C2) Visible on Aeriel Imagery (c Position (D2) juitard (D3) al Test (D5) Mounds (D6) (LRR A) le Hummocks (D7)	C9)



Photo Name: Photo_231110155453



Photo Name: Photo_231110155449



Appendix C. Wetland Rating Forms

This page is intentionally left blank.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W1 Date of site visit: 11/06/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional **Wetland has multiple HGM classes? Yes** [] **No** [X]

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category I] (based on functions [] or special characteristics [X])

1. Category of wetland based on FUNCTIONS

[] **Category I** - Total score = 23 - 27

[] Category II - Total score = 20 - 22

[X] Category III - Total score = 16 - 19

[] Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	М	L	
Landscape Potential	L	L	Н	
Value	Н	Н	Н	Total
Score Based on Ratings	6	6	7	19

Score for each function based on three ratings

(order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H, M, M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	Category I
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

Rating of Site Potential	[] 12-16 = H [X] 6-11 = M [] 0-5 = L	Record the rating on t	he first r	== oac
		Total for D 1:	9	
Area seasonally ponded is < 25% total a	rea of wetland	points = 0	Score:	2
Area seasonally ponded is equal to or >	25% total area of wetland	points = 2		
Area seasonally ponded is > 50% total a	rea of wetland	points = 4		
D 1.4 What are the characteristics of sea	asonal ponding or inundation in the wetland area	<u>?</u>		
Wetland has persistent, ungrazed plants	< 10% of area	points = 0	Score:	5
Wetland has persistent, ungrazed plants	> 10% of area	points = 1		
Wetland has persistent, ungrazed, plants	s > 50% of area	points = 3		
Wetland has persistent, ungrazed, plants	s > 95% of area	points = 5		
D 1.3 What are the characteristics and c	listribution of persistent plants?			
None of the above		points = 0	Score:	(
Soil texture identified as clay or organic	by laboratory test	points = 4		
Soil texture identified as clay or organic	in field	points = 4		
Mapped as true clay or organic (muck o	r peat)	points = 4		
D 1.2 Is the soil 2 in. below the surface a	a true clay or organic soil?			
Wetland is a flat depression whose outle	et is a permanently flowing ditch.	points = 1	Score:	2
permanently flowing		points – 1		
Wetland has an unconstricted, or slightly	y constricted, surface outlet that is	points = 1		
Wetland has an intermittently flowing, o	r highly constricted, outlet.	points = 2		
Wetland has no surface water outlet.		points = 3		
U I.I <u>whiat are the characteristics of sur</u>	face water outflows from the wetland?			

Rating of Site Potential	[] 12-10 - H [A] 0-11 - W[] 0-3 - L	Record the ruting on the first page
D 2 0 Does the landscape have the no	stantial to support the water quality function	of the site?

D 2.0 Does the landscape have the potential to support the water quality	function of the site?		
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.2 Is > 10% of the area within 150ft of the wetland in land uses that general	te pollutants in surface runoff?		
Yes	points = 1		
No	points = 0	Score:	0
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland that are r	not listed in questions D 2.1-D 2	2.3?	
Yes	points = 1		
No	points = 0	Score:	0

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	0

Rating of Landscape Potential [] 3-4 = H[] 1-2 = M[X] 0 = L Record the rating on the first page

D 3.0 Is the water quality improvement provided by the site valuable to society?					
D 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d)					
list?					
Yes	points = 1				
No	points = 0	Score:	0		
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?					
Yes	points = 1				
No	points = 0	Score:	0		
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining v	vater quality?				
Yes	points = 2				
No	points = 0	Score:	2		
	Total for D 3:	2			

Rating of Value [X] 2-4 = H [] 1 = M [] 0 = L Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 2
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 3

		Total for D 4:	8	
Entire wetland is in the Flats class		points = 5	Score:	3
The area of the basin is more than 100 time	es the area of the unit	points = 0		
The area of the basin is 10 to 100 times the	area of the unit	points = 3		
The area of the basin is less than 10 times t	he area of the unit	points = 5		
D 4.3 What is the contribution of the wetla	nd to storage in the watershed?			

Rating of Site Potential

[] 12-16 = H [X] 6-11 = M [] 0-5 = L

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	0
D 5.2 <u>Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runof</u>	ff?		
Yes	points = 1		
No	points = 0	Score:	0
D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human	an land uses?		
Yes	points = 1		
No	points = 0	Score:	0
	Total for D 5:	0	

Rating of Landscape Potential

[] 3 = H[] 1-2 = M[X] 0 = L

Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?

, , ,		
D 6.1 <u>Is the wetland in a landscape that has flooding problems?</u>		
Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
Flooding from groundwater is an issue in the basin.	points = 1	
The existing or potential outflow from the wetland is so constrained that water	points = 0	
cannot reach areas that flood.	points – 0	
There are no problems with flooding downstream of the wetland.	points = 0	Score: 2
D 6.2 Has the site been identified as important for flood storage or flood conveyance in	<u>n a regional flood co</u>	ntrol plan?
Yes	points = 2	
No	points = 0	Score: 0

Total for D 6:

2

Rating of Value

[X] **2-4** = **H** [] **1** = **M** [] **0** = **L**

Record the rating on the first page

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?			
Aquatic Bed			
Emergent			
Scrub-shrub			
Forested			
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,			
herbaceous, moss/ground cover)			
4 structures or more	points = 4		
3 structures	points = 2		
2 structures	points = 1		
1 structure	points = 0		
No structures present	points = 0	Score:	1
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?			
Permanently flooded or inundated			
✓ Seasonally flooded or inundated			
Occasionally flooded or inundated			
✓ Saturated only			
Permanently flowing stream or river in, or adjacent to, the wetland			
Seasonally flowing stream in, or adjacent to, the wetland			
Lake Fringe wetland			
Freshwater Tidal wetland			
4 or more types present	points = 3		
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2		
2 types present	points = 1		
1 type present	points = 0		
None present	points = 0	Score:	1
H 1.3 What is the richness of the plant species in the wetland?			
>19 species	points = 2		
5-19 species	points = 1		
<5 species	points = 0	Score:	1

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 2
H 1.5 What are the special habitat features in the wetland?		
Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
✓ Standing snags (dbh >4in) within the wetland		
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score: 1
	Total for H 1:	6

Rating of Site Potential

[] **15-18** = **H** [] **7-14** = **M** [X] **0-6** = **L**

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 3
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wetland name or number: W1			
H 2.3 What is the land use intensity in	the 1km polygon?		
50% of the Polygon is high intensity la	nd use	points = -2	
<50% of the Polygon is high intensity	and use	points = 0	Score: 0
		Total for H 2:	6
Rating of Landscape Potential	[X] 4-6 = H [] 1-3 = M [] 0 = L	Record the rating on t	the first page
H 3.0 Is the habitat provided by the	site valuable to society?		
H 3.1 Does the site provide habitat for	species valued in laws, regulations, or policies?		
Aspen Stands			

H 3.1 Does the site provide habitat for species valued in laws, regulations, or policies?		
Aspen Stands		
Biodiversity Areas and Corridors		
Herbaceous Balds		
Old-growth/Mature Forests		
Oregon White Oak		
Riparian		
Westside Prarie		
Fresh Deepwater		
Instream		
Nearshore (Coastal, Open Coast, Puget Sound)		
Caves		
Cliffs		
✓ Snags and Logs		
Talus		
The following criteria automatically score 2 points:		
The wetland provides habitat for Threatened or Endangered species		
The wetland is mapped as a location for an individual WDFW priority species		
✓ The wetland is a Wetland of High Conservation Value		
The wetland has been categorized as an important habitat site in a local plan		
The wetland has 3 or more WDFW priority habitats within 100m, or meets the criteria for societal value	points = 2	
The site has 1 or 2 WDFW priority habitats within 100m	points = 1	
The site does not meet any of the criteria for societal value	points = 0	Score: 2
	Total for H 3:	2

Rating of Value

[X] 2 = H[] 1 = M[] 0 = L

Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

The dominant water regime is tidal The wetland is vegetated The water salinity is greater than 0.5 ppt Yes - Go to SC 1.2 No - Not an Estuarine Wetland SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes - Category I Estuarine Wetland No - Go to SC 1.3 Result: SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
The water salinity is greater than 0.5 ppt Yes - Go to SC 1.2 No - Not an Estuarine Wetland SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes - Category I Estuarine Wetland No - Go to SC 1.3 Result: SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
Yes - Go to SC 1.2 No - Not an Estuarine Wetland SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes - Category I Estuarine Wetland No - Go to SC 1.3 Result: SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
Result: Not an Estuarine Wetland SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes - Category I Estuarine Wetland No - Go to SC 1.3 Result: SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
Result: Not an Estuarine Wetland SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes - Category I Estuarine Wetland No - Go to SC 1.3 Result: SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes - Category I Estuarine Wetland No - Go to SC 1.3 Result: SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes - Category I Estuarine Wetland No - Go to SC 1.3 Result: SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
Yes - Category I Estuarine Wetland No - Go to SC 1.3 Result: SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
Yes - Category I Estuarine Wetland No - Go to SC 1.3 Result: SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
No - Go to SC 1.3 Result: SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
No - Go to SC 1.3 Result: SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
grazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.
water, or contiguous freshwater wetlands.
Yes - Category I Estuarine Wetland
Yes - Category I Estuarine Wetland
No - Category II Estuarine Wetland Result:
SC 2.0 Wetlands of High Conservation Value
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on
the WNHP Data Explorer?
Yes - Category I Wetland of High Conservation Value
Result: Category I
No - Go to SC 2.2 Wetland of High
Conservation Value
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality common plant community that
may qualify the site as a WHCV?
Yes - Category I Wetland of High Conservation Value
No - Not a Wetland of High Conservation Value Result:

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, the	nat compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are le	ess than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of	<u>a lake or pond?</u>
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result: Not a Bog
	Wetland
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level,	AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes	stern red cedar, western
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of	•
combinations of species) listed in the table found in the instructions provide more than 30% of	the cover under the
<u>canopy?</u>	
Yes - Category I Bog Wetland	
No - Not a Bog Wetland	Result:
SC 4.0 Forested Wetlands	
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following	ng criteria?
Old-growth forests	
Mature forests	
Yes - Category I Forested Wetland	
	Result: Not a Forested

Wetland

Wetland name or number: W1

No - Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coast	stal lagoon?
The wetland lies in a depression adjacent to marine waters that is wholly or partially	
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Yes - Go to SC 5.2	
163 66 66 56 5.2	Result: Not a Coastal
No - Not a Coastal Lagoon Wetland	Lagoon Wetland
SC E 2 Days the westland most all of the following three conditions?	Lugoon Welland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	nip WBUO)?
Yes - Go to SC 6.2	
No. Not an interdunal Watland	Result: Not an
No - Not an Interdunal Wetland	Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
be 6.3 bees the wetland score 6 or 5 points for the habitat functions:	
Yes - Category I Interdunal Wetland	
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	ac and Tac in size?
Van Catanan Williams Watter	
Yes - Category III Interdunal Wetland	B. 14
No - Category IV Interdunal Wetland	Result:

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Category I



Figure 1: Cowardin classes.



Figure 2: Hydroperiods

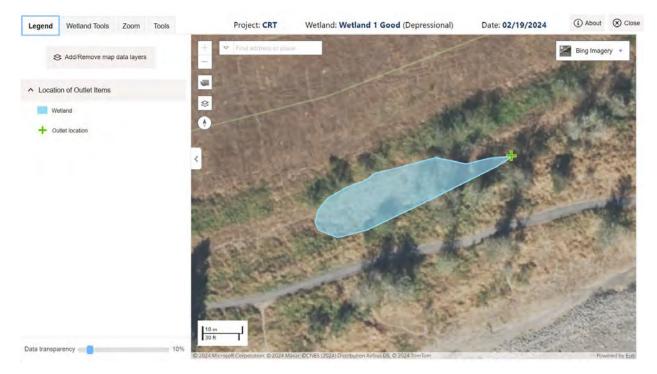


Figure 3: Outlet

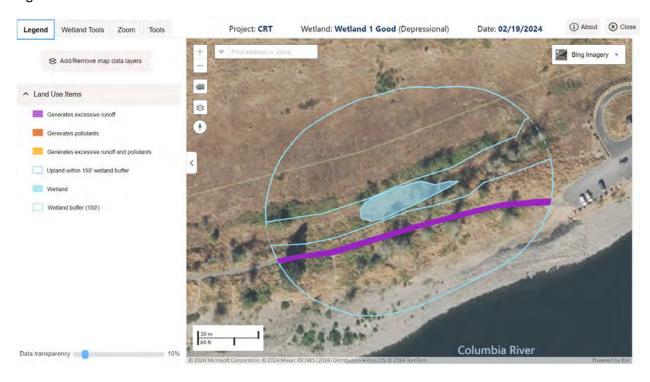


Figure 4: Boundary of 150'

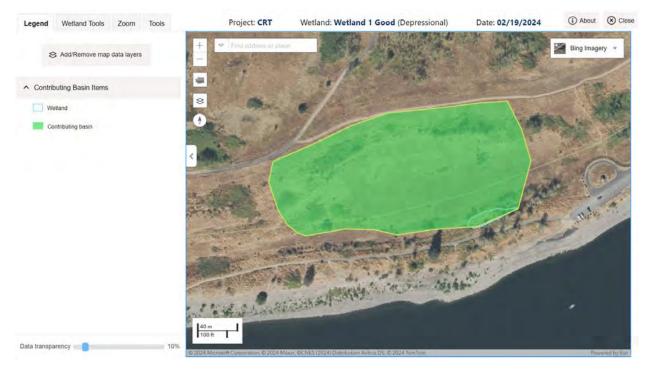


Figure 5: Contributing Basin

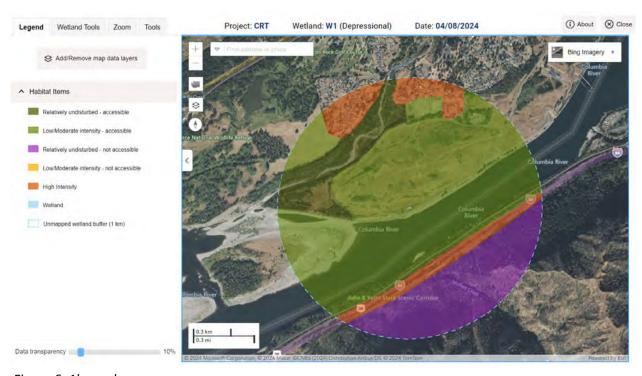


Figure 6: 1km polygon.

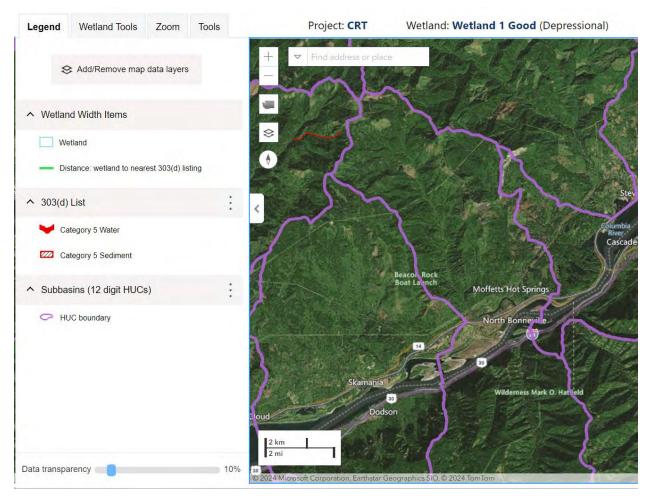


Figure 7: 303(d) listed waters in basin.

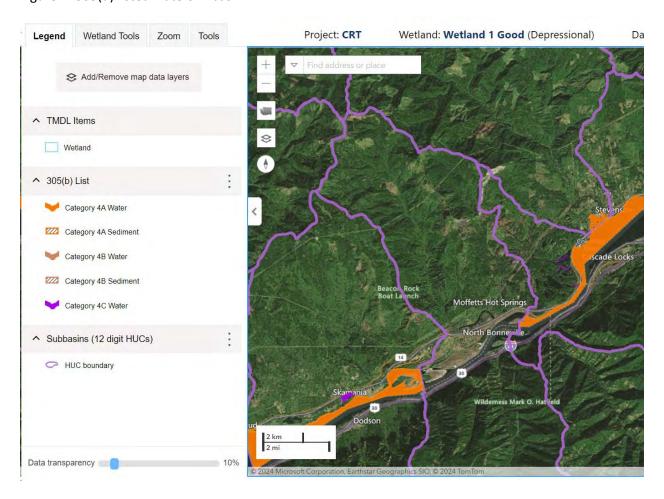


Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W2 Date of site visit: 11/06/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional **Wetland has multiple HGM classes? Yes** [] **No** [X]

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category I] (based on functions [] or special characteristics [X])

1. Category of wetland based on FUNCTIONS

[] **Category I** - Total score = 23 - 27

[X] Category II - Total score = 20 - 22

[] Category III - Total score = 16 - 19

[] Category IV - Total score = 9 - 15

Ratings	1	,	1	21
Score Based on	7	7	7	21
Value	Н	Н	Н	Total
Landscape Potential	M	M	Н	
Site Potential	M	M	L	
FUNCTION	Improving Water Quality	Hydrologic	Habitat	

Score for each function based on three ratings

(order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H, M, M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	Category I
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0 Does the site have the potential to improve water quality?			
D 1.1 What are the characteristics of surface water outflows from the wetland?			
Wetland has no surface water outlet.	points = 3		
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2		
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 1		
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	Score:	2
D 1.2 Is the soil 2 in. below the surface a true clay or organic soil?			
Mapped as true clay or organic (muck or peat)	points = 4		
Soil texture identified as clay or organic in field	points = 4		
Soil texture identified as clay or organic by laboratory test	points = 4		
None of the above	points = 0	Score:	0
D 1.3 What are the characteristics and distribution of persistent plants?			
Wetland has persistent, ungrazed, plants > 95% of area	points = 5		
Wetland has persistent, ungrazed, plants > 50% of area	points = 3		
Wetland has persistent, ungrazed plants > 10% of area	points = 1		
Wetland has persistent, ungrazed plants < 10% of area	points = 0	Score:	5
D 1.4 What are the characteristics of seasonal ponding or inundation in the wetland area	a?_		
Area seasonally ponded is > 50% total area of wetland	points = 4		
Area seasonally ponded is equal to or > 25% total area of wetland	points = 2		
Area seasonally ponded is < 25% total area of wetland	points = 0	Score:	2
	Total for D 1:	9	
Rating of Site Potential [] 12-16 = H [X] 6-11 = M [] 0-5 = L	Record the rating on t	he first p	age

D 2.0 Does the landscape have the potential to support the water quality	y function of the site?		
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.2 <u>Is > 10% of the area within 150ft of the wetland in land uses that generally the second of the area within 150ft of the wetland in land uses that generally the second of the area within 150ft of the wetland in land uses that generally the second of the area within 150ft of the wetland in land uses that generally the second of the second of the land uses that generally the second of the land uses the land uses the second of the land uses the</u>	rate pollutants in surface runoff?		
Yes	points = 1		
No	points = 0	Score:	0
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland that are	not listed in questions D 2.1-D 2	.3?	
Yes	points = 1		
No	points = 0	Score:	0

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	1

Rating of Landscape Potential [] 3-4 = H [X] 1-2 = M [] 0 = L Record the rating on the first page

D 3.0 Is the water quality improvement provided by the site valuable to society?			
D 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine	water that is on th	he 303(<u>d</u>)	
<u>list?</u>			
Yes	points = 1		
No	points = 0	Score:	0
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?			
Yes	points = 1		
No	points = 0	Score:	0
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining v	water quality?		
Yes	points = 2		
No	points = 0	Score:	2

Rating of Value [X] 2-4 = H [] 1 = M [] 0 = L Record the rating on the first page

Total for D 3:

2

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 2
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 3

	Total for D 4:	8	
Entire wetland is in the Flats class	points = 5	Score:	3
The area of the basin is more than 100 times the area of the unit	points = 0		
The area of the basin is 10 to 100 times the area of the unit	points = 3		
The area of the basin is less than 10 times the area of the unit	points = 5		
D 4.3 What is the contribution of the wetland to storage in the watershed?			

Rating of Site Potential

[] 12-16 = H [X] 6-11 = M [] 0-5 = L

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site	?		
D 5.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 5.2 <u>Is >10% of the area within 150 ft of the wetland in land uses that generate excess runo</u>	off?		
Yes	points = 1		
No	points = 0	Score:	0
D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive hum.	an land uses?		
Yes	points = 1		
No	points = 0	Score:	0
	Total for D 5:	1	

Rating of Landscape Potential

[] 3 = H [X] 1-2 = M [] 0 = L

Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?

D 6.1 Is the wetland in a landscape that has flooding problems? Flooding occurs in a sub-basin that is immediately down-gradient of the wetland. points = 2Surface flooding problems are in a sub-basin farther down-gradient. points = 1Flooding from groundwater is an issue in the basin. points = 1The existing or potential outflow from the wetland is so constrained that water points = 0cannot reach areas that flood. There are no problems with flooding downstream of the wetland. Score: 2 points = 0D 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes points = 2

points = 0Score: 0 No

Total for D 6:

2

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?		
Aquatic Bed		
✓ Emergent		
Scrub-shrub		
Forested		
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)		
4 structures or more	points = 4	
3 structures	points = 2	
2 structures	points = 1	
1 structure	points = 0	
No structures present	points = 0	Score: 0
· · · · · · · · · · · · · · · · · · ·	points – 0	Score. 0
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?		
Permanently flooded or inundated		
Seasonally flooded or inundated		
Occasionally flooded or inundated		
Saturated only		
Permanently flowing stream or river in, or adjacent to, the wetland		
Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland		
Freshwater Tidal wetland		
4 or more types present	points = 3	
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2	
2 types present	points = 1	
1 type present	points = 0	
None present	points = 0	Score: 1
H 1.3 What is the richness of the plant species in the wetland?		
>19 species	points = 2	
5-19 species	points = 1	
<5 species	points = 0	Score: 1

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 1
H 1.5 What are the special habitat features in the wetland?		
Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
Standing snags (dbh >4in) within the wetland		
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score:
	Total for H 1:	3

Rating of Site Potential

[] **15-18** = **H** [] **7-14** = **M** [X] **0-6** = **L**

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 3
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wetland name or number: W2 H 2.3 What is the land use intensity in	the 1km polygon?			_
50% of the Polygon is high intensity la		points = -2		
<50% of the Polygon is high intensity		points = 0	Score: 0)
		Total for H 2:	6	
Rating of Landscape Potential	[X] 4-6 = H [] 1-3 = M [] 0 = L	Record the rating on the first pa		је
H 3.0 Is the habitat provided by the	site valuable to society?			

	5.0 is the habitat provided by the site valuable to society:			
Н	3.1 Does the site provide habitat for species valued in laws, regulations, or policies?			
	Aspen Stands			
	Biodiversity Areas and Corridors			
	Herbaceous Balds			
	Old-growth/Mature Forests			
	Oregon White Oak			
	Riparian			
	Westside Prarie			
	Fresh Deepwater			
	Instream			
	Nearshore (Coastal, Open Coast, Puget Sound)			
	Caves			
	Cliffs			
	Snags and Logs			
	Talus			
Th	e following criteria automatically score 2 points:			
	The wetland provides habitat for Threatened or Endangered species			
	The wetland is mapped as a location for an individual WDFW priority species			
\	The wetland is a Wetland of High Conservation Value			
	The wetland has been categorized as an important habitat site in a local plan			
Th	ne wetland has 3 or more WDFW priority habitats within 100m, or meets the	2		
cri	iteria for societal value	points = 2		
Th	ne site has 1 or 2 WDFW priority habitats within 100m	points = 1		
Th	e site does not meet any of the criteria for societal value	points = 0	Score: 2	2
		Total for H 3:	2	

Rating of Value

[X] **2** = **H** [] **1** = **M** [] **0** = **L** Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands? The dominant water regime is tidal The wetland is vegetated The water salinity is greater than 0.5 ppt	
The water summy is greater than 0.5 ppt	
Yes - Go to SC 1.2	_
No - Not an Estuarine Wetland	Result: Not an Estuarine Wetland
SC 1.2 <u>Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, National Estuary Reserv</u>	
State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151	<u>1?</u>
Yes - Category I Estuarine Wetland	
No - Go to SC 1.3	Result:
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes - Category I Estuarine Wetland	
No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ective WNHP Data Explorer? Vec. Category I Wetland of High Conservation Value	osystem polygons on
Yes - Category I Wetland of High Conservation Value	Result: Category I
No - Go to SC 2.2	Wetland of High Conservation Value
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo may qualify the site as a WHCV?	n plant community that
Yes - Category I Wetland of High Conservation Value	
No - Not a Wetland of High Conservation Value	Result:

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, t	hat compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are I	ess than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of	a lake or pond?
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result: Not a Bog
	Wetland
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level,	AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	Result:
SC 3.4 ls an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, we	stern red cedar, western
<u>hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of</u>	•
combinations of species) listed in the table found in the instructions provide more than 30% of	the cover under the
<u>canopy?</u>	
Yes - Category I Bog Wetland	
No - Not a Bog Wetland	Result:
SC 4.0 Forested Wetlands	
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following	ng criteria?
Old-growth forests	
Mature forests	
Yes - Category I Forested Wetland	
	Result: Not a Forested

Wetland

Wetland name or number: W2

No - Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coast	stal lagoon?
The wetland lies in a depression adjacent to marine waters that is wholly or partially	
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Yes - Go to SC 5.2	
163 66 66 56 5.2	Result: Not a Coastal
No - Not a Coastal Lagoon Wetland	Lagoon Wetland
SC E 2 Days the westland most all of the following three conditions?	Lugoon Welland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	nip WBUO)?
Yes - Go to SC 6.2	
No. Not an interdunal Watland	Result: Not an
No - Not an Interdunal Wetland	Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Does the wettand score 8 of 9 points for the habitat functions:	
Yes - Category I Interdunal Wetland	
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	ac and Tac in size?
Yes - Category III Interdunal Wetland	
No - Category IV Interdunal Wetland	Result:

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Category I

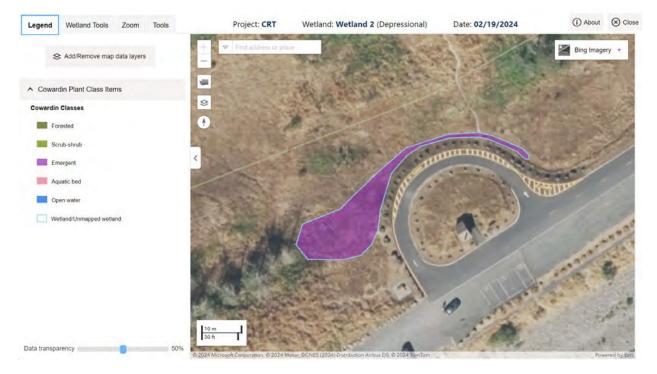


Figure 1: Cowardin classes.



Figure 2: Hydroperiods

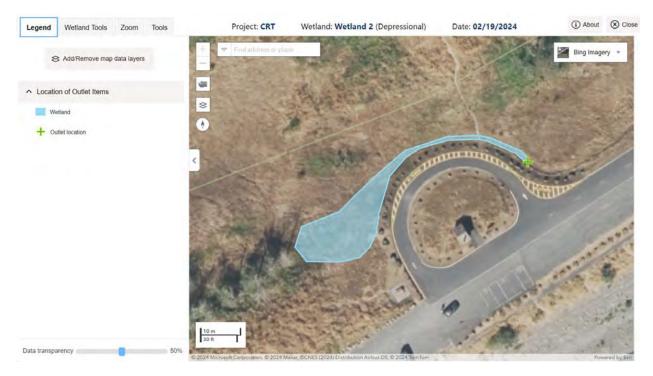


Figure 3: Outlet

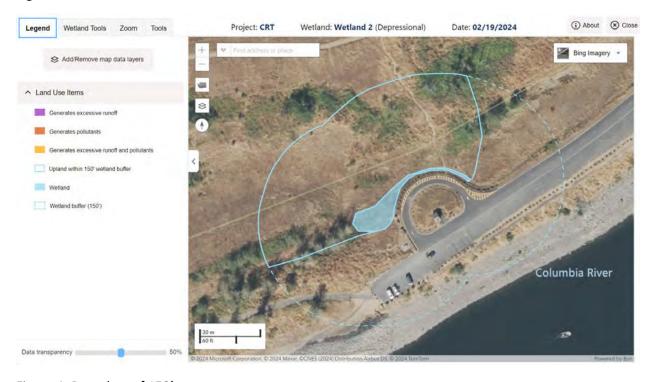


Figure 4: Boundary of 150'

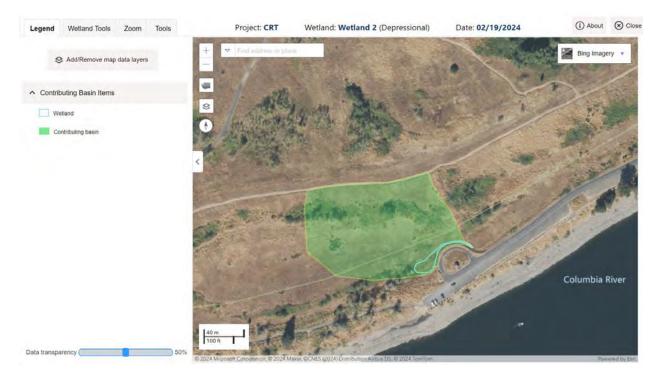


Figure 5: Contributing Basin

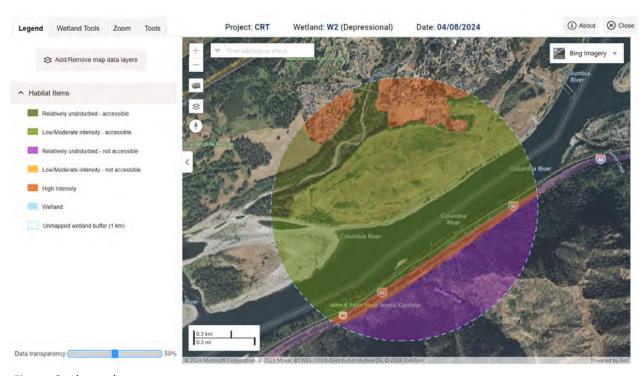


Figure 6: 1km polygon.

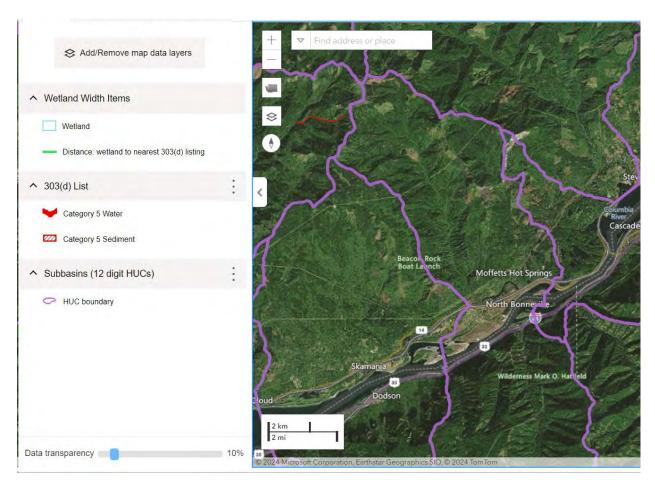


Figure 7: 303(d) listed waters in basin.

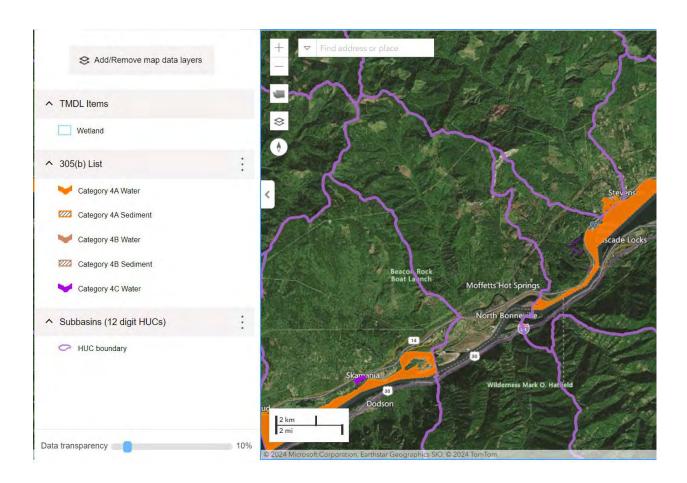


Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W3 Date of site visit: 11/06/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional **Wetland has multiple HGM classes? Yes** [] **No** [X]

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category I] (based on functions [] or special characteristics [X])

1. Category of wetland based on FUNCTIONS

[] **Category I** - Total score = 23 - 27

[X] Category II - Total score = 20 - 22

[] Category III - Total score = 16 - 19

[] Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	М	L	
Landscape Potential	M	L	Н	
Value	Н	Н	Н	Total
Score Based on Ratings	7	6	7	20

Score for each function based on three ratings

(order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H, M, M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M, M, L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	Category I
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

<u> </u>		
Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1 0 Doos the site have the notential to improve water quality?			
D 1.0 Does the site have the potential to improve water quality?			
D 1.1 What are the characteristics of surface water outflows from the wetland?			
Wetland has no surface water outlet.	points = 3		
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2		
Wetland has an unconstricted, or slightly constricted, surface outlet that is	points = 1		
permanently flowing	points – i		
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	Score:	2
D 1.2 Is the soil 2 in. below the surface a true clay or organic soil?			
Mapped as true clay or organic (muck or peat)	points = 4		
Soil texture identified as clay or organic in field	points = 4		
Soil texture identified as clay or organic by laboratory test	points = 4		
None of the above	points = 0	Score:	0
D 1.3 What are the characteristics and distribution of persistent plants?			
Wetland has persistent, ungrazed, plants > 95% of area	points = 5		
Wetland has persistent, ungrazed, plants > 50% of area	points = 3		
Wetland has persistent, ungrazed plants > 10% of area	points = 1		
Wetland has persistent, ungrazed plants < 10% of area	points = 0	Score:	5
D 1.4 What are the characteristics of seasonal ponding or inundation in the wetland are	<u></u>		
Area seasonally ponded is > 50% total area of wetland	points = 4		
Area seasonally ponded is equal to or > 25% total area of wetland	points = 2		
Area seasonally ponded is < 25% total area of wetland	points = 0	Score:	2
	Total for D 1:	9	
Rating of Site Potential [] 12-16 = H [X] 6-11 = M [] 0-5 = L	Record the rating on t	he first p	age

rading of site i otential		necora the rating on the first page
D 2.0 Does the landscape have the po	tential to support the water quality function	on of the site?

D 2.0 Does the landscape have the potential to support the	water quality function of the site?		
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.2 Is > 10% of the area within 150ft of the wetland in land us	ses that generate pollutants in surface runoff?		
Yes	points = 1		
No	points = 0	Score:	0
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the week	tland that are not listed in questions D 2.1-D 2.3	<u>}?</u>	
Yes	points = 1		
No	points = 0	Score:	1

D 2.5 What are the other sources of pollutants coming into the wetland?	
Gravel Road	
Total for D 2:	1

Rating of Landscape Potential [] 3-4 = H [X] 1-2 = M [] 0 = L Record

Record the rating on the first page

		- / /-	9 -
D 3.0 Is the water quality improvement provided by the site valuable to society?			
D 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or man	rine water that is on tl	he 303(d)	
list?			
Yes	points = 1		
No	points = 0	Score:	0
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?			
Yes	points = 1		
No	points = 0	Score:	0
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining	ng water quality?		
Yes	points = 2		
No	points = 0	Score:	2
	Total for D 3:	2	

Rating of Value

[X] **2-4** = **H** [] **1** = **M** [] **0** = **L**

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 2
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 3

	Total for D 4:	8	
Entire wetland is in the Flats class	points = 5	Score:	3
The area of the basin is more than 100 times the area of the unit	points = 0		
The area of the basin is 10 to 100 times the area of the unit	points = 3		
The area of the basin is less than 10 times the area of the unit	points = 5		
D 4.3 What is the contribution of the wetland to storage in the watershed?			

Rating of Site Potential

[] 12-16 = H [X] 6-11 = M [] 0-5 = L

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?				
D 5.1 Does the wetland unit receive stormwater discharges?				
Yes points = 1				
No points = 0	Score: 0			
D 5.2 Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff?				
Yes points = 1				
No points = 0	Score: 0			
D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human land use	<u>s?</u>			
Yes points = 1				
No points = 0	Score: 0			
Total for	r D 5:			

Rating of Landscape Potential

[] 3 = H[] 1-2 = M[X] 0 = L

Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?

D 6.1 <u>Is the wetland in a landscape that has flooding problems?</u>		
Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
Flooding from groundwater is an issue in the basin.	points = 1	
The existing or potential outflow from the wetland is so constrained that water	points = 0	
cannot reach areas that flood.	points = 0	
There are no problems with flooding downstream of the wetland.	points = 0	Score: 2
D 6.2 Has the site been identified as important for flood storage or flood conveyance in a	regional flood co	ntrol plan?
Yes	points = 2	
No	points = 0	Score: 0

Total for D 6:

2

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?			
Aquatic Bed			
Emergent			
Scrub-shrub			
Forested			
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,			
herbaceous, moss/ground cover)			
4 structures or more	points = 4		
3 structures	points = 2		
2 structures	points = 1		
1 structure	points = 0		
No structures present	points = 0	Score:	1
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?			
Permanently flooded or inundated			
✓ Seasonally flooded or inundated			
Occasionally flooded or inundated			
✓ Saturated only			
Permanently flowing stream or river in, or adjacent to, the wetland			
Seasonally flowing stream in, or adjacent to, the wetland			
Lake Fringe wetland			
Freshwater Tidal wetland			
4 or more types present	points = 3		
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2		
2 types present	points = 1		
1 type present	points = 0		
None present	points = 0	Score:	1
H 1.3 What is the richness of the plant species in the wetland?			
>19 species	points = 2		
5-19 species	points = 1		
<5 species	points = 0	Score:	1
· ·			

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 1
H 1.5 What are the special habitat features in the wetland?		
✓ Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
✓ Standing snags (dbh >4in) within the wetland		
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score: 2
	Total for H 1:	6

Rating of Site Potential

[] **15-18** = **H** [] **7-14** = **M** [X] **0-6** = **L**

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 3
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wetland name or number: W3				
H 2.3 What is the land use intensity in	the 1km polygon?			
50% of the Polygon is high intensity la	nd use	points = -2		
<50% of the Polygon is high intensity	land use	points = 0	Score:	0
		Total for H 2:	6	
Rating of Landscape Potential [X] 4-6 = H [] 1-3 = M [] 0 = L		Record the rating on t	he first p	age
H 3.0 Is the habitat provided by the	site valuable to society?			

•••	5.0 is the habitat provided by the site valuable to society:			
Н	H 3.1 Does the site provide habitat for species valued in laws, regulations, or policies?			
	Aspen Stands			
	Biodiversity Areas and Corridors			
	Herbaceous Balds			
	Old-growth/Mature Forests			
	Oregon White Oak			
	Riparian			
	Westside Prarie			
	Fresh Deepwater			
	Instream			
	Nearshore (Coastal, Open Coast, Puget Sound)			
	Caves			
	Cliffs			
√	Snags and Logs			
	Talus			
The following criteria automatically score 2 points:				
	The wetland provides habitat for Threatened or Endangered species			
	The wetland is mapped as a location for an individual WDFW priority species			
√	The wetland is a Wetland of High Conservation Value			
	The wetland has been categorized as an important habitat site in a local plan			
Th	e wetland has 3 or more WDFW priority habitats within 100m, or meets the	noints - 2		
cri	teria for societal value	points = 2		
Th	e site has 1 or 2 WDFW priority habitats within 100m	points = 1		
Th	e site does not meet any of the criteria for societal value	points = 0	Score: 2	
		Total for H 3:	2	

Rating of Value

[X] **2** = **H** [] **1** = **M** [] **0** = **L** Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands? The dominant water regime is tidal The wetland is vegetated The water salinity is greater than 0.5 ppt Yes - Go to SC 1.2 No - Not an Estuarine Wetland	Result: Not an Estuarine Wetland
SC 1.3 le the contiered within a Nictional Wildlife Define Nictional Dayle Nictional Educary Decome	
SC 1.2 <u>Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, National Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-157</u>	
Yes - Category I Estuarine Wetland No - Go to SC 1.3	Result:
SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three condit The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes - Category I Estuarine Wetland	ions?
No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ed the WNHP Data Explorer? Yes - Category I Wetland of High Conservation Value	osystem polygons on
No - Go to SC 2.2	Result: Category I Wetland of High Conservation Value
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo may qualify the site as a WHCV?	n plant community that
Yes - Category I Wetland of High Conservation Value No - Not a Wetland of High Conservation Value	Result:

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or m	nucks, that compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, the	·
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on	top of a lake or pond?
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result: Not a Bog
	Wetland
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at groun	d level, AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Van Catanana I Ban Watland	
Yes - Category I Bog Wetland	D. salt.
No - Go to SC 3.4	Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine	
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND	·
combinations of species) listed in the table found in the instructions provide more than 3	30% of the cover under the
<u>canopy?</u>	
Yes - Category I Bog Wetland	
No - Not a Bog Wetland	Result:
SC 4.0 Forested Wetlands	
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the	following criteria?
Old-growth forests	Tollowing circula.
Mature forests	
indicate forests	
Yes - Category I Forested Wetland	

Result: Not a Forested

Wetland

Wetland name or number: W3

No - Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coast	tal lagoon?
The wetland lies in a depression adjacent to marine waters that is wholly or partially	3
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Vos. Co to SC E 2	
Yes - Go to SC 5.2	
No - Not a Coastal Lagoon Wetland	Result: Not a Coastal
	Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	ip WBUO)?
Yes - Go to SC 6.2	
	Result: Not an
No - Not an Interdunal Wetland	Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
15 the Welland Tae of langer in size, of a mesale tride is fac of langer in size.	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Yes - Category I Interdunal Wetland	
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	c and 1ac in size?
Yes - Category III Interdunal Wetland	
No - Category IV Interdunal Wetland	Result:

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Category I

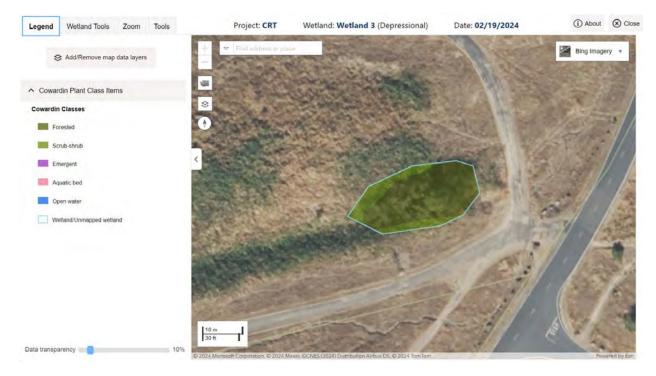


Figure 1: Cowardin classes.

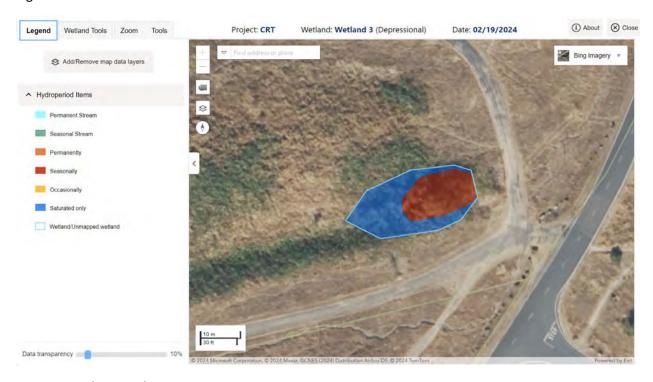


Figure 2: Hydroperiods

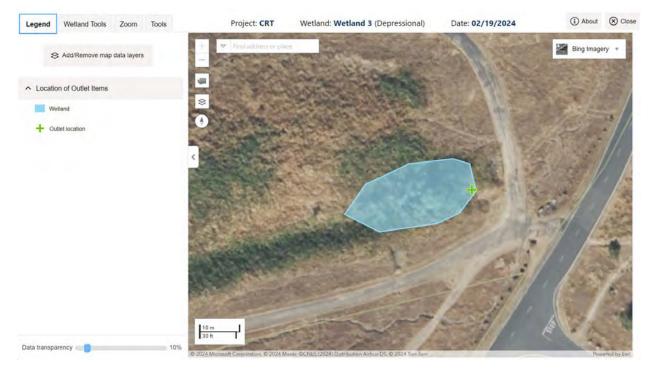


Figure 3: Outlet

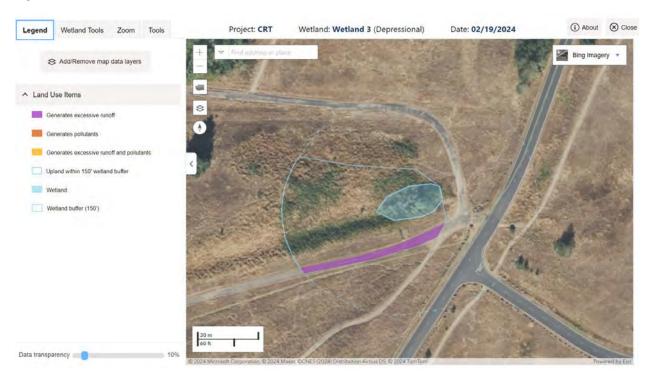


Figure 4: Boundary of 150'

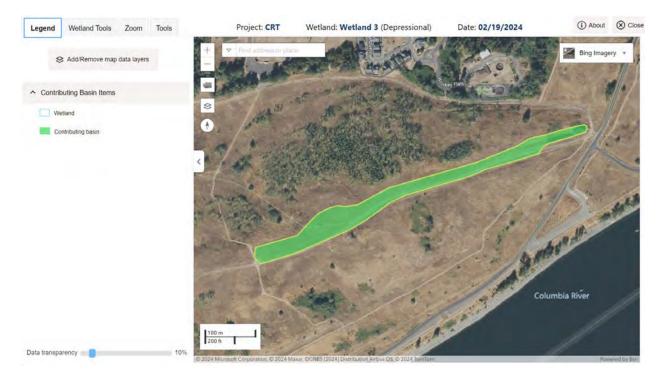


Figure 5: Contributing Basin

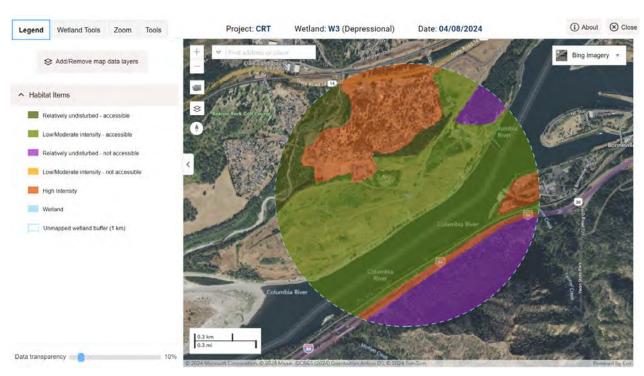


Figure 6: 1km polygon.

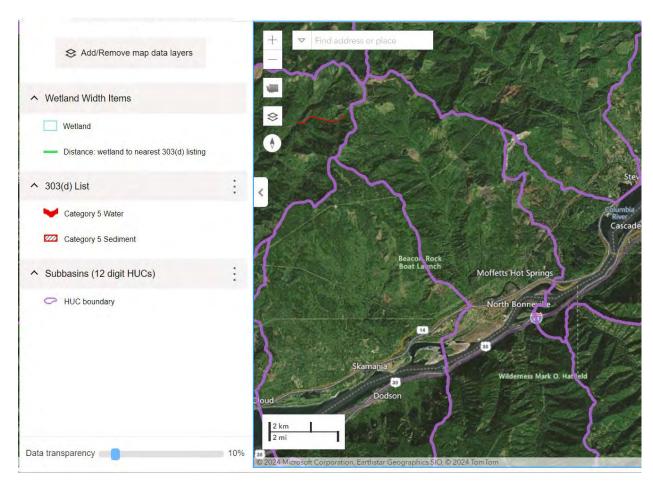


Figure 7: 303(d) listed waters in basin.

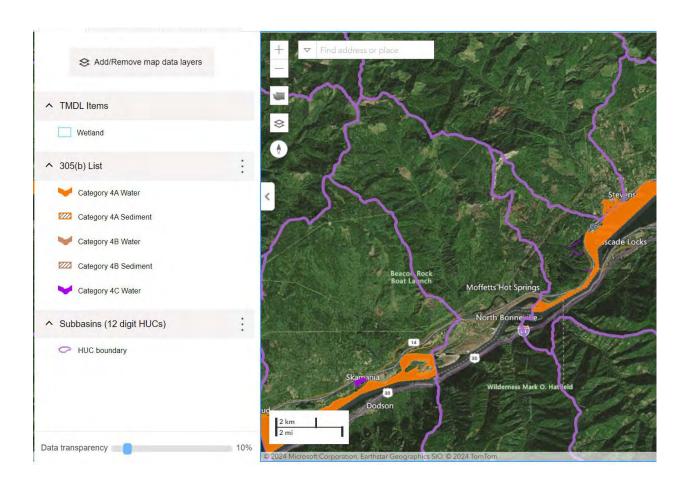


Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W4 Date of site visit: 11/06/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional **Wetland has multiple HGM classes? Yes** [X] **No** []

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category I] (based on functions [] or special characteristics [X])

1. Category of wetland based on FUNCTIONS

[] Category I - Total score = 23 - 27

[X] Category II - Total score = 20 - 22

[] Category III - Total score = 16 - 19

[] Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	М	L	
Landscape Potential	M	М	Н	
Value	Н	Н	Н	Total
Score Based on Ratings	7	7	7	21

Score for each function based on three ratings

(order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H, M, M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	Category I
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

No

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0 Does the site have the potential to improve water quality?			
D 1.1 What are the characteristics of surface water outflows from the wetland?			
Wetland has no surface water outlet.	points = 3		
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2		
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 1		
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	Score:	2
D 1.2 Is the soil 2 in. below the surface a true clay or organic soil?			
Mapped as true clay or organic (muck or peat)	points = 4		
Soil texture identified as clay or organic in field	points = 4		
Soil texture identified as clay or organic by laboratory test	points = 4		
None of the above	points = 0	Score:	0
D 1.3 What are the characteristics and distribution of persistent plants?			
Wetland has persistent, ungrazed, plants > 95% of area	points = 5		
Wetland has persistent, ungrazed, plants > 50% of area	points = 3		
Wetland has persistent, ungrazed plants > 10% of area	points = 1		
Wetland has persistent, ungrazed plants < 10% of area	points = 0	Score:	5
D 1.4 What are the characteristics of seasonal ponding or inundation in the wetland	d area?		
Area seasonally ponded is > 50% total area of wetland	points = 4		
Area seasonally ponded is equal to or > 25% total area of wetland	points = 2		
Area seasonally ponded is < 25% total area of wetland	points = 0	Score:	4
	Total for D 1:	11	
Rating of Site Potential [] 12-16 = H [X] 6-11 = M [] 0-5 = L	Record the rating on t	he first p	 oage

D 2.0 Does the landscape have the potential to support the water quality function of the site?			
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.2 <u>Is > 10% of the area within 150ft of the wetland in land uses that generate pollut</u>	tants in surface runoff?	?	
Yes	points = 1		
No	points = 0	Score:	0
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?			
Yes	points = 1		

points = 0

Score: 0

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	1

Rating of Landscape Potential [] 3-4 = H [X] 1-2 = M [] 0 = L Record is

Record the rating on the first page

Rating of Lanuscape Potential	[] 3-4 = H [\(\)] 1-2 = W [] 0 = L	ine first page
D 3.0 Is the water quality improvement	provided by the site valuable to society?	
D 3.1 Does the wetland discharge directly	(i.e., within 1 mi) to a stream, river, lake, or marine water that is on t	he 303(d)
list?		
Yes	points = 1	
No	points = 0	Score: 0
D 3.2 Is the wetland in a basin or sub-basi	n where an aquatic resource is on the 303(d) list?	
Yes	points = 1	
No	points = 0	Score: 0
D 3.3 Has the site been identified in a wat	ershed or local plan as important for maintaining water quality?	
Yes	points = 2	
No	points = 0	Score: 2
	Total for D 3:	2

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 2
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 3

Rating of Site Potential	[] 12-16 = H [X] 6-11 = M [] 0-5 = L	Record the ratina on a	the first r	2000
		Total for D 4:	8	
Entire wetland is in the Flats class	5	points = 5	Score:	3
The area of the basin is more tha	n 100 times the area of the unit	points = 0		
The area of the basin is 10 to 100	times the area of the unit	points = 3		
The area of the basin is less than	10 times the area of the unit	points = 5		
D 4.3 What is the contribution of	f the wetland to storage in the watershed?			

Kating of Site Potential

 $[\]\ 12-16 = H\ [X]\ 6-11 = M\ [\]\ 0-5 = L$

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1 Does the wetland unit receive stormwater discharges?			
Yes point	its = 1		
No	its = 0 Sc	core:	1
D 5.2 Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff?			
Yes point	ts = 1		
No	its = 0 Sc	core:	0
D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human land	nd uses?		
Yes point	ts = 1		
No point	its = 0 Sc	core:	0
Тс	otal for D 5:	1	

Rating of Landscape Potential

[] 3 = H[X] 1-2 = M[] 0 = L

Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?

D 6.1 Is the wetland in a landscape that has flooding problems?		
Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
Flooding from groundwater is an issue in the basin.	points = 1	
The existing or potential outflow from the wetland is so constrained that water	points = 0	
cannot reach areas that flood.	points = 0	
There are no problems with flooding downstream of the wetland.	points = 0	Score: 2
D 6.2 Has the site been identified as important for flood storage or flood conveyance	<u>in a regional flood co</u>	ntrol plan?
Yes	points = 2	
No	points = 0	Score: 0

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

2

Total for D 6:

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?		
Aquatic Bed		
Emergent		
✓ Scrub-shrub		
Forested		
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)		
4 structures or more	points = 4	
3 structures	points = 2	
2 structures	points = 1	
1 structure	points = 1 points = 0	
	points = 0	Score: 1
No structures present	points = 0	Score. 1
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?		
Permanently flooded or inundated		
Seasonally flooded or inundated		
Occasionally flooded or inundated		
Saturated only		
Permanently flowing stream or river in, or adjacent to, the wetland		
Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland		
Freshwater Tidal wetland		
4 or more types present	points = 3	
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2	
2 types present	points = 1	
1 type present	points = 0	
None present	points = 0	Score: 1
H 1.3 What is the richness of the plant species in the wetland?		
>19 species	points = 2	
5-19 species	points = 1	
<5 species	points = 0	Score: 1

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 1
H 1.5 What are the special habitat features in the wetland?		
✓ Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
✓ Standing snags (dbh >4in) within the wetland		
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score: 2
	Total for H 1:	6

Rating of Site Potential

[] **15-18** = **H** [] **7-14** = **M** [X] **0-6** = **L**

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 3
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wetland name or number: W4			
H 2.3 What is the land use intensity in	the 1km polygon?		
50% of the Polygon is high intensity la	nd use	points = -2	
<50% of the Polygon is high intensity I	and use	points = 0	Score: 0
		Total for H 2:	6
Rating of Landscape Potential	[X] 4-6 = H [] 1-3 = M [] 0 = L	Record the rating on	the first page
H 3.0 Is the habitat provided by the	site valuable to society?		
H 3.1 Does the site provide habitat for	species valued in laws, regulations, or policies?		
Aspen Stands			
Biodiversity Areas and Corridors			
Herbaceous Balds			
Old-growth/Mature Forests			
Oregon White Oak			
Riparian			
Westside Prarie			
Fresh Deepwater			
Instream			
Nearshore (Coastal, Open Coast, Pu	iget Sound)		

The following criteria automatically score 2 points:

The wetland provides habitat for Threatened or Endangered species

The wetland is mapped as a location for an individual WDFW priority species

✓ The wetland is a Wetland of High Conservation Value

The wetland has been categorized as an important habitat site in a local plan

The wetland has 3 or more WDFW priority habitats within 100m, or meets the criteria for societal value

The site has 1 or 2 WDFW priority habitats within 100m

The site does not meet any of the criteria for societal value

points = 2

points = 1

.

points = 0 Score: 2

Total for H 3:

2

Rating of Value

Caves Cliffs

Talus

✓ Snags and Logs

[X] 2 = H[] 1 = M[] 0 = L

Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?	
The dominant water regime is tidal	
The wetland is vegetated	
The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2	
No - Not an Estuarine Wetland	Result: Not an Estuarine Wetland
SC 1.2 <u>Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, National Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-153</u>	
Yes - Category I Estuarine Wetland	
No - Go to SC 1.3	Result:
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes - Category I Estuarine Wetland No - Category II Estuarine Wetland	ions? Result:
SC 2.0 Wetlands of High Conservation Value	7
SC 2.1 <u>Does the wetland overlap with any known or historical rare plant or rare & high-quality extremely the WNHP Data Explorer?</u>	osystem polygons on
Yes - Category I Wetland of High Conservation Value	
	Result: Category I
No - Go to SC 2.2	Wetland of High
	Conservation Value
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo may qualify the site as a WHCV?	n plant community that
Yes - Category I Wetland of High Conservation Value	
No - Not a Wetland of High Conservation Value	Result:

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or more of the first 32in of the soil profile?	r mucks, that compose 16in or
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating or volcanic ash.	·
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result: Not a Bog Wetland
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground of plant species listed in the table provided in the instructions?	und level, AND at least 30% cover
Yes - Category I Bog Wetland	
No - Go to SC 3.4	Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpinemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AN combinations of species) listed in the table found in the instructions provide more that canopy?	ND any of the species (or
Yes - Category I Bog Wetland	
No - Not a Bog Wetland	Result:
SC 4.0 Forested Wetlands	
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the Old-growth forests Mature forests Yes - Category I Forested Wetland	ne following criteria?

Result: Not a Forested

Wetland

Wetland name or number: W4

No - Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coas The wetland lies in a depression adjacent to marine waters that is wholly or partially	stal lagoon?
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Yes - Go to SC 5.2	
No - Not a Coastal Lagoon Wetland	Result: Not a Coastal Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	nip WBUO)?
Yes - Go to SC 6.2	
No - Not an Interdunal Wetland	Result: Not an Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Yes - Category I Interdunal Wetland	
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	
22 0.1 1.5 1.10 1.10 1.10 1.10 1.10 1.10 1	
Yes - Category III Interdunal Wetland	
No - Category IV Interdunal Wetland	Result:

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Category I

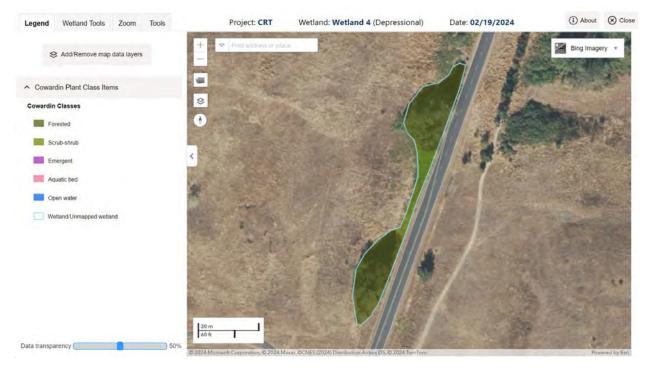


Figure 1: Cowardin classes.



Figure 2: Hydroperiods

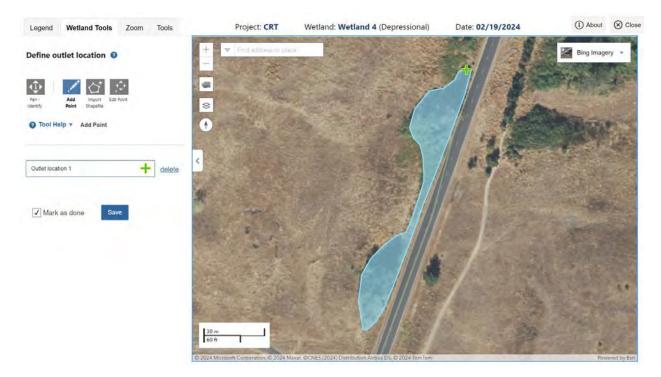


Figure 3: Outlet



Figure 4: Boundary of 150'

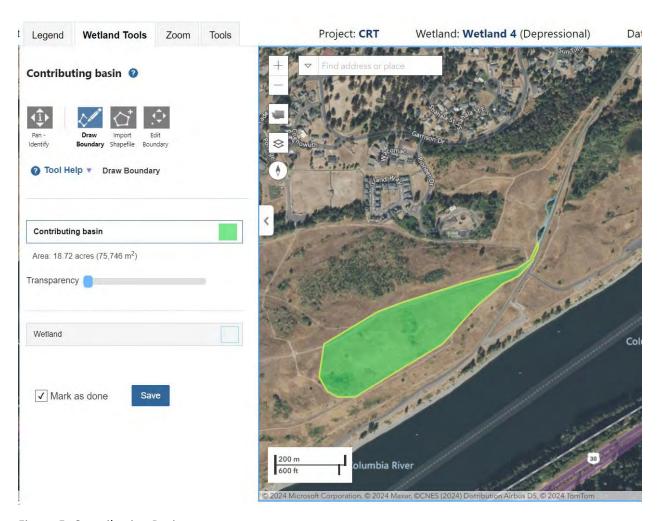


Figure 5: Contributing Basin



Figure 6: 1km polygon.

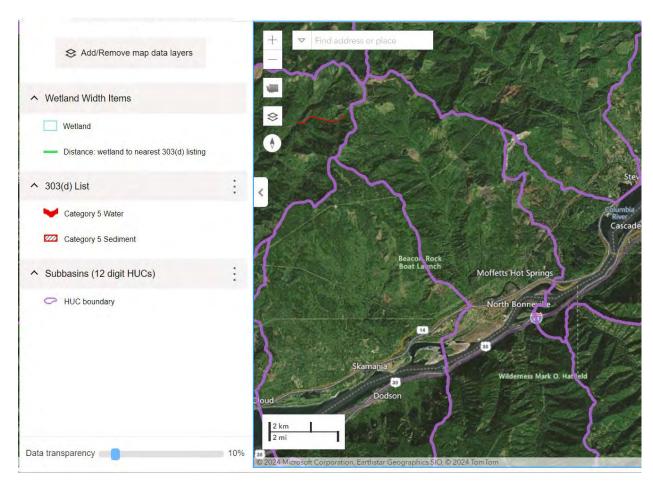


Figure 7: 303(d) listed waters in basin.

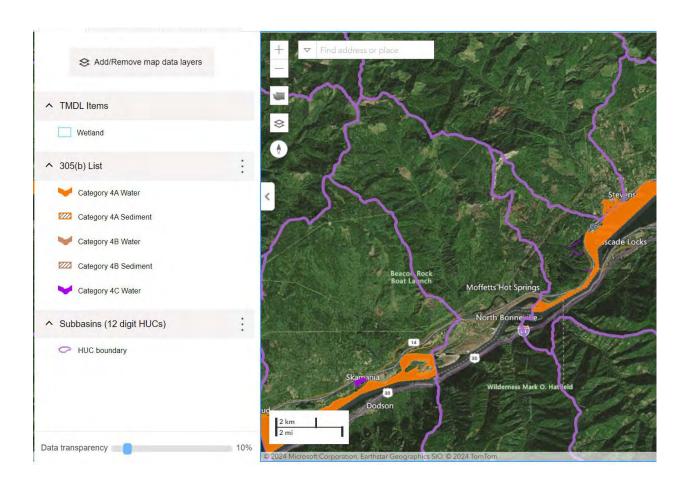


Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W5 Date of site visit: 11/06/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional **Wetland has multiple HGM classes? Yes** [] **No** [X]

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category II] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

[] Category I - Total score = 23 - 27

[X] Category II - Total score = 20 - 22

[] Category III - Total score = 16 - 19

[] Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	Н	М	
Landscape Potential	M	М	М	
Value	Н	Н	Н	Total
Score Based on Ratings	7	8	7	22

Score for each function based on three ratings

(order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0 Does the site have the potential to improve water quality?			
D 1.1 What are the characteristics of surface water outflows from the wetland?			
Wetland has no surface water outlet.	points = 3		
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2		
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 1		
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	Score:	3
D 1.2 Is the soil 2 in. below the surface a true clay or organic soil?			
Mapped as true clay or organic (muck or peat)	points = 4		
Soil texture identified as clay or organic in field	points = 4		
Soil texture identified as clay or organic by laboratory test	points = 4		
None of the above	points = 0	Score:	0
D 1.3 What are the characteristics and distribution of persistent plants?			
Wetland has persistent, ungrazed, plants > 95% of area	points = 5		
Wetland has persistent, ungrazed, plants > 50% of area	points = 3		
Wetland has persistent, ungrazed plants > 10% of area	points = 1		
Wetland has persistent, ungrazed plants < 10% of area	points = 0	Score:	3
D 1.4 What are the characteristics of seasonal ponding or inundation in the wetland area	<u>a?</u>		
Area seasonally ponded is > 50% total area of wetland	points = 4		
Area seasonally ponded is equal to or > 25% total area of wetland	points = 2		
Area seasonally ponded is < 25% total area of wetland	points = 0	Score:	0
	Total for D 1:	6	
Rating of Site Potential [] 12-16 = H [X] 6-11 = M [] 0-5 = L	Record the rating on t	he first p	age

D 2.0 Does the landscape have the potential to support the water quality function	of the site?		
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.2 <u>Is > 10% of the area within 150ft of the wetland in land uses that generate pollutar</u>	nts in surface runoff	?	
Yes	points = 1		
No	points = 0	Score:	1
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland that are not listed i	n questions D 2.1-D	2.3?	
Yes	points = 1		
No	points = 0	Score:	0

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	2

Rating of Landscape Potential [] 3-4 = H [X] 1-2 = M [] 0 = L

Record the rating on the first page

Rating of Landscape Potential	[] 3-4 - H [A] 1-2 - W [] 0 - L Record the rating to	in the first page
D 3.0 Is the water quality improvement	provided by the site valuable to society?	
D 3.1 Does the wetland discharge directly	(i.e., within 1 mi) to a stream, river, lake, or marine water that is o	n the 303(d)
list?		
Yes	points = 1	
No	points = 0	Score: 0
D 3.2 Is the wetland in a basin or sub-basin	in where an aquatic resource is on the 303(d) list?	
Yes	points = 1	
No	points = 0	Score: 0
D 3.3 Has the site been identified in a wat	ershed or local plan as important for maintaining water quality?	
Yes	points = 2	
No	points = 0	Score: 2
	Total for D	3: 2

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 4
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 7

D 4.3 What is the contribution of the wetland to storage in the watershed?			
The area of the basin is less than 10 times the area of the unit	points = 5		
The area of the basin is 10 to 100 times the area of the unit	points = 3		
The area of the basin is more than 100 times the area of the unit	points = 0		
Entire wetland is in the Flats class	points = 5	Score:	3
	Total for D 4:	14	

Rating of Site Potential

[X] **12-16** = **H** [] **6-11** = **M** [] **0-5** = **L**

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1 <u>Does the wetland unit receive stormwater discharges?</u>			
Yes	points = 1		
No	points = 0	Score:	1
D 5.2 Is > 10% of the area within 150 ft of the wetland in land	uses that generate excess runoff?		
Yes	points = 1		
No	points = 0	Score:	1
D 5.3 Is more than 25% of the contributing basin of the wetland	and covered with intensive human land uses?		
Yes	points = 1		
No	points = 0	Score:	0
	Total for D 5:	2	

Rating of Landscape Potential

[] 3 = H [X] 1-2 = M [] 0 = L

Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?

D 6.1 Is the wetland in a landscape that has flooding problems?		
Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
Flooding from groundwater is an issue in the basin.	points = 1	
The existing or potential outflow from the wetland is so constrained that water	wetland is so constrained that water points = 0	
cannot reach areas that flood.	points – 0	
There are no problems with flooding downstream of the wetland.	points = 0	Score: 2
D 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?		
Yes	points = 2	
No	points = 0	Score: 0

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

Total for D 6:

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?		
✓ Aquatic Bed		
✓ Emergent		
Scrub-shrub		
√ Forested		
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)		
4 structures or more	points = 4	
3 structures	points = 2	
2 structures	points = 1	
1 structure	points = 0	
No structures present	points = 0	Score: 2
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?	P S S	
✓ Permanently flooded or inundated		
Seasonally flooded or inundated		
Occasionally flooded or inundated		
✓ Saturated only		
Permanently flowing stream or river in, or adjacent to, the wetland		
Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland		
Freshwater Tidal wetland		
Treshwater Hadi Wetiana		
4 or more types present	points = 3	
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2	
2 types present	points = 1	
1 type present	points = 0	
None present	points = 0	Score: 2
H 1.3 What is the richness of the plant species in the wetland?		
>19 species	points = 2	
5-19 species	points = 1	
<5 species	points = 0	Score: 1

H 1.4 What is the interspersion of habitats?			
High	points = 3		
Moderate	points = 2		
Low	points = 1		
None	points = 0	Score:	3
H 1.5 What are the special habitat features in the wetland?			
✓ Large, downed, woody debris within the wetland (>4in diameter and 6ft long).			
✓ Standing snags (dbh >4in) within the wetland			
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants			
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous			
with the wetland, for at least 33ft (10m)			
Stable steep banks of fine material that might be used by beaver or muskrat for			
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs			
or trees that have not yet weathered where wood is exposed)			
At least 0.25ac of thin-stemmed persistent plants or woody branches are present			
in areas that are permanently or seasonally inundated (structures for egg-laying by			
amphibians)			
Invasive plants cover less than 25% of the wetland area in every stratum of plants			
(see H 1.1 for list of strata)			
6 habitats selected	points = 6		
5 habitats selected	points = 5		
4 habitats selected	points = 4		
3 habitats selected	points = 3		
2 habitats selected	points = 2		
1 habitat selected	points = 1		
No habitats selected	points = 0	Score:	2
	Total for H 1:	10	

Rating of Site Potential

[] **15-18** = **H** [X] **7-14** = **M** [] **0-6** = **L**

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 0
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

We	etland name or number: W5		
	2.3 What is the land use intensity in the 1km polygon?		
50	0% of the Polygon is high intensity land use	points = -2	
<	50% of the Polygon is high intensity land use	points = 0	Score: 0
		Total for H 2:	3
Ra	ating of Landscape Potential [] 4-6 = H [X] 1-3 = M [] 0 = L	Record the rating on t	the first page
Н	3.0 Is the habitat provided by the site valuable to society?		
Н	3.1 Does the site provide habitat for species valued in laws, regulations, or policies	<u> </u>	
	Aspen Stands		
	Biodiversity Areas and Corridors		
	Herbaceous Balds		
	Old-growth/Mature Forests		
	Oregon White Oak		
	Riparian		
	Westside Prarie		
	Fresh Deepwater		
√	Instream		
	Nearshore (Coastal, Open Coast, Puget Sound)		
	Caves		
	Cliffs		
V	Snags and Logs		
	Talus		
Th	ne following criteria automatically score 2 points:		
\	The wetland provides habitat for Threatened or Endangered species		
	The wetland is mapped as a location for an individual WDFW priority species		
	The wetland is a Wetland of High Conservation Value		
	The wetland has been categorized as an important habitat site in a local plan		

Rating of Value

criteria for societal value

[X] **2** = **H** [] **1** = **M** [] **0** = **L**

The wetland has 3 or more WDFW priority habitats within 100m, or meets the

The site has 1 or 2 WDFW priority habitats within 100m

The site does not meet any of the criteria for societal value

Record the rating on the first page

Total for H 3:

Score: 2

2

points = 2

points = 1

points = 0

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?	
The dominant water regime is tidal	
The wetland is vegetated	
The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2	
No - Not an Estuarine Wetland	Result: Not an
	Estuarine Wetland
SC 1.2 <u>Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, National Estuary Reserve, National Estuary Reserve</u>	
State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-15	<u>1?</u>
Yes - Category I Estuarine Wetland	
No - Go to SC 1.3	Result:
SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three condit	ions?
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 10% cover of non-native plant species.	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland	
The wetland has at least two of the following features: tidal channels, depressions with open	
water, or contiguous freshwater wetlands.	
Yes - Category I Estuarine Wetland	- ·
No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ed	osystem polygons on
the WNHP Data Explorer?	
Yes - Category I Wetland of High Conservation Value	
No - Go to SC 2.2	Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo	n plant community that
may qualify the site as a WHCV?	
Yes - Category I Wetland of High Conservation Value	
	Result: Not a Wetland
No - Not a Wetland of High Conservation Value	of High Conservation
	Value

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either	peats or mucks, that compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats o	r mucks, that are less than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are	<u>floating on top of a lake or pond?</u>
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result:
SC 3.3 Does an area with peats or mucks have more than 70% cover of moss	es at ground level, AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	Result:
No - Go to SC 3.4 SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce	e, subalpine fir, western red cedar, western
No - Go to SC 3.4 SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white	e pine AND any of the species (or
No - Go to SC 3.4 SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white combinations of species) listed in the table found in the instructions provide in	e pine AND any of the species (or
No - Go to SC 3.4 SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white	e pine AND any of the species (or
No - Go to SC 3.4 SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white combinations of species) listed in the table found in the instructions provide canopy?	e pine AND any of the species (or
No - Go to SC 3.4 SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white combinations of species) listed in the table found in the instructions provide canopy? Yes - Category I Bog Wetland	e, subalpine fir, western red cedar, western e pine AND any of the species (or more than 30% of the cover under the
No - Go to SC 3.4 SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white combinations of species) listed in the table found in the instructions provide canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland	e pine AND any of the species (or
No - Go to SC 3.4 SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white combinations of species) listed in the table found in the instructions provide canopy? Yes - Category I Bog Wetland	e, subalpine fir, western red cedar, western e pine AND any of the species (or more than 30% of the cover under the
No - Go to SC 3.4 SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white combinations of species) listed in the table found in the instructions provide canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland	e pine AND any of the species (or more than 30% of the cover under the
No - Go to SC 3.4 SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white combinations of species) listed in the table found in the instructions provide canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland SC 4.0 Forested Wetlands	e pine AND any of the species (or more than 30% of the cover under the
No - Go to SC 3.4 SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white combinations of species) listed in the table found in the instructions provide canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland SC 4.0 Forested Wetlands SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets	e pine AND any of the species (or more than 30% of the cover under the
No - Go to SC 3.4 SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white combinations of species) listed in the table found in the instructions provide canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland SC 4.0 Forested Wetlands SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets Old-growth forests	e pine AND any of the species (or more than 30% of the cover under the

Result: Not a Forested

Wetland

Wetland name or number: W5

No - Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coast	tal lagoon?
The wetland lies in a depression adjacent to marine waters that is wholly or partially	3
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Vos. Co to SC E 2	
Yes - Go to SC 5.2	
No - Not a Coastal Lagoon Wetland	Result: Not a Coastal
	Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	ip WBUO)?
Yes - Go to SC 6.2	
	Result: Not an
No - Not an Interdunal Wetland	Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
15 the Welland Tae of langer in size, of a mesale tride is fac of langer in size.	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Yes - Category I Interdunal Wetland	
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	c and 1ac in size?
Yes - Category III Interdunal Wetland	
No - Category IV Interdunal Wetland	Result:

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not

Applicable

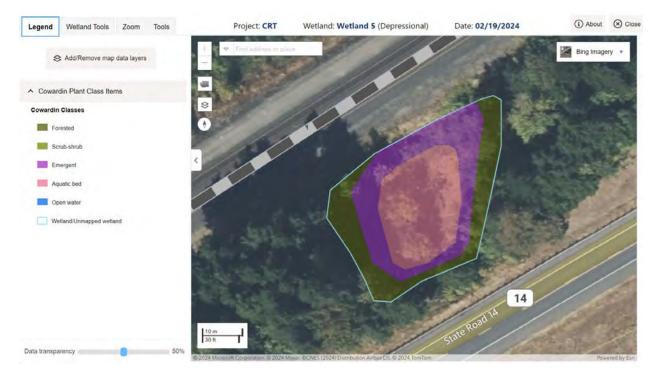


Figure 1: Cowardin classes.

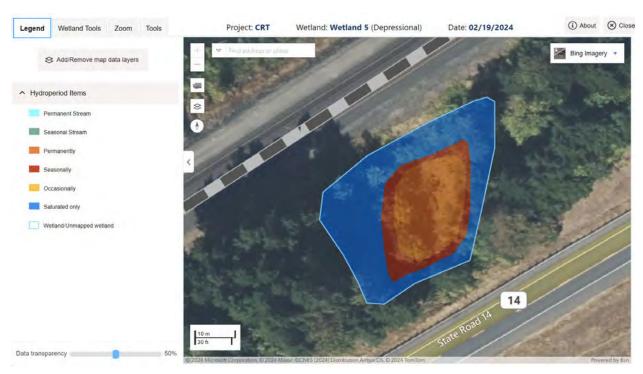


Figure 2: Hydroperiods



Figure 3: Outlet

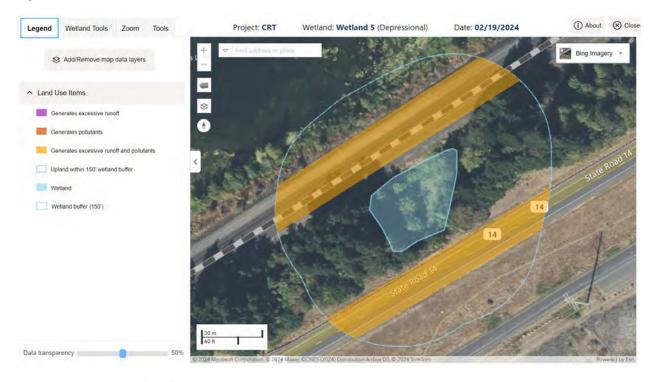


Figure 4: Boundary of 150'



Figure 5: Contributing Basin

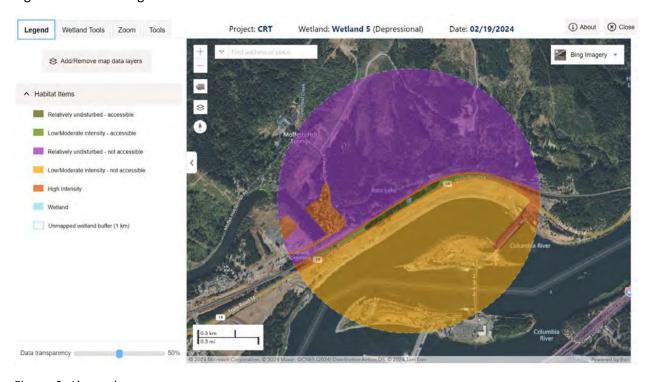


Figure 6: 1km polygon.

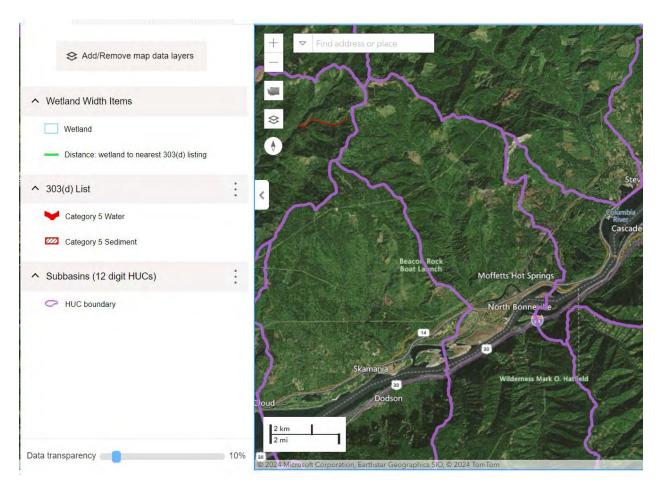


Figure 7: 303(d) listed waters in basin.

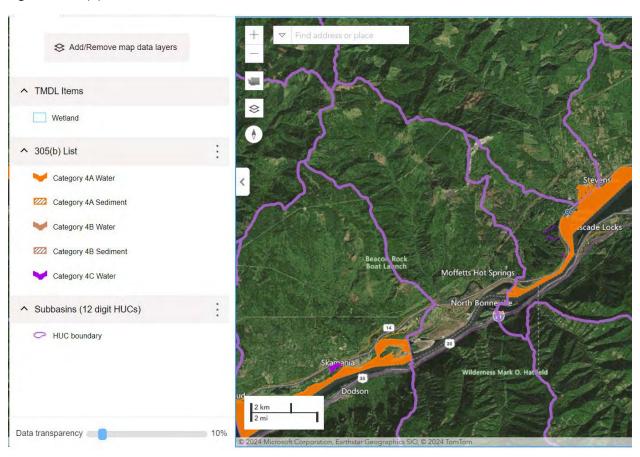


Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W6 Date of site visit: 11/06/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional **Wetland has multiple HGM classes? Yes** [] **No** [X]

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category II] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

[] Category I - Total score = 23 - 27

[X] Category II - Total score = 20 - 22

[] Category III - Total score = 16 - 19

[] Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	L	M	М	
Landscape Potential	M	M	М	
Value	Н	Н	Н	Total
Score Based on Ratings	6	7	7	20

Score for each function based on three ratings

(order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H, M, M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

S S S S S S S S S S S S S S S S S S S		
Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0 Does the site have the poter	tial to improve water quality?			
<u>-</u>	surface water outflows from the wetland?			
Wetland has no surface water outlet		points = 3		
Wetland has an intermittently flowing	g, or highly constricted, outlet.	points = 2		
Wetland has an unconstricted, or slig permanently flowing	ghtly constricted, surface outlet that is	points = 1		
Wetland is a flat depression whose of	outlet is a permanently flowing ditch.	points = 1	Score:	2
D 1.2 Is the soil 2 in. below the surfa	ce a true clay or organic soil?			
Mapped as true clay or organic (muc	ck or peat)	points = 4		
Soil texture identified as clay or orga	nic in field	points = 4		
Soil texture identified as clay or orga	nic by laboratory test	points = 4		
None of the above		points = 0	Score:	0
D 1.3 What are the characteristics as	nd distribution of persistent plants?			
Wetland has persistent, ungrazed, p	ants > 95% of area	points = 5		
Wetland has persistent, ungrazed, p	ants > 50% of area	points = 3		
Wetland has persistent, ungrazed pla	ants > 10% of area	points = 1		
Wetland has persistent, ungrazed plant	ants < 10% of area	points = 0	Score:	1
D 1.4 What are the characteristics of	seasonal ponding or inundation in the wetland area	a?		
Area seasonally ponded is > 50% to	tal area of wetland	points = 4		
Area seasonally ponded is equal to	or > 25% total area of wetland	points = 2		
Area seasonally ponded is < 25% to	tal area of wetland	points = 0	Score:	0
		Total for D 1:	3	
Rating of Site Potential	[] 12-16 = H[] 6-11 = M[X] 0-5 = L	Record the rating on t	he first p	age

D 2.0 Does the landscape have the potential to support the water quality function of the site?			
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.2 Is > 10% of the area within 150ft of the wetland in land uses that gen	erate pollutants in surface runoff?		
Yes	points = 1		
No	points = 0	Score:	1
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?			
Yes	points = 1		
No	points = 0	Score:	0

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	2

Rating of Landscape Potential [] 3-4 = H [X] 1-2 = M [] 0 = L Record the rating on the first page

D 3.0 Is the water quality improvement provided by the site valuable to society?			
D 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d)			
list?			
Yes	points = 1		
No	points = 0	Score:	0
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?			
Yes	points = 1		
No	points = 0	Score:	0
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining	water quality?		
Yes	points = 2		
No	points = 0	Score:	2
	Total for D 3:	2	

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is	points = 0	Score: 2
permanently flowing	points = 0	Score. 2
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the	points = 3	
outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 7

	Total for D 4:	9	
Entire wetland is in the Flats class	points = 5	Score:	0
The area of the basin is more than 100 times the area of the unit	points = 0		
The area of the basin is 10 to 100 times the area of the unit	points = 3		
The area of the basin is less than 10 times the area of the unit	points = 5		
D 4.3 What is the contribution of the wetland to storage in the watershed?			

Rating of Site Potential

[] 12-16 = H [X] 6-11 = M [] 0-5 = L

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 5.2 Is > 10% of the area within 150 ft of the wetland in land uses that generate excess rund	off?		
Yes	points = 1		
No	points = 0	Score:	1
D 5.3 <u>Is more than 25% of the contributing basin of the wetland covered with intensive hum</u>	nan land uses?		
Yes	points = 1		
No	points = 0	Score:	0
	Total for D 5:	2	

Rating of Landscape Potential

[] 3 = H [X] 1-2 = M [] 0 = L

Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?

D 6.1 <u>Is the wetland in a landscape that has flooding problems?</u> Flooding occurs in a sub-basin that is immediately down-gradient of the wetland. points = 2Surface flooding problems are in a sub-basin farther down-gradient. points = 1Flooding from groundwater is an issue in the basin. points = 1The existing or potential outflow from the wetland is so constrained that water points = 0

cannot reach areas that flood.

There are no problems with flooding downstream of the wetland. Score: 2 points = 0

D 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes points = 2

points = 0Score: 0 No

Total for D 6:

2

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?			
✓ Aquatic Bed			
✓ Emergent			
Scrub-shrub			
Forested			
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,			
herbaceous, moss/ground cover)			
A structures or more	points - 4		
4 structures or more 3 structures	points = 4 points = 2		
	•		
2 structures	points = 1		
1 structure	points = 0		
No structures present	points = 0	Score:	1
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?			
Permanently flooded or inundated			
Seasonally flooded or inundated			
Occasionally flooded or inundated			
✓ Saturated only			
Permanently flowing stream or river in, or adjacent to, the wetland			
Seasonally flowing stream in, or adjacent to, the wetland			
Lake Fringe wetland			
Freshwater Tidal wetland			
4 or more types present	points = 3		
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2		
2 types present	points = 1		
1 type present	points = 0		
None present	points = 0	Score:	2
H 1.3 What is the richness of the plant species in the wetland?			
>19 species	points = 2		
5-19 species	points = 1		
<5 species	points = 0	Score:	1

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 2
H 1.5 What are the special habitat features in the wetland?		
✓ Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
✓ Standing snags (dbh >4in) within the wetland		
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected points = 3		
2 habitats selected points = 2		
1 habitat selected points = 1		
·		Score: 2
	Total for H 1:	8

Rating of Site Potential

[] **15-18** = **H** [X] **7-14** = **M** [] **0-6** = **L**

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 0
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

We	tland name or number: W6		
	2.3 What is the land use intensity in the 1km polygon?		
50	% of the Polygon is high intensity land use	points = -2	
</th <td>50% of the Polygon is high intensity land use</td> <td>points = 0</td> <td>Score: 0</td>	50% of the Polygon is high intensity land use	points = 0	Score: 0
		Total for H 2:	3
Ra	ting of Landscape Potential [] 4-6 = H [X] 1-3 = M [] 0 = L	Record the rating on t	the first page
н	3.0 Is the habitat provided by the site valuable to society?		
Н	3.1 Does the site provide habitat for species valued in laws, regulations, or policies?		
	Aspen Stands		
√	Biodiversity Areas and Corridors		
	Herbaceous Balds		
	Old-growth/Mature Forests		
	Oregon White Oak		
✓	Riparian		
	Westside Prarie		
	Fresh Deepwater		
√	Instream		
	Nearshore (Coastal, Open Coast, Puget Sound)		
	Caves		
	Cliffs		
✓	Snags and Logs		
	Talus		
Th	e following criteria automatically score 2 points:		
✓	The wetland provides habitat for Threatened or Endangered species		
	The wetland is mapped as a location for an individual WDFW priority species		
	The wetland is a Wetland of High Conservation Value		
	The wetland has been categorized as an important habitat site in a local plan		

Rating of Value

criteria for societal value

[X] **2** = **H** [] **1** = **M** [] **0** = **L**

The wetland has 3 or more WDFW priority habitats within 100m, or meets the

The site has 1 or 2 WDFW priority habitats within 100m

The site does not meet any of the criteria for societal value

Record the rating on the first page

Total for H 3:

Score: 2

2

points = 2

points = 1

points = 0

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands? The dominant water regime is tidal The wetland is vegetated The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2 No - Not an Estuarine Wetland	Result: Not an Estuarine Wetland
SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, National Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-152. Yes - Category I Estuarine Wetland No - Go to SC 1.3	
SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three condit The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes - Category I Estuarine Wetland	ions?
No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality educated the WNHP Data Explorer? Yes - Category I Wetland of High Conservation Value	cosystem polygons on
No - Go to SC 2.2	Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo may qualify the site as a WHCV?	n plant community that
Yes - Category I Wetland of High Conservation Value No - Not a Wetland of High Conservation Value	Result: Not a Wetland of High Conservation Value

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, that co	ompose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	esult: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are less the	nan 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lak	<u>ce or pond?</u>
Yes - Go to SC 3.3	
No. Not a Rog Wotland	esult: Not a Bog
No - Not a Bog Wetland W	etland
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND	at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	esult:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, western	red cedar, western
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the s	<u>species (or</u>
combinations of species) listed in the table found in the instructions provide more than 30% of the c	over under the
canopy?	
Yes - Category I Bog Wetland	
No - Not a Bog Wetland	esult:
SC 4.0 Forested Wetlands	
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following cri	iteria?
Old-growth forests	
Mature forests	
Yes - Category I Forested Wetland	

Result: Not a Forested

Wetland

Wetland name or number: W6

No - Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coastal Lagoons:	tal lagoon?
The wetland lies in a depression adjacent to marine waters that is wholly or partially	
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Yes - Go to SC 5.2	
	Result: Not a Coastal
No - Not a Coastal Lagoon Wetland	Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	nip WBUO)?
Yes - Go to SC 6.2	
No - Not an Interdunal Wetland	Result: Not an
TVO TVOCATI III COTATI III VOCIATIA	Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Yes - Category I Interdunal Wetland	
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	c and 1ac in size?
Yes - Category III Interdunal Wetland	
No - Category IV Interdunal Wetland	Result:

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not

Applicable

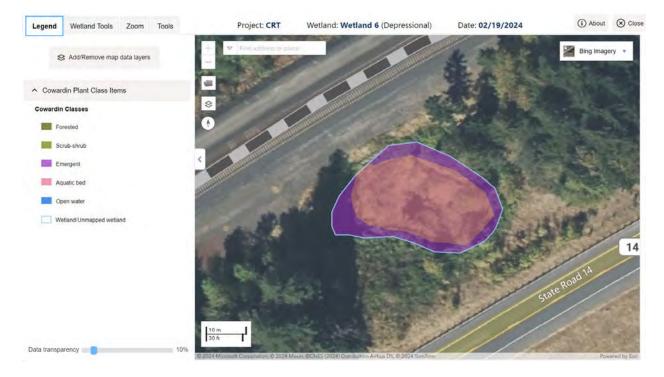


Figure 1: Cowardin classes.

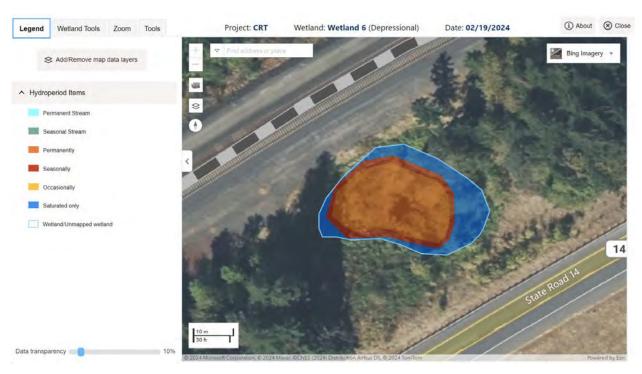


Figure 2: Hydroperiods

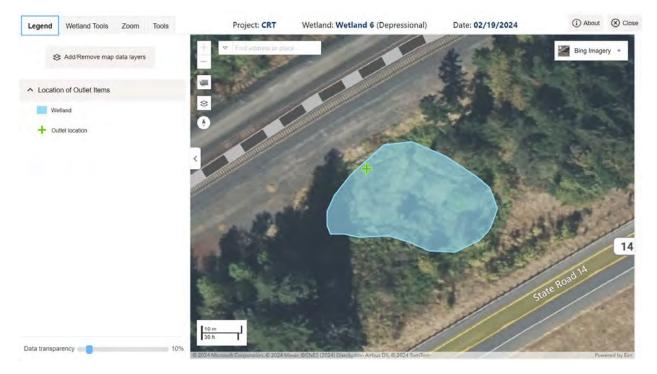


Figure 3: Outlet

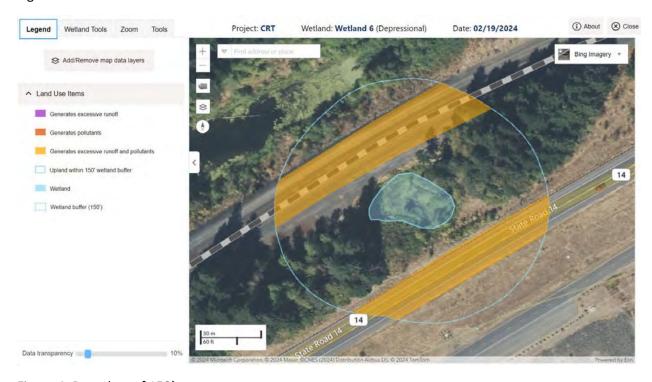


Figure 4: Boundary of 150'

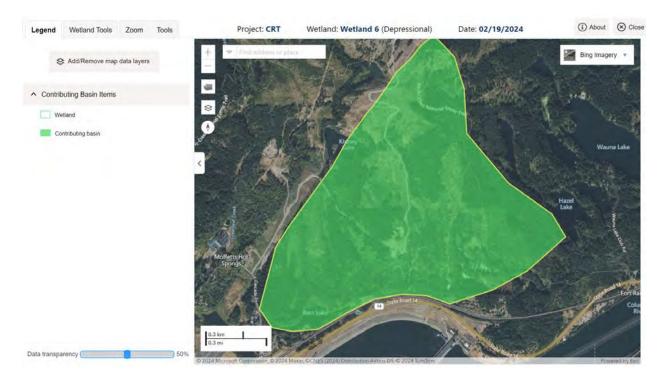


Figure 5: Contributing Basin

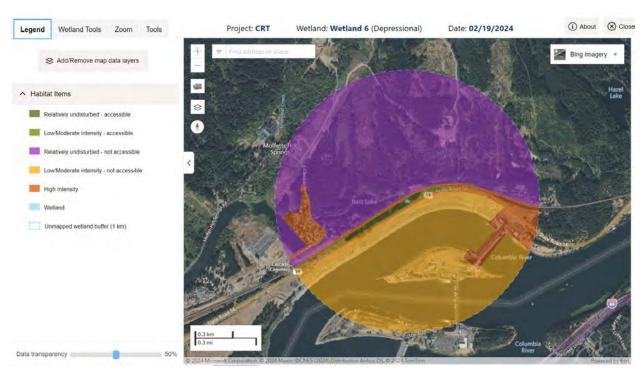


Figure 6: 1km polygon.

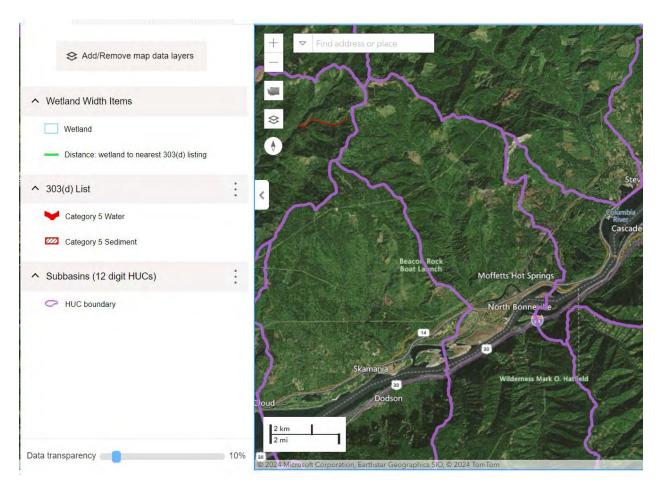


Figure 7: 303(d) listed waters in basin.

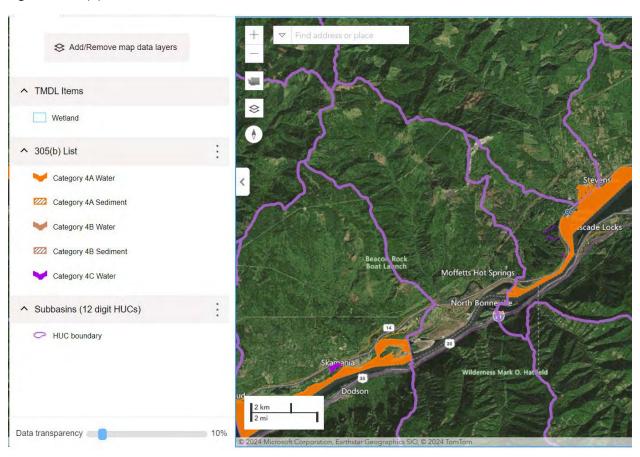


Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W7 Date of site visit: 11/06/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional **Wetland has multiple HGM classes? Yes** [] **No** [X]

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category III] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

- [] Category I Total score = 23 27
- [] Category II Total score = 20 22
- [X] Category III Total score = 16 19
- [] Category IV Total score = 9 15

Score Based on Ratings	7	6	5	18
Value	н	Н	М	Total
Landscape Potential	M	M	М	
Site Potential	M	L	L	
FUNCTION	Improving Water Quality	Hydrologic	Habitat	

Score for each function based on three ratings

(order of ratings is not important)

- 9 = H,H,H
- 8 = H,H,M
- 7 = H,H,L
- 7 = H, M, M
- 6 = H,M,L
- 6 = M,M,M
- 5 = H,L,L
- 5 = M,M,L
- 4 = M,L,L
- 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

S S S S S S S S S S S S S S S S S S S		
Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0 Does the site have the potential to improve water quality?			
D 1.1 What are the characteristics of surface water outflows from the wetland?			
Wetland has no surface water outlet.	points = 3		
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2		
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 1		
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	Score:	3
D 1.2 Is the soil 2 in. below the surface a true clay or organic soil?			
Mapped as true clay or organic (muck or peat)	points = 4		
Soil texture identified as clay or organic in field	points = 4		
Soil texture identified as clay or organic by laboratory test	points = 4		
None of the above	points = 0	Score:	0
D 1.3 What are the characteristics and distribution of persistent plants?			
Wetland has persistent, ungrazed, plants > 95% of area	points = 5		
Wetland has persistent, ungrazed, plants > 50% of area	points = 3		
Wetland has persistent, ungrazed plants > 10% of area	points = 1		
Wetland has persistent, ungrazed plants < 10% of area	points = 0	Score:	5
D 1.4 What are the characteristics of seasonal ponding or inundation in the wetland area?) -		
Area seasonally ponded is > 50% total area of wetland	points = 4		
Area seasonally ponded is equal to or > 25% total area of wetland	points = 2		
Area seasonally ponded is < 25% total area of wetland	points = 0	Score:	0
	Total for D 1:	8	
Rating of Site Potential [] 12-16 = H [X] 6-11 = M [] 0-5 = L	Record the rating on t	he first p	адє

D 2.0 Does the landscape have the potential to support the water of	quality function of the site?		
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.2 Is >10% of the area within 150ft of the wetland in land uses that	generate pollutants in surface runoff?	-	
Yes	points = 1		
No	points = 0	Score:	1
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland th	at are not listed in questions D 2.1-D 2	2.3?	
Yes	points = 1		
No	points = 0	Score:	0

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	2

Rating of Landscape Potential [] 3-4 = H [X] 1-2 = M [] 0 = L Record the rating on the first page

D 3.0 Is the water quality improvement provided by the site valuable to society?			
D 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine	water that is on t	he 303(d)).
list?			
Yes	points = 1		
No	points = 0	Score:	0
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?			
Yes	points = 1		
No	points = 0	Score:	0
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining	water quality?		
Yes	points = 2		
No	points = 0	Score:	2
	Total for D 3:	2	

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 4
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 0

Total fo	r D 4: 4
Entire wetland is in the Flats class points = 5	Score: 0
The area of the basin is more than 100 times the area of the unit $points = 0$	
The area of the basin is 10 to 100 times the area of the unit points = 3	
The area of the basin is less than 10 times the area of the unit points = 5	
D 4.3 What is the contribution of the wetland to storage in the watershed?	

Rating of Site Potential

[] 12-16 = H [] 6-11 = M [X] 0-5 = L

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1 <u>Does the wetland unit receive stormwater discharges?</u>	
Yes points = 1	
No points = 0	Score: 1
D 5.2 Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	
Yes points = 1	
No points = 0	Score: 1
D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?	
Yes points = 1	
No points = 0	Score: 0
Total for D 5	: 2

Rating of Landscape Potential

[] 3 = H[X] 1-2 = M[] 0 = L

Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?

D 6.1 Is the wetland in a landscape that has flooding problems?			
Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2		
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1		
Flooding from groundwater is an issue in the basin.	points = 1		
The existing or potential outflow from the wetland is so constrained that water	points = 0		
cannot reach areas that flood.	points – 0		
There are no problems with flooding downstream of the wetland.	points = 0	Score: 2	
D 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?			
Yes	points = 2		
No	points = 0	Score: 0	

points = 0

Total for D 6:

2

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?			
Aquatic Bed			
√ Emergent			
Scrub-shrub			
Forested			
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,			
herbaceous, moss/ground cover)			
4 structures or more	points = 4		
3 structures	points = 2		
2 structures	points = 1		
1 structure	points = 0		
No structures present	points = 0	Score:	0
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?			
Permanently flooded or inundated			
Seasonally flooded or inundated			
Occasionally flooded or inundated			
✓ Saturated only			
Permanently flowing stream or river in, or adjacent to, the wetland			
Seasonally flowing stream in, or adjacent to, the wetland			
Lake Fringe wetland			
Freshwater Tidal wetland			
4 or more types present	points = 3		
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2		
2 types present	points = 1		
1 type present	points = 0		
None present	points = 0	Score:	1
H 1.3 What is the richness of the plant species in the wetland?			
>19 species	points = 2		
5-19 species	points = 1		
<5 species	points = 0	Score:	0
	···••		-

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 1
H 1.5 What are the special habitat features in the wetland?		
Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
Standing snags (dbh >4in) within the wetland		
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score:
	Total for H 1:	2

Rating of Site Potential

[] **15-18** = **H** [] **7-14** = **M** [X] **0-6** = **L**

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 0
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wetland name or number: W7			
H 2.3 What is the land use intensity in	the 1km polygon?		
50% of the Polygon is high intensity la	and use	points = -2	
<50% of the Polygon is high intensity	land use	points = 0	Score: 0
		Total for H 2:	3
Rating of Landscape Potential	[] 4-6 = H [X] 1-3 = M [] 0 = L	Record the rating on	the first page
H 3.0 Is the habitat provided by the	site valuable to society?		
H 3.1 Does the site provide habitat fo	r species valued in laws, regulations, or policies?		
Aspen Stands			
✓ Biodiversity Areas and Corridors			
Herbaceous Balds			
Old-growth/Mature Forests			
Oregon White Oak			
Riparian			
Westside Prarie			
Fresh Deepwater			
Instream			
Nearshore (Coastal, Open Coast, P	uget Sound)		
Caves			
Cliffs			
Snags and Logs			
Talus			
The following criteria automatically	score 2 points:		
The wetland provides habitat for T	hreatened or Endangered species		
The wetland is mapped as a location	on for an individual WDFW priority species		
The wetland is a Wetland of High (Conservation Value		
The wetland has been categorized	as an important habitat site in a local plan		

Rating of Value

criteria for societal value

[] 2 = H [X] 1 = M [] 0 = L

The wetland has 3 or more WDFW priority habitats within 100m, or meets the

The site has 1 or 2 WDFW priority habitats within 100m

The site does not meet any of the criteria for societal value

Record the rating on the first page

Total for H 3:

Score: 1

1

points = 2

points = 1

points = 0

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?	
The dominant water regime is tidal	
The wetland is vegetated	
The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2	
No - Not an Estuarine Wetland	Result: Not an Estuarine Wetland
SC 1.2 <u>Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, National Estuary Reserve</u>	Natural Area Preserve,
State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-15	<u>1?</u>
Yes - Category I Estuarine Wetland No - Go to SC 1.3	Result:
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	ions?
Yes - Category I Estuarine Wetland No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality educated the WNHP Data Explorer?	cosystem polygons on
Yes - Category I Wetland of High Conservation Value No - Go to SC 2.2	Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo may qualify the site as a WHCV?	n plant community that
Yes - Category I Wetland of High Conservation Value	
No - Not a Wetland of High Conservation Value	Result: Not a Wetland of High Conservation Value

SC 3.0 Bogs		
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, the	nat compose 16in or	
more of the first 32in of the soil profile?		
Yes - Go to SC 3.3		
No - Go to SC 3.2	Result: Go to SC 3.2	
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are le	ess than 16 in deep over	
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of	a lake or pond?	
Yes - Go to SC 3.3		
No - Not a Bog Wetland	Result: Not a Bog	
100 - Not a bog Wetland	Wetland	
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level,	AND at least 30% cover	
of plant species listed in the table provided in the instructions?		
Yes - Category I Bog Wetland		
No - Go to SC 3.4	Result:	
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes	stern red cedar, western	
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of	the species (or	
combinations of species) listed in the table found in the instructions provide more than 30% of the cover under the		
<u>canopy?</u>		
Yes - Category I Bog Wetland		
No - Not a Bog Wetland	Result:	
SC 4.0 Forested Wetlands		
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following	ng criteria?	
Old-growth forests		
Mature forests		
Yes - Category I Forested Wetland		
3 ,		

Wetland

Wetland name or number: W7

No - Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coastal Lagoons:	tal lagoon?
The wetland lies in a depression adjacent to marine waters that is wholly or partially	
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Yes - Go to SC 5.2	
	Result: Not a Coastal
No - Not a Coastal Lagoon Wetland	Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	nip WBUO)?
Yes - Go to SC 6.2	
No - Not an Interdunal Wetland	Result: Not an
TVO TVOCATI III COTATI III VOCIATIA	Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Yes - Category I Interdunal Wetland	
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	c and 1ac in size?
Yes - Category III Interdunal Wetland	
No - Category IV Interdunal Wetland	Result:

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not

Applicable



Figure 1: Cowardin classes.

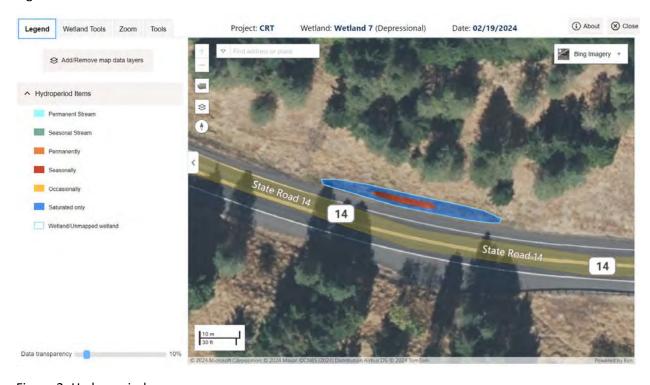


Figure 2: Hydroperiods



Figure 3: Outlet



Figure 4: Boundary of 150'

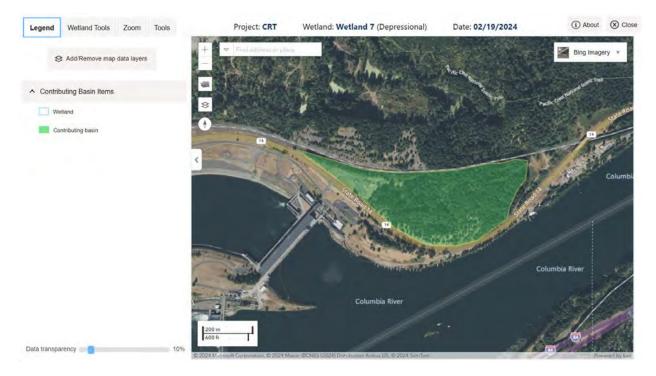


Figure 5: Contributing Basin

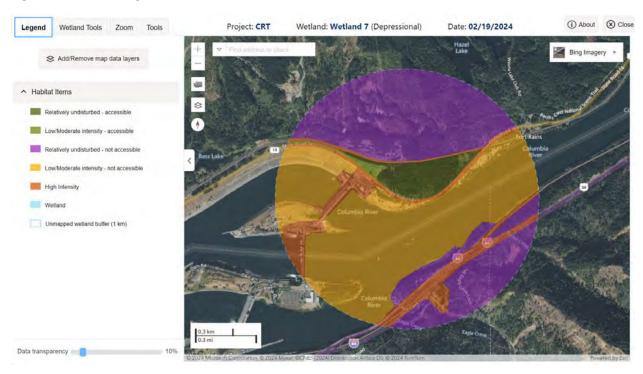


Figure 6: 1km polygon.

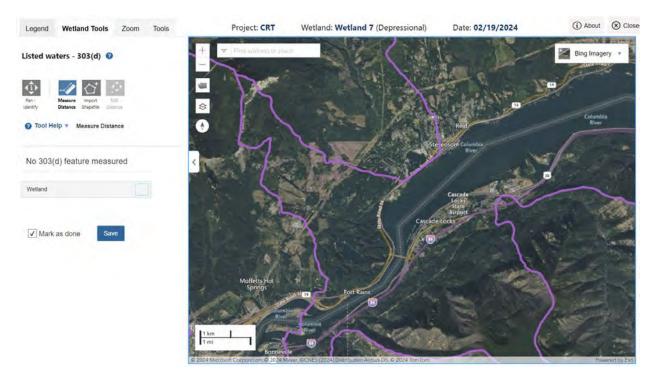


Figure 7: 303(d) listed waters in basin.

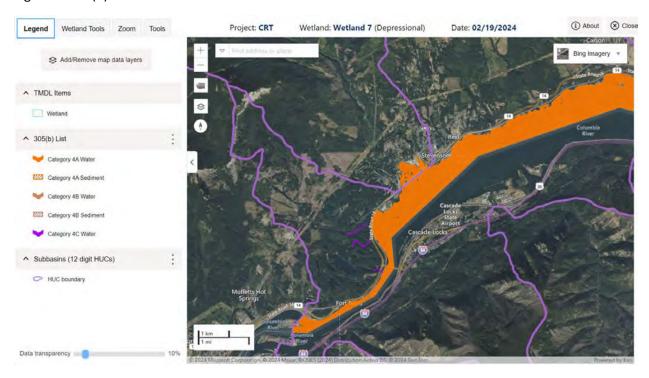


Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W8 Date of site visit: 11/06/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional **Wetland has multiple HGM classes? Yes** [] **No** [X]

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category III] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

[] Category I - Total score = 23 - 27

[] Category II - Total score = 20 - 22

[X] Category III - Total score = 16 - 19

[] Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	L	L	
Landscape Potential	M	М	Н	
Value	Н	Н	М	Total
Score Based on Ratings	7	6	6	19

Score for each function based on three ratings

(order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H, M, M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0 Does the site have the potential to improve water quality?			
D 1.1 What are the characteristics of surface water outflows from the wetland?			
Wetland has no surface water outlet.	points = 3		
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2		
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 1		
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	Score:	3
D 1.2 Is the soil 2 in. below the surface a true clay or organic soil?			
Mapped as true clay or organic (muck or peat)	points = 4		
Soil texture identified as clay or organic in field	points = 4		
Soil texture identified as clay or organic by laboratory test	points = 4		
None of the above	points = 0	Score:	0
D 1.3 What are the characteristics and distribution of persistent plants?			
Wetland has persistent, ungrazed, plants > 95% of area	points = 5		
Wetland has persistent, ungrazed, plants > 50% of area	points = 3		
Wetland has persistent, ungrazed plants > 10% of area	points = 1		
Wetland has persistent, ungrazed plants < 10% of area	points = 0	Score:	5
D 1.4 What are the characteristics of seasonal ponding or inundation in the wetland area?) -		
Area seasonally ponded is > 50% total area of wetland	points = 4		
Area seasonally ponded is equal to or > 25% total area of wetland	points = 2		
Area seasonally ponded is < 25% total area of wetland	points = 0	Score:	0
	Total for D 1:	8	
Rating of Site Potential [] 12-16 = H [X] 6-11 = M [] 0-5 = L	Record the rating on t	he first p	адє

D 2.0 Does the landscape have the potential to support the water quality function of the site?			
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.2 Is > 10% of the area within 150ft of the wetland in land uses that generate pollutants in surface runoff?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?			
Yes	points = 1		
No	points = 0	Score:	0

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	2

Rating of Landscape Potential [] 3-4 = H [X] 1-2 = M [] 0 = L Record the rating on the first page

D 3.0 Is the water quality improvement provided by the site valuable to society?		
D 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	he 303(<u>d</u>)	
list?		
Yes points = 1		
No points = 0	Score:	0
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?		
Yes points = 1		
No points = 0	Score:	0
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?		
Yes points = 2		
No points = 0	Score:	2
Total for D 3:	2	

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 4
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 0

	Total for D 4:	4	
Entire wetland is in the Flats class	points = 5	Score:	0
The area of the basin is more than 100 times the area of the unit	points = 0		
The area of the basin is 10 to 100 times the area of the unit	points = 3		
The area of the basin is less than 10 times the area of the unit	points = 5		
D 4.3 What is the contribution of the wetland to storage in the watershed?			

Rating of Site Potential

[] 12-16 = H[] 6-11 = M[X] 0-5 = L

Record the rating on the first page

D 5.0 Does the landscape have the potential to support h	ydrologic functions of the site?		
D 5.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 5.2 Is > 10% of the area within 150 ft of the wetland in land	d uses that generate excess runoff?		
Yes	points = 1		
No	points = 0	Score:	1
D 5.3 Is more than 25% of the contributing basin of the wetle	and covered with intensive human land uses?		
Yes	points = 1		
No	points = 0	Score:	0
	Total for D 5:	2	

Rating of Landscape Potential

[] 3 = H [X] 1-2 = M [] 0 = L

Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?

D 6.1 Is the wetland in a landscape that has flooding problems?			
Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2		
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1		
Flooding from groundwater is an issue in the basin.	points = 1		
The existing or potential outflow from the wetland is so constrained that water	points = 0		
cannot reach areas that flood.			
There are no problems with flooding downstream of the wetland.	points = 0	Score: 2	
D 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?			
Yes	points = 2		
No	points = 0	Score: 0	

Total for D 6:

2

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?		
Aquatic Bed		
✓ Emergent		
Scrub-shrub		
Forested		
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)		
4 structures or more	points = 4	
3 structures	points = 2	
2 structures	points = 1	
1 structure	points = 0	
No structures present	points = 0	Score: 0
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?	Poto 0	
Permanently flooded or inundated		
Seasonally flooded or inundated		
Occasionally flooded or inundated		
✓ Saturated only		
Permanently flowing stream or river in, or adjacent to, the wetland		
Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland		
Freshwater Tidal wetland		
Trestiwater fluir wettaflu		
4 or more types present	points = 3	
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2	
2 types present	points = 1	
1 type present	points = 0	
None present	points = 0	Score: 1
H 1.3 What is the richness of the plant species in the wetland?		
>19 species	points = 2	
5-19 species	points = 1	
<5 species	points = 0	Score: 0

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 0
H 1.5 What are the special habitat features in the wetland?		
Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
Standing snags (dbh >4in) within the wetland		
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score:
	Total for H 1:	1

Rating of Site Potential

[] **15-18** = **H** [] **7-14** = **M** [X] **0-6** = **L** Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 3
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wetland name or number: W8			
H 2.3 What is the land use intensity in	n the 1km polygon?		
50% of the Polygon is high intensity la	and use	points = -2	
<50% of the Polygon is high intensity	land use	points = 0	Score: 0
		Total for H 2:	6
Rating of Landscape Potential	[X] 4-6 = H [] 1-3 = M [] 0 = L	Record the rating on	the first page
H 3.0 Is the habitat provided by the	site valuable to society?		
H 3.1 Does the site provide habitat for	or species valued in laws, regulations, or policies?		
Aspen Stands			
✓ Biodiversity Areas and Corridors			
Herbaceous Balds			
Old-growth/Mature Forests			
Oregon White Oak			
Riparian			
Westside Prarie			
Fresh Deepwater			
Instream			

Rating of Value

criteria for societal value

Caves Cliffs

Talus

Snags and Logs

Nearshore (Coastal, Open Coast, Puget Sound)

The following criteria automatically score 2 points:

The wetland is a Wetland of High Conservation Value

The site has 1 or 2 WDFW priority habitats within 100m

The site does not meet any of the criteria for societal value

The wetland provides habitat for Threatened or Endangered species

The wetland is mapped as a location for an individual WDFW priority species

The wetland has been categorized as an important habitat site in a local plan

The wetland has 3 or more WDFW priority habitats within 100m, or meets the

[] 2 = H [X] 1 = M [] 0 = L

Record the rating on the first page

Total for H 3:

Score: 1

1

points = 2

points = 1

points = 0

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands? The dominant water regime is tidal The wetland is vegetated The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2 No - Not an Estuarine Wetland	Result: Not an
Not all Establific Wetland	Estuarine Wetland
SC 1.2 <u>Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, National Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151</u>	
Yes - Category I Estuarine Wetland	
No - Go to SC 1.3	Result:
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes - Category I Estuarine Wetland	
No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ecthe WNHP Data Explorer?	cosystem polygons on
Yes - Category I Wetland of High Conservation Value No - Go to SC 2.2	Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo may qualify the site as a WHCV?	n plant community that
Yes - Category I Wetland of High Conservation Value	
No - Not a Wetland of High Conservation Value	Result: Not a Wetland of High Conservation Value

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, the	nat compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are le	ess than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of	•
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result: Not a Bog Wetland
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level,	AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes	
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of	
combinations of species) listed in the table found in the instructions provide more than 30% of	the cover under the
<u>canopy?</u>	
Von Catanana I Ban Watland	
Yes - Category I Bog Wetland No - Not a Bog Wetland	Result:
SC 4.0 Forested Wetlands	Result.
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following	<u>ng criteria?</u>
Old-growth forests Mature forests	
I wiature rorests	
Yes - Category I Forested Wetland	

Result: Not a Forested

Wetland

Wetland name or number: W8

No - Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coas The wetland lies in a depression adjacent to marine waters that is wholly or partially	stal lagoon?
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Yes - Go to SC 5.2	
No - Not a Coastal Lagoon Wetland	Result: Not a Coastal Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	nip WBUO)?
Yes - Go to SC 6.2	
No - Not an Interdunal Wetland	Result: Not an Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Yes - Category I Interdunal Wetland	
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	
22 0.1 15 110 110 110 110 110 110 110 110 110	
Yes - Category III Interdunal Wetland	
No - Category IV Interdunal Wetland	Result:

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not

Applicable



Figure 1: Cowardin classes.



Figure 2: Hydroperiods



Figure 3: Outlet

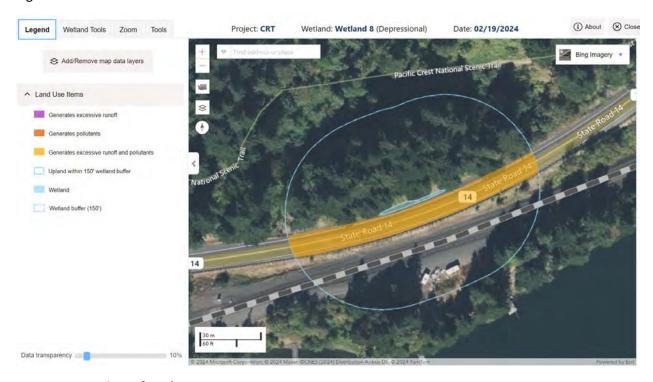


Figure 4: Boundary of 150'

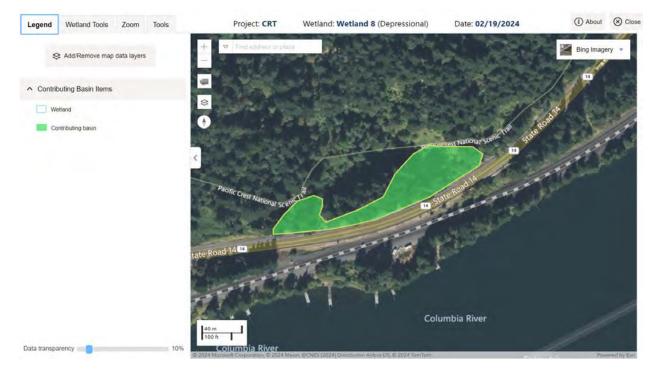


Figure 5: Contributing Basin

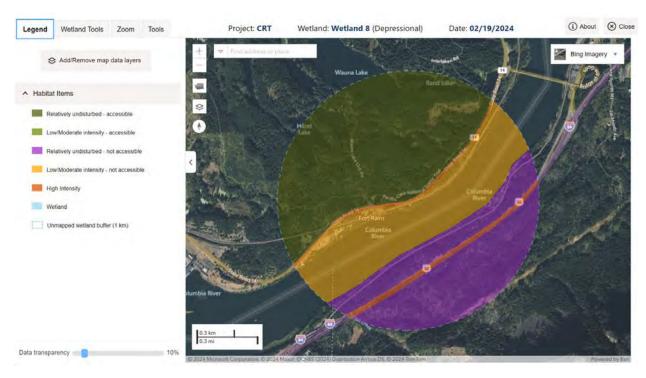


Figure 6: 1km polygon.

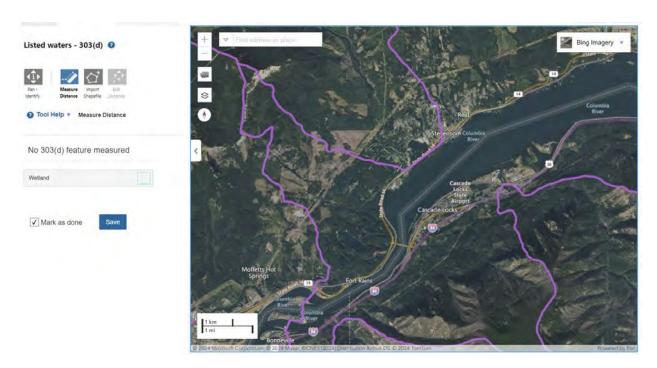


Figure 7: 303(d) listed waters in basin.

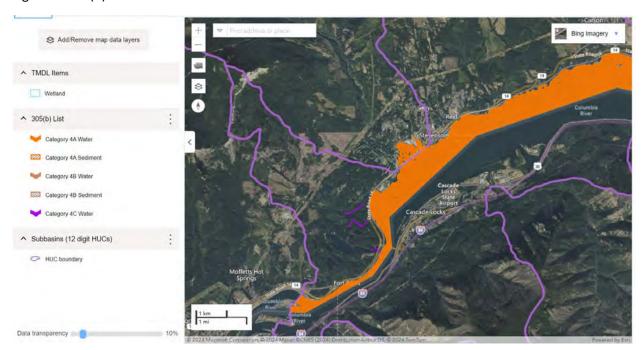


Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W9 Date of site visit: 04/20/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Riverine

Wetland has multiple HGM classes? Yes [X] No []

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category II] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

[] **Category I** - Total score = 23 - 27

[X] Category II - Total score = 20 - 22

[] Category III - Total score = 16 - 19

[] Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	М	М	
Landscape Potential	M	M	Н	
Value	Н	Н	Н	Total
Score Based on Ratings	7	7	8	22

Score for each function based on three ratings

(order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H, M, M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	2
Ponded depressions	R 1.1	3
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	4
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	5
Width of unit vs. width of stream (can be added to another figure)	R 4.1	6
Map of the contributing basin	R 2.2, R 2.3, R 5.2	7
1km Polygon: Area that extends 1km form entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	8
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	9
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	10

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

R 1.0 Does the site have the potential to improve water quality? R 1.1 What is the total area of surface depressions within the Riverine wetland that can trap sediments during a flooding event? Depressions cover >75% area of wetland points = 8Depressions cover >50% area of wetland points = 4Depressions present but cover <50% area of wetland points = 2Score: 2 No depressions present points = 0**R 1.2** What is the structure of plants in the wetland? Trees or shrubs cover >66% area of the wetland points = 8Trees or shrubs cover 33% - 66% of the area of the wetland points = 6Ungrazed, herbaceous plants cover (>6in high) >66% area of the wetland points = 6Ungrazed, herbaceous plants cover (>6in high) 33%-66% of the area of the wetland points = 3Trees, shrubs, and ungrazed herbaceous plants cover <33% area of the wetland points = 0Score: 6 Total for R 1:

Rating of Site Potential

[] 12-16 = H [X] 6-11 = M [] 0-5 = L

Rating of Site Potential	[] 12-10 = H [X] 0-11 = W [] 0-3 = L	Record the ruting on t		9-
R 2.0 Does the landscape have the	potential to support the water quality function	of the site?		
R 2.1 Is the wetland within an incorp	orated city or within its UGA?			
Yes		points = 2		
No		points = 0	Score:	0
R 2.2 Does the contributing basin to	the wetland include a UGA or incorporated area?			
Yes		points = 1		
No		points = 0	Score:	0
R 2.3 Does at least 10% of the contri	buting basin contain tilled fields, pastures, or fore	sts that have been clear	cut withi	<u>n</u>
the last 5 years?				
Yes		points = 1		
No		points = 0	Score:	0
R 2.4 <u>ls >10% of the area within 150</u>	ft of the wetland in land uses that generate polluta	ants?		
Yes		points = 1		
No		points = 0	Score:	0
R 2.5 Are there other sources of poll	utants coming into the wetland that are not listed	in question R 2.1-R 2.4?) -	
Yes		points = 1		
No		points = 0	Score:	1
R 2.6 What are the other sources of	pollutants coming into the wetland?			
A ditch contributing roadway runoff	to the lower half of the wetland			
		Total for R 2:	1	

Rating of Landscape Potential

 $[\;]$ 3-4 = H [X] 1-2 = M $[\;]$ 0 = L

R 3.0 Is the water quality improvement provided by the site valuable to society?			
R 3.1 Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains	to one within	1 mi?	
Yes	ints = 1		
No	ints = 0	Score:	0
R 3.2 Is the wetland along a stream or river that has TMDL limits for nutrients, toxics, or pathoge	ens?		
Yes	ints = 1		
No	ints = 0	Score:	1
R 3.3 Has the site been identified in a watershed or local plan as important for maintaining water	er quality?		
Yes	ints = 2		
No	ints = 0	Score:	2
	Total for R 3:	3	

Rating of Value

[X] **2-4** = **H** [] **1** = **M** [] **0** = **L**

Record the rating on the first page

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

R 4.0 Does the site have the potential to reduce flooding and erosion?

R 4.1 What are the characteristics of the overbank storage the wetland provides?			
If the ratio is more than 20	points = 9		
If the ratio is 10-20	points = 6		
If the ratio is 5-<10	points = 4		
If the ratio is 1-<5	points = 2		
If the ratio is < 1	points = 1	Score:	2
R 4.2 What are the characteristics of plants that slow down water velocities during floods?			
Forest or shrubs cover >33% of the wetland area OR emergent plants cover >66% of the wetland area	points = 7		
Forest or shrubs cover >10% of the wetland area OR emergent plants cover >33% of the wetland area	points = 4		
Plants do not meet the above criteria	points = 0	Score:	7
	Total for R 4:	9	

Rating of Site Potential

[] 12-16 = H [X] 6-11 = M [] 0-5 = L

R 5.0 Does the landscape have the potential to support the hydrologic functions of the site?			
R 5.1 Is the stream or river adjacent to the wetland downcut?			
Yes	points = 0		
No	points = 1	Score:	1
R 5.2 Does the up-gradient watershed include a UGA or incorporated area?			
Yes	points = 1		
No	points = 0	Score:	0
R 5.3 Is the up-gradient stream or river controlled by dams?			
Yes	points = 0		
No	points = 1	Score:	1
	Total for R 5:	2	

Rating of Landscape Potential

[] 3 = H [X] 1-2 = M [] 0 = L

Record the rating on the first page

R 6.0 Are the hydrologic functions provided by the site valuable to society?			
R 6.1 What is the distance to the nearest areas downstream that have flooding problems	<u>;?</u>		
The sub-basin immediately down-gradient of the wetland has flooding problems	points = 2		
Surface flooding problems are in a sub-basin farther down-gradient	points = 1		
No flooding problems anywhere downstream	points = 0	Score:	2
R 6.2 Has the site been identified as important for flood storage or flood conveyance in	a regional flood contr	ol plan?	
Yes	points = 2		
No	points = 0	Score:	0
	Total for R 6:	2	

Rating of Value

[X] **2-4** = **H** [] **1** = **M** [] **0** = **L**

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

•		
•		
·		
points = 0	Score:	2
points = 3		
points = 2		
points = 1		
points = 0		
points = 0	Score:	1
points = 2		
points = 1		
points = 0	Score:	1
	points = 2 points = 1 points = 0 points = 0 points = 2 points = 1	points = 2 points = 1 points = 0 points = 0 Score: points = 3 points = 2 points = 1 points = 0 points = 0 points = 1

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 2
H 1.5 What are the special habitat features in the wetland?		
✓ Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
✓ Standing snags (dbh >4in) within the wetland		
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score: 2
	Total for H 1:	8

Rating of Site Potential

[] 15-18 = H [X] 7-14 = M [] 0-6 = L

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 3
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wet	and name or number: W9			
H 2	.3 What is the land use intensity in the	ne 1km polygon?		
50%	6 of the Polygon is high intensity land	d use	points = -2	
<50	0% of the Polygon is high intensity la	nd use	points = 0	Score: 0
			Total for H 2:	6
Rat	ing of Landscape Potential	[X] 4-6 = H [] 1-3 = M [] 0 = L	Record the rating on	the first page
H 3	.0 Is the habitat provided by the si	te valuable to society?		
Н 3	.1 Does the site provide habitat for s	species valued in laws, regulations, or policies?		
	Aspen Stands			
√	Biodiversity Areas and Corridors			
	Herbaceous Balds			
	Old-growth/Mature Forests			
\Box	Oregon White Oak			
7	Riparian			
	Westside Prarie			
	Fresh Deepwater			
	Instream			

The following criteria automatically score 2 points:

Nearshore (Coastal, Open Coast, Puget Sound)

The wetland provides habitat for Threatened or Endangered species

The wetland is mapped as a location for an individual WDFW priority species

The wetland is a Wetland of High Conservation Value

The wetland has been categorized as an important habitat site in a local plan

The wetland has 3 or more WDFW priority habitats within 100m, or meets the criteria for societal value

The site has 1 or 2 WDFW priority habitats within 100m

The site has 1 of 2 with w phonty habitats within 100m

The site does not meet any of the criteria for societal value

points = 2

points = 1

•

points = 0 So

Score: 2

Total for H 3:

2

Rating of Value

Caves Cliffs

Talus

✓ Snags and Logs

[X] 2 = H[] 1 = M[] 0 = L

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?	
The dominant water regime is tidal	
The wetland is vegetated	
The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2	
No - Not an Estuarine Wetland	Result: Not an Estuarine Wetland
SC 1.2 <u>Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, National Estuary Reserve</u>	Natural Area Preserve,
State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-15	<u>1?</u>
Yes - Category I Estuarine Wetland No - Go to SC 1.3	Result:
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	ions?
Yes - Category I Estuarine Wetland No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality educated the WNHP Data Explorer?	cosystem polygons on
Yes - Category I Wetland of High Conservation Value No - Go to SC 2.2	Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo may qualify the site as a WHCV?	n plant community that
Yes - Category I Wetland of High Conservation Value	
No - Not a Wetland of High Conservation Value	Result: Not a Wetland of High Conservation Value

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, t	hat compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are le	ess than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of	a lake or pond?
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result: Not a Bog
100 - Not a bog Wetland	Wetland
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level,	AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, we	stern red cedar, western
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of	the species (or
combinations of species) listed in the table found in the instructions provide more than 30% of	the cover under the
<u>canopy?</u>	
Yes - Category I Bog Wetland	
No - Not a Bog Wetland	Result:
SC 4.0 Forested Wetlands	
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following	ng criteria?
Old-growth forests	
Mature forests	
Yes - Category I Forested Wetland	

Wetland

Wetland name or number: W9

No - Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coast	stal lagoon?
The wetland lies in a depression adjacent to marine waters that is wholly or partially	
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	ı
near the bottom)	•
The lagoon retains some of its surface water at low tide during spring tides	
Van Ca to SC F 2	
Yes - Go to SC 5.2	
No - Not a Coastal Lagoon Wetland	Result: Not a Coastal
	Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.0 interdunal wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	nip WBUO)?
Yes - Go to SC 6.2	
No - Not an Interdunal Wetland	Result: Not an
TVO TVOCATI Interdantal VVettaria	Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Vos. Catagony I Interdunal Matland	
Yes - Category I Interdunal Wetland	B 1:
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	ac and 1ac in size?
Yes - Category III Interdunal Wetland	
No - Category IV Interdunal Wetland	Result:

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not

Applicable

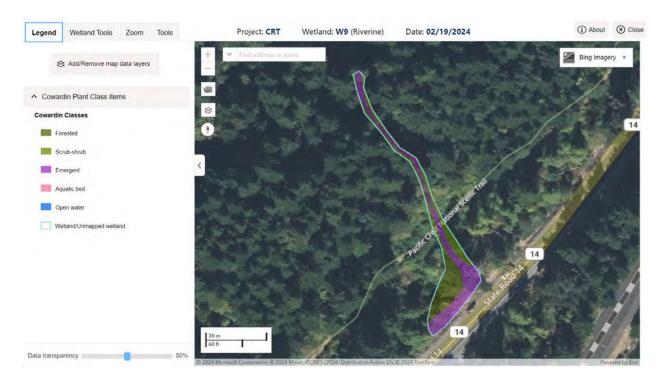


Figure 1: Cowardin classes.

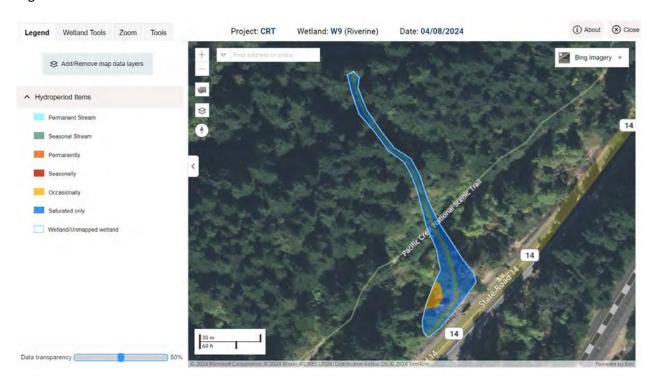


Figure 2: Hydroperiods

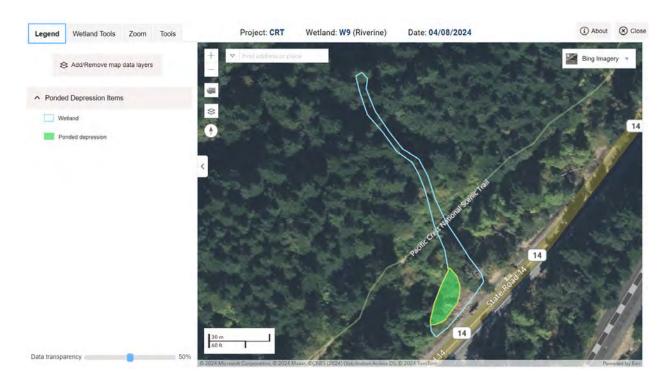


Figure 3: Ponded Depressions

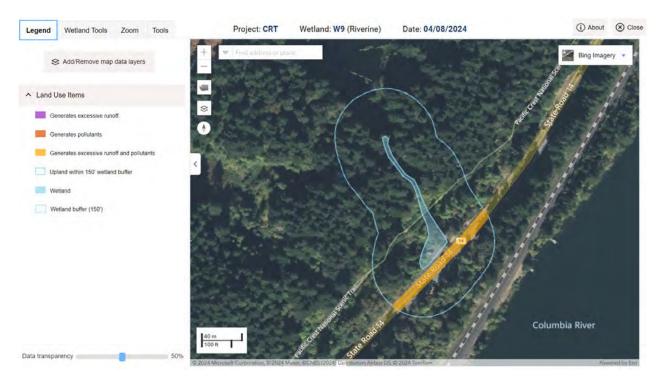


Figure 4:Boundary of area within 150 feet of the wetland.

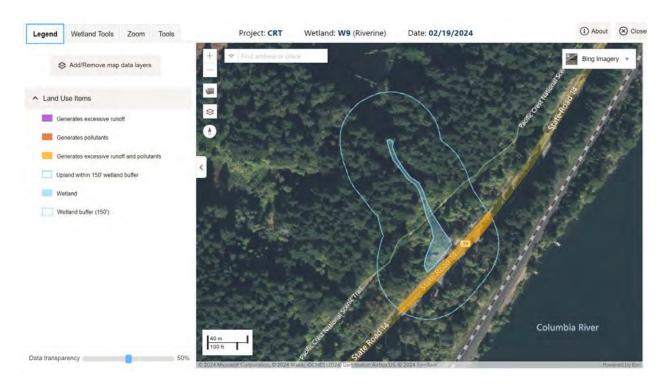


Figure 5: Plant Cover

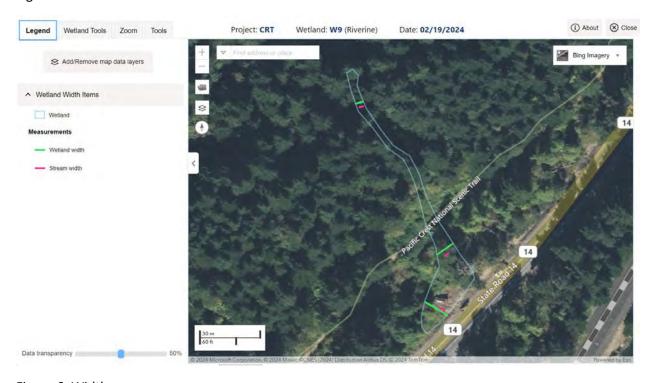


Figure 6: Width

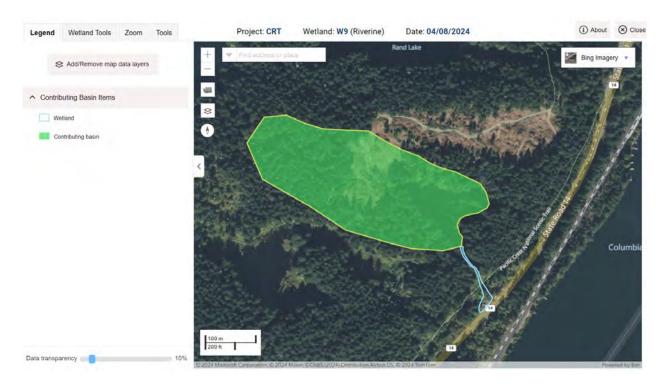


Figure 7: Contributing basin.

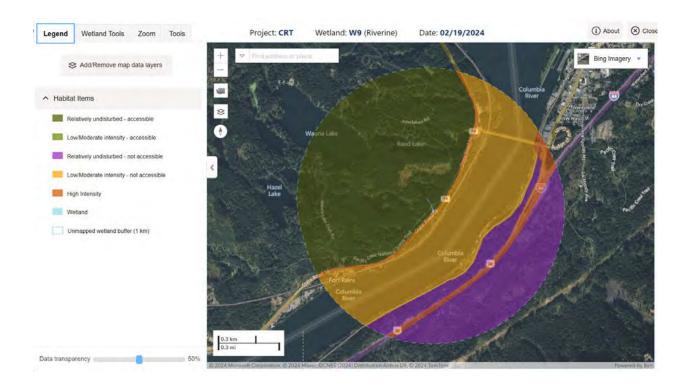


Figure 8: 1km polygon.

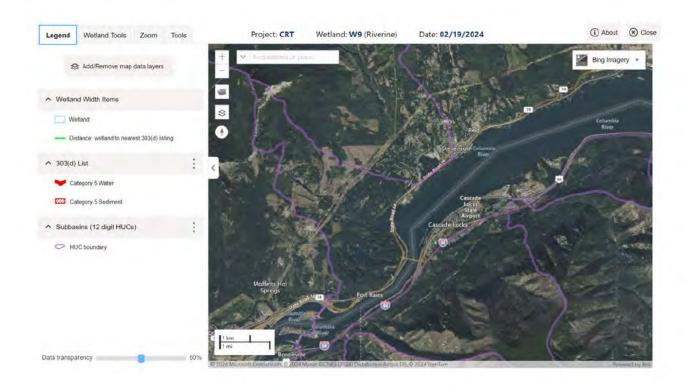


Figure 9: 303(d) listed waters in the basin.

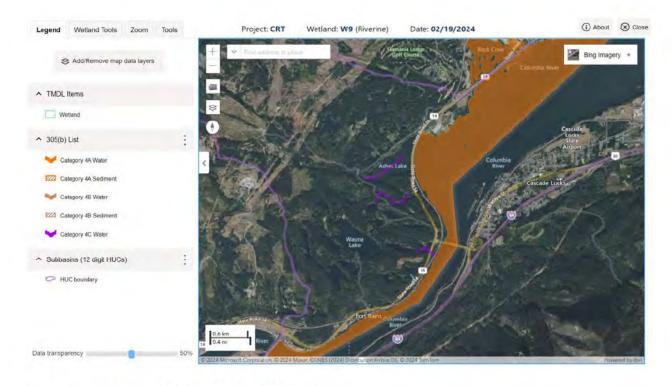


Figure 10: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W10 Date of site visit: 11/07/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional **Wetland has multiple HGM classes? Yes** [] **No** [X]

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category II] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

[] **Category I** - Total score = 23 - 27

[X] Category II - Total score = 20 - 22

[] Category III - Total score = 16 - 19

[] Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	М	М	
Landscape Potential	M	М	Н	
Value	Н	Н	М	Total
Score Based on Ratings	7	7	7	21

Score for each function based on three ratings

(order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H, M, M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

71		Total for D 1:	11	
Area seasonally ponded is < 25% tota		points = 0	Score:	4
Area seasonally ponded is equal to or		points = 2		
Area seasonally ponded is > 50% tota		points = 4		
D 1.4 What are the characteristics of s	seasonal ponding or inundation in the wetland area	?		
Wetland has persistent, ungrazed plan	nts < 10% of area	points = 0	Score:	5
Wetland has persistent, ungrazed plan	nts > 10% of area	points = 1		
Wetland has persistent, ungrazed, pla	nts > 50% of area	points = 3		
Wetland has persistent, ungrazed, pla	nts > 95% of area	points = 5		
D 1.3 What are the characteristics and	I distribution of persistent plants?			
None of the above		points = 0	Score:	0
Soil texture identified as clay or organ	ic by laboratory test	points = 4		
Soil texture identified as clay or organ	ic in field	points = 4		
Mapped as true clay or organic (muck	or peat)	points = 4		
D 1.2 Is the soil 2 in. below the surface	e a true clay or organic soil?			
Wetland is a flat depression whose ou	tlet is a permanently flowing ditch.	points = 1	Score:	2
Wetland has an unconstricted, or sligh permanently flowing	itly constricted, surface outlet that is	points = 1		
Wetland has an intermittently flowing		points = 2		
Wetland has no surface water outlet.		points = 3		
D 1.1 What are the characteristics of s	surface water outflows from the wetland?			

D 2.0 Does the landscape have the potential to support the water quality function	of the site?		
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.2 <u>Is > 10% of the area within 150ft of the wetland in land uses that generate pollutar</u>	nts in surface runof	<u>f?</u>	
Yes	points = 1		ļ
No	points = 0	Score:	1
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland that are not listed i	n questions D 2.1-D	2.3?	
Yes	points = 1		
No	points = 0	Score:	0

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	2

Rating of Landscape Potential [] 3-4 = H [X] 1-2 = M [] 0 = L

Record the rating on the first page

Rating of Landscape Potential	[] 3-4 - H [\\] 1-2 - W [] U - L	necord the ruting on t	πε μισι ρ	uge		
D 3.0 Is the water quality improvement provided by the site valuable to society?						
D 3.1 Does the wetland discharge directly	(i.e., within 1 mi) to a stream, river, lake, or mar	ine water that is on tl	ne 303(d)).		
list?						
Yes		points = 1				
No		points = 0	Score:	0		
D 3.2 Is the wetland in a basin or sub-basi	D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?					
Yes		points = 1				
No		points = 0	Score:	0		
D 3.3 Has the site been identified in a water	ershed or local plan as important for maintainir	ng water quality?				
Yes		points = 2				
No		points = 0	Score:	2		
		Total for D 3:	2			

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 2
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 3

D 4.3 What is the contribution of the wetland to storage in the watershed?		
The area of the basin is less than 10 times the area of the unit	points = 5	
The area of the basin is 10 to 100 times the area of the unit	points = 3	
The area of the basin is more than 100 times the area of the unit	points = 0	
Entire wetland is in the Flats class	points = 5	Score: 3
	Total for D 4:	8

Rating of Site Potential

[] 12-16 = H [X] 6-11 = M [] 0-5 = L

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 5.2 Is > 10% of the area within 150 ft of the wetland in land uses that generate excess rund	off?		
Yes	points = 1		
No	points = 0	Score:	1
D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive hum	an land uses?		
Yes	points = 1		
No	points = 0	Score:	0
	Total for D 5:	2	

Rating of Landscape Potential

[] 3 = H [X] 1-2 = M [] 0 = L

Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?

D 6.1 Is the wetland in a landscape that has flooding problems? Flooding occurs in a sub-basin that is immediately down-gradient of the wetland. Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the basin.

The existing or potential outflow from the wetland is so constrained that water cannot reach areas that flood.

points = 0

There are no problems with flooding downstream of the wetland. points = 0 Score: 2

D 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes points = 2

No points = 0 **Score: 0**

Total for D 6:

2

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

Н	1.1 What is the structure of the plant community?			
	Aquatic Bed			
√	Emergent			
	Scrub-shrub			
√	Forested			
	Multiple strata within the Forested class (canopy, sub-canopy, shrubs,			
he	rbaceous, moss/ground cover)			
	structures or more	points = 4		
	structures	points = 2		
	structures	points = 1		
	structure	points = 0		
No	o structures present	points = 0	Score:	1
Н	1.2 What are the hydroperiods that meet the size thresholds in the wetland?			
	Permanently flooded or inundated			
√	Seasonally flooded or inundated			
	Occasionally flooded or inundated			
√	Saturated only			
	Permanently flowing stream or river in, or adjacent to, the wetland			
	Seasonally flowing stream in, or adjacent to, the wetland			
	Lake Fringe wetland			
	Freshwater Tidal wetland			
4	or more types present	points = 3		
3 .	types present or Lake Fringe / Freshwater Tidal Fringe	points = 2		
2 1	types present	points = 1		
1 1	type present	points = 0		
No	one present	points = 0	Score:	1
Н	1.3 What is the richness of the plant species in the wetland?			
> `	19 species	points = 2		
5-	19 species	points = 1		
< [5 species	points = 0	Score:	1

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 2
H 1.5 What are the special habitat features in the wetland?		
✓ Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
✓ Standing snags (dbh >4in) within the wetland		
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score: 2
	Total for H 1:	7

Rating of Site Potential

[] 15-18 = H [X] 7-14 = M [] 0-6 = L

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 3
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

We	etland name or number: W10		
Н	2.3 What is the land use intensity in the 1km polygon?		
50	0% of the Polygon is high intensity land use	points = -2	
< [50% of the Polygon is high intensity land use	points = 0	Score: 0
		Total for H 2:	6
Ra	ating of Landscape Potential [X] 4-6 = H [] 1-3 = M [] 0 = L	Record the rating on th	ne first page
н.	3.0 Is the habitat provided by the site valuable to society?		
Н	3.1 Does the site provide habitat for species valued in laws, regulations, or p	olicies?	
	Aspen Stands		
√	Biodiversity Areas and Corridors		
	Herbaceous Balds		
	Old-growth/Mature Forests		
	Oregon White Oak		
	Riparian		
	Westside Prarie		
	Fresh Deepwater		
	Instream		
	Nearshore (Coastal, Open Coast, Puget Sound)		
	Caves		
	Cliffs		
√	Snags and Logs		
	Talus		
Th	ne following criteria automatically score 2 points:		
	The wetland provides habitat for Threatened or Endangered species		
	The wetland is mapped as a location for an individual WDFW priority specie	es .	
	The wetland is a Wetland of High Conservation Value		
	The wetland has been categorized as an important habitat site in a local pla	n	

Rating of Value

criteria for societal value

[] 2 = H [X] 1 = M [] 0 = L

The wetland has 3 or more WDFW priority habitats within 100m, or meets the

The site has 1 or 2 WDFW priority habitats within 100m

The site does not meet any of the criteria for societal value

Record the rating on the first page

Total for H 3:

Score: 1

1

points = 2

points = 1points = 0

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands? The dominant water regime is tidal The wetland is vegetated The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2 No - Not an Estuarine Wetland	Result: Not an
Not all Establific Wetland	Estuarine Wetland
SC 1.2 <u>Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, National Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151</u>	
Yes - Category I Estuarine Wetland	
No - Go to SC 1.3	Result:
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes - Category I Estuarine Wetland	
No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ecthe WNHP Data Explorer?	cosystem polygons on
Yes - Category I Wetland of High Conservation Value No - Go to SC 2.2	Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo may qualify the site as a WHCV?	n plant community that
Yes - Category I Wetland of High Conservation Value	
No - Not a Wetland of High Conservation Value	Result: Not a Wetland of High Conservation Value

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, the	nat compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are le	ess than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of	a lake or pond?
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result: Not a Bog
100 - Not a bog Wetland	Wetland
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level,	AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes	stern red cedar, western
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of	the species (or
combinations of species) listed in the table found in the instructions provide more than 30% of	the cover under the
<u>canopy?</u>	
Yes - Category I Bog Wetland	
No - Not a Bog Wetland	Result:
SC 4.0 Forested Wetlands	
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following	ng criteria?
Old-growth forests	
Mature forests	
Yes - Category I Forested Wetland	
3 ,	

Wetland

Wetland name or number: W10

No - Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coast	tal lagoon?
The wetland lies in a depression adjacent to marine waters that is wholly or partially	3
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Vos. Co to SC E 2	
Yes - Go to SC 5.2	
No - Not a Coastal Lagoon Wetland	Result: Not a Coastal
	Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	ip WBUO)?
Yes - Go to SC 6.2	
	Result: Not an
No - Not an Interdunal Wetland	Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
15 the Welland Tae of langer in size, of a mesale tride is fac of langer in size.	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Yes - Category I Interdunal Wetland	
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	c and 1ac in size?
Yes - Category III Interdunal Wetland	
No - Category IV Interdunal Wetland	Result:

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not

Applicable

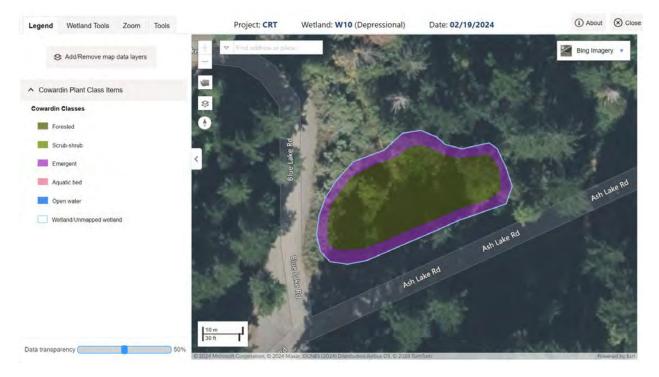


Figure 1: Cowardin classes.

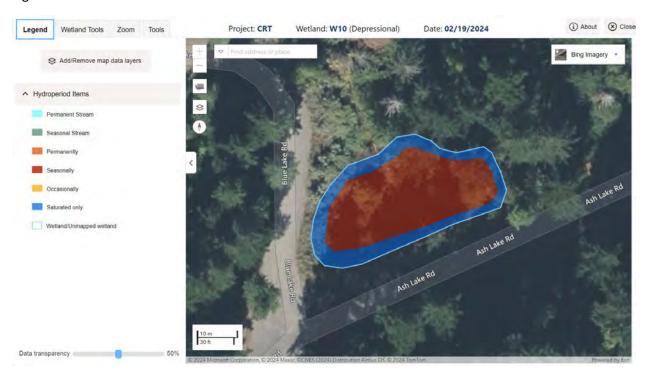


Figure 2: Hydroperiods

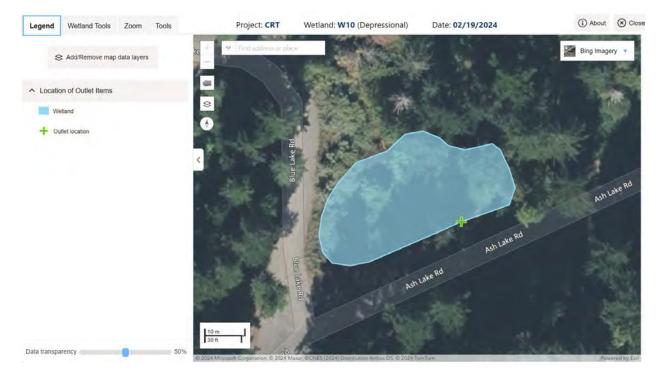


Figure 3: Outlet

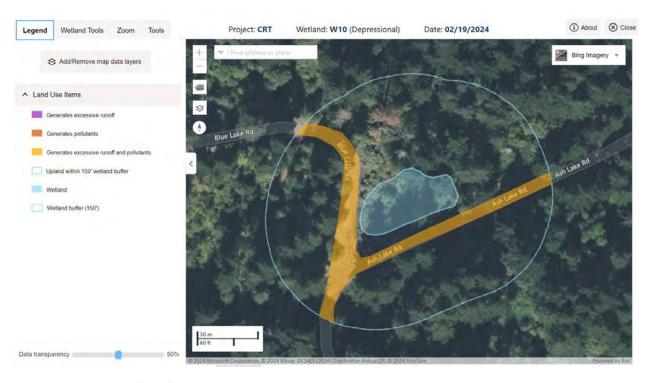


Figure 4: Boundary of 150'

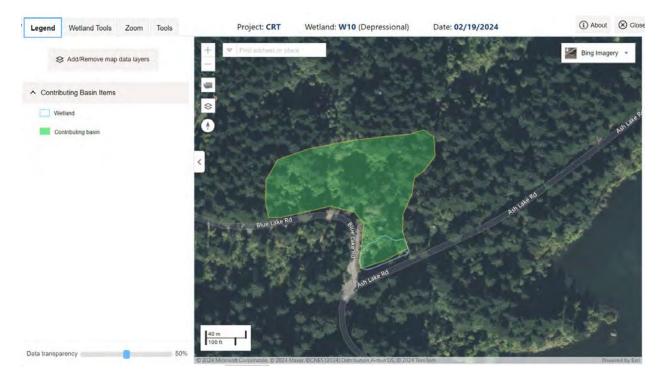


Figure 5: Contributing Basin

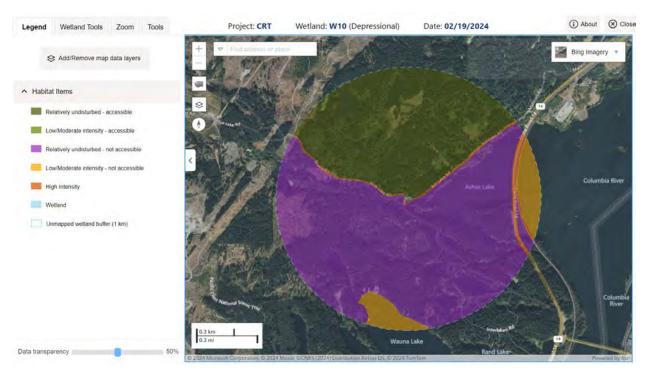


Figure 6: 1km polygon.

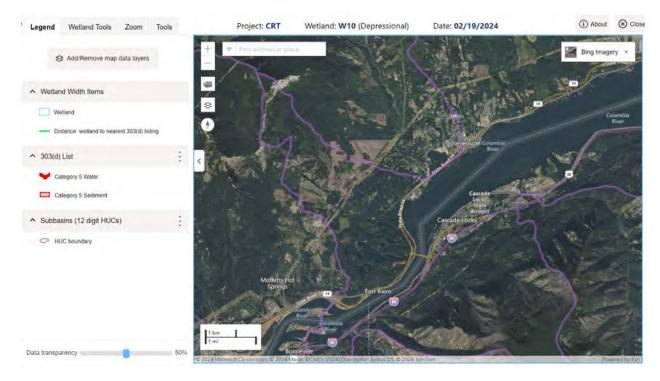


Figure 7: 303(d) listed waters in basin.

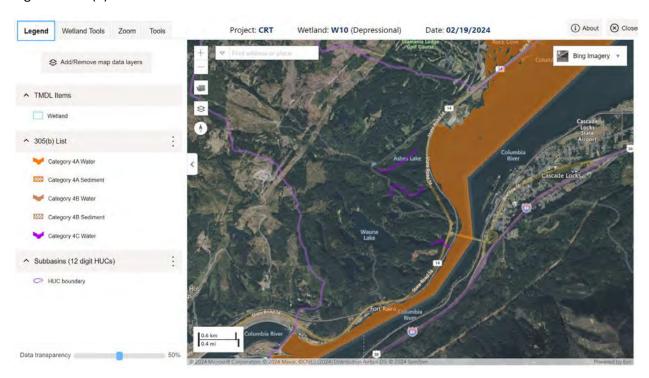


Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W11 Date of site visit: 11/09/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional **Wetland has multiple HGM classes? Yes** [X] **No** []

NOTE: Form is not complete without the figures requested (figures can be combined). **Source of base aerial photo/map:**

OVERALL WETLAND CATEGORY: [Category II] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

[] Category I - Total score = 23 - 27

[X] Category II - Total score = 20 - 22

[] Category III - Total score = 16 - 19

[] Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	M	М	
Landscape Potential	L	L	Н	
Value	Н	Н	Н	Total
Score Based on Ratings	6	6	8	20

Score for each function based on three ratings

(order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H, M, M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

Rating of Site Potential	[] 12-16 = H [X] 6-11 = M [] 0-5 = L	Record the rating on t	he first r	าลล
		Total for D 1:	7	
Area seasonally ponded is < 25% tota	l area of wetland	points = 0	Score:	2
Area seasonally ponded is equal to or	> 25% total area of wetland	points = 2		
Area seasonally ponded is > 50% total	l area of wetland	points = 4		
D 1.4 What are the characteristics of	seasonal ponding or inundation in the wetland area	?		
Wetland has persistent, ungrazed plan	nts < 10% of area	points = 0	Score:	3
Wetland has persistent, ungrazed plan	nts > 10% of area	points = 1		
Wetland has persistent, ungrazed, pla	nts > 50% of area	points = 3		
Wetland has persistent, ungrazed, pla	nts > 95% of area	points = 5		
D 1.3 What are the characteristics and	distribution of persistent plants?			
None of the above		points = 0	Score:	0
Soil texture identified as clay or organ	ic by laboratory test	points = 4		
Soil texture identified as clay or organ	ic in field	points = 4		
Mapped as true clay or organic (muck	or peat)	points = 4		
D 1.2 Is the soil 2 in. below the surface	e a true clay or organic soil?			
Wetland is a flat depression whose ou	tlet is a permanently flowing ditch.	points = 1	Score:	2
Wetland has an unconstricted, or slight permanently flowing	itly constricted, surface outlet that is	points = 1		
Wetland has an intermittently flowing		points = 2		
Wetland has no surface water outlet.		points = 3		
Vilat are the characteristics of .	surface water outflows from the wetland?			

Rating of Site Potential	[] 12-10 = H [\land] 6-11 = W [] 0-3 = L	Record the rating on the first page
D 2 0 Does the landscape have the n	otential to support the water quality function	on of the site?

D 2.0 Does the landscape have the potential to support the water quality	y function of the site?		
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.2 <u>Is > 10% of the area within 150ft of the wetland in land uses that general</u>	rate pollutants in surface runoff?		
Yes	points = 1		
No	points = 0	Score:	0
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland that are	not listed in questions D 2.1-D 2	.3?	
Yes	points = 1		
No	points = 0	Score:	0

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	0

Rating of Landscape Potential [] 3-4 = H [] 1-2 = M [X] 0 = L Record the rate

Record the rating on the first page

		<u> </u>	
D 3.0 Is the water quality improvement provided by the site valuable to society?			
D 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine	water that is on th	ne 303(d)	
list?			
Yes	points = 1		
No	points = 0	Score:	0
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?			
Yes	points = 1		
No	points = 0	Score:	0
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining	water quality?		
Yes	points = 2		
No	points = 0	Score:	2
	Total for D 3:	2	

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 2
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 3

Total for D 4:	10
Entire wetland is in the Flats class points = 5	Score:
The area of the basin is more than 100 times the area of the unit $points = 0$	
The area of the basin is 10 to 100 times the area of the unit points = 3	
The area of the basin is less than 10 times the area of the unit points = 5	
D 4.3 What is the contribution of the wetland to storage in the watershed?	

Rating of Site Potential

[] 12-16 = H [X] 6-11 = M [] 0-5 = L

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1 Does the wetland unit receive stormwater discharges?		
Yes points = 1		
No points = 0	Score: 0	
D 5.2 <u>Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?</u>		
Yes points = 1		
No points = 0	Score: 0	
D 5.3 <u>Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?</u>		
Yes points = 1		
No points = 0	Score: 0	
Total for D	5: 0	

Rating of Landscape Potential

[] 3 = H[] 1-2 = M[X] 0 = L

Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?

Flooding occurs in a sub-basin that is immediately down-gradient of the wetland. Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the basin. The existing or potential outflow from the wetland is so constrained that water cannot reach areas that flood. There are no problems with flooding downstream of the wetland. points = 0 Score: 2

D 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes points = 2

No points = 0 Score: 0

Total for D 6:

2

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?		
✓ Aquatic Bed		
✓ Emergent		
✓ Scrub-shrub		
√ Forested		
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)		
4 structures or more	points = 4	
3 structures	points = 2	
	•	
2 structures	points = 1	
1 structure	points = 0	6 4
No structures present	points = 0	Score: 4
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?		
Permanently flooded or inundated		
Seasonally flooded or inundated		
Occasionally flooded or inundated		
✓ Saturated only		
Permanently flowing stream or river in, or adjacent to, the wetland		
Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland		
Freshwater Tidal wetland		
4 or more types present	points = 3	
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2	
2 types present	points = 1	
1 type present	points = 0	
None present	points = 0	Score: 2
H 1.3 What is the richness of the plant species in the wetland?		
>19 species	points = 2	
5-19 species	points = 1	
<5 species	points = 0	Score: 1

H 1.4 What is the interspersion of habitats?			
High	points = 3		
Moderate	points = 2		
Low	points = 1		
None	points = 0	Score:	3
H 1.5 What are the special habitat features in the wetland?			
✓ Large, downed, woody debris within the wetland (>4in diameter and 6ft long).			
✓ Standing snags (dbh >4in) within the wetland			
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants			
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous			
with the wetland, for at least 33ft (10m)			
Stable steep banks of fine material that might be used by beaver or muskrat for			
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs			
or trees that have not yet weathered where wood is exposed)			
At least 0.25ac of thin-stemmed persistent plants or woody branches are present			
in areas that are permanently or seasonally inundated (structures for egg-laying by			
amphibians)			
Invasive plants cover less than 25% of the wetland area in every stratum of plants			
(see H 1.1 for list of strata)			
6 habitats selected	points = 6		
5 habitats selected	points = 5		
4 habitats selected	points = 4		
3 habitats selected	points = 3		
2 habitats selected	points = 2		
1 habitat selected	points = 1		
No habitats selected	points = 0	Score:	2
	Total for H 1:	12	

Rating of Site Potential

[] 15-18 = H [X] 7-14 = M [] 0-6 = L

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 3
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wetland name or number: W11			
H 2.3 What is the land use intensity in the 1km polygon?			
50% of the Polygon is high intensity land use	points = -2		
<50% of the Polygon is high intensity land use	points = 0	Score:	0
	Total for H 2:	6	

Rating of Landscape Potential

[X] **4-6** = **H** [] **1-3** = **M** [] **0** = **L**

Record the rating on the first page

H 3.0 Is the habitat provided by the site valuable to society?

n 3.0 is the habitat provided by the site valuable to society:		
H 3.1 Does the site provide habitat for species valued in laws, regulations, or policies?		
Aspen Stands		
✓ Biodiversity Areas and Corridors		
Herbaceous Balds		
Old-growth/Mature Forests		
Oregon White Oak		
✓ Riparian		
Westside Prarie		
Fresh Deepwater		
Instream		
Nearshore (Coastal, Open Coast, Puget Sound)		
Caves		
Cliffs		
✓ Snags and Logs		
Talus		
The following criteria automatically score 2 points:		
The wetland provides habitat for Threatened or Endangered species		
The wetland is mapped as a location for an individual WDFW priority species		
The wetland is a Wetland of High Conservation Value		
The wetland has been categorized as an important habitat site in a local plan		
The wetland has 3 or more WDFW priority habitats within 100m, or meets the		
criteria for societal value	points = 2	
The site has 1 or 2 WDFW priority habitats within 100m	points = 1	
The site does not meet any of the criteria for societal value	points = 0	Score: 2
	Total for H 3:	2

Rating of Value

[X] **2** = **H** [] **1** = **M** [] **0** = **L**

Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?	
The dominant water regime is tidal	
The wetland is vegetated	
The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2	
No - Not an Estuarine Wetland	Result: Not an Estuarine Wetland
SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, N	Natural Area Preserve,
State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-15	<u>1?</u>
Yes - Category I Estuarine Wetland	
No - Go to SC 1.3	Result:
SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three condit	ions?
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 10% cover of non-native plant species.	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland	
The wetland has at least two of the following features: tidal channels, depressions with open	
water, or contiguous freshwater wetlands.	
Yes - Category I Estuarine Wetland	
No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ed	osystem polygons on
the WNHP Data Explorer?	
Yes - Category I Wetland of High Conservation Value	
No - Go to SC 2.2	Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo	n plant community that
may qualify the site as a WHCV?	
Yes - Category I Wetland of High Conservation Value	
	Result: Not a Wetland
No - Not a Wetland of High Conservation Value	of High Conservation
	Value

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, the	at compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are le	ss than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a	a lake or pond?
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result: Not a Bog
TWO - TWO CA BOOK WELLAND	Wetland
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level,	AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes	tern red cedar, western
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of	the species (or
combinations of species) listed in the table found in the instructions provide more than 30% of t	<u>he cover under the</u>
<u>canopy?</u>	
Yes - Category I Bog Wetland	
No - Not a Bog Wetland	Result:
SC 4.0 Forested Wetlands	
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following	
	<u>g criteria?</u>
Old-growth forests	<u>g criteria?</u>
Old-growth forests Mature forests	<u>g criteria?</u>
	<u>g criteria?</u>
	<u>g criteria?</u>

Wetland

Wetland name or number: W11

No - Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?		
The wetland lies in a depression adjacent to marine waters that is wholly or partially		
separated from marine waters by sandbanks, gravel banks, shingle, or rocks		
The depression in which the wetland is located contains ponded water that is saline or		
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured		
near the bottom)		
The lagoon retains some of its surface water at low tide during spring tides		
Yes - Go to SC 5.2		
163 66 66 56 5.2	Result: Not a Coastal	
No - Not a Coastal Lagoon Wetland	Lagoon Wetland	
SC E 2 Days the westland most all of the following three conditions?	Lugoon Welland	
SC 5.2 Does the wetland meet all of the following three conditions?		
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and		
has less than 20% cover of aggressive, opportunistic plant species (see list of species).		
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-		
grazed or un-mowed grassland.		
the wetland is larger than 0.10ac (4350 sqft)		
Yes - Category I Coastal Lagoon		
No - Category II Coastal Lagoon	Result:	
SC 6.0 Interdunal Wetlands		
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	nip WBUO)?	
Yes - Go to SC 6.2		
No. Not an interdunal Watland	Result: Not an	
No - Not an Interdunal Wetland	Interdunal Wetland	
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?		
Wetland is larger than 1ac in size - Go to SC 6.3		
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland		
No - Go to SC 6.4	Result:	
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?		
Does the wettand score 8 of 9 points for the habitat functions:		
Yes - Category I Interdunal Wetland		
No - Category II Interdunal Wetland	Result:	
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	ac and Tac in size?	
Yes - Category III Interdunal Wetland		
No - Category IV Interdunal Wetland	Result:	

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not

Applicable



Figure 1: Cowardin classes.

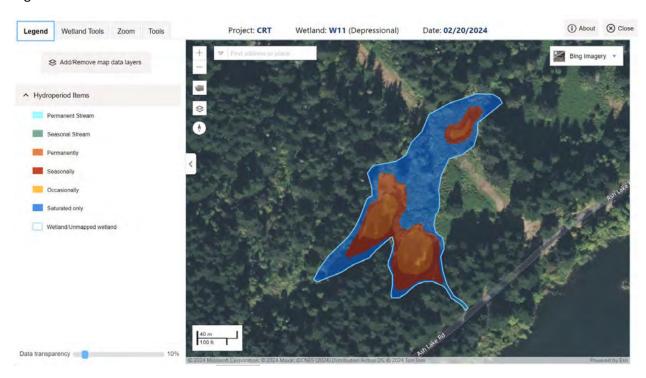


Figure 2: Hydroperiods



Figure 3: Outlet

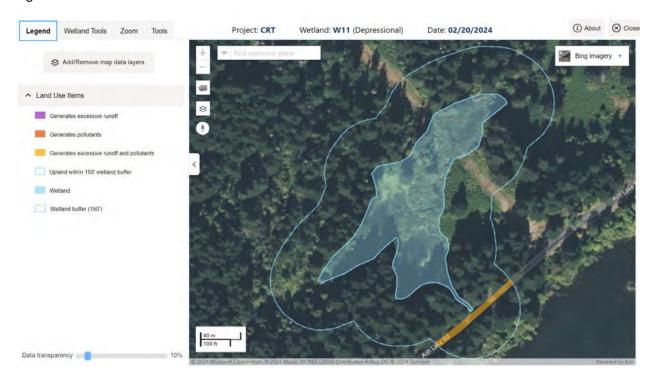


Figure 4: Boundary of 150'



Figure 5: Contributing Basin

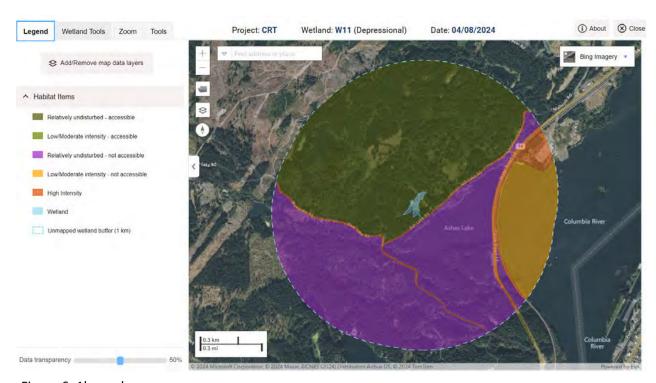


Figure 6: 1km polygon.

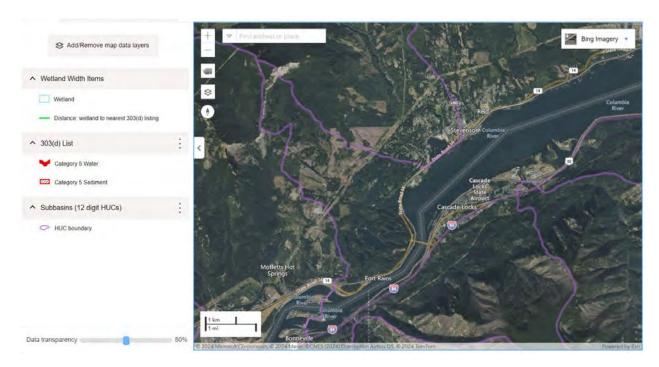


Figure 7: 303(d) listed waters in basin.

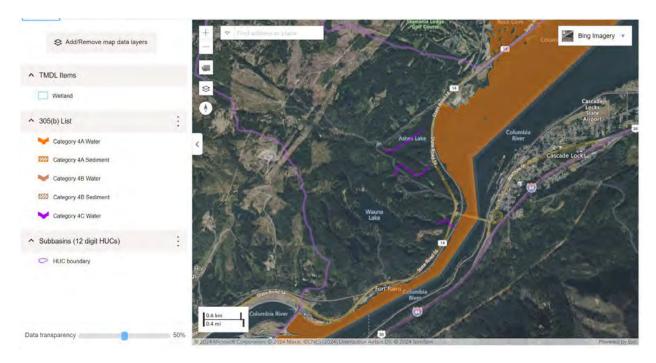


Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W12 Date of site visit: 11/09/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional **Wetland has multiple HGM classes? Yes** [] **No** [X]

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category III] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

- [] Category I Total score = 23 27
- [] Category II Total score = 20 22
- [X] Category III Total score = 16 19
- [] Category IV Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	L	L	L	
Landscape Potential	M	М	Н	
Value	Н	Н	Н	Total
Score Based on Ratings	6	6	7	19

Score for each function based on three ratings

(order of ratings is not important)

- 9 = H,H,H
- 8 = H,H,M
- 7 = H,H,L
- 7 = H,M,M
- 6 = H,M,L
- 6 = M,M,M
- 5 = H,L,L
- 5 = M,M,L
- 4 = M,L,L
- 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

	Total for D 1:	5	
tal area of wetland	points = 0	Score:	0
or > 25% total area of wetland	points = 2		
tal area of wetland	points = 4		
seasonal ponding or inundation in the wetland area?			
ants < 10% of area	points = 0	Score:	3
ants > 10% of area	points = 1		
ants > 50% of area	points = 3		
ants > 95% of area	points = 5		
nd distribution of persistent plants?			
	points = 0	Score:	C
nic by laboratory test	points = 4		
nic in field	points = 4		
ck or peat)	points = 4		
ice a true clay or organic soil?			
outlet is a permanently flowing ditch.	points = 1	Score:	2
giftly constricted, surface outlet that is	points = 1		
	points = 2		
	•		
	f surface water outflows from the wetland? ing, or highly constricted, outlet. Inghtly constricted, surface outlet that is putlet is a permanently flowing ditch. Indicate a true clay or organic soil? Indicate of peat of the surface outlet that is accessive a true clay or organic soil? Indicate of peat of the surface outlet that is accessive a true clay or organic soil? Indicate of peat or organic soil? Indicate of peat or organic soil? Indicate of peat organic soil? Indicate of peat organic soil? Indicate of peat organic soil? Indicate of peat organic soil? Indicate of peat organic soil? Indicate organic soil? In	points = 3 ang, or highly constricted, outlet. points = 2 ghtly constricted, surface outlet that is points = 1 poutlet is a permanently flowing ditch. points = 1 points = 1 points = 1 points = 4 points = 0 and distribution of persistent plants? lants > 95% of area points = 3 ants > 10% of area points = 1 points = 0 f seasonal ponding or inundation in the wetland area? tal area of wetland points = 2 tal area of wetland points = 2 tal area of wetland points = 0 and points = 3 and points = 2 ghtly constricted, surface outlet that is points = 1 points = 4 points = 4 points = 4 points = 4 points = 0 Score: and distribution of persistent plants? lants > 95% of area lants > 50% of area points = 3 points = 5 lants > 10% of area points = 1 points = 1 points = 1 points = 3 points = 5 lants > 10% of area points = 1 points = 2 f seasonal ponding or inundation in the wetland area? tal area of wetland points = 2 tal area of wetland points = 0 Score:	

D 2.0 Does the landscape have the potential to support the water quality function	n of the site?		
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.2 <u>Is > 10% of the area within 150ft of the wetland in land uses that generate pollur</u>	tants in surface runoff	?	
Yes	points = 1		
No	points = 0	Score:	0
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland that are not listed	d in questions D 2.1-D	2.3?	
Yes	points = 1		
No	points = 0	Score:	0

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	1

Rating of Landscape Potential [] 3-4 = H[X] 1-2 = M[] 0 = L Rec

Record the rating on the first page

		necora the rating on t	ne page
D 3.0 Is the water quality improvement	provided by the site valuable to society?		
D 3.1 Does the wetland discharge directly	(<u>i.e., within 1 mi) to a stream, river, lake, or ma</u>	rine water that is on tl	ne 303(<u>d</u>)
list?			
Yes		points = 1	
No		points = 0	Score: 0
D 3.2 Is the wetland in a basin or sub-basin	n where an aquatic resource is on the 303(d) li	ist?	
Yes		points = 1	
No		points = 0	Score: 0
D 3.3 Has the site been identified in a water	ershed or local plan as important for maintaini	ing water quality?	
Yes		points = 2	
No		points = 0	Score: 2
		Total for D 3:	2

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 2
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 0

	Total for D 4:	5	
Entire wetland is in the Flats class	points = 5	Score:	3
The area of the basin is more than 100 times the area of the unit	points = 0		
The area of the basin is 10 to 100 times the area of the unit	points = 3		
The area of the basin is less than 10 times the area of the unit	points = 5		
D 4.3 What is the contribution of the wetland to storage in the watershed?			

Rating of Site Potential

[] 12-16 = H [] 6-11 = M [X] 0-5 = L

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrolog	jic functions of the site?		
D 5.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 5.2 <u>Is > 10% of the area within 150 ft of the wetland in land uses the second of the second of the wetland of the second </u>	nat generate excess runoff?		
Yes	points = 1		
No	points = 0	Score:	0
D 5.3 <u>Is more than 25% of the contributing basin of the wetland coverage.</u>	ered with intensive human land uses?		
Yes	points = 1		
No	points = 0	Score:	0
	Total for D 5:	1	

Rating of Landscape Potential

[] 3 = H [X] 1-2 = M [] 0 = L

Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?

D 6.1 Is the wetland in a landscape that has flooding problems?		
Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
Flooding from groundwater is an issue in the basin.	points = 1	
The existing or potential outflow from the wetland is so constrained that water	points = 0	
cannot reach areas that flood.	points = 0	
There are no problems with flooding downstream of the wetland.	points = 0	Score: 2
D 6.2 Has the site been identified as important for flood storage or flood conveyance in	<u>n a regional flood co</u>	ntrol plan?
Yes	points = 2	
No	points = 0	Score: 0

Total for D 6:

2

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

points = 4		
points = 4		
points = 2		
points = 1		
points = 0		
points = 0	Score:	0
points = 3		
points = 2		
points = 1		
points = 0		
points = 0	Score:	1
points = 2		
points = 2 points = 1		
	points = 2 points = 1 points = 0 points = 0	points = 2 points = 1 points = 0 points = 0 Score:

H 1.4 What is the interspersion of habitats?			_
High	points = 3		
Moderate	points = 2		
Low	points = 1		
None	points = 0	Score: 1	
H 1.5 What are the special habitat features in the wetland?			
Large, downed, woody debris within the wetland (>4in diameter and 6ft long).			
Standing snags (dbh >4in) within the wetland			
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants			
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous			
with the wetland, for at least 33ft (10m)			
Stable steep banks of fine material that might be used by beaver or muskrat for			
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs			
or trees that have not yet weathered where wood is exposed)			
At least 0.25ac of thin-stemmed persistent plants or woody branches are present			
in areas that are permanently or seasonally inundated (structures for egg-laying by			
amphibians)			
Invasive plants cover less than 25% of the wetland area in every stratum of plants			
(see H 1.1 for list of strata)			
6 habitats selected	points = 6		
5 habitats selected	points = 5		
4 habitats selected	points = 4		
3 habitats selected	points = 3		
2 habitats selected	points = 2		
1 habitat selected	points = 1		
No habitats selected	points = 0	Score:	
	Total for H 1:	3	

Rating of Site Potential

[] **15-18** = **H** [] **7-14** = **M** [X] **0-6** = **L**

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 3
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wetla	nd name or number: W12			
H 2.3	What is the land use intensity in t	he 1km polygon?		
50%	of the Polygon is high intensity lan	points = -2		
<50% of the Polygon is high intensity land use			points = 0	Score: 0
			Total for H 2:	6
Ratin	Rating of Landscape Potential [X] 4-6 = H [] 1-3 = M [] 0 = L		Record the rating on the first page	
H 3.0	Is the habitat provided by the si	ite valuable to society?		
H 3.1	Does the site provide habitat for s	species valued in laws, regulations, or policies?		
A	spen Stands			
✓ Bi	odiversity Areas and Corridors			
П	erbaceous Balds			
По	ld-growth/Mature Forests			
<u> </u>	regon White Oak			
Ri	parian			
w	estside Prarie			
Fr	esh Deepwater			
l In	stream			

The wetland has been categorized as an important habitat site in a local plan

The wetland is a Wetland of High Conservation Value

The wetland provides habitat for Threatened or Endangered species

The wetland is mapped as a location for an individual WDFW priority species

Nearshore (Coastal, Open Coast, Puget Sound)

The following criteria automatically score 2 points:

The wetland has 3 or more WDFW priority habitats within 100m, or meets the

criteria for societal value

The site has 1 or 2 WDFW priority habitats within 100m points = 1

The site does not meet any of the criteria for societal value points = 0 **Score: 2**

Total for H 3:

2

Rating of Value

Caves Cliffs

Talus

✓ Snags and Logs

[X] 2 = H[] 1 = M[] 0 = L

Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands? The dominant water regime is tidal The wetland is vegetated The water salinity is greater than 0.5 ppt				
Yes - Go to SC 1.2 No - Not an Estuarine Wetland	Result: Not an			
Not all Establific Wetland	Estuarine Wetland			
SC 1.2 <u>Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?</u>				
Yes - Category I Estuarine Wetland				
No - Go to SC 1.3	Result:			
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes - Category I Estuarine Wetland				
No - Category II Estuarine Wetland	Result:			
SC 2.0 Wetlands of High Conservation Value				
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ecthe WNHP Data Explorer?	cosystem polygons on			
Yes - Category I Wetland of High Conservation Value No - Go to SC 2.2	Result: Go to SC 2.2			
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo may qualify the site as a WHCV?	n plant community that			
Yes - Category I Wetland of High Conservation Value				
No - Not a Wetland of High Conservation Value	Result: Not a Wetland of High Conservation Value			

SC 3.0 Bogs				
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16in or				
more of the first 32in of the soil profile?				
Yes - Go to SC 3.3				
No - Go to SC 3.2	Result: Go to SC 3.2			
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are	less than 16 in deep over			
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of	<u>f a lake or pond?</u>			
Yes - Go to SC 3.3				
No - Not a Bog Wetland	Result:			
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level	, AND at least 30% cover			
of plant species listed in the table provided in the instructions?				
Yes - Category I Bog Wetland				
No - Go to SC 3.4	Result:			
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, we	estern red cedar, western			
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any or	·			
combinations of species) listed in the table found in the instructions provide more than 30% of	the cover under the			
<u>canopy?</u>				
Yes - Category I Bog Wetland				
No - Not a Bog Wetland	Result:			
SC 4.0 Forested Wetlands				
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following	ing criteria?			
Old-growth forests				
Mature forests				
Yes - Category I Forested Wetland				
No - Not a Forested Wetland	Result: Not a Forested			
110 110t d 1 0105ted 11ctidita				

Wetland

Wetland name or number: W12

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?				
The wetland lies in a depression adjacent to marine waters that is wholly or partially				
separated from marine waters by sandbanks, gravel banks, shingle, or rocks				
The depression in which the wetland is located contains ponded water that is saline or				
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured				
near the bottom)				
The lagoon retains some of its surface water at low tide during spring tides				
Yes - Go to SC 5.2				
No - Not a Coastal Lagoon Wetland	Result: Not a Coastal			
	Lagoon Wetland			
SC 5.2 Does the wetland meet all of the following three conditions?				
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and				
has less than 20% cover of aggressive, opportunistic plant species (see list of species).				
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-				
grazed or un-mowed grassland.				
the wetland is larger than 0.10ac (4350 sqft)				
Yes - Category I Coastal Lagoon				
No - Category I Coastal Lagoon	Result:			
	Result.			
SC 6.0 Interdunal Wetlands				
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	nip WBUO)?			
Yes - Go to SC 6.2				
	Result: Not an			
No - Not an Interdunal Wetland	Interdunal Wetland			
SC 6.2 Is the westland fac or larger in size or a mosaic that is fac or larger in size?				
SC 6.2 <u>Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?</u>				
Wetland is larger than 1ac in size - Go to SC 6.3				
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland				
No - Go to SC 6.4	Result:			
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?				
Yes - Category I Interdunal Wetland				
No - Category II Interdunal Wetland	Result:			
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	us and last in sizo?			
5. 0.7 is the wettand tillt between 0.1ac and 1ac, of in a mosaic of wettands that is between 0.1ac	ic and rac in Size!			
Vos. Catagon, III Interdunal Matland				
Yes - Category III Interdunal Wetland	D. II			
No - Category IV Interdunal Wetland	Result:			

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not

Applicable



Figure 1: Cowardin classes.

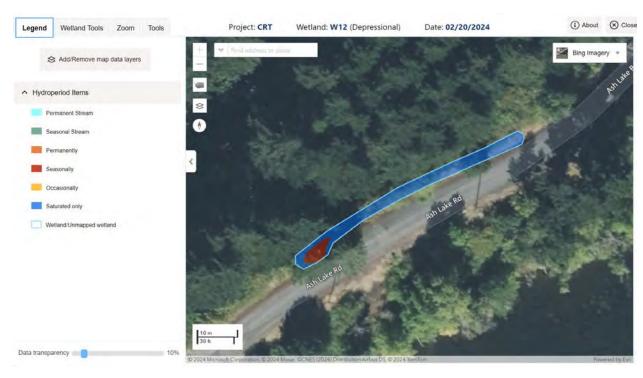


Figure 2: Hydroperiods

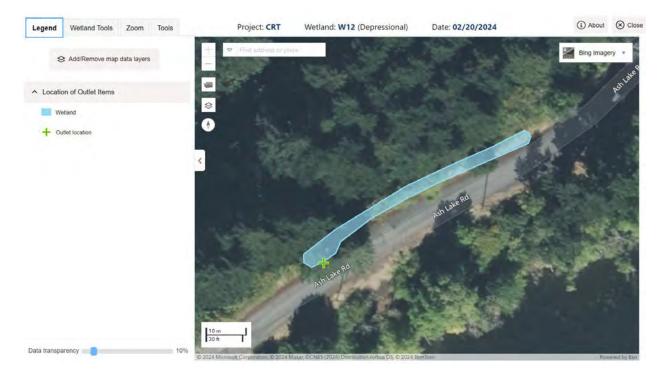


Figure 3: Outlet



Figure 4: Boundary of 150'

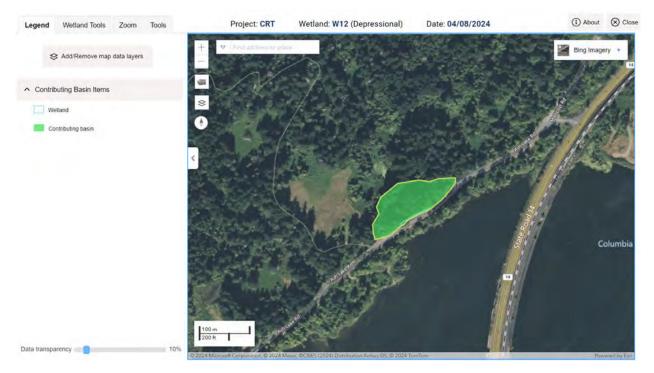


Figure 5: Contributing Basin

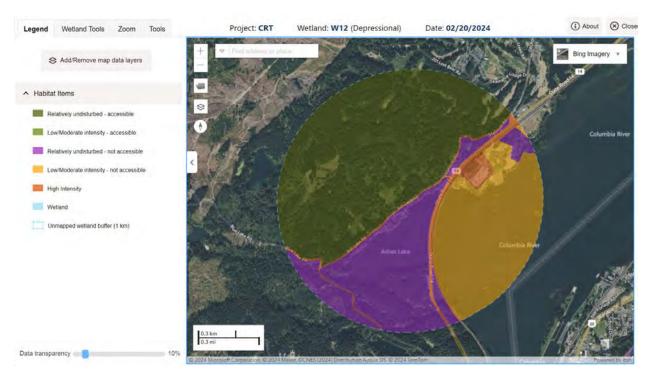


Figure 6: 1km polygon.

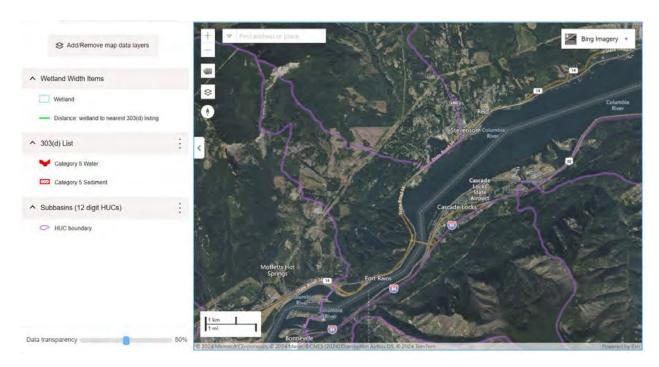


Figure 7: 303(d) listed waters in basin.

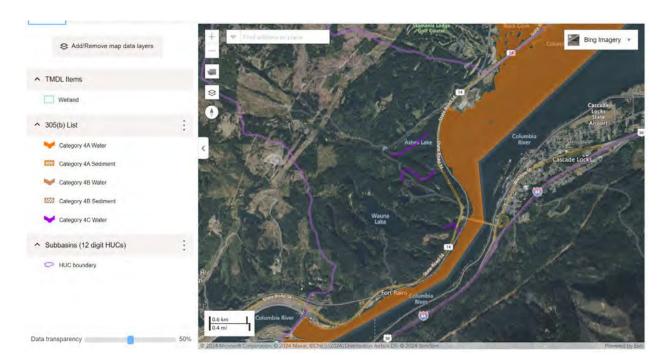


Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W13 Date of site visit: 11/09/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Slope

Wetland has multiple HGM classes? Yes [] No [X]

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category III] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

- [] Category I Total score = 23 27
- [] Category II Total score = 20 22
- [X] Category III Total score = 16 19
- [] Category IV Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	L	L	М	
Landscape Potential	M	L	Н	
Value	Н	Н	Н	Total
Score Based on Ratings	6	5	8	19

Score for each function based on three ratings

(order of ratings is not important)

- 9 = H,H,H
- 8 = H,H,M
- 7 = H,H,L
- 7 = H,M,M
- 6 = H,M,L
- 6 = M,M,M
- 5 = H,L,L
- 5 = M,M,L
- 4 = M,L,L
- 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	3
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	4
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	4
1km Polygon: Area that extends 1km form entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	6
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	7

SLOPE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

S 1.0 Does the site have the potential to improve water quality?			
S 1.1 What are the characteristics of the average slope of the wetland?			
Slope is 1% or less	points = 3		
Slope is >1%-2%	points = 2		
Slope is >2%-5%	points = 1		
Slope is greater than 5%	points = 0	Score:	2
S 1.2 What is the soil 2in below the surface or duff layer?			
Mapped as true clay or organic (muck or peat)	points = 3		
Soil texture identified as clay or organic in field	points = 3		
Soil texture identified as clay or organic by laboratory test	points = 3		
None of the above	points = 0	Score:	0
S 1.3 Characteristics of the plants in the wetland that trap sediments and pollutants			
Dense, uncut, herbaceous plants cover >90% of the wetland area	points = 6		
Dense, uncut, herbaceous plants cover >50% of the wetland area	points = 3		
Dense, woody, plants cover >50% of the wetland area	points = 2		
Dense, uncut, herbaceous plants cover >25% of the wetland area	points = 1		
Does not meet any of the criteria above for plants	points = 0	Score:	3
	Total for S 1:	5	

Rating of Site Potential [] **12-16 = H** [] **6-11 = M** [X] **0-5 = L**

S 2.0 Does the landscape have the potential to support the w	ater quality function of the site?	
\$ 2.1 Is > 10% of the area within 150ft on the uphill side of the we	etland in land uses that generate pollutants?	
Yes	points = 1	
No	points = 0	Score: 1
\$ 2.2 Are there other sources of pollutants coming into the wetland	nd that are not listed in question S 2.1?	
Yes	points = 1	
No	points = 0	Score: 0
S 2.3 What are the other sources of pollutants coming into the w	etland?	
	Total for S 2:	1

Wetland name or number: W13			
S 3.0 Is the water quality improveme	ent provided by the site valuable to soci	ety?	
S 3.1 Does the wetland discharge direct	<u>ctly (i.e., within 1 mi) to a stream, river, lake</u>	e, or marine water that is on th	ne 303(d)
list?			
Yes		points = 1	
No		points = 0	Score: 0
S 3.2 Is the wetland in a basin or sub-b	pasin where water quality is an issue?		
Yes		points = 1	
No		points = 0	Score: 0
S 3.3 Has the site been identified in a v	watershed or local plan as important for ma	aintaining water quality?	
Yes		points = 2	
No		points = 0	Score: 2
		Total for S 3:	2
Rating of Value	[X] 2-4 = H [] 1 = M [] 0 = L	Record the rating on t	he first page
Hydrologic Functions - Ind	dicators that the site functions to degradtion	reduce flooding and s	tream
S 4.0 Does the site have the potentia	al to reduce flooding and erosion?		
S 4.1 What are the characteristics of th	ne plants that reduce the velocity of surface	e flows during storms?	
Dense, uncut, rigid plants cover >90%	of the wetland area	points = 1	
All other conditions		points = 0	Score: 0
		Total for S 4:	0
Rating of Site Potential	[] 1 = M [X] 0 = L	Record the rating on t	he first page
S 5.0 Does the landscape have the po	otential to support the hydrologic funct	ions of the site?	
S 5.1 Is more than 25% of the area with runoff?	hin 150 ft upslope of wetland in land uses	or cover that generate excess	<u>surface</u>
Yes		points = 1	
No		points = 0	Score: 0
		Politio - 0	300.0. 0

Rating of Landscape Potential

[] 1 = M [X] 0 = L

S 6.0 Are the hydrologic functions provided by the site valuable to society?			
S 6.1 Is the wetland in a landscape that has flooding problems?			
Flooding occurs in a sub-basin that is immediately down-gradient of wetland.	points = 2		
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1		
There are no problems with flooding downstream of the wetland	points = 0	Score:	2
\$ 6.2 Has the site been identified as important for flood storage or flood conveyance in a	regional flood contr	ol plan?	
Yes	points = 2		
No	points = 0	Score:	0
	Total for S 6:	2	

Rating of Value

$$[X] 2-4 = H[] 1 = M[] 0 = L$$

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?			
Aquatic Bed			
✓ Emergent			
Scrub-shrub			
Forested			
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,			
herbaceous, moss/ground cover)			
4 structures or more	points = 4		
3 structures	points = 2		
2 structures	points = 1		
1 structure	points = 0		
No structures present	points = 0	Score:	1
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?			
Permanently flooded or inundated			
✓ Seasonally flooded or inundated			
Occasionally flooded or inundated			
✓ Saturated only			
Permanently flowing stream or river in, or adjacent to, the wetland			
Seasonally flowing stream in, or adjacent to, the wetland			
Lake Fringe wetland			
Freshwater Tidal wetland			
4 or more types present	points = 3		
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2		
2 types present	points = 1		
1 type present	points = 0		
None present	points = 0	Score:	1
	pomis	<u> </u>	•
H 1.3 What is the richness of the plant species in the wetland?			
>19 species	points = 2		
5-19 species	points = 1		
<5 species	points = 0	Score:	1

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 2
H 1.5 What are the special habitat features in the wetland?		
Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
✓ Standing snags (dbh >4in) within the wetland		
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score: 2
	Total for H 1:	7

Rating of Site Potential

[] **15-18** = **H** [X] **7-14** = **M** [] **0-6** = **L**

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 3
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wetland name or number: W13			
H 2.3 What is the land use intensity in the 1km polygon?			
50% of the Polygon is high intensity land use points = -2			
<50% of the Polygon is high intensity land use points = 0	Sco	re:	0
Total for H 2		6	

Rating of Landscape Potential

[X] **4-6** = **H** [] **1-3** = **M** [] **0** = **L**

Record the rating on the first page

H 3.0 Is the habitat provided by the site valuable to society?

H 3.1 Does the site provide habitat for species valued in laws, regulations, or policies?		
Aspen Stands		
✓ Biodiversity Areas and Corridors		
Herbaceous Balds		
Old-growth/Mature Forests		
Oregon White Oak		
√ Riparian		
Westside Prarie		
Fresh Deepwater		
Instream		
Nearshore (Coastal, Open Coast, Puget Sound)		
Caves		
Cliffs		
✓ Snags and Logs		
Talus		
The following criteria automatically score 2 points:		
The wetland provides habitat for Threatened or Endangered species		
The wetland is mapped as a location for an individual WDFW priority species		
The wetland is a Wetland of High Conservation Value		
The wetland has been categorized as an important habitat site in a local plan		
The wetland has 3 or more WDFW priority habitats within 100m, or meets the		
criteria for societal value	points = 2	
The site has 1 or 2 WDFW priority habitats within 100m	points = 1	
The site does not meet any of the criteria for societal value	points = 0	Score: 2
	Total for H 3:	2

Rating of Value

[X] 2 = H[] 1 = M[] 0 = L

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

The dominant water regime is tidal The wetland is vegetated The water salinity is greater than 0.5 ppt Yes - Go to SC 1.2
The water salinity is greater than 0.5 ppt
Yes - Go to SC 1.2
Yes - Go to SC 1.2
No - Not an Estuarine Wetland
Estuarine Wetland
SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve,
State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?
Yes - Category I Estuarine Wetland
No - Go to SC 1.3 Result:
SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions?
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and
has less than 10% cover of non-native plant species.
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-
grazed or un-mowed grassland
The wetland has at least two of the following features: tidal channels, depressions with open
water, or contiguous freshwater wetlands.
Yes - Category I Estuarine Wetland
No - Category II Estuarine Wetland Result:
SC 2.0 Wetlands of High Conservation Value
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on
the WNHP Data Explorer?
Yes - Category I Wetland of High Conservation Value
No - Go to SC 2.2 Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality common plant community that
may qualify the site as a WHCV?
Yes - Category I Wetland of High Conservation Value
No - Not a Wetland of High Conservation Value Result:

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, the	nat compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are le	ess than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of	a lake or pond?
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result: Not a Bog
100 - Not a bog Wetland	Wetland
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level,	AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes	stern red cedar, western
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of	the species (or
combinations of species) listed in the table found in the instructions provide more than 30% of	the cover under the
<u>canopy?</u>	
Yes - Category I Bog Wetland	
No - Not a Bog Wetland	Result:
SC 4.0 Forested Wetlands	
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following	ng criteria?
Old-growth forests	
Mature forests	
Yes - Category I Forested Wetland	
3 ,	

Wetland

Wetland name or number: W13

No - Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coast	tal lagoon?
The wetland lies in a depression adjacent to marine waters that is wholly or partially	3
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Vos. Co to SC E 2	
Yes - Go to SC 5.2	
No - Not a Coastal Lagoon Wetland	Result: Not a Coastal
	Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	ip WBUO)?
Yes - Go to SC 6.2	
	Result: Not an
No - Not an Interdunal Wetland	Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
15 the Welland Tae of langer in size, of a mesale tride is fac of langer in size.	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Yes - Category I Interdunal Wetland	
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	c and 1ac in size?
Yes - Category III Interdunal Wetland	
No - Category IV Interdunal Wetland	Result:

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not

Applicable

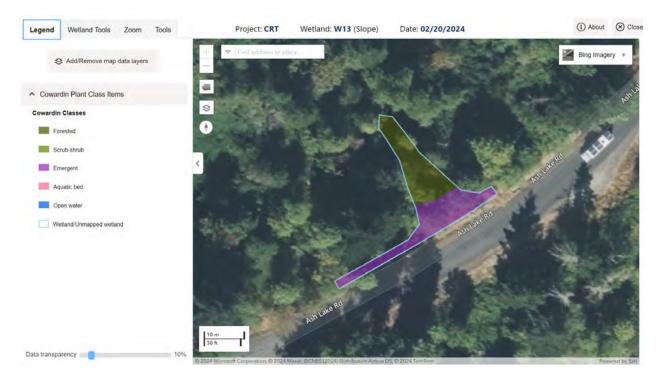


Figure 1: Cowardin classes.

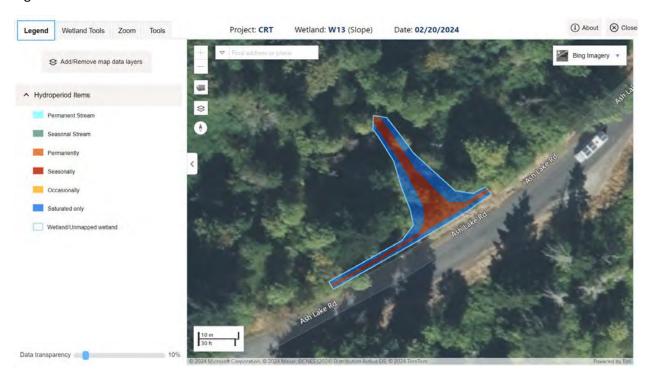


Figure 2: Hydroperiods

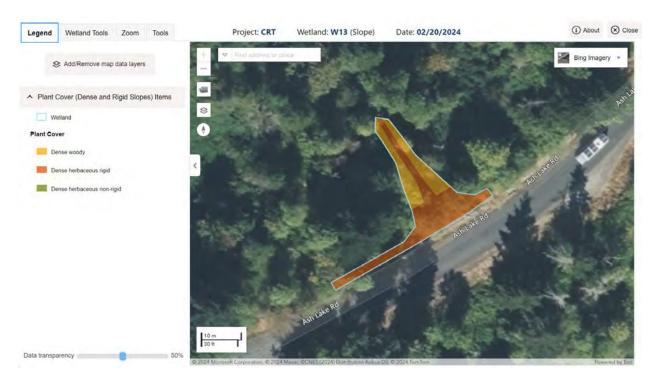


Figure 3: Plant Cover of Dense and Rigid Trees, Shrubs, and Herbaceous Plants

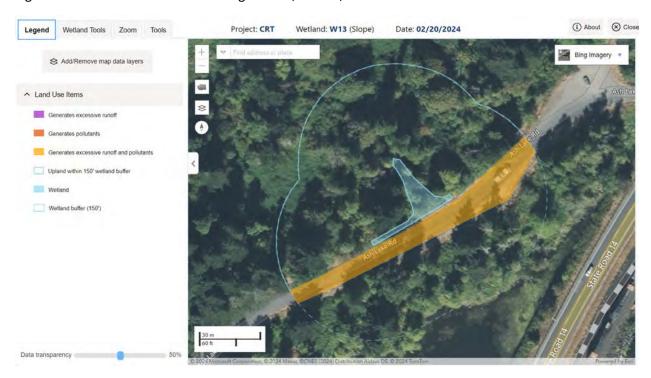


Figure 3: Boundary of area within 150 feet of the wetland.

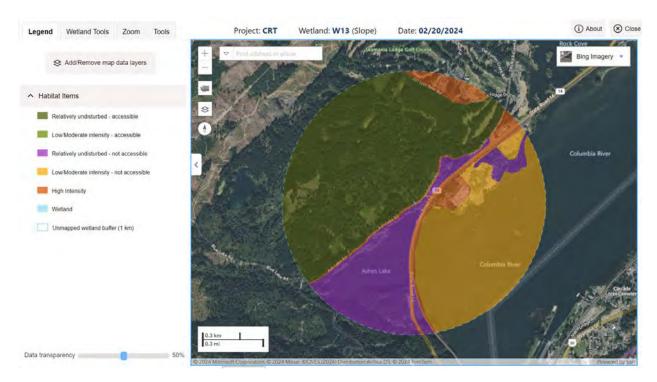


Figure 5: 1km polygon.

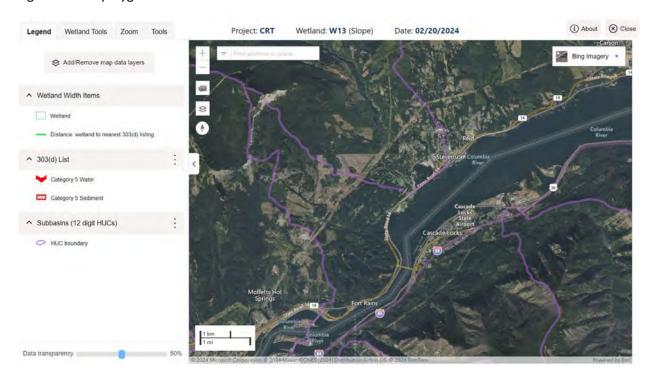


Figure 6: 303(d) listed waters in basin.

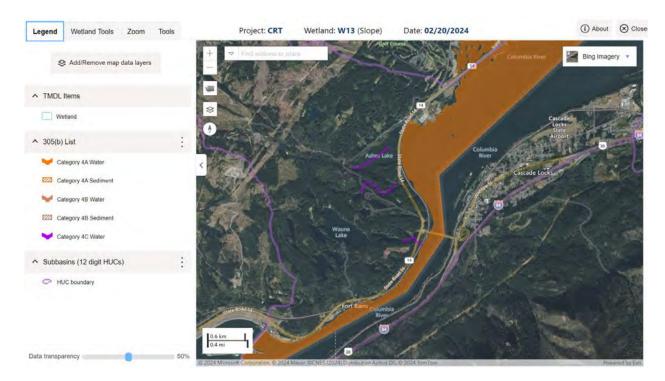


Figure 7: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W14 Date of site visit: 11/09/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Slope

Wetland has multiple HGM classes? Yes [] No [X]

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category II] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

[] Category I - Total score = 23 - 27

[X] Category II - Total score = 20 - 22

[] Category III - Total score = 16 - 19

[] Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	L	М	
Landscape Potential	M	M	Н	
Value	Н	Н	Н	Total
Score Based on Ratings	7	6	8	21

Score for each function based on three ratings

(order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H, M, M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	3
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	4
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	4
1km Polygon: Area that extends 1km form entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	6
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	7

SLOPE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

S 1.0 Does the site have the potential to improve water quality?			
S 1.1 What are the characteristics of the average slope of the wetland?			
Slope is 1% or less	points = 3		
Slope is >1%-2%	points = 2		
Slope is >2%-5%	points = 1		
Slope is greater than 5%	points = 0	Score:	1
S 1.2 What is the soil 2in below the surface or duff layer?			
Mapped as true clay or organic (muck or peat)	points = 3		
Soil texture identified as clay or organic in field	points = 3		
Soil texture identified as clay or organic by laboratory test	points = 3		
None of the above	points = 0	Score:	3
S 1.3 Characteristics of the plants in the wetland that trap sediments and pollutants			
Dense, uncut, herbaceous plants cover >90% of the wetland area	points = 6		
Dense, uncut, herbaceous plants cover >50% of the wetland area	points = 3		
Dense, woody, plants cover >50% of the wetland area	points = 2		
Dense, uncut, herbaceous plants cover >25% of the wetland area	points = 1		
Does not meet any of the criteria above for plants	points = 0	Score:	3
	Total for S 1:	7	

Record the rating on the first page **Rating of Site Potential** [] **12-16** = **H** [X] **6-11** = **M** [] **0-5** = **L**

S 2.0 Does the landscape have the potential to support the water quality function of the site?			
S 2.1 <u>Is > 10% of the area within 150ft on the uphill side of the wetland in land uses that generate pollutants?</u>			
Yes	points = 1		
No	points = 0	Score:	1
\$ 2.2 Are there other sources of pollutants coming into the wetland that are not listed in o	uestion S 2.1?		
Yes	points = 1		
No	points = 0	Score:	0
S 2.3 What are the other sources of pollutants coming into the wetland?			
	Total for S 2:	1	

Wetland name or number: W14				
S 3.0 Is the water quality improve	ement provided by the site valuable to society	?		
S 3.1 Does the wetland discharge of	<u>directly (i.e., within 1 mi) to a stream, river, lake, or</u>	marine water that is on th	ne 303(d)	
list?				
Yes		points = 1		
No		points = 0	Score:	0
S 3.2 <u>Is the wetland in a basin or su</u>	ub-basin where water quality is an issue?			
Yes		points = 1		
No		points = 0	Score:	0
S 3.3 Has the site been identified in	n a watershed or local plan as important for maint	taining water quality?		
Yes		points = 2		
No		points = 0	Score:	2
		Total for S 3:	2	
Rating of Value	[X] 2-4 = H [] 1 = M [] 0 = L	Record the rating on t	he first p	age
	SLOPE WETLANDS			
Hydrologic Functions -	Indicators that the site functions to re	educe flooding and s	tream	
	degradtion			
S 4.0 Does the site have the pote	ntial to reduce flooding and erosion?			
S 4.1 What are the characteristics of	of the plants that reduce the velocity of surface flo	ows during storms?		
Dense, uncut, rigid plants cover >9	0% of the wetland area	points = 1		
All other conditions		points = 0	Score:	0
		Total for S 4:	0	
Rating of Site Potential	[] 1 = M [X] 0 = L	Record the rating on t	he first p	age
S 5.0 Does the landscape have th	e potential to support the hydrologic function	s of the site?		
			_	

S 5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?

points = 1 Yes

points = 0 No Score: 1

Total for S 5:

Rating of Landscape Potential

[X] 1 = M[] 0 = L

Record the rating on the first page

1

S 6.0 Are the hydrologic functions provided by the site valuable to society?			
S 6.1 <u>Is the wetland in a landscape that has flooding problems?</u>			
Flooding occurs in a sub-basin that is immediately down-gradient of wetland.	points = 2		
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1		
There are no problems with flooding downstream of the wetland	points = 0	Score:	2
S 6.2 Has the site been identified as important for flood storage or flood conveyance in	a regional flood contr	ol plan?	
Yes	points = 2		
No	points = 0	Score:	0
	Total for S 6:	2	

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?			
✓ Aquatic Bed			
▼ Emergent			
✓ Scrub-shrub			
Forested			
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,			
herbaceous, moss/ground cover)			
4 structures or more	points = 4		
3 structures	points = 2		
2 structures	points = 1		
1 structure	points = 0		
No structures present	points = 0	Score:	2
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?			
Permanently flooded or inundated			
Seasonally flooded or inundated			
Occasionally flooded or inundated			
✓ Saturated only			
✓ Permanently flowing stream or river in, or adjacent to, the wetland			
Seasonally flowing stream in, or adjacent to, the wetland			
Lake Fringe wetland			
Freshwater Tidal wetland			
4 or more types present	points = 3		
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2		
2 types present	points = 1		
1 type present	points = 0		
None present	points = 0	Score:	1
H 1.3 What is the richness of the plant species in the wetland?			
>19 species	points = 2		
5-19 species	points = 1		
<5 species	points = 0	Score:	1

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 2
H 1.5 What are the special habitat features in the wetland?		
Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
Standing snags (dbh >4in) within the wetland		
✓ Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score: 1
	Total for H 1:	7

Rating of Site Potential

[] **15-18** = **H** [X] **7-14** = **M** [] **0-6** = **L**

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 2
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wetland	namo	or num	hor:	\\/1/
vveuanu	name	or num	Der:	VV 14

Total for H 2:	5	
50% of the Polygon is high intensity land use <pre></pre>	Score: (D
H 2.3 What is the land use intensity in the 1km polygon?		

Rating of Landscape Potential

[X] **4-6** = **H** [] **1-3** = **M** [] **0** = **L**

Record the rating on the first page

H 3.0 Is the habitat provided by the site valuable to society?

H 3.1 Does the site provide habitat for species valued in laws, regulations, or policies?		
Aspen Stands		
Biodiversity Areas and Corridors		
Herbaceous Balds		
Old-growth/Mature Forests		
Oregon White Oak		
✓ Riparian		
Westside Prarie		
Fresh Deepwater		
✓ Instream		
Nearshore (Coastal, Open Coast, Puget Sound)		
Caves		
Cliffs		
Snags and Logs		
Talus		
The following criteria automatically score 2 points:		
The wetland provides habitat for Threatened or Endangered species		
The wetland is mapped as a location for an individual WDFW priority species		
The wetland is a Wetland of High Conservation Value		
The wetland has been categorized as an important habitat site in a local plan		
The wetland has 3 or more WDFW priority habitats within 100m, or meets the		
criteria for societal value	points = 2	
The site has 1 or 2 WDFW priority habitats within 100m	points = 1	
The site does not meet any of the criteria for societal value	points = 0	Score: 2
	Total for H 3:	2

Rating of Value

[X] **2** = **H** [] **1** = **M** [] **0** = **L**

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands? The dominant water regime is tidal The wetland is vegetated The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2 No - Not an Estuarine Wetland	Result: Not an Estuarine Wetland
SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, National Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-152. Yes - Category I Estuarine Wetland No - Go to SC 1.3	
SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three condit The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes - Category I Estuarine Wetland	ions?
No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality educated the WNHP Data Explorer? Yes - Category I Wetland of High Conservation Value	cosystem polygons on
No - Go to SC 2.2	Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo may qualify the site as a WHCV?	n plant community that
Yes - Category I Wetland of High Conservation Value No - Not a Wetland of High Conservation Value	Result: Not a Wetland of High Conservation Value

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, that	at compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are les	ss than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a	lake or pond?
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result:
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level, A	AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, west	tern red cedar, western
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of t	<u>he species (or</u>
combinations of species) listed in the table found in the instructions provide more than 30% of the	ne cover under the
<u>canopy?</u>	
Yes - Category I Bog Wetland	
No - Not a Bog Wetland	Result:
SC 4.0 Forested Wetlands	
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following	g <u>criteria?</u>
Old-growth forests	-
Mature forests	
Yes - Category I Forested Wetland	
	Result: Not a Forested
No - Not a Forested Wetland	

Wetland

Wetland name or number: W14

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coastal The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or rocks	tal lagoon?
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Yes - Go to SC 5.2	
No. Note Constal Language Wetland	Result: Not a Coastal
No - Not a Coastal Lagoon Wetland	Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 <u>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh</u>	nip WBUO)?
Yes - Go to SC 6.2	
No - Not an Interdunal Wetland	Result: Not an Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
SC 6.2 is the wetland rac of larger in size, of a mosaic that is rac of larger in size:	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Does the wettand score o or 5 points for the habitat functions:	
Yes - Category I Interdunal Wetland	
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	ic and Tac In Size!
Yes - Category III Interdunal Wetland	
No - Category IV Interdunal Wetland	Result:

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not

Applicable

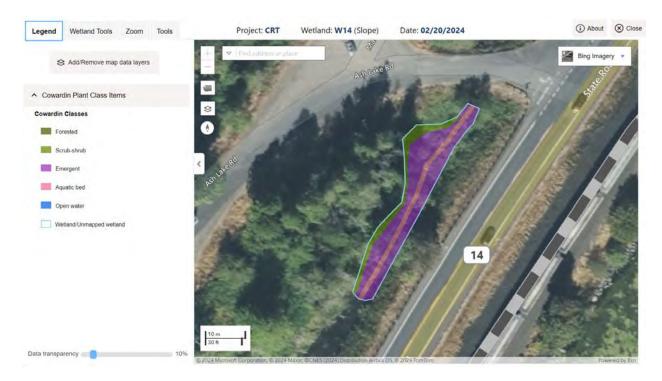


Figure 1: Cowardin classes.

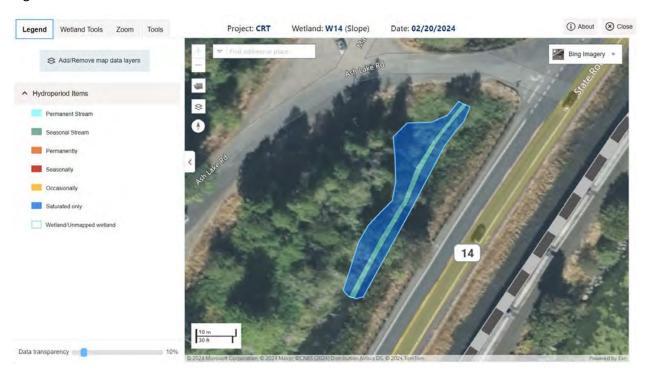


Figure 2: Hydroperiods

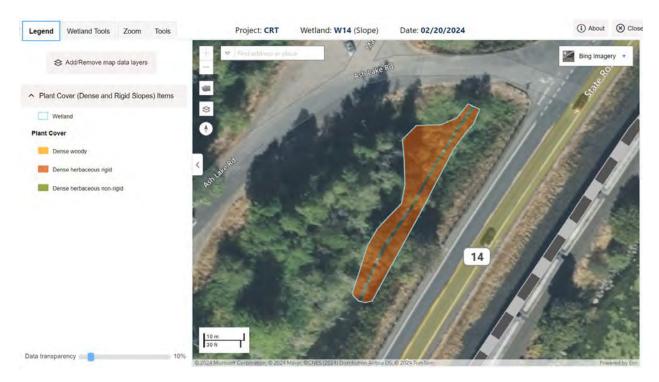


Figure 3: Plant Cover of Dense and Rigid Trees, Shrubs, and Herbaceous Plants



Figure 3: Boundary of area within 150 feet of the wetland.

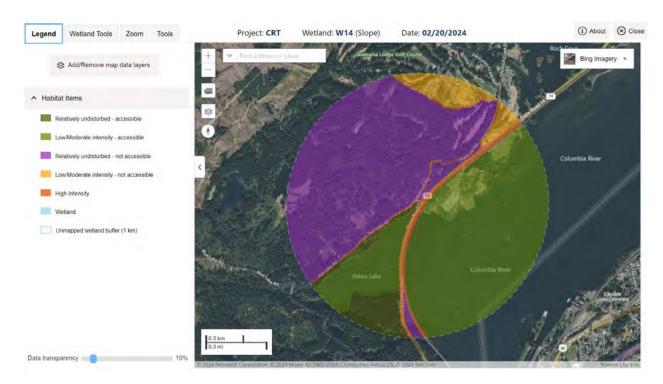


Figure 5: 1km polygon.

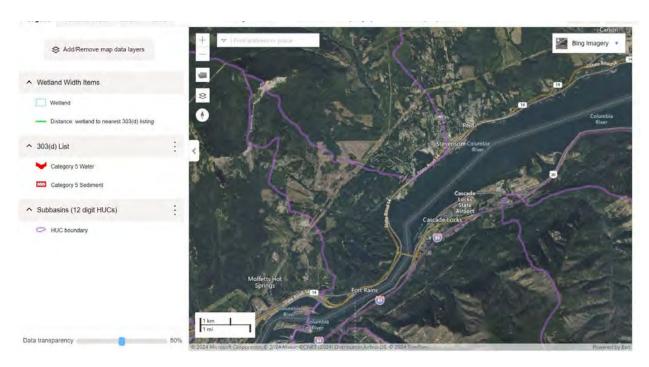


Figure 6: 303(d) listed waters in basin.

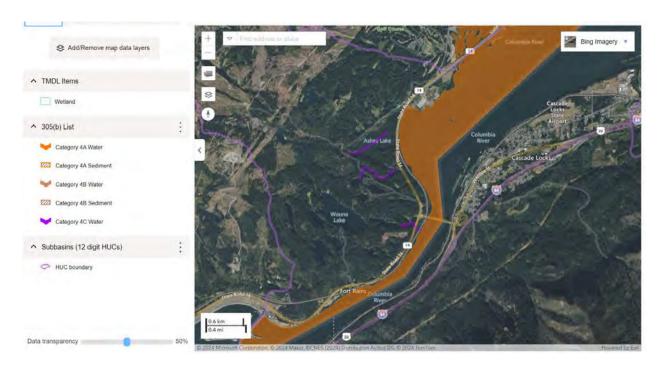


Figure 7: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W15 Date of site visit: 11/09/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Slope

Wetland has multiple HGM classes? Yes [] No [X]

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category II] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

[] Category I - Total score = 23 - 27

[X] Category II - Total score = 20 - 22

[] Category III - Total score = 16 - 19

[] Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	М	М	
Landscape Potential	M	M	М	
Value	Н	Н	Н	Total
Score Based on Ratings	7	7	7	21

Score for each function based on three ratings

(order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M, M, L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

olo pe wedanas		
Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	3
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	4
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	4
1km Polygon: Area that extends 1km form entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	6
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	7

SLOPE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

S 1.0 Does the site have the potential to improve water quality?			
S 1.1 What are the characteristics of the average slope of the wetland?			
Slope is 1% or less	points = 3		
Slope is >1%-2%	points = 2		
Slope is >2%-5%	points = 1		
Slope is greater than 5%	points = 0	Score:	1
S 1.2 What is the soil 2in below the surface or duff layer?			
Mapped as true clay or organic (muck or peat)	points = 3		
Soil texture identified as clay or organic in field	points = 3		
Soil texture identified as clay or organic by laboratory test	points = 3		
None of the above	points = 0	Score:	3
S 1.3 Characteristics of the plants in the wetland that trap sediments and pollutants			
Dense, uncut, herbaceous plants cover >90% of the wetland area	points = 6		
Dense, uncut, herbaceous plants cover >50% of the wetland area	points = 3		
Dense, woody, plants cover >50% of the wetland area	points = 2		
Dense, uncut, herbaceous plants cover >25% of the wetland area	points = 1		
Does not meet any of the criteria above for plants	points = 0	Score:	6
	Total for S 1:	10	

Rating of Site Potential [] **12-16** = **H** [X] **6-11** = **M** [] **0-5** = **L** Record the rating on the first page

S 2.0 Does the landscape have the potential to support the water quality function of the site?			
S 2.1 <u>Is >10% of the area within 150ft on the uphill side of the wetland in land uses that generate pollutants?</u>			
Yes points = 1			
No points = 0	Score: 1		
S 2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?			
Yes points = 1			
No points = 0	Score: 0		
S 2.3 What are the other sources of pollutants coming into the wetland?			
Total for S	2: 1		

S 3.0 Is the water quality improvement provided by the site valuable to society?						
S 3.1 Does the wetland discharge dire	S 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d)					
list?						
Yes		points = 1				
No		points = 0	Score: 0			
S 3.2 Is the wetland in a basin or sub-	basin where water quality is an issue?					
Yes		points = 1				
No		points = 0	Score: 0			
S 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?						
Yes		points = 2				
No		points = 0	Score: 2			
		Total for S 3:	2			
Rating of Value	[X] 2-4 = H [] 1 = M [] 0 = L	Record the rating on t	he first page			

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

S 4.0 Does the site have the potential to reduce flooding and erosion?

S 4.1 What are the characteristics of the plants that reduce the velocity of surface flows during storms?

Dense, uncut, rigid plants cover >90% of the wetland area points = 1

All other conditions points = 0 Score: 1

Total for S 4:

1

Rating of Site Potential

[X] 1 = M[] 0 = L

Record the rating on the first page

S 5.0 Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1 <u>Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?</u>

Yes points = 1

No points = 0 Score: 1

Total for S 5:

1

Rating of Landscape Potential

[X] 1 = M[] 0 = L

Record the rating on the first page

S 6.0 Are the hydrologic functions provided by the site valuable to society?			
S 6.1 Is the wetland in a landscape that has flooding problems?			
Flooding occurs in a sub-basin that is immediately down-gradient of wetland.	points = 2		
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1		
There are no problems with flooding downstream of the wetland	points = 0	Score:	2
S 6.2 Has the site been identified as important for flood storage or flood conveyance in	a regional flood contr	ol plan?	
Yes	points = 2		
No	points = 0	Score:	0
	Total for S 6:	2	

Rating of Value

$$[X]$$
 2-4 = H $[\]$ 1 = M $[\]$ 0 = L

Record the rating on the first page

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?		
✓ Aquatic Bed		
✓ Emergent		
Scrub-shrub		
√ Forested		
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)		
4 structures or more	points = 4	
3 structures	points = 2	
2 structures	points = 1	
1 structure	points = 0	
No structures present	points = 0	Score: 2
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?	poes	
Permanently flooded or inundated		
Seasonally flooded or inundated		
Occasionally flooded or inundated		
✓ Saturated only		
Permanently flowing stream or river in, or adjacent to, the wetland		
Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland		
Freshwater Tidal wetland		
Trestiwater ridal wetland		
4 or more types present	points = 3	
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2	
2 types present	points = 1	
1 type present	points = 0	
None present	points = 0	Score: 2
H 1.3 What is the richness of the plant species in the wetland?		
>19 species	points = 2	
5-19 species	points = 1	
<5 species	points = 0	Score: 1

H 1.4 What is the interspersion of habitats?			
High	points = 3		
Moderate	points = 2		
Low	points = 1		
None	points = 0	Score:	3
H 1.5 What are the special habitat features in the wetland?			
✓ Large, downed, woody debris within the wetland (>4in diameter and 6ft long).			
✓ Standing snags (dbh >4in) within the wetland			
✓ Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants			
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous			
with the wetland, for at least 33ft (10m)			
Stable steep banks of fine material that might be used by beaver or muskrat for			
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs			
or trees that have not yet weathered where wood is exposed)			
At least 0.25ac of thin-stemmed persistent plants or woody branches are present			
in areas that are permanently or seasonally inundated (structures for egg-laying by			
amphibians)			
Invasive plants cover less than 25% of the wetland area in every stratum of plants			
(see H 1.1 for list of strata)			
6 habitats selected	points = 6		
5 habitats selected	points = 5		
4 habitats selected	points = 4		
3 habitats selected	points = 3		
2 habitats selected	points = 2		
1 habitat selected	points = 1		
No habitats selected	points = 0	Score:	3
	Total for H 1	: 11	

Rating of Site Potential

[] **15-18** = **H** [X] **7-14** = **M** [] **0-6** = **L**

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 0
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

We	etland name or number: W15		
Н	1 2.3 What is the land use intensity in the 1km polygon?		
50	0% of the Polygon is high intensity land use	points = -2	
	50% of the Polygon is high intensity land use	points = 0	Score: 0
		Total for H 2:	3
		iotal for n 2:	
Ra	ating of Landscape Potential [] 4-6 = H [X] 1-3 = M [] 0 = L	Record the rating on th	ne first page
Н	3.0 Is the habitat provided by the site valuable to society?		
Н	I 3.1 Does the site provide habitat for species valued in laws, regulations, or po	licies?	
	Aspen Stands		
\	Biodiversity Areas and Corridors		
	Herbaceous Balds		
	Old-growth/Mature Forests		
	Oregon White Oak		
✓	/ Riparian		
	Westside Prarie		
	Fresh Deepwater		
	Instream		
	Nearshore (Coastal, Open Coast, Puget Sound)		
	Caves		
	Cliffs		
✓	✓ Snags and Logs		
	Talus		
Th	he following criteria automatically score 2 points:		
	The wetland provides habitat for Threatened or Endangered species		
	The wetland is mapped as a location for an individual WDFW priority species		
	The wetland is a Wetland of High Conservation Value		
	The wetland has been categorized as an important habitat site in a local plar	1	

Rating of Value

criteria for societal value

[X] **2** = **H** [] **1** = **M** [] **0** = **L**

The wetland has 3 or more WDFW priority habitats within 100m, or meets the

The site has 1 or 2 WDFW priority habitats within 100m

The site does not meet any of the criteria for societal value

Record the rating on the first page

Total for H 3:

Score: 2

2

points = 2

points = 1

points = 0

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands? The dominant water regime is tidal The wetland is vegetated The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2 No - Not an Estuarine Wetland	Result: Not an
The Motal Establic Wedalia	Estuarine Wetland
SC 1.2 <u>Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, National Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151</u>	
Yes - Category I Estuarine Wetland	
No - Go to SC 1.3	Result:
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes - Category I Estuarine Wetland	
No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ecthe WNHP Data Explorer?	osystem polygons on
Yes - Category I Wetland of High Conservation Value No - Go to SC 2.2	Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo may qualify the site as a WHCV?	n plant community that
Yes - Category I Wetland of High Conservation Value	
No - Not a Wetland of High Conservation Value	Result: Not a Wetland of High Conservation Value

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, the	nat compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are le	ess than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a	<u>a lake or pond?</u>
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result: Not a Bog
Two Two a bog we hand	Wetland
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level,	AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	_
110 - GO tO 3C 5.4	Result:
SC 3.4 <u>Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes</u>	
	tern red cedar, western
SC 3.4 <u>Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes</u>	ttern red cedar, western the species (or
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of	ttern red cedar, western the species (or
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of combinations of species) listed in the table found in the instructions provide more than 30% of to canopy?	ttern red cedar, western the species (or
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of combinations of species) listed in the table found in the instructions provide more than 30% of to canopy? Yes - Category I Bog Wetland	tern red cedar, western the species (or the cover under the
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of combinations of species) listed in the table found in the instructions provide more than 30% of to canopy?	ttern red cedar, western the species (or
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of combinations of species) listed in the table found in the instructions provide more than 30% of to canopy? Yes - Category I Bog Wetland	tern red cedar, western the species (or the cover under the
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of combinations of species) listed in the table found in the instructions provide more than 30% of to canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland	tern red cedar, western the species (or the cover under the Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of combinations of species) listed in the table found in the instructions provide more than 30% of to canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland SC 4.0 Forested Wetlands	tern red cedar, western the species (or the cover under the Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of combinations of species) listed in the table found in the instructions provide more than 30% of to canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland SC 4.0 Forested Wetlands SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following	tern red cedar, western the species (or the cover under the Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of combinations of species) listed in the table found in the instructions provide more than 30% of total canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland SC 4.0 Forested Wetlands SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following Old-growth forests	tern red cedar, western the species (or the cover under the Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of combinations of species) listed in the table found in the instructions provide more than 30% of total canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland SC 4.0 Forested Wetlands SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following Old-growth forests	tern red cedar, western the species (or the cover under the Result:

Wetland

Wetland name or number: W15

No - Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

CC F 4 Caretal Lamanus Danatha week and was table fallowing outside afterward in a case	.t-1.12
SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coast	ital lagoon?
The wetland lies in a depression adjacent to marine waters that is wholly or partially	
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Yes - Go to SC 5.2	
No. Note Constal Large v Matley d	Result: Not a Coastal
No - Not a Coastal Lagoon Wetland	Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
the wettand is larger than or road (4550 sqrt)	
Vos. Catagony I Capstal Laggan	
Yes - Category I Coastal Lagoon	Dle
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	nip WBUO)?
Yes - Go to SC 6.2	
	Result: Not an
No - Not an Interdunal Wetland	Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
15 the Welland Tac of langer in Size, of a mosale that is fac of langer in Size.	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
	Result.
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Yes - Category I Interdunal Wetland	
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	c and 1ac in size?
Yes - Category III Interdunal Wetland	

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not

Applicable

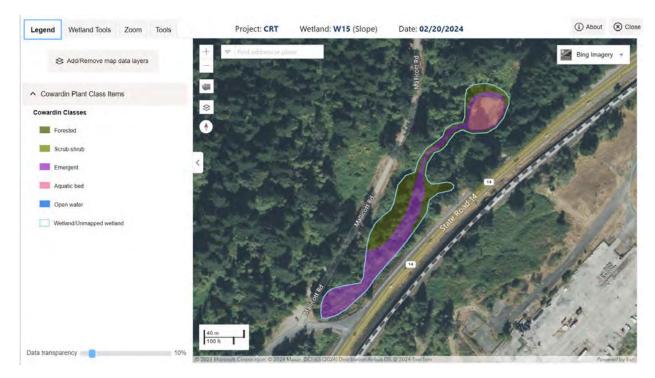


Figure 1: Cowardin classes.

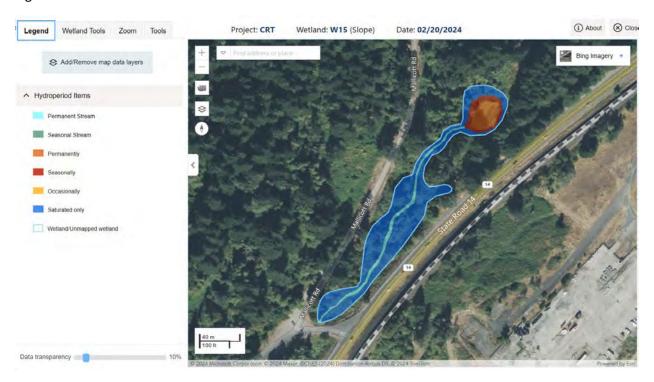


Figure 2: Hydroperiods

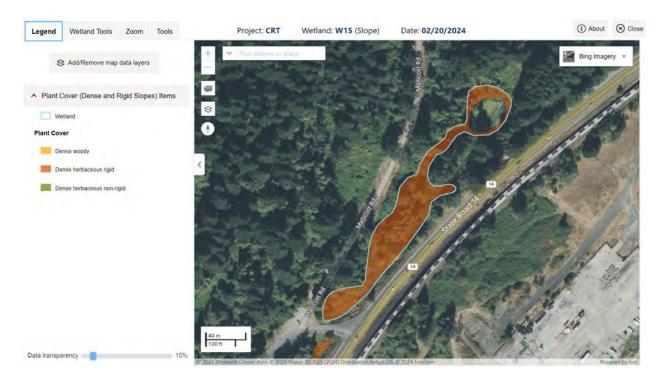


Figure 3: Plant Cover of Dense and Rigid Trees, Shrubs, and Herbaceous Plants



Figure 3: Boundary of area within 150 feet of the wetland.



Figure 5: 1km polygon.

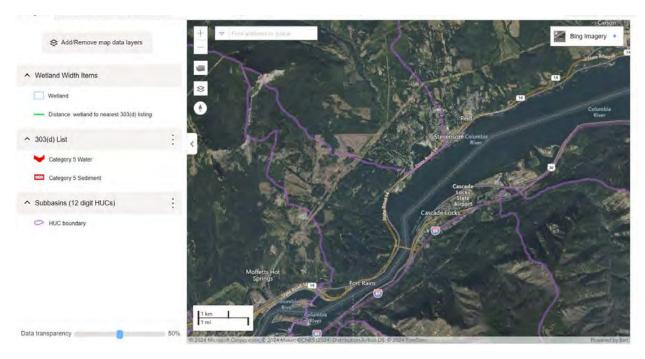


Figure 6: 303(d) listed waters in basin.

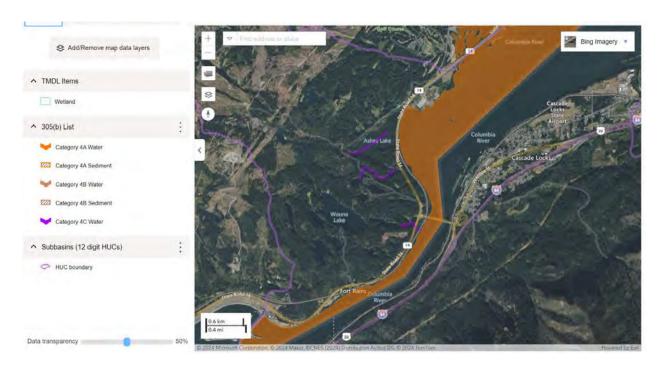


Figure 7: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W16 Date of site visit: 11/10/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional **Wetland has multiple HGM classes? Yes** [] **No** [X]

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category III] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

- [] Category I Total score = 23 27
- [] Category II Total score = 20 22
- [X] Category III Total score = 16 19
- [] Category IV Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	L	L	
Landscape Potential	M	Н	М	
Value	Н	Н	М	Total
Score Based on Ratings	7	7	5	19

Score for each function based on three ratings

(order of ratings is not important)

- 9 = H,H,H
- 8 = H,H,M
- 7 = H,H,L
- 7 = H,M,M
- 6 = H,M,L
- 6 = M,M,M
- 5 = H,L,L
- 5 = M,M,L
- 4 = M,L,L
- 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

Area seasonally ponded is equal to or Area seasonally ponded is < 25% total		points = 2 points = 0	Score:	0
Area seasonally ponded is > 50% total		points = 4		
	seasonal ponding or inundation in the wetland area			
Wetland has persistent, ungrazed plan		points = 0	Score:	5
Wetland has persistent, ungrazed plan		points = 1		
Wetland has persistent, ungrazed, pla		points = 3		
Wetland has persistent, ungrazed, pla	nts > 95% of area	points = 5		
D 1.3 What are the characteristics and	d distribution of persistent plants?			
None of the above		points = 0	Score:	0
Soil texture identified as clay or organ	ic by laboratory test	points = 4		
Soil texture identified as clay or organ	ic in field	points = 4		
Mapped as true clay or organic (muck	c or peat)	points = 4		
D 1.2 Is the soil 2 in. below the surface	e a true clay or organic soil?			
Wetland is a flat depression whose ou	tlet is a permanently flowing ditch.	points = 1	Score:	2
Wetland has an unconstricted, or sligl permanently flowing	ntly constricted, surface outlet that is	points = 1		
Wetland has an intermittently flowing	3 ,	points = 2		
Wetland has no surface water outlet.		points = 3		
	surface water outflows from the wetland?			

Rating of Site Potential	[] 12-16 = H [X] 6-11 = M [] 0-5 = L	Record the rating on the first page

D 2.0 Does the landscape have the potential to support the water	quality function of the site?		
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.2 <u>Is > 10% of the area within 150ft of the wetland in land uses that</u>	at generate pollutants in surface runoff?		
Yes	points = 1		
No	points = 0	Score:	1
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland t	that are not listed in questions D 2.1-D 2.	3?	
Yes	points = 1		
No	points = 0	Score:	0

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	2

Rating of Landscape Potential [] 3-4 = H[X] 1-2 = M[] 0 = L

Record the rating on the first page

[10.1.164.1.2.164.2.2.2.164.2.2.164.2.2.164.2.2.164.2.2.164.2.2.164.2.2.164.2.2.164.2.2.164.2.2.164.2.2.164.2.2.164.2.2.164.2.2.164.2.2.2.164.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	eera erre raeurg err e	то 1 от Р	9-
D 3.0 Is the water quality improvement provided by the site valuable to society?			
D 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine	water that is on t	he 303(d).
list?			
Yes	points = 1		
No	points = 0	Score:	0
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?			
Yes	points = 1		
No	points = 0	Score:	0
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining	water quality?		
Yes	points = 2		
No	points = 0	Score:	2
	Total for D 3:	2	

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 2
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 0

D 4.3 What is the contribution of the wetland to storage in the watershed?		
The area of the basin is less than 10 times the area of the unit	points = 5	
The area of the basin is 10 to 100 times the area of the unit	points = 3	
The area of the basin is more than 100 times the area of the unit	points = 0	
Entire wetland is in the Flats class	points = 5	Score: 3
	Total for D 4:	5

Rating of Site Potential

[] 12-16 = H[] 6-11 = M[X] 0-5 = L

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 5.2 Is > 10% of the area within 150 ft of the wetland in land	d uses that generate excess runoff?		
Yes	points = 1		
No	points = 0	Score:	1
D 5.3 Is more than 25% of the contributing basin of the wet	and covered with intensive human land uses?		
Yes	points = 1		
No	points = 0	Score:	1
	Total for D 5:	3	

Rating of Landscape Potential

[X] 3 = H[] 1-2 = M[] 0 = L

Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?

Yes No	points = 2 points = 0	Score: 0
D 6.2 Has the site been identified as important for flood storage or flood conveyance i	<u>in a regional flood co</u>	ontrol plan?
There are no problems with flooding downstream of the wetland.	points = 0	Score: 2
cannot reach areas that flood.	points = 0	
The existing or potential outflow from the wetland is so constrained that water	points = 0	
Flooding from groundwater is an issue in the basin.	points = 1	
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2	
D 6.1 Is the wetland in a landscape that has flooding problems?		

Total for D 6:

2

Rating of Value

[X] 2-4 = H[] 1 = M[] 0 = L

Record the rating on the first page

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?			
Aquatic Bed			
Emergent			
Scrub-shrub			
Forested			
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,			
herbaceous, moss/ground cover)			
4 structures or more	points = 4		
3 structures	points = 2		
2 structures	points = 1		
1 structure	points = 0		
No structures present	points = 0	Score:	0
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?			
Permanently flooded or inundated			
✓ Seasonally flooded or inundated			
Occasionally flooded or inundated			
✓ Saturated only			
Permanently flowing stream or river in, or adjacent to, the wetland			
Seasonally flowing stream in, or adjacent to, the wetland			
Lake Fringe wetland			
Freshwater Tidal wetland			
4 or more types present	points = 3		
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2		
2 types present	points = 1		
1 type present	points = 0		
None present	points = 0	Score:	1
H 1.3 What is the richness of the plant species in the wetland?	·		
>19 species	points = 2		
5-19 species	points = 1		
<5 species	points = 0	Score:	1

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 0
H 1.5 What are the special habitat features in the wetland?		
Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
Standing snags (dbh >4in) within the wetland		
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score:
	Total for H 1:	2

Rating of Site Potential

[] **15-18** = **H**[] **7-14** = **M**[X] **0-6** = **L**

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 0
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wetland name or number: W16	the 1km polygon?		
H 2.3 What is the land use intensity in	the 1km polygon:		
50% of the Polygon is high intensity la	nd use	points = -2	
<50% of the Polygon is high intensity I	and use	points = 0	Score: 0
		Total for H 2:	3
Rating of Landscape Potential	[] 4-6 = H[X] 1-3 = M[] 0 = L	Record the rating on t	the first page
H 3.0 Is the habitat provided by the	site valuable to society?		
H 3.1 Does the site provide habitat for	species valued in laws, regulations, or policies?		
Aspen Stands			
Biodiversity Areas and Corridors			
Herbaceous Balds			
Old-growth/Mature Forests			
Oregon White Oak			
Riparian			
Westside Prarie			
Fresh Deepwater			
Instream			
Nearshore (Coastal, Open Coast, Pu	uget Sound)		
Caves			
Cliffs			
✓ Snags and Logs			
Talus			
The following criteria automatically s	score 2 points:		
The wetland provides habitat for Th	nreatened or Endangered species		
The wetland is mapped as a locatio	n for an individual WDFW priority species		
The wetland is a Wetland of High C	onservation Value		
The wetland has been categorized	as an important habitat site in a local plan		
The wetland has 3 or more WDFW price	ority habitats within 100m, or meets the		

Rating of Value

criteria for societal value

The site has 1 or 2 WDFW priority habitats within 100m

The site does not meet any of the criteria for societal value

[] 2 = H [X] 1 = M [] 0 = L

Record the rating on the first page

Total for H 3:

Score: 1

1

points = 2

points = 1

points = 0

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?	
The dominant water regime is tidal	
The wetland is vegetated	
The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2	
No - Not an Estuarine Wetland	Result: Not an
The Thoram Estadame Wedana	Estuarine Wetland
SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, N	Natural Area Preserve,
State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-15	1?
Yes - Category I Estuarine Wetland	
No - Go to SC 1.3	Result:
SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three condit	ions?
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 10% cover of non-native plant species.	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland	
The wetland has at least two of the following features: tidal channels, depressions with open	
water, or contiguous freshwater wetlands.	
water, or configuous freshwater wellulius.	
Yes - Category I Estuarine Wetland	
No - Category II Estuarine Wetland	Result:
	Result.
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ed	osystem polygons on
the WNHP Data Explorer?	
Yes - Category I Wetland of High Conservation Value	
No - Go to SC 2.2	Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality commo	n plant community that
may qualify the site as a WHCV?	
	
Yes - Category I Wetland of High Conservation Value	
5 ,	Result: Not a Wetland
No - Not a Wetland of High Conservation Value	of High Conservation
	Value

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, to	that compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are	less than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of	<u>f a lake or pond?</u>
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result:
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level	, AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, we	estern red cedar, western
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any o	·
combinations of species) listed in the table found in the instructions provide more than 30% of	the cover under the
<u>canopy?</u>	
Yes - Category I Bog Wetland	
No - Not a Bog Wetland	Result:
SC 4.0 Forested Wetlands	
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following	ing criteria?
Old-growth forests	
Mature forests	
Yes - Category I Forested Wetland	
No - Not a Forested Wetland	Result: Not a Forested
110 110t d 1 0105ted 11ctidita	

Wetland

Wetland name or number: W16

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coastal The wetland lies in a depression adjacent to marine waters that is wholly or partially	stal lagoon?
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Yes - Go to SC 5.2	
No - Not a Coastal Lagoon Wetland	Result: Not a Coastal Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownersh	nip WBUO)?
Yes - Go to SC 6.2	
No - Not an Interdunal Wetland	Result: Not an Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Yes - Category I Interdunal Wetland	B. 14
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac	ac and 1ac in size?
Yes - Category III Interdunal Wetland	
No - Category IV Interdunal Wetland	Result:
No - Category IV Interdunal vvenand	nesuit.

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not

Applicable

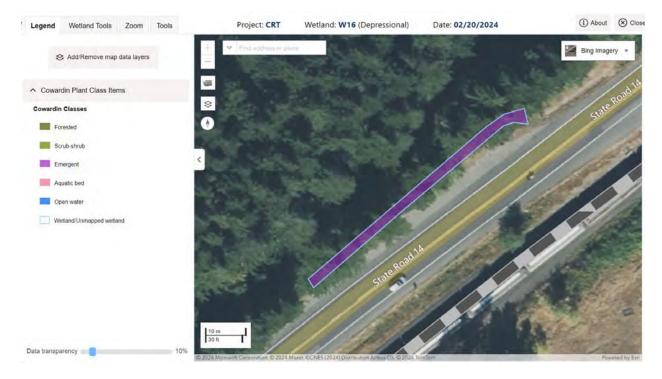


Figure 1: Cowardin classes.

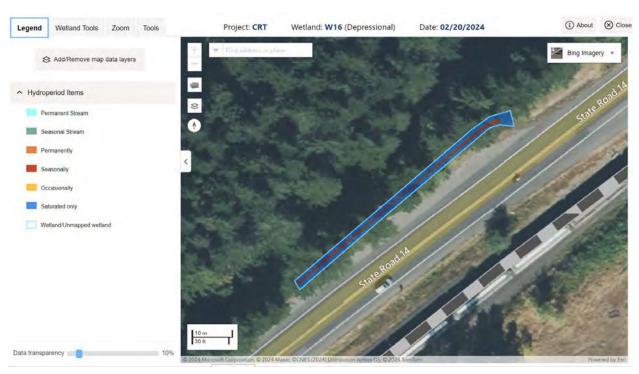


Figure 2: Hydroperiods



Figure 3: Outlet



Figure 4: Boundary of 150'

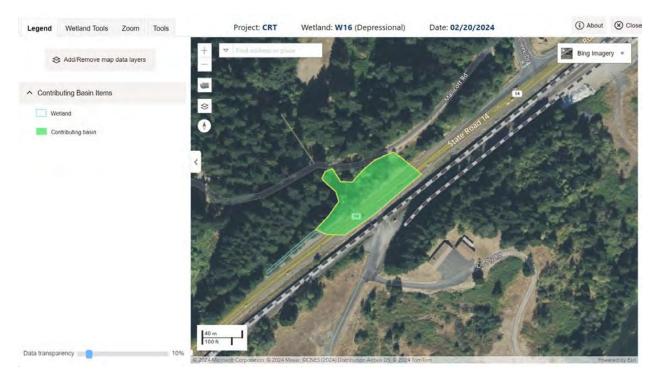


Figure 5: Contributing Basin

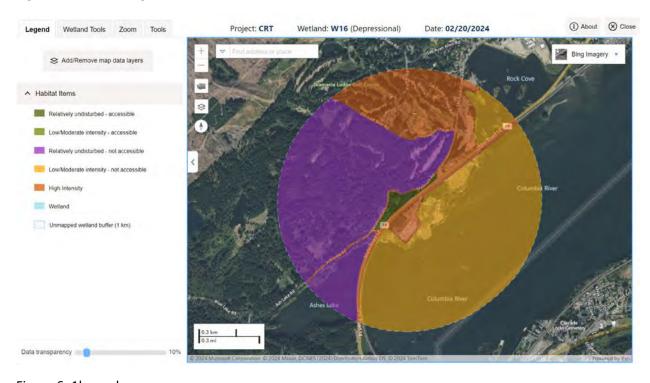


Figure 6: 1km polygon.

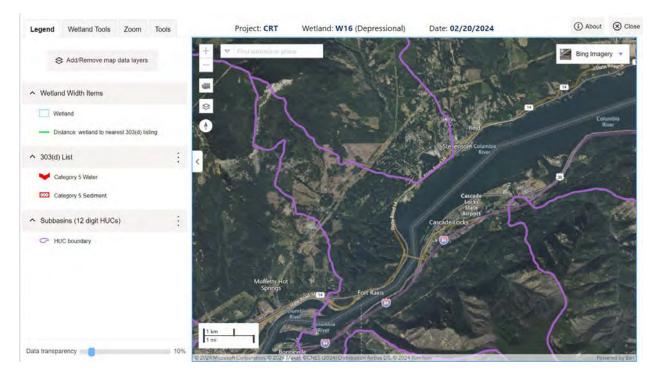


Figure 7: 303(d) listed waters in basin.

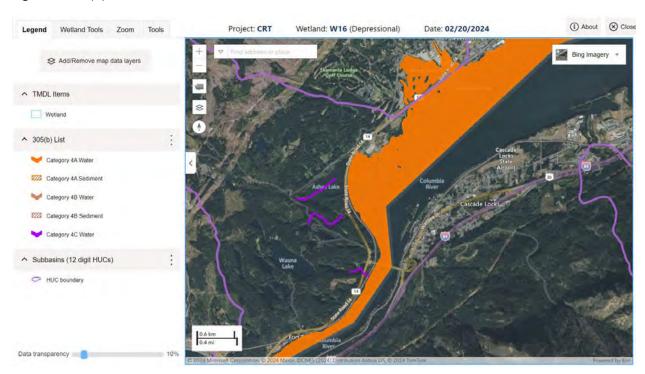


Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W17 Date of site visit: 11/10/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional
Wetland has multiple HGM classes? Yes [] No [X]

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category III] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

- [] Category I Total score = 23 27
- [] Category II Total score = 20 22
- [X] Category III Total score = 16 19
- [] Category IV Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	M	L	
Landscape Potential	M	М	М	
Value	Н	Н	L	Total
Score Based on Ratings	7	7	4	18

Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,M,M 6 = H,M,L 5 = M,M,M 5 = H,L,L 5 = M,M,L 4 = M,L,L 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0 Does the site have the potential	<u> </u>			
	urface water outflows from the wetland?			
Wetland has no surface water outlet.		points = 3		
Wetland has an intermittently flowing,		points = 2		
Wetland has an unconstricted, or slight permanently flowing	ly constricted, surface outlet that is	points = 1		
Wetland is a flat depression whose out	let is a permanently flowing ditch.	points = 1	Score:	2
D 1.2 Is the soil 2 in. below the surface	a true clay or organic soil?			
Mapped as true clay or organic (muck	or peat)	points = 4		
Soil texture identified as clay or organic	in field	points = 4		
Soil texture identified as clay or organic	by laboratory test	points = 4		
None of the above		points = 0	Score:	0
D 1.3 What are the characteristics and	distribution of persistent plants?			
Wetland has persistent, ungrazed, plan	ts > 95% of area	points = 5		
Wetland has persistent, ungrazed, plan	ts > 50% of area	points = 3		
Wetland has persistent, ungrazed plant	s > 10% of area	points = 1		
Wetland has persistent, ungrazed plant	s < 10% of area	points = 0	Score:	5
D 1.4 What are the characteristics of se	easonal ponding or inundation in the wetland are	a?		
Area seasonally ponded is > 50% total	area of wetland	points = 4		
Area seasonally ponded is equal to or	25% total area of wetland	points = 2		
Area seasonally ponded is < 25% total	area of wetland	points = 0	Score:	2
		Total for D 1:	9	
Rating of Site Potential	[] 12-16 = H [X] 6-11 = M [] 0-5 = L	Record the rating on to	he first p	ag

D 2.0 Does the landscape have the potential to support the water quality function of the site?			
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.2 Is >10% of the area within 150ft of the wetland in land uses that generate pollutants in surface runoff?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?			
Yes	points = 1		
No	points = 0	Score:	0

Yes

No

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	2

Rating of Landscape Potential	[] 3-4 = H [X] 1-2 = M [] 0 = L	Record the rating o	n the first page
D 3.0 Is the water quality improvemen	t provided by the site valuable to society?		
D 3.1 Does the wetland discharge direction	ctly (i.e., within 1 mi) to a stream, river, lake,	or marine water that is or	n the 303(d)
list?			
Yes		points = 1	
No		points = 0	Score: 0
D 3.2 Is the wetland in a basin or sub-b	oasin where an aquatic resource is on the 30	03(<u>d</u>) list?	
Yes		points = 1	
No		points = 0	Score: 0
D 3.3 Has the site been identified in a	watershed or local plan as important for ma	intaining water quality?	

Rating of Value [X] 2-4 = H[] 1 = M[] 0 = L Record the rating on the first page

points = 2

points = 0

Total for D 3:

Score: 2

2

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 2
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 3

Dating of Cita Datastic [112.16 - H.W. 6.11 - M.	Total for D 4:	8	
Entire wetland is in the Flats class	points = 5	Score:	3
The area of the basin is more than 100 times the area of the unit	points = 0		
The area of the basin is 10 to 100 times the area of the unit	points = 3		
The area of the basin is less than 10 times the area of the unit	points = 5		
D 4.3 What is the contribution of the wetland to storage in the watersh	ned?		

Rating of Site Potential

[] **12-16** = **H** [X] **6-11** = **M** [] **0-5** = **L** Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 5.2 Is >10% of the area within 150 ft of the wetland in land uses that generate excess rund	off?		
Yes	points = 1		
No	points = 0	Score:	1
D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive hum	an land uses?		
Yes	points = 1		
No	points = 0	Score:	0
	Total for D 5:	2	

Rating of Landscape Potential

[] 3 = H [X] 1-2 = M [] 0 = L

Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?

D 6.0 Are the hydrologic functions provided by the site valuable to society?			
D 6.1 Is the wetland in a landscape that has flooding problems?			
Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2		
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1		
Flooding from groundwater is an issue in the basin.	points = 1		
The existing or potential outflow from the wetland is so constrained that water	points = 0		
cannot reach areas that flood.	points = 0		
There are no problems with flooding downstream of the wetland.	points = 0	Score:	2
D 6.2 Has the site been identified as important for flood storage or flood conveyance in	a regional flood contro	ol plan?	
Yes	points = 2		
No	points = 0	Score:	0
	Total for D 6:	2	

Rating of Value

[X] **2-4** = **H**[] **1** = **M**[] **0** = **L**

Record the rating on the first page

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?		
Aquatic Bed		
√ Emergent		
Scrub-shrub		
Forested		
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)		
4 structures or more	points = 4	
3 structures	points = 2	
2 structures	points = 1	
1 structure	points = 0	
No structures present	points = 0	Score: 1
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?	<u>'</u>	
Permanently flooded or inundated		
Seasonally flooded or inundated		
Occasionally flooded or inundated		
✓ Saturated only		
Permanently flowing stream or river in, or adjacent to, the wetland		
Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland		
Freshwater Tidal wetland		
4 or more types present	points = 3	
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2	
2 types present	points = 1	
1 type present	points = 0	
None present	points = 0	Score: 1
H 1.3 What is the richness of the plant species in the wetland?	pointe o	
what is the richness of the plant species in the wetland:		
>19 species	points = 2	
5-19 species	points = 1	
<5 species	points = 0	Score: 1

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 1
H 1.5 What are the special habitat features in the wetland?		
Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
Standing snags (dbh >4in) within the wetland		
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score:
	Total for H 1:	4

Rating of Site Potential

[] 15-18 = H[] 7-14 = M[X] 0-6 = L

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 0
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wetland name or number: W17	Wetland	name	or	number:	W17
-----------------------------	---------	------	----	---------	-----

Wetland name or number: W17			
H 2.3 What is the land use intensity in the	: 1km polygon?		
50% of the Polygon is high intensity land	use	points = -2	
<50% of the Polygon is high intensity land	Luse	points = 0	Score: 0
		Total for H 2:	3
Rating of Landscape Potential	[] 4-6 = H [X] 1-3 = M [] 0 = L	Record the rating on to	he first page
H 3.0 Is the habitat provided by the site v	aluable to society?		
H 3.1 Does the site provide habitat for sp	ecies valued in laws, regulations, or policies?		
Aspen Stands			
Biodiversity Areas and Corridors			
Herbaceous Balds			
Old-growth/Mature Forests			
Oregon White Oak			
Riparian			
Westside Prarie			
Fresh Deepwater			
Instream			
Nearshore (Coastal, Open Coast, Puge	et Sound)		
Caves			
Cliffs			
Snags and Logs			
Talus			
The following criteria automatically score	e 2 points:		
The wetland provides habitat for Threa	atened or Endangered species		
The wetland is mapped as a location f	or an individual WDFW priority species		
The wetland is a Wetland of High Cons	servation Value		
The wetland has been categorized as	an important habitat site in a local plan		
The wetland has 3 or more WDFW priority	habitats within 100m, or meets the	points = 2	
criteria for societal value		points – z	
The site has 1 or 2 WDFW priority habitate	s within 100m	points = 1	
The site does not meet any of the criteria	for societal value	points = 0	Score:
		Total for H 3:	0

Rating of Value

[] 2 = H[] 1 = M[X] 0 = L

Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands? The dominant water regime is tidal The wetland is vegetated The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2	D. colle N. c.
No - Not an Estuarine Wetland	Result: Not an Estuarine Wetland
SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-15 Yes - Category I Estuarine Wetland	
No - Go to SC 1.3	Result:
SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three condiction. The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes - Category I Estuarine Wetland	tions?
No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality eco WNHP Data Explorer?	system polygons on the
Yes - Category I Wetland of High Conservation Value	
No - Go to SC 2.2	Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality common may qualify the site as a WHCV?	n plant community that
Yes - Category I Wetland of High Conservation Value	
No - Not a Wetland of High Conservation Value	Result:

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, the	nat compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are le	ess than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a	a lake or pond?
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result: Not a Bog
	Wetland
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level,	AND at least 30% cover
of plant species listed in the table provided in the instructions?	
V O-t Vatland	
Yes - Category I Bog Wetland	Dla.
No - Go to SC 3.4	Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, wes	
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the	<u>he species (or</u>
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the combinations of species) listed in the table found in the instructions provide more than 30% of the combinations of species.	<u>he species (or</u>
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the	<u>he species (or</u>
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the combinations of species) listed in the table found in the instructions provide more than 30% of the canopy?	<u>he species (or</u>
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the combinations of species) listed in the table found in the instructions provide more than 30% of the combinations of species.	<u>he species (or</u>
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the combinations of species) listed in the table found in the instructions provide more than 30% of the canopy? Yes - Category I Bog Wetland	<u>he species (or</u> <u>he cover under the</u>
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the combinations of species) listed in the table found in the instructions provide more than 30% of the canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland	he species (or he cover under the Result:
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the combinations of species) listed in the table found in the instructions provide more than 30% of the canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland SC 4.0 Forested Wetlands	he species (or he cover under the Result:
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the combinations of species) listed in the table found in the instructions provide more than 30% of the canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland SC 4.0 Forested Wetlands SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following	he species (or he cover under the Result:
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the combinations of species) listed in the table found in the instructions provide more than 30% of the canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland SC 4.0 Forested Wetlands SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following Old-growth forests	he species (or he cover under the Result:
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the combinations of species) listed in the table found in the instructions provide more than 30% of the canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland SC 4.0 Forested Wetlands SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following Old-growth forests	he species (or he cover under the Result:
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the combinations of species) listed in the table found in the instructions provide more than 30% of the canopy? Yes - Category I Bog Wetland No - Not a Bog Wetland SC 4.0 Forested Wetlands SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following Old-growth forests Mature forests	he species (or he cover under the Result:

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coa	stal lagoon?
The wetland lies in a depression adjacent to marine waters that is wholly or partially	
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Yes - Go to SC 5.2	
Tes - G0 t0 3C 3.2	Result: Not a Coastal
No - Not a Coastal Lagoon Wetland	Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Owners)	hip WBUO)?
Yes - Go to SC 6.2	
No - Not an Interdunal Wetland	Result: Not an
	Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
W.H. 1: 1	
Wetland is larger than 1ac in size - Go to SC 6.3 Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
	Nesuit.
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	
Yes - Category I Interdunal Wetland	
No - Category II Interdunal Wetland	Result:
SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1	ac and 1ac in size?
2 3.1 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	<u> </u>
Yes - Category III Interdunal Wetland	
· ·	

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not Applicable



Figure 1: Cowardin classes.



Figure 2: Hydroperiods



Figure 3: Outlet



Figure 4: Boundary of 150'



Figure 5: Contributing Basin



Figure 6: 1km polygon.

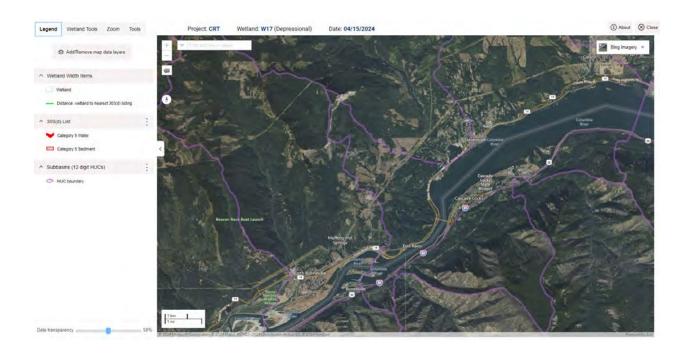


Figure 7: 303(d) listed waters in basin.

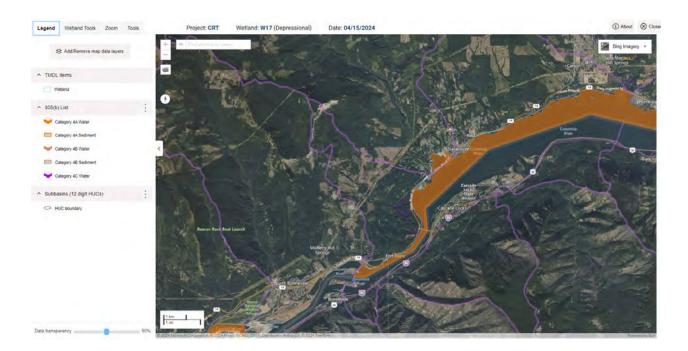


Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W18 Date of site visit: 11/10/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional **Wetland has multiple HGM classes? Yes** [] **No** [X]

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category II] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

[] Category I - Total score = 23 - 27

[X] Category II - Total score = 20 - 22

[] Category III - Total score = 16 - 19

[] Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	М	М	
Landscape Potential	M	Н	М	
Value	Н	Н	Н	Total
Score Based on Ratings	7	8	7	22

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

5 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0 Does the site have the potential to in	· · · · · · · · · · · · · · · · · · ·			
D 1.1 What are the characteristics of surfa	ce water outflows from the wetland?			
Wetland has no surface water outlet.		points = 3		
Wetland has an intermittently flowing, or h		points = 2		
Wetland has an unconstricted, or slightly opermanently flowing	constricted, surface outlet that is	points = 1		
Wetland is a flat depression whose outlet	s a permanently flowing ditch.	points = 1	Score:	2
D 1.2 Is the soil 2 in. below the surface a to	rue clay or organic soil?			
Mapped as true clay or organic (muck or p	eat)	points = 4		
Soil texture identified as clay or organic in	field	points = 4		
Soil texture identified as clay or organic by	laboratory test	points = 4		
None of the above		points = 0	Score:	0
D 1.3 What are the characteristics and dis	tribution of persistent plants?			
Wetland has persistent, ungrazed, plants >	95% of area	points = 5		
Wetland has persistent, ungrazed, plants >	50% of area	points = 3		
Wetland has persistent, ungrazed plants >	10% of area	points = 1		
Wetland has persistent, ungrazed plants <	10% of area	points = 0	Score:	5
D 1.4 What are the characteristics of seas	onal ponding or inundation in the wetland area	a?		
Area seasonally ponded is > 50% total area	a of wetland	points = 4		
Area seasonally ponded is equal to or > 25	% total area of wetland	points = 2		
Area seasonally ponded is < 25% total area	a of wetland	points = 0	Score:	2
		Total for D 1:	9	
Rating of Site Potential	[] 12-16 = H [X] 6-11 = M [] 0-5 = L	Record the rating on ti	he first p	ag

D 2.0 Does the landscape have the potential to support the water quality function	on of the site?		
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.2 Is >10% of the area within 150ft of the wetland in land uses that generate p	oollutants in surface runoff?	-	
Yes	points = 1		
No	points = 0	Score:	1
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?			
Yes	points = 1		
No	points = 0	Score:	0

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	2

Rating of Landscape Potential	[] 3-4 = H [X] 1-2 = M [] 0 = L	Record the rating on the first page
D 3.0 Is the water quality improvement	provided by the site valuable to society?	

D 3.0 Is the water quality improvement provided by the site valuable to society?				
D 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on t	D 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d)			
list?				
Yes points = 1				
No points = 0	Score: 0			
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?				
Yes points = 1				
No points = 0	Score: 0			
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?				
Yes points = 2				
No points = 0	Score: 2			
Total for D 3:	2			

Rating of Value [X] 2-4 = H[] 1 = M[] 0 = L Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 2
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 3

Pating of Site Potential	[] 12-16 - H[Y] 6-11 - M[] 0-5 - I	Pecord the rating on t	C
		Total for D 4:	8
Entire wetland is in the Flats clas	S	points = 5	Score: 3
The area of the basin is more tha	n 100 times the area of the unit	points = 0	
The area of the basin is 10 to 100) times the area of the unit	points = 3	
The area of the basin is less than	10 times the area of the unit	points = 5	
D 4.3 What is the contribution of	the wetland to storage in the watershed?		

Rating of Site Potential

[] 12-16 = H [X] 6-11 = M [] 0-5 = L

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 5.2 Is >10% of the area within 150 ft of the wetland in land uses that generate excess rund	off?		
Yes	points = 1		
No	points = 0	Score:	1
D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?			
Yes	points = 1		
No	points = 0	Score:	1
	Total for D 5:	3	•

Rating of Landscape Potential

[X] 3 = H[] 1-2 = M[] 0 = L

Record the rating on the first page

Score: control plan? Score:	
Score:	2
Score:	2
	2
2	<u>)</u>

Rating of Value

[X] **2-4** = **H**[] **1** = **M**[] **0** = **L**

Record the rating on the first page

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?			
Aquatic Bed			
Emergent			
Scrub-shrub			
Forested			
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,			
herbaceous, moss/ground cover)			
4 structures or more	points = 4		
3 structures	points = 2		
2 structures	points = 1		
1 structure	points = 0		
No structures present	points = 0	Score:	2
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?			
Permanently flooded or inundated			
Seasonally flooded or inundated			
Occasionally flooded or inundated			
Saturated only			
Permanently flowing stream or river in, or adjacent to, the wetland			
Seasonally flowing stream in, or adjacent to, the wetland			
Lake Fringe wetland			
Freshwater Tidal wetland			
4 or more types present	points = 3		
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2		
2 types present	points = 1		
1 type present	points = 0		
None present	points = 0	Score:	1
H 1.3 What is the richness of the plant species in the wetland?			
>19 species	points = 2		
5-19 species	points = 1		
<5 species	points = 0	Score:	1

H 1.4 What is the interspersion of habitats?		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 3
H 1.5 What are the special habitat features in the wetland?		
✓ Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
Standing snags (dbh >4in) within the wetland		
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants		
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous		
with the wetland, for at least 33ft (10m)		
Stable steep banks of fine material that might be used by beaver or muskrat for		
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs		
or trees that have not yet weathered where wood is exposed)		
At least 0.25ac of thin-stemmed persistent plants or woody branches are present		
in areas that are permanently or seasonally inundated (structures for egg-laying by		
amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants		
(see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score: 2
	Total for H 1:	9

Rating of Site Potential

[] 15-18 = H [X] 7-14 = M [] 0-6 = L

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 0
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

Wet	land name or number: W18			
Н:	2.3 What is the land use intensity in the 1km	<u>n polygon?</u>		
50	% of the Polygon is high intensity land use		points = -2	
	0% of the Polygon is high intensity land use		points = 0	Score: 0
			Total for H 2:	3
Ra	ting of Landscape Potential	[] 4-6 = H [X] 1-3 = M [] 0 = L	Record the rating on t	he first page
Н3	.0 Is the habitat provided by the site valual	ple to society?		
Н:	3.1 Does the site provide habitat for species	s valued in laws, regulations, or policies?		
	Aspen Stands			
√	Biodiversity Areas and Corridors			
	Herbaceous Balds			
	Old-growth/Mature Forests			
	Oregon White Oak			
√	Riparian			
	Westside Prarie			
	Fresh Deepwater			
	Instream			
	Nearshore (Coastal, Open Coast, Puget So	und)		
	Caves			
	Cliffs			
√	Snags and Logs			
	Talus			
The	following criteria automatically score 2 po	pints:		
	The wetland provides habitat for Threatene	ed or Endangered species		
	The wetland is mapped as a location for ar	n individual WDFW priority species		
	The wetland is a Wetland of High Conserva	ation Value		
	The wetland has been categorized as an in	nportant habitat site in a local plan		

Rating of Value

criteria for societal value

[X] 2 = H[] 1 = M[] 0 = L

The wetland has 3 or more WDFW priority habitats within 100m, or meets the

The site has 1 or 2 WDFW priority habitats within 100m

The site does not meet any of the criteria for societal value

Record the rating on the first page

Total for H 3:

Score: 2

2

points = 2

points = 1

points = 0

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?	
The dominant water regime is tidal	
The wetland is vegetated	
The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2	
No - Not an Estuarine Wetland	Result: Not an Estuarine Wetland
SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, I	<u>Natural Area Preserve</u> ,
State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-15	<u>1?</u>
Yes - Category I Estuarine Wetland	
No - Go to SC 1.3	Result:
SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions. The wetland is relatively undicturbed (her no diking, ditabing, filling, cultivation, grazing), and	lions?
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species.	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland	
The wetland has at least two of the following features: tidal channels, depressions with open	
water, or contiguous freshwater wetlands.	
Yes - Category I Estuarine Wetland	
No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality eco	system polygons on the
WNHP Data Explorer?	
Yes - Category I Wetland of High Conservation Value	
No - Go to SC 2.2	Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality common	plant community that
may qualify the site as a WHCV?	
Yes - Category I Wetland of High Conservation Value	
	Result: Not a Wetland
No - Not a Wetland of High Conservation Value	of High Conservation
	Value

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or much	ks, that compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that a	are less than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on to	p of a lake or pond?
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result: Not a Bog
	Wetland
SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground le	evel, AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	Result:
SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fi	
hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any	
combinations of species) listed in the table found in the instructions provide more than 30%	<u>6 of the cover under the</u>
canopy?	
Yes - Category I Bog Wetland	
No - Not a Bog Wetland	Result:
	Nesuit.
SC 4.0 Forested Wetlands	
SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the fol	lowing criteria?
Old-growth forests	
Mature forests	
Yes - Category I Forested Wetland	
	Result: Not a Forested

Wetland

Wetland name or number: W18

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coal The wetland lies in a depression adjacent to marine waters that is wholly or partially	istal lagoon?
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or	
brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Yes - Go to SC 5.2	
No - Not a Coastal Lagoon Wetland	Result: Not a Coastal Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Owners	hip WBUO)?
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Owners Yes - Go to SC 6.2	
	hip WBUO)? Result: Not an Interdunal Wetland
Yes - Go to SC 6.2	Result: Not an
Yes - Go to SC 6.2 No - Not an Interdunal Wetland	Result: Not an
Yes - Go to SC 6.2 No - Not an Interdunal Wetland SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	Result: Not an
Yes - Go to SC 6.2 No - Not an Interdunal Wetland SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size? Wetland is larger than 1ac in size - Go to SC 6.3	Result: Not an
Yes - Go to SC 6.2 No - Not an Interdunal Wetland SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size? Wetland is larger than 1ac in size - Go to SC 6.3 Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	Result: Not an Interdunal Wetland
Yes - Go to SC 6.2 No - Not an Interdunal Wetland SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size? Wetland is larger than 1ac in size - Go to SC 6.3 Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland No - Go to SC 6.4	Result: Not an Interdunal Wetland
Yes - Go to SC 6.2 No - Not an Interdunal Wetland SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size? Wetland is larger than 1ac in size - Go to SC 6.3 Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland No - Go to SC 6.4 SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	Result: Not an Interdunal Wetland
Yes - Go to SC 6.2 No - Not an Interdunal Wetland SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size? Wetland is larger than 1ac in size - Go to SC 6.3 Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland No - Go to SC 6.4 SC 6.3 Does the wetland score 8 or 9 points for the habitat functions? Yes - Category I Interdunal Wetland	Result: Not an Interdunal Wetland Result: Result:
Yes - Go to SC 6.2 No - Not an Interdunal Wetland SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size? Wetland is larger than 1ac in size - Go to SC 6.3 Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland No - Go to SC 6.4 SC 6.3 Does the wetland score 8 or 9 points for the habitat functions? Yes - Category I Interdunal Wetland No - Category II Interdunal Wetland	Result: Not an Interdunal Wetland Result:

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not Applicable



Figure 1: Cowardin classes.



Figure 2: Hydroperiods



Figure 3: Outlet

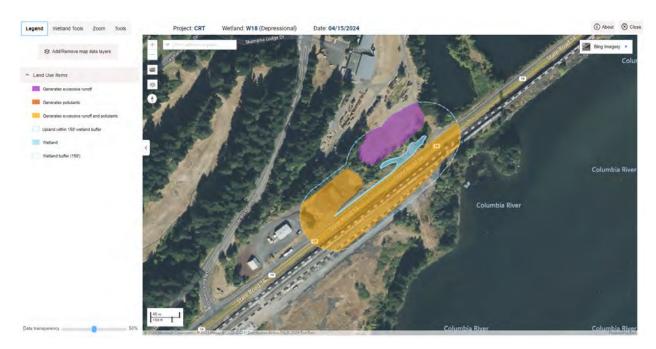


Figure 4: Boundary of 150'



Figure 5: Contributing Basin



Figure 6: 1km polygon.

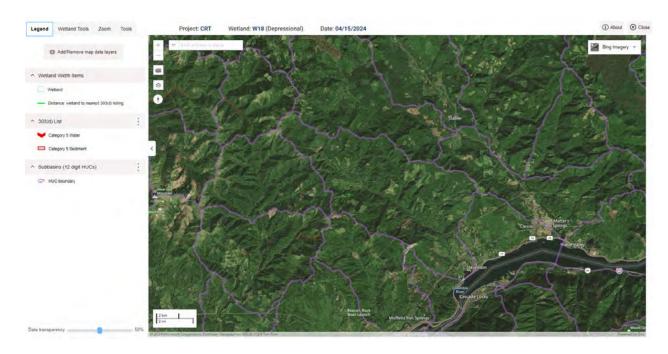


Figure 7: 303(d) listed waters in basin.



Figure 8: TMDLs for WRIA in which wetland is found.

RATING SUMMARY - Western Washington

Name of wetland (or ID#): W19 Date of site visit: 11/08/2023

Rated By: Bryan Darby, Jen Maze Trained by Ecology? Yes [] No [X] Date of Training: N/A

HGM Class used for rating: Depressional
Wetland has multiple HGM classes? Yes [] No [X]

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category III] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

- [] Category I Total score = 23 27
- [] Category II Total score = 20 22
- [X] Category III Total score = 16 19
- [] Category IV Total score = 9 15

Ratings	,	0	0	12
Score Based on	7	6	6	19
Value	Н	Н	М	Total
Landscape Potential	M	М	Н	
Site Potential	M	L	L	
IFUNCTION	Improving Water Quality	Hydrologic	Habitat	

Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,M,M 6 = H,M,L 6 = M,M,M 5 = H,L,L 5 = M,M,L 4 = M,L,L 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0 Does the site have the potential to improve	e water quality?			
D 1.1 What are the characteristics of surface wa	ater outflows from the wetland?			
Wetland has no surface water outlet.		points = 3		
Wetland has an intermittently flowing, or highly	constricted, outlet.	points = 2		
Wetland has an unconstricted, or slightly constr permanently flowing	icted, surface outlet that is	points = 1		
Wetland is a flat depression whose outlet is a pe	ermanently flowing ditch.	points = 1	Score:	2
D 1.2 Is the soil 2 in. below the surface a true cl	ay or organic soil?			
Mapped as true clay or organic (muck or peat)		points = 4		
Soil texture identified as clay or organic in field		points = 4		
Soil texture identified as clay or organic by labor	ratory test	points = 4		
None of the above		points = 0	Score:	0
D 1.3 What are the characteristics and distribution	on of persistent plants?			
Wetland has persistent, ungrazed, plants > 95%	of area	points = 5		
Wetland has persistent, ungrazed, plants > 50%	of area	points = 3		
Wetland has persistent, ungrazed plants > 10% of	of area	points = 1		
Wetland has persistent, ungrazed plants < 10% of	of area	points = 0	Score:	5
D 1.4 What are the characteristics of seasonal p	onding or inundation in the wetland area	<u>a?</u>		
Area seasonally ponded is > 50% total area of w	etland	points = 4		
Area seasonally ponded is equal to or > 25% tot	al area of wetland	points = 2		
Area seasonally ponded is < 25% total area of w	etland	points = 0	Score:	0
		Total for D 1:	7	
Rating of Site Potential [] 12	-16 = H [X] 6-11 = M [] 0-5 = L	Record the rating on ti	he first p	ag

D 2.0 Does the landscape have the potential to support the water quality function of the site?			
D 2.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 2.2 Is >10% of the area within 150ft of the wetland in land uses that generate pol	llutants in surface runoff?	<u> </u>	
Yes	points = 1		
No	points = 0	Score:	1
D 2.3 Are there septic systems within 250ft of the wetland?			
Yes	points = 1		
No	points = 0	Score:	0
D 2.4 Are there other sources of pollutants coming into the wetland that are not lis	ted in questions D 2.1-D 2	2.3?	
Yes	points = 1		
No	points = 0	Score:	0

No

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	2

Rating of Landscape Potential	[] 3-4 = H [X] 1-2 = M [] 0 = L	Record the rating of	n the first page
D 3.0 Is the water quality improvement	provided by the site valuable to society?		
D 3.1 Does the wetland discharge direct	<u>tly (i.e., within 1 mi) to a stream, river, lake, c</u>	or marine water that is on	the 303(d)
list?			
Yes		points = 1	
No		points = 0	Score: 0
D 3.2 Is the wetland in a basin or sub-ba	asin where an aquatic resource is on the 30	3(<u>d</u>) <u>list?</u>	
Yes		points = 1	
No		points = 0	Score: 0
D 3.3 Has the site been identified in a w	ratershed or local plan as important for mai	ntaining water quality?	
Yes		points = 2	

Rating of Value [X] 2-4 = H[] 1 = M[] 0 = L Record the rating on the first page

points = 0

Total for D 3:

Score: 2

2

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?

D 4.1 What are the characteristics of surface water outflows from the wetland?						
Wetland has no surface water outlet.	points = 4					
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2					
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1					
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 2				
D 4.2 What is the depth of storage during the wet periods?						
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7					
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5					
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3					
The wetland is a "headwater" wetland.	points = 3					
The wetland is flat but has small depressions on the surface that trap water.	points = 1					
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 0				

	[] 12 16 - U[] 6 11 - M[V] 0 5 - I	Total for D 4:	5	
Entire wetland is in the Flats class		points = 5	Score:	3
The area of the basin is more than 10	00 times the area of the unit	points = 0		
The area of the basin is 10 to 100 times	nes the area of the unit	points = 3		
The area of the basin is less than 10	times the area of the unit	points = 5		
D 4.3 What is the contribution of the	wetland to storage in the watershed?			

Rating of Site Potential

[] **12-16** = **H** [] **6-11** = **M** [X] **0-5** = **L** Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1 Does the wetland unit receive stormwater discharges?			
Yes	points = 1		
No	points = 0	Score:	1
D 5.2 Is >10% of the area within 150 ft of the wetland in land uses that generate excess runof	<u>f?</u>		
Yes	points = 1		
No	points = 0	Score:	1
D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human	n land uses?		
Yes	points = 1		
No	points = 0	Score:	0
	Total for D 5:	2	

Rating of Landscape Potential

[] 3 = H [X] 1-2 = M [] 0 = L

Record the rating on the first page

D 6 0 Are the hydrologic functions provided by the site valuable to society?

D 6.0 Are the hydrologic functions provided by the site valuable to society?			
D 6.1 Is the wetland in a landscape that has flooding problems?			
Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2		
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1		
Flooding from groundwater is an issue in the basin.	points = 1		
The existing or potential outflow from the wetland is so constrained that water	points = 0		
cannot reach areas that flood.	points = 0		
There are no problems with flooding downstream of the wetland.	points = 0	Score:	2
D 6.2 Has the site been identified as important for flood storage or flood conveyance in	a regional flood contro	ol plan?	
Yes	points = 2		
No	points = 0	Score:	0
	Total for D 6:	2	

Rating of Value

[X] **2-4** = **H**[] **1** = **M**[] **0** = **L**

Record the rating on the first page

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?			
Aquatic Bed			
✓ Emergent			
Scrub-shrub			
Forested			
Multiple strata within the Forested class (canopy, sub-canopy, shrubs,			
herbaceous, moss/ground cover)			
4 structures or more	points = 4		
3 structures	points = 2		
2 structures	points = 1		
1 structure	points = 0		
No structures present	points = 0	Score:	n
	points o		_
H 1.2 What are the hydroperiods that meet the size thresholds in the wetland? Permanently flooded or inundated			
Seasonally flooded or inundated			
Occasionally flooded or inundated			
Saturated only			
Permanently flowing stream or river in, or adjacent to, the wetland			
Seasonally flowing stream in, or adjacent to, the wetland			
Lake Fringe wetland			
Freshwater Tidal wetland			
4 or more types present	points = 3		
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2		
2 types present	points = 1		
1 type present	points = 0		
None present	points = 0	Score:	2
H 1.3 What is the richness of the plant species in the wetland?			
>19 species	points = 2		
5-19 species	points = 1		
<5 species	points = 0	Score:	0

H 1.4 What is the interspersion of habitats?				
High	points = 3			
Moderate	points = 2			
Low	points = 1			
None	points = 0	Score: 1		
H 1.5 What are the special habitat features in the wetland?				
Large, downed, woody debris within the wetland (>4in diameter and 6ft long).				
Standing snags (dbh >4in) within the wetland				
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants				
extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous				
with the wetland, for at least 33ft (10m)				
Stable steep banks of fine material that might be used by beaver or muskrat for				
denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs				
or trees that have not yet weathered where wood is exposed)				
At least 0.25ac of thin-stemmed persistent plants or woody branches are present				
in areas that are permanently or seasonally inundated (structures for egg-laying by				
amphibians)				
Invasive plants cover less than 25% of the wetland area in every stratum of plants				
(see H 1.1 for list of strata)				
6 habitats selected	points = 6			
5 habitats selected	points = 5			
4 habitats selected	points = 4			
3 habitats selected	points = 3			
2 habitats selected	points = 2			
1 habitat selected	points = 1			
No habitats selected	points = 0	Score:		
	Total for H 1:	3		

Rating of Site Potential

[] 15-18 = H [] 7-14 = M [X] 0-6 = L

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?		
>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	Score: 3
H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?		
Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	Score: 3

۱A	latland	namo	or	number:	W/10
V۱	/etiano	name	or	number:	VV 1 9

Pating of Landscape Potential	[Y] 4-6 - H [] 1-3 - M [] 0 - I	Pecord the rating on t	ha firet r	200
		Total for H 2:	6	
<50% of the Polygon is high intensity	and use	points = 0	Score:	0
50% of the Polygon is high intensity la	and use	points = -2		
H 2.3 What is the land use intensity in	the 1km polygon?			

Rating of Landscape Potential

[X] **4-6 = H** [] **1-3 = M** [] **0 = L**

Record the rating on the first page

H 3.0 Is the habitat provided by the site valuable to society?

H 3.1 Does the site provide habitat for species valued in laws, regulations, or policies?		
Aspen Stands		
✓ Biodiversity Areas and Corridors		
Herbaceous Balds		
Old-growth/Mature Forests		
Oregon White Oak		
Riparian		
Westside Prarie		
Fresh Deepwater		
Instream		
Nearshore (Coastal, Open Coast, Puget Sound)		
Caves		
Cliffs		
Snags and Logs		
Talus		
The following criteria automatically score 2 points:		
The wetland provides habitat for Threatened or Endangered species		
The wetland is mapped as a location for an individual WDFW priority species		
The wetland is a Wetland of High Conservation Value		
The wetland has been categorized as an important habitat site in a local plan		
The wetland has 3 or more WDFW priority habitats within 100m, or meets the		
criteria for societal value	points = 2	
The site has 1 or 2 WDFW priority habitats within 100m	points = 1	
The site does not meet any of the criteria for societal value	points = 0	Score: 1
s acceptance and an analysis and an acceptance and accepta	•	
	Total for H 3:	1

Rating of Value

[] 2 = H [X] 1 = M [] 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?	
The dominant water regime is tidal	
The wetland is vegetated	
The water salinity is greater than 0.5 ppt	
Yes - Go to SC 1.2	
No - Not an Estuarine Wetland	Result: Not an Estuarine Wetland
SC 1.2 <u>Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve,</u>	Natural Area Preserve,
State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-15	1?
Yes - Category I Estuarine Wetland	
No - Go to SC 1.3	Result:
SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three condi The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	tions?
has less than 10% cover of non-native plant species.	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland	
The wetland has at least two of the following features: tidal channels, depressions with open	
water, or contiguous freshwater wetlands.	
Yes - Category I Estuarine Wetland	
No - Category II Estuarine Wetland	Result:
SC 2.0 Wetlands of High Conservation Value	
SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality eco	system polygons on the
WNHP Data Explorer?	
Yes - Category I Wetland of High Conservation Value	
No - Go to SC 2.2	Result: Go to SC 2.2
SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality common	n plant community that
may qualify the site as a WHCV?	
Yes - Category I Wetland of High Conservation Value	
	Result: Not a Wetland
No - Not a Wetland of High Conservation Value	of High Conservation
	Value

SC 3.0 Bogs	
SC 3.1 Does an area within the wetland unit have organic soil horizons,	either peats or mucks, that compose 16in or
more of the first 32in of the soil profile?	
Yes - Go to SC 3.3	
No - Go to SC 3.2	Result: Go to SC 3.2
SC 3.2 Does an area within the wetland unit have organic soils, either pe	ats or mucks, that are less than 16 in deep over
bedrock, or an impermeable hardpan such as clay or volcanic ash, or that	at are floating on top of a lake or pond?
Yes - Go to SC 3.3	
No - Not a Bog Wetland	Result:
SC 3.3 Does an area with peats or mucks have more than 70% cover of	mosses at ground level, AND at least 30% cover
of plant species listed in the table provided in the instructions?	
Yes - Category I Bog Wetland	
No - Go to SC 3.4	Result:
SC 3.4 ls an area with peats or mucks forested (>30% cover) with Sitka	spruce, subalpine fir, western red cedar, western
<u>hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western</u>	
combinations of species) listed in the table found in the instructions pro	vide more than 30% of the cover under the
<u>canopy?</u>	
Yes - Category I Bog Wetland	
l No - Not a Rog Wetland	Pocult:
No - Not a Bog Wetland	Result:
SC 4.0 Forested Wetlands	nesuit.
SC 4.0 Forested Wetlands	
SC 4.0 Forested Wetlands SC 4.1 Does the wetland have at least 1 contiguous acre of forest that n	
SC 4.0 Forested Wetlands SC 4.1 Does the wetland have at least 1 contiguous acre of forest that n Old-growth forests	
SC 4.0 Forested Wetlands SC 4.1 Does the wetland have at least 1 contiguous acre of forest that n Old-growth forests	

Wetland

Wetland name or number: W19

No - Not a Forested Wetland

Wetland name or number: W19

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coal The wetland lies in a depression adjacent to marine waters that is wholly or partially	stal lagoon?
separated from marine waters by sandbanks, gravel banks, shingle, or rocks	
The depression in which the wetland is located contains ponded water that is saline or brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured	
near the bottom)	
The lagoon retains some of its surface water at low tide during spring tides	
Yes - Go to SC 5.2	
No - Not a Coastal Lagoon Wetland	Result: Not a Coastal Lagoon Wetland
SC 5.2 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and	
has less than 20% cover of aggressive, opportunistic plant species (see list of species).	
At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-	
grazed or un-mowed grassland.	
the wetland is larger than 0.10ac (4350 sqft)	
Yes - Category I Coastal Lagoon	
No - Category II Coastal Lagoon	Result:
SC 6.0 Interdunal Wetlands	
SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Owners	hip WBUO)?
Yes - Go to SC 6.2	
No - Not an Interdunal Wetland	Result: Not an Interdunal Wetland
SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?	
Wetland is larger than 1ac in size - Go to SC 6.3	
Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland	
No - Go to SC 6.4	Result:
No - Go to SC 6.4 SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	Result:
	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions? Yes - Category I Interdunal Wetland	Result:
SC 6.3 Does the wetland score 8 or 9 points for the habitat functions? Yes - Category I Interdunal Wetland No - Category II Interdunal Wetland	Result:

Wetland name or number: W19

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not

Applicable



Figure 1: Cowardin classes.



Figure 2: Hydroperiods



Figure 3: Outlet



Figure 4: Boundary of 150'



Figure 5: Contributing Basin



Figure 6: 1km polygon.

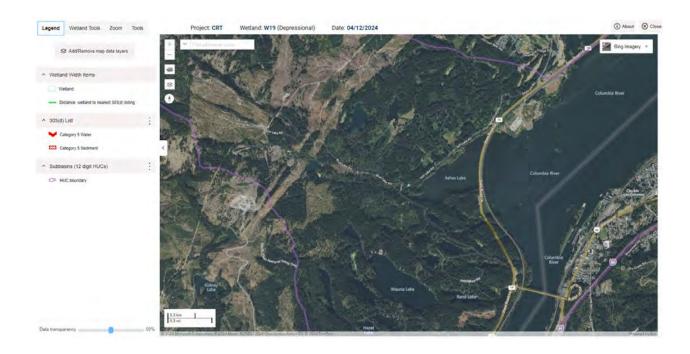


Figure 7: 303(d) listed waters in basin.

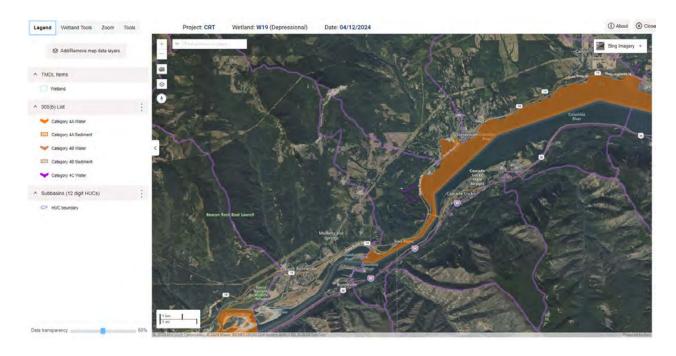
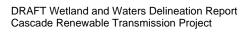


Figure 8: TMDLs for WRIA in which wetland is found.



This page is intentionally left blank.

Appendix D. Site Visit Photos

This page is intentionally left blank.



Photo 1

Date: 11/06/23

Direction: Northeast

Columbia River shoreline, south of survey area, near HDD Area 9 where the cable will placed back into the river below Bonneville Lock and Dam.



Photo 2a

Date: 04/20/23

Direction: Northeast

Overview of Wetland 1. Occurs in a depression with hummocks and water channels and is forested at the wetland boundary.



Photo 2b

Date: 04/20/23

Direction: West

Overview of Wetland 1 upland boundary and buffer.



Photo 3a

Date: 04/20/23

Direction: West

Overview of Wetland 1 and Wetland 2 buffer from within paved parking lot proposed for HDD Area 9 below Bonneville Lock and Dam.



Photo 3b

Date: 04/20/23

Direction: Northwest

Overview of Wetland 1 and Wetland 2 buffer near HDD Area 9 below Bonneville Lock and Dam.



Photo 4a

Date: 11/06/23

Direction: Northeast

Overview of Wetland 2 and buffer. The wetland discharges to Stream 13 in the background.



Photo 4b

Date: 11/06/23

Direction: South

Upland boundary of Wetland 2, viewing wetland buffer.



Photo 5

Date: 11/06/23

Overview of Stream 13.

Direction: West



Photo 6

Date: 11/06/23

Direction: Northeast

Direction: Northeast



Photo 7

Date: 04/20/23

Direction: Southwest

Overview of Ditch 2.



Date: 11/06/23

Direction: Northeast

Ditch 3, at Verification Plot 2 (VP-2).



Photo 9

Date: 11/06/23

Direction: West

Stream 1, facing upstream. Headwaters originate upslope and outside survey area.



Date: 04/20/23

Direction: North

Stream 1, facing downstream. Low flow velocity and multiple channels prior to entering Wetland 4.



Photo 11

Date: 04/20/23

Direction: West

Wetland 3 and its buffer occur at a depression at the base of a small ravine.



Date: 04/20/23

Direction: Northeast

Southern portion of Wetland 4 and buffer adjacent to Ft. Cascades Drive.



Photo 13

Date: 04/20/23

Direction: Southwest

Northern portion of Wetland 4 and buffer adjacent to Ft. Cascades Drive. Discharge point to Stream 1.



Photo 14

Date: 04/20/23

Direction: Southwest

Verification Plot 3 (VP-3) documenting upland conditions in depressional area north of Ft. Cascades Drive.



Photo 15

Date: 04/20/23

Ditch 4, no outlet observed, water infiltrates onsite.

Direction: Northwest



Photo 16		
Date: 11/07/23	The buffer to Wetland 5 occurs within survey area.	
Direction: North		



Photo 17	
Date: 04/20/23	The buffer to Wetland 6 occurs in the survey area.
Direction: North	



Date: 04/20/23

Direction: Northwest

Wetland 7 is a small depressional wetland with no outlet located north of SR-14.



Photo 19

Google Maps Image Dated May 2023

Direction: North

Wetland 8 is a small depressional wetland with no outlet located north of SR-14.



Date 11/07/23

Direction: Northwest

Verification Plot 4 (\vee P-4) documenting upland conditions in a suspect area at a shallow roadside ditch north of SR-14.



Photo 21

Date: 04/20/23

Direction: Northeast

Stream 2 discharges to a large culvert beneath SR-14 that drains to the Columbia River.



Date: 04/20/23

Direction: Southeast

Ditch 5 drains to Stream 3 and continues southwest to a culvert that discharges to the Columbia River. The ditch, stream channel and stream buffer have been recently altered by human disturbance.



Photo 23a

Date: 04/20/23

Direction: Southwest

Overview of Stream 3; occurs adjacent to SR-14 and Wetland 9.



Photo 23b

Date: 04/20/23

Direction: Northeast

Overview of Ditch 5, recent utility-related soil and vegetation disturbance.



Photo 24

Date: 04/20/23

Direction: Southwest

Overview of the eastern boundary and buffer of Wetland 9 within recently disturbed area. Stream 3 in the foreground; forested portion of Wetland 9 in the background.



Date: 04/20/23

Direction: Northeast

Overview of the western boundary of Wetland 9. Depressional forested wetland.



Photo 26

Date: 04/20/23

Direction: North

Overview of impoundment of Ice House Lake 1 adjacent to SR-14. The OHWM of the lake borders the survey area.



Date: 04/20/23

Direction: South

Culvert on western boundary of Ice House Lake 1; discharges to Columbia River via open stream channel located outside survey area.



Photo 28

Date: 04/21/23

Direction: Northwest

Overview of impoundment of Ice House Lake 2 by Ash Lake Road.



Date: 04/21/23

Direction: Southeast

Ice House Lake 2 drains to two culverts and then to the Columbia River via open stream channels located outside survey area.



Photo 30

Date: 04/21/23

Direction: West

Overview of Wecoma Lake impoundment by Ash Lake Road. Lake drains to a culvert on the east end of the lake; surface water connections located outside the survey area.



Photo 31a

Date: 04/21/23

Direction: Southwest

Stream 4 looking upstream from Ash Lake Road. Intermittent stream drains to culvert beneath road to a series of ponds outside the survey area and then to Ashes Lake.



Photo 31b

Date: 04/21/23

Direction: Northeast

Perched culvert at Stream 4 discharge point to the north of Ash Lake Road.



Date: 04/21/23

Direction: Northwest

Upstream portion of Stream 5 and buffer. Steep slopes in stream buffer.



Photo 33

Date: 11/07/23

Direction: Southeast

Downstream portion of Stream 5 and buffer. Mainly vegetated with invasives.



Photo 34

Date: 04/21/23

Direction: Northeast

Overview of Wetland 10, forested wetland north of Ash Lake Road.



Photo 35

Date: 04/21/23

Direction: Northwest

During periods of high water, Wetland 10 discharges via a culvert to an ephemeral drainage on the south side of Ash Lake Road and discharging to Ashes Lake.



Photo 36

Date: 11/07/23

Overview of Wetland 19, Stream 6 adjacent to the east.

Direction: North



Photo 37

Date: 11/09/23

Direction: East

Overview of Wetland 19 from upland plot. Small depressional area north of Ash Lake Road.



Date: 04/21/23

Direction: South

Overgrown culvert impounds Stream 6 causing flooding to adjacent depression and Wetland 19 during periods of high rainfall.



Photo 39

Date: 11/07/23

Discharge point of Stream 6, south of Ash Lake Road.

Direction: Southeast



Photo 40

Date: 11/09/23

Direction: Northwest

Wetland 11 occurs on the banks of Stream 7 and north of Ash Lake Road.



Photo 41

Date: 11/09/23

Discharge point of Stream 7 south of Ash Lake Road.

Direction: South



Photo 42

Date: 04/21/23

Direction: Northeast

Overview of Ditch 6 near discharge point to culvert under Ash Lake Road.



Photo 43

Date: 04/21/23

Direction: Northwest

Verification Plot 5 (VP-5) confirms upland conditions in depressional area north of Ash Lake Road.



Date: 04/21/23

Direction: Northwest

Overview of Stream 8 from north side of Ash Lake Road.



Photo 45

Date: 11/09/23

Direction: Northwest

Stream 8 is a high energy perennial stream that discharges to Ashes Lake. Understory buffer is mainly comprised of invasive Himalayan blackberry.



Date: 04/21/23

Direction: Northwest

Wetland 12 drains to culvert beneath Ash Lake Road.



Photo 47

Date: 11/09/23

Direction: South

Overview of Stream 9 channel and adjacent buffer looking toward Ash Lake Road.



Date: 04/21/23

Direction: Northwest

Overview of Wetland 13 where Stream 10 meets Ash Lake Road.



Photo 49

Date: 04/21/23

Direction: Northeast

Stream 10 discharges to a wetland north of Mallicott Road and out of the survey area; flow assumed to discharge to Ashes Lake.



Date: 11/10/23

Direction: Southwest

Overview of Wetland 14. Stream 11 occurs at toe of SR-14 road bed fill slope.



Photo 51

Date: 11/10/23

Direction: Northwest

Wetland 15 drains to Stream 11, discharging via a culvert under Ash Lake Road into Ashes Lake.



Date: 11/10/23

Direction: Southwest

Ditch 7 is an ephemeral drainage north of SR-14.



Photo 53

Date: 11/10/23

Direction: Northwest

Drainage patterns where Ditch 7 discharges to upland area.



Photo 54a

Date: 11/10/23

Direction: Southwest

Wetland 16 occurs in a roadside ditch north of SR-14.



Photo 54b

Date: 04/21/23

Direction: North

Wetland 16 was also observed in the spring and a high occurrence of American speedwell and mild water-pepper were noted, along with algal mats.



Date: 11/10/23

Direction: Northeast

Representative photo of vegetation species composition near headwaters of Wetland 17.

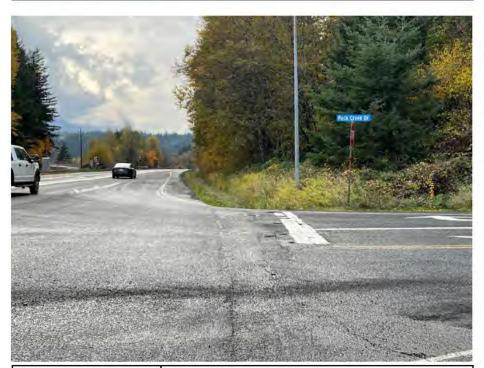


Photo 56

Date: 11/10/23

Direction: Southwest

Headwaters of Wetland 17 begin west of SW Rock Creek Drive.



Date: 11/10/23

Direction: Southwest

Representative photo of vegetation species composition in the downstream reach of Wetland 17.



Photo 58

Date: 11/10/23

Direction: Northeast

Long culvert and change in gradient between Wetland 17 and Wetland 18.



Date: 11/10/23

Direction: Northeast

Representative photo of plant community composition within upper portion of Wetland 18.



Photo 60

Date: 04/21/23

Direction: Southwest

Wetland 18 is located north of SR-14 and occurs for roughly 0.3 miles mainly confined to a roadside ditch. Vegetation within the wetland had been trimmed to the ground recently (April 2023).



Date: 11/10/23

Direction: Southeast

Representative photo of vegetation species composition within eastern portion of Wetland 18 (November 2023).



Photo 62

Date: 11/10/23

Direction: West

The northern boundary of Wetland 18 near the eastern end. The wetland plant species transition from emergent to shrub/scrub community.



Date: 11/10/23

Direction: Northwest

Overview of Rock Cove, near discharge point from Wetland 18 and Stream 12.



Photo 64

Date: 04/21/23

Direction: Northwest

Overview of proposed landing site in Steveson, Washington. Location of Verification Plot 6 (VP-6).



Date: 11/10/23

Direction: Northeast

Proposed alternate landing site in Skamania County. Verification Plot 7 (VP-7) confirms upland conditions.

This page is intentionally left blank.

Appendix E. Figures

This page is intentionally left blank.

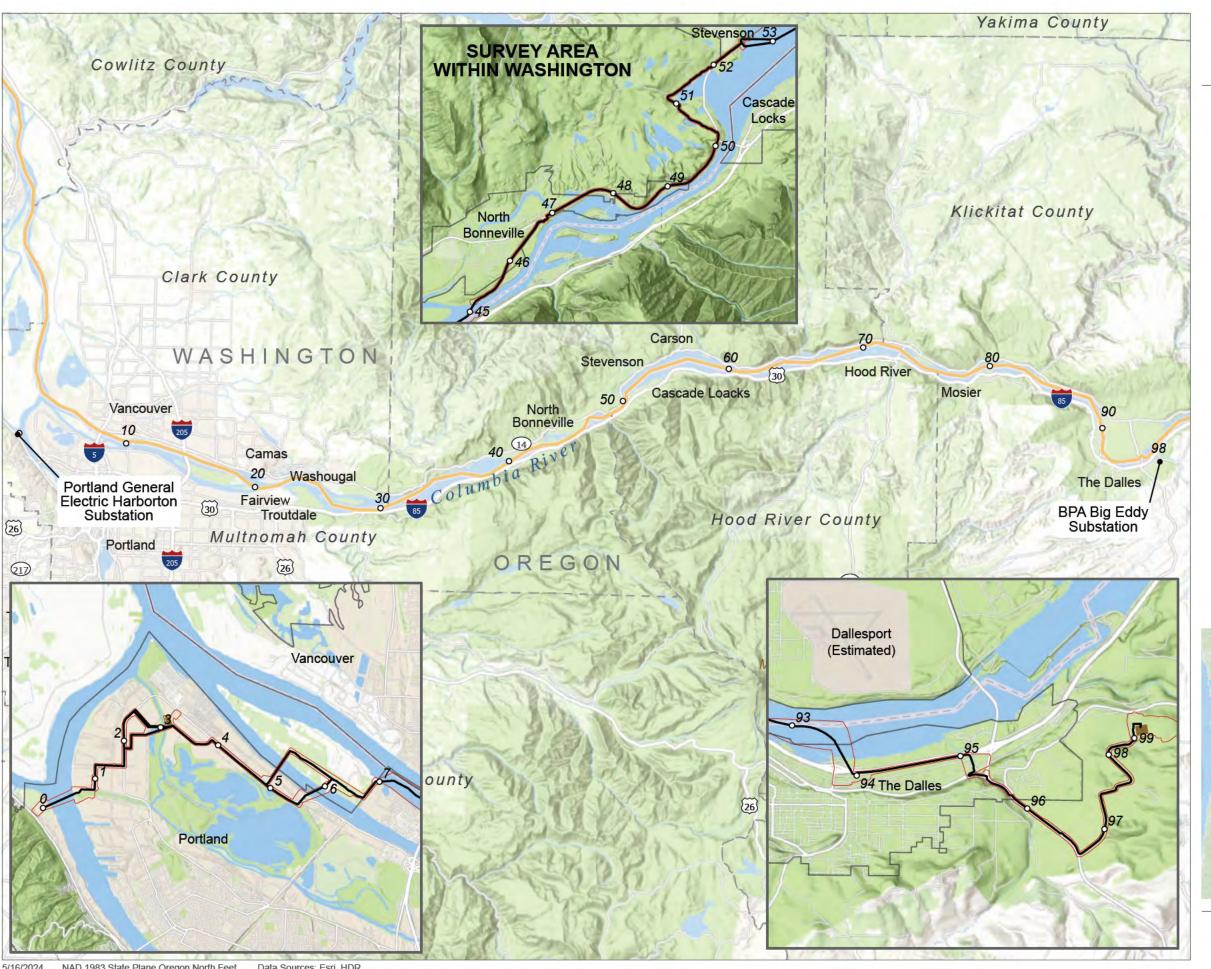
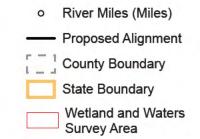


Figure 1. Project Overview



CASCADE RENEWABLE TRANSMISSION



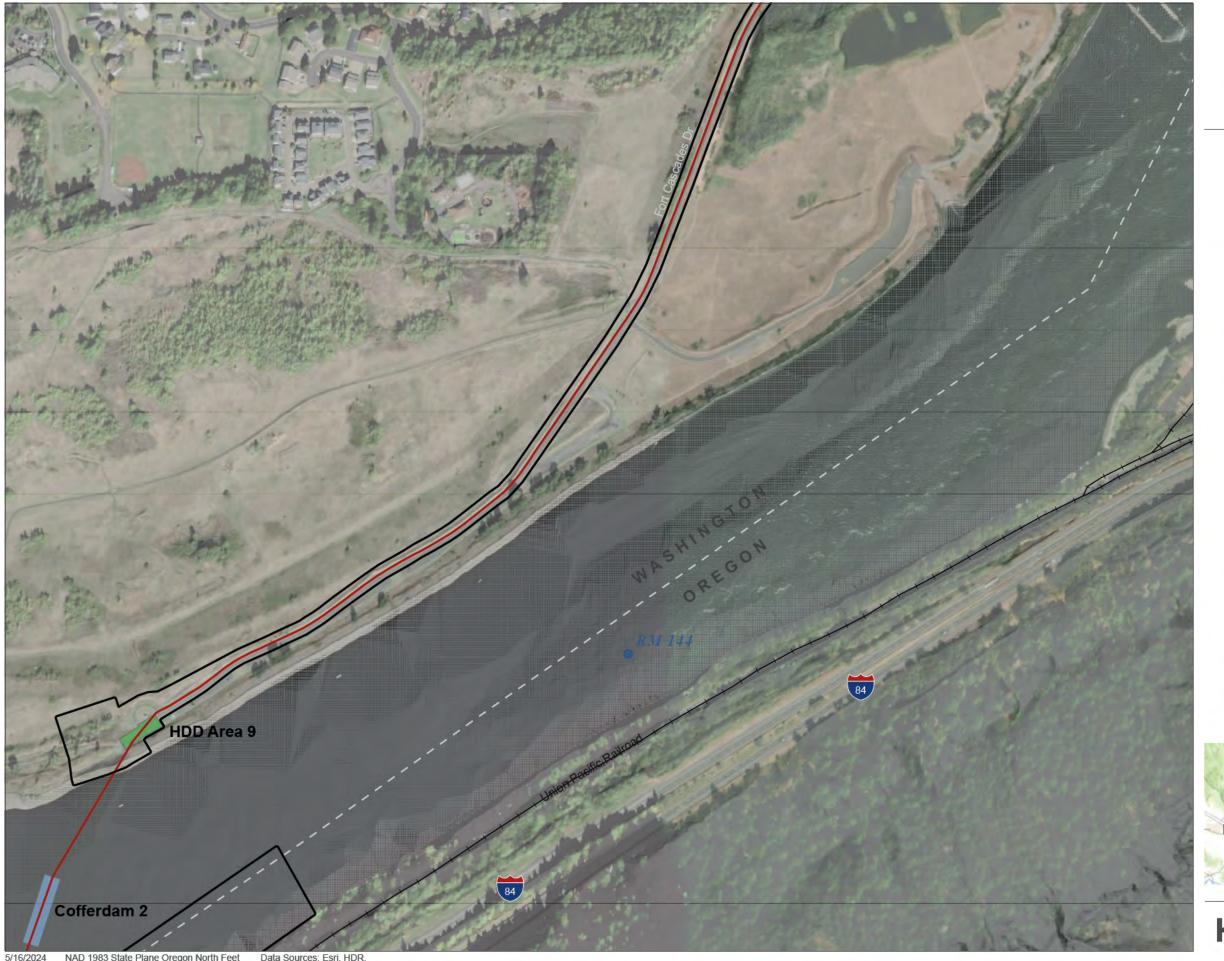


Figure 1. Overview/Survey Area
Page 1 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 29
USGS Quad Name:
Bonneville Dam



CASCADE RENEWABLE TRANSMISSION



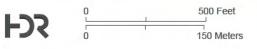




Figure 1. Overview/Survey Area
Page 2 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 20, 21, 29
USGS Quad Name:
Bonneville Dam

 PROPOSED ALIGNMENT WETLAND AND WATERS SURVEY AREA STATE BOUNDARY

CASCADE RENEWABLE TRANSMISSION



500 Feet 150 Meters



Figure 1. Overview/Survey Area
Page 3 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 15, 16, 21
USGS Quad Name:
Bonneville Dam

PROPOSED ALIGNMENT
WETLAND AND WATERS
SURVEY AREA
STATE BOUNDARY

CASCADE RENEWABLE TRANSMISSION



0 500 Feet 0 150 Meters

5/16/2024 NAD 1983 State Plane Oregon North Feet Data Sources: Esri, HDR.

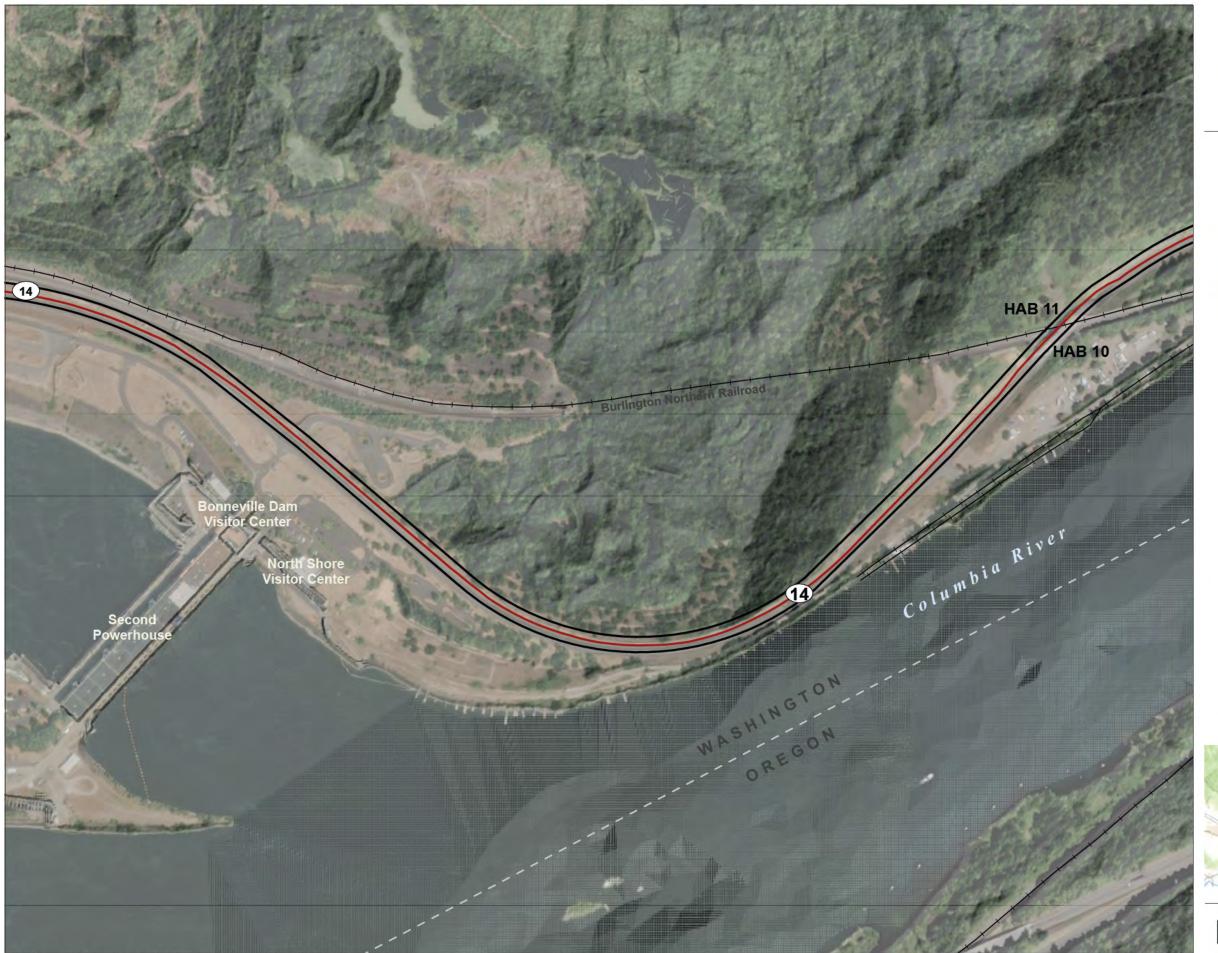


Figure 1. Overview/Survey Area
Page 4 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 15, 22
USGS Quad Name:
Bonneville Dam

PROPOSED ALIGNMENT

TEMPORARY HORIZONTAL
AUGER BORE (HAB)

WETLAND AND WATERS
SURVEY AREA

STATE BOUNDARY

CASCADE RENEWABLE TRANSMISSION



0 500 Feet 0 150 Meters

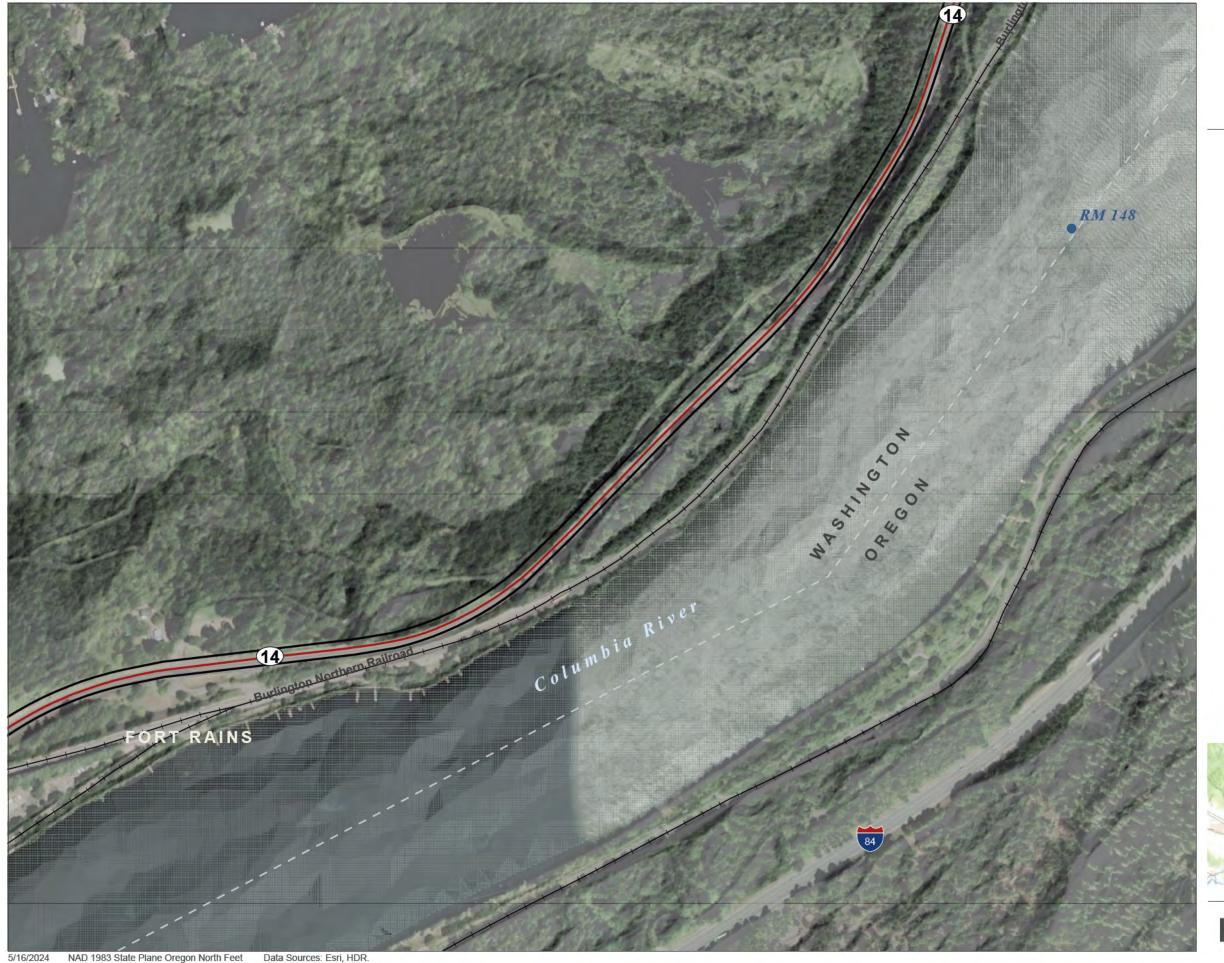


Figure 1. Overview/Survey Area
Page 5 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 14, 15
USGS Quad Name:
Bonneville Dam

USACE RIVER MILE PROPOSED ALIGNMENT WETLAND AND WATERS SURVEY AREA STATE BOUNDARY

CASCADE RENEWABLE TRANSMISSION



500 Feet 150 Meters



Figure 1. Overview/Survey Area
Page 6 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 11, 14
USGS Quad Name:
Bonneville Dam

 PROPOSED ALIGNMENT WETLAND AND WATERS SURVEY AREA STATE BOUNDARY

CASCADE RENEWABLE TRANSMISSION



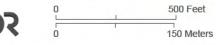




Figure 1. Overview/Survey Area
Page 7 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 2, 10, 11
USGS Quad Name:
Bonneville Dam

PROPOSED ALIGNMENT
WETLAND AND WATERS
SURVEY AREA
STATE BOUNDARY

CASCADE RENEWABLE TRANSMISSION

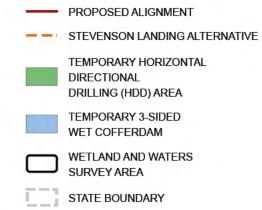


0 500 Feet 0 150 Meters

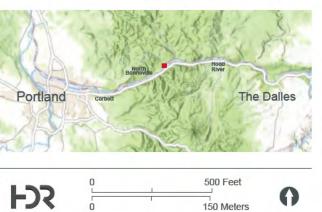
FDS



Figure 1. Overview/Survey Area
Page 8 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 1, 2, 11, 12
USGS Quad Name:
Bonneville Dam



CASCADE RENEWABLE TRANSMISSION



150 Meters



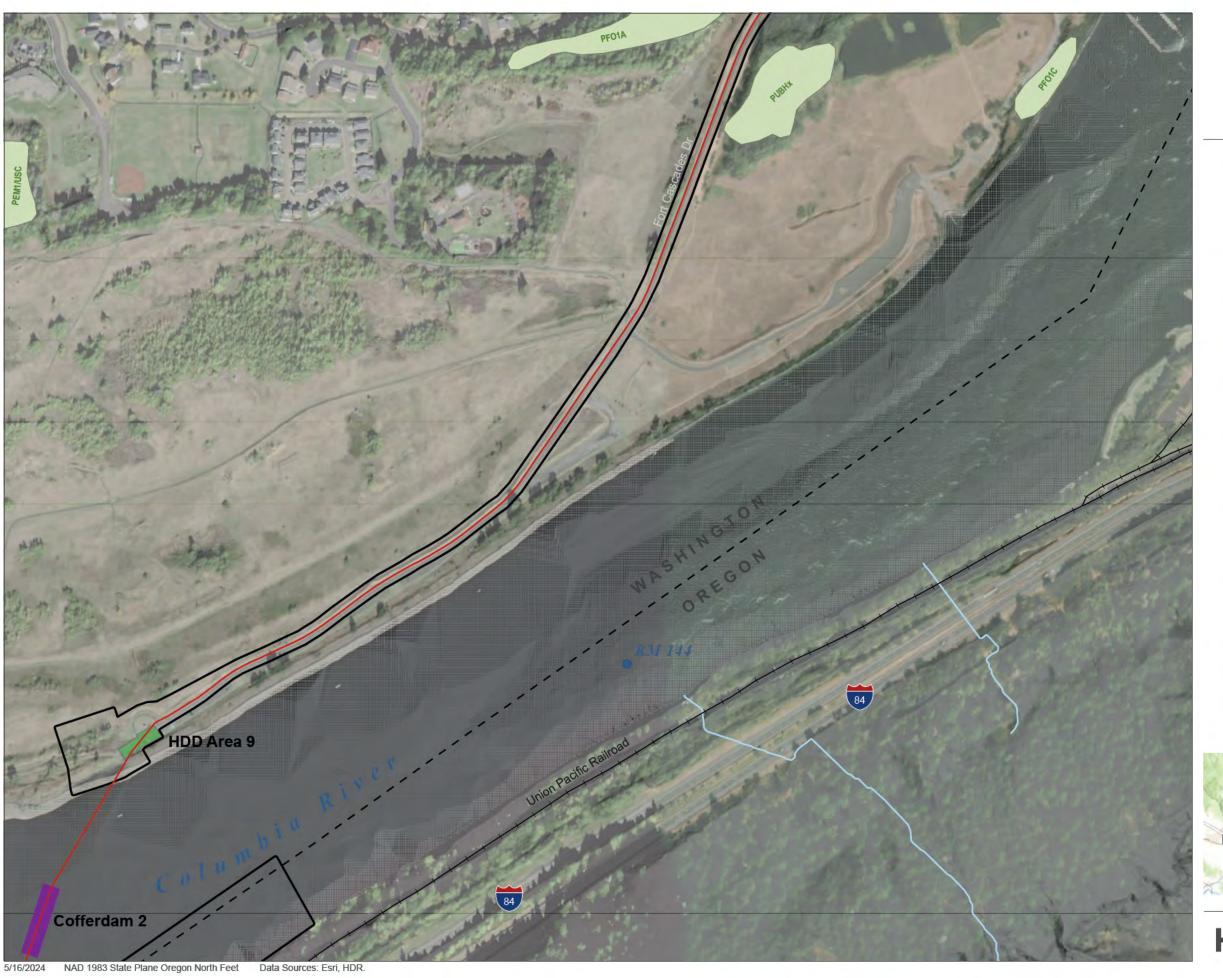


Figure 2. NWI and NHD Map
Page 1 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 29
USGS Quad Name:
Bonneville Dam

USACE River Mile

--- Proposed Alignment

Wetland and Waters
Survey Area

Coffer Dam

Temporary Horizontal
Directional

Drilling (HDD) area

Temporary Horizontal Auger Bore (HAB)

NWI Wetland

NHD Stream/River

NHD Waterbody

State Boundary

CASCADE RENEWABLE TRANSMISSION



FD3

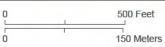






Figure 2. NWI and NHD Map
Page 2 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 20, 21, 29
USGS Quad Name:
Bonneville Dam

Proposed Alignment

Wetland and Waters Survey Area

Temporary Horizontal Directional Drilling (HDD) area

Temporary Horizontal Auger Bore (HAB)

NWI Wetland

NHD Stream/River

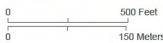
NHD Waterbody

State Boundary

CASCADE RENEWABLE TRANSMISSION



FDR





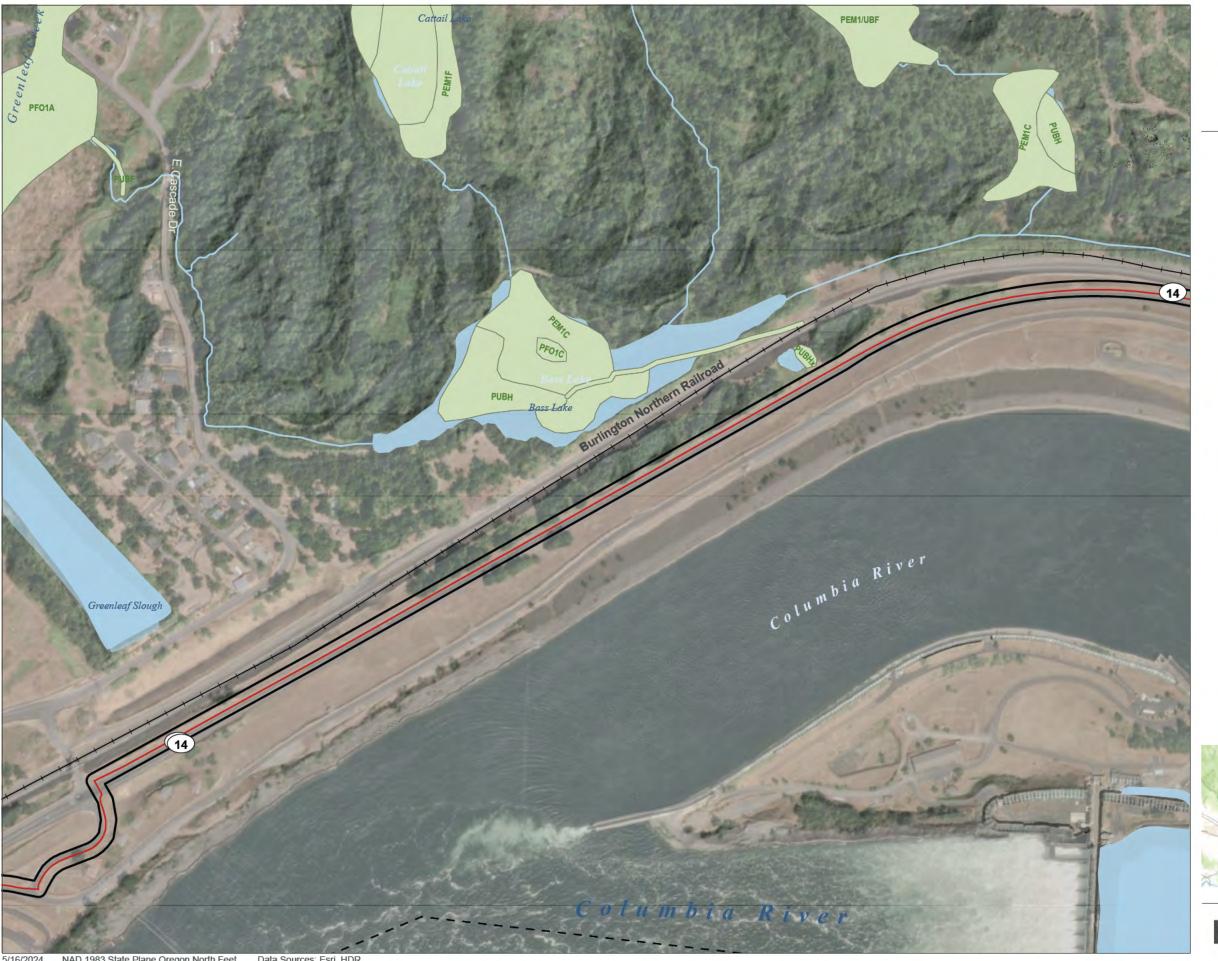


Figure 2. NWI and NHD Map
Page 3 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 15, 16, 21
USGS Quad Name:
Bonneville Dam

Proposed Alignment

Wetland and Waters Survey Area

Temporary Horizontal Directional Drilling (HDD) area

Temporary Horizontal Auger Bore (HAB)

NWI Wetland

NHD Stream/River

NHD Waterbody

State Boundary

CASCADE RENEWABLE TRANSMISSION



FDR





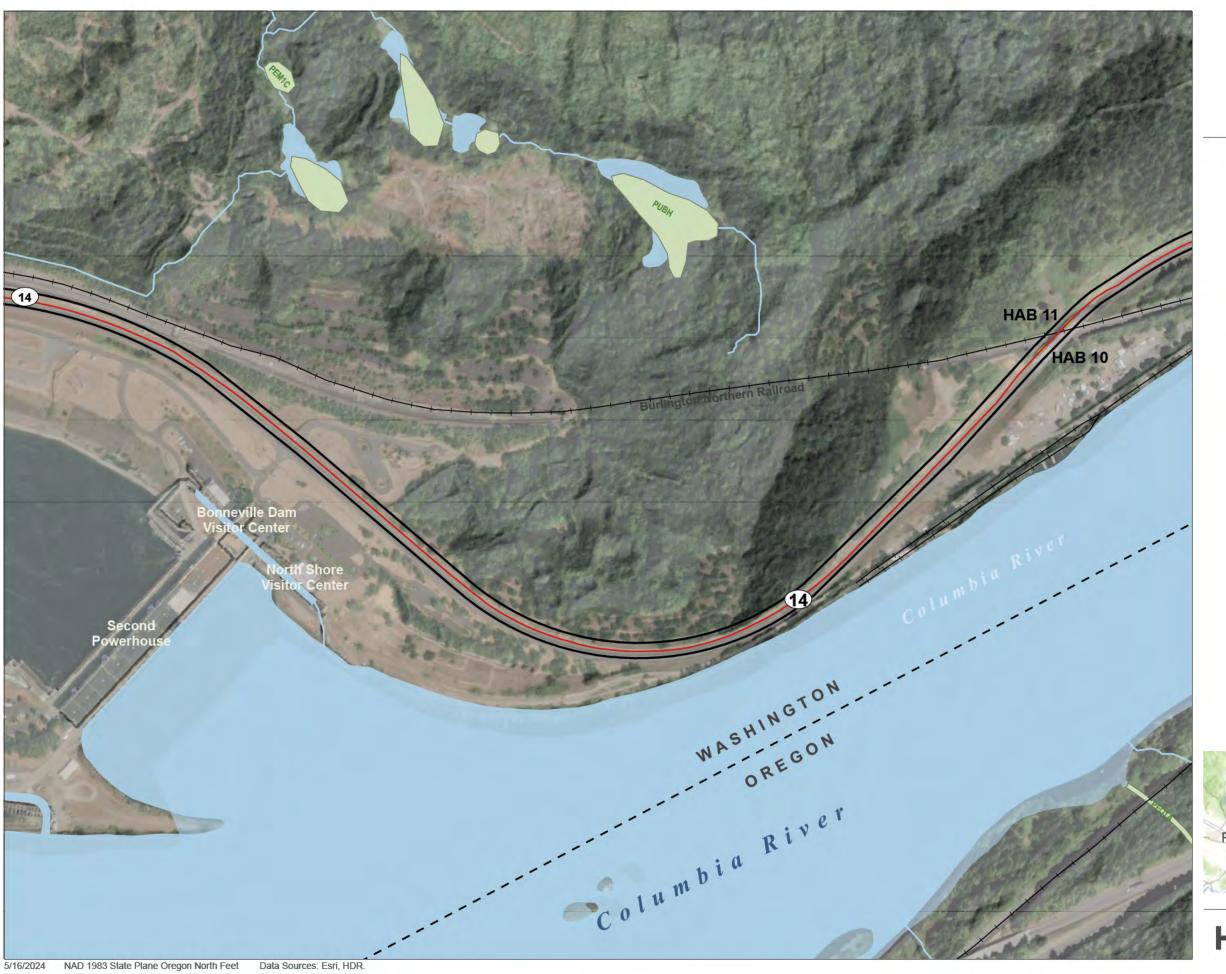


Figure 2. NWI and NHD Map
Page 4 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 15, 22
USGS Quad Name:
Bonneville Dam

Proposed Alignment

Wetland and Waters
Survey Area

Temporary Horizontal
Directional
Drilling (HDD) area

Temporary Horizontal Auger Bore (HAB)

NWI Wetland

NHD Stream/River

NHD Waterbody

State Boundary

CASCADE RENEWABLE TRANSMISSION



0 500 Feet 0 150 Meters



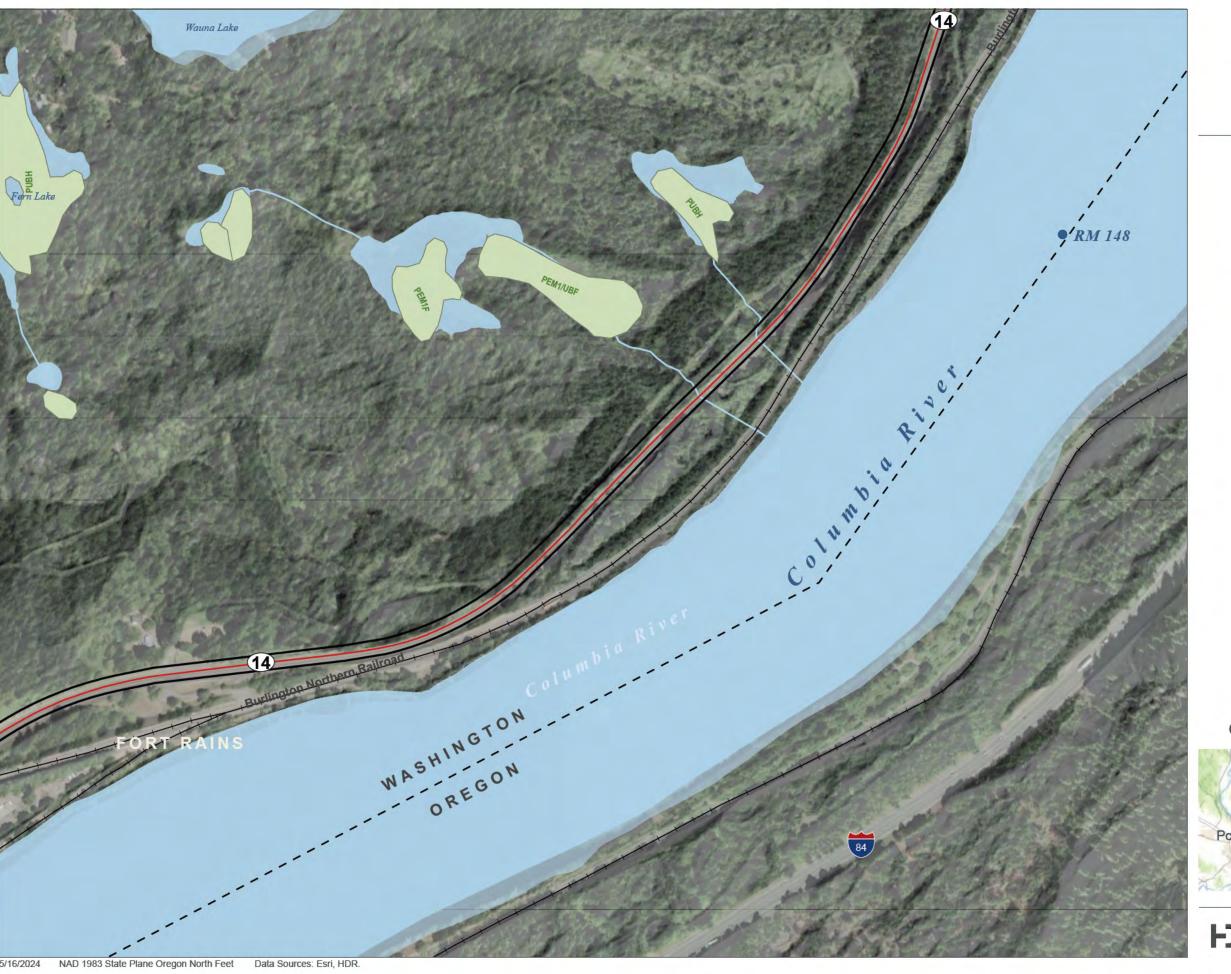


Figure 2. NWI and NHD Map
Page 5 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 14, 15
USGS Quad Name:
Bonneville Dam

USACE River Mile

Proposed Alignment

Wetland and Waters
Survey Area

Temporary Horizontal
Directional
Drilling (HDD) area

Temporary Horizontal Auger Bore (HAB)

NWI Wetland

NHD Stream/River

NHD Waterbody

State Boundary

CASCADE RENEWABLE TRANSMISSION



FDR

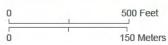






Figure 2. NWI and NHD Map
Page 6 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 11, 14
USGS Quad Name:
Bonneville Dam

Proposed Alignment

Wetland and Waters
Survey Area

Temporary Horizontal
Directional
Drilling (HDD) area

Temporary Horizontal
Auger Bore (HAB)

NWI Wetland

NHD Stream/River

State Boundary

NHD Waterbody

CASCADE RENEWABLE TRANSMISSION



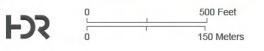




Figure 2. NWI and NHD Map
Page 7 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 2, 10, 11
USGS Quad Name:
Bonneville Dam

Proposed Alignment

Wetland and Waters
Survey Area

Temporary Horizontal
Directional
Drilling (HDD) area

Temporary Horizontal Auger Bore (HAB)

NWI Wetland

NHD Stream/River

NHD Waterbody

State Boundary

CASCADE RENEWABLE TRANSMISSION



FD3

0 500 Feet 0 150 Meters



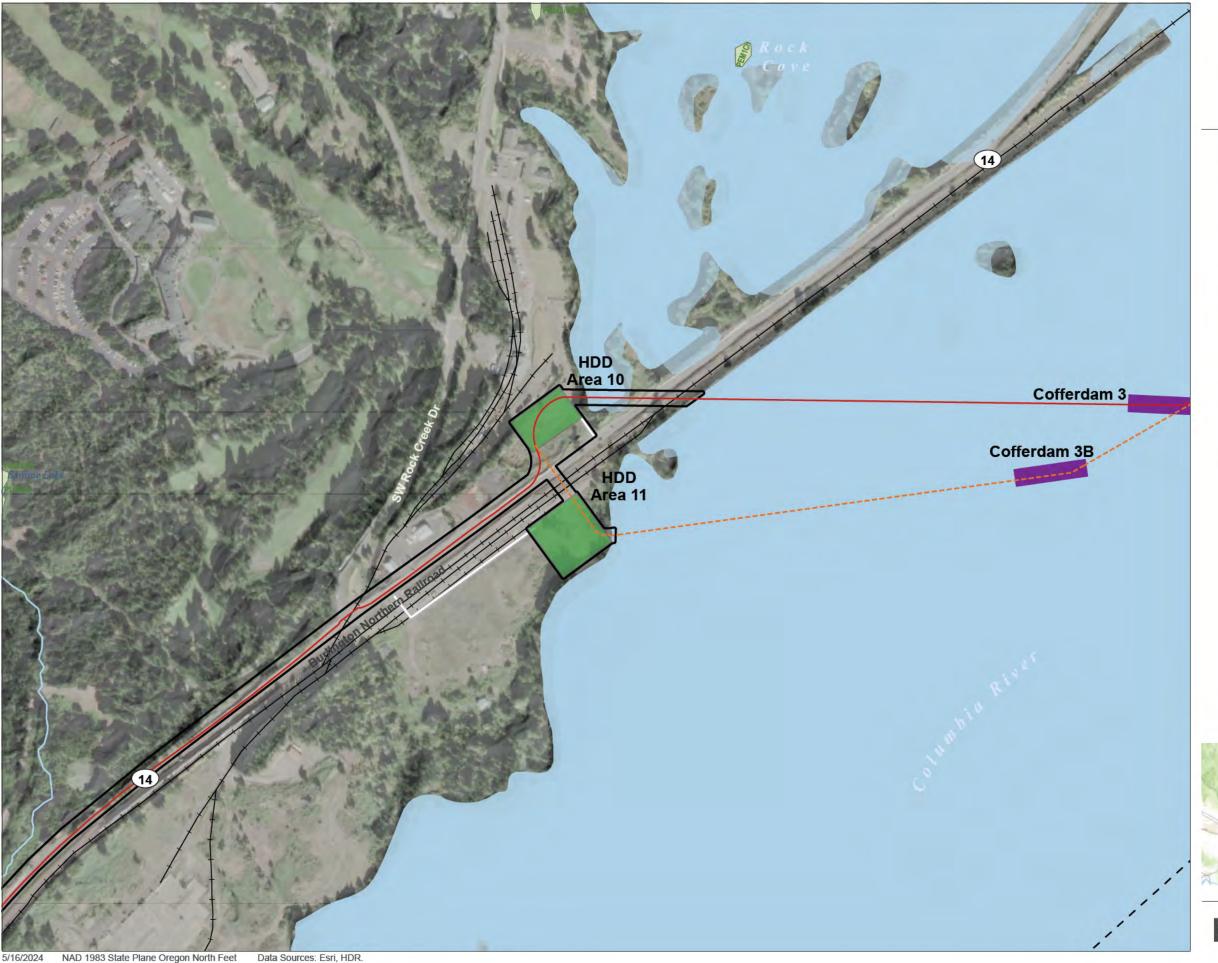
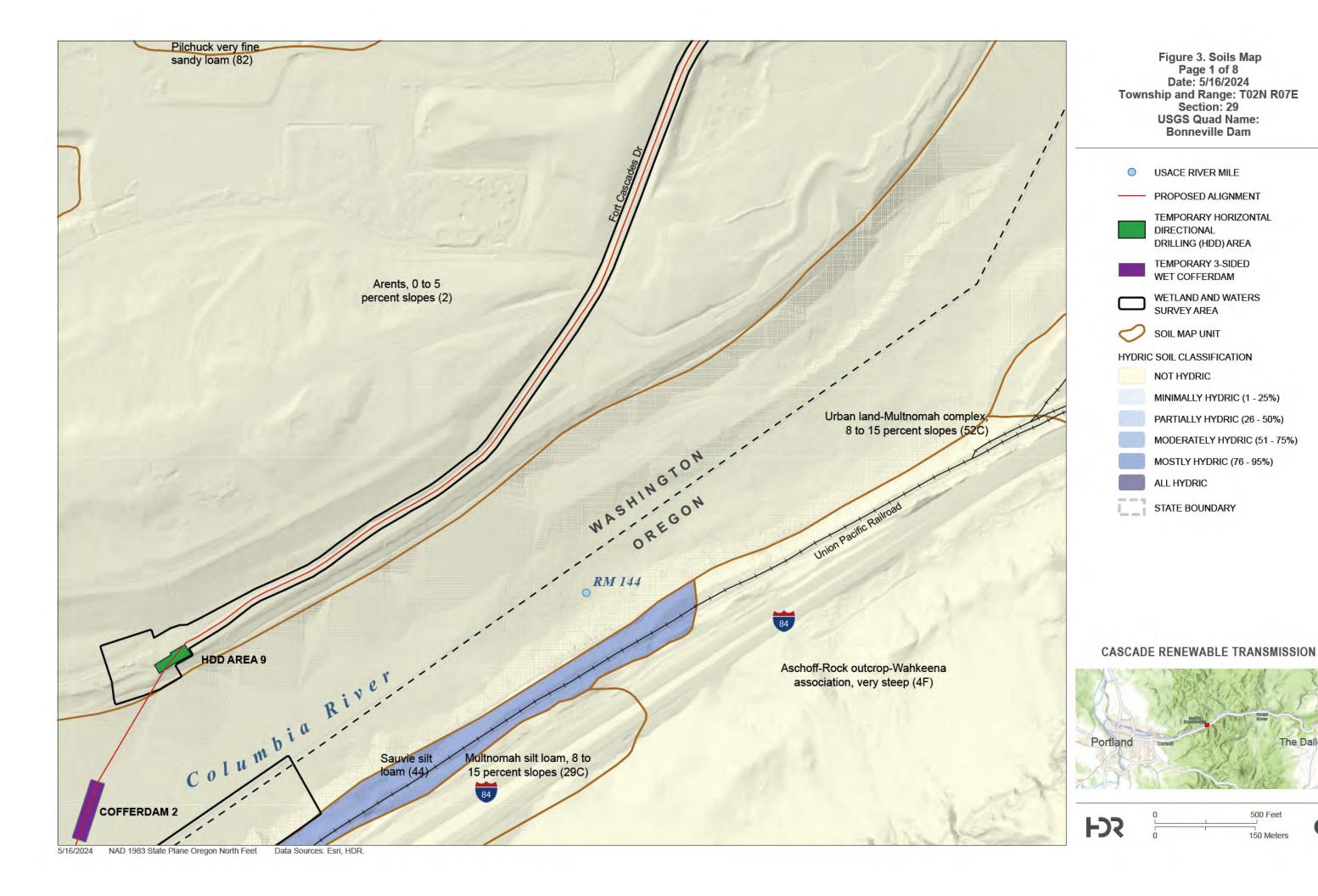


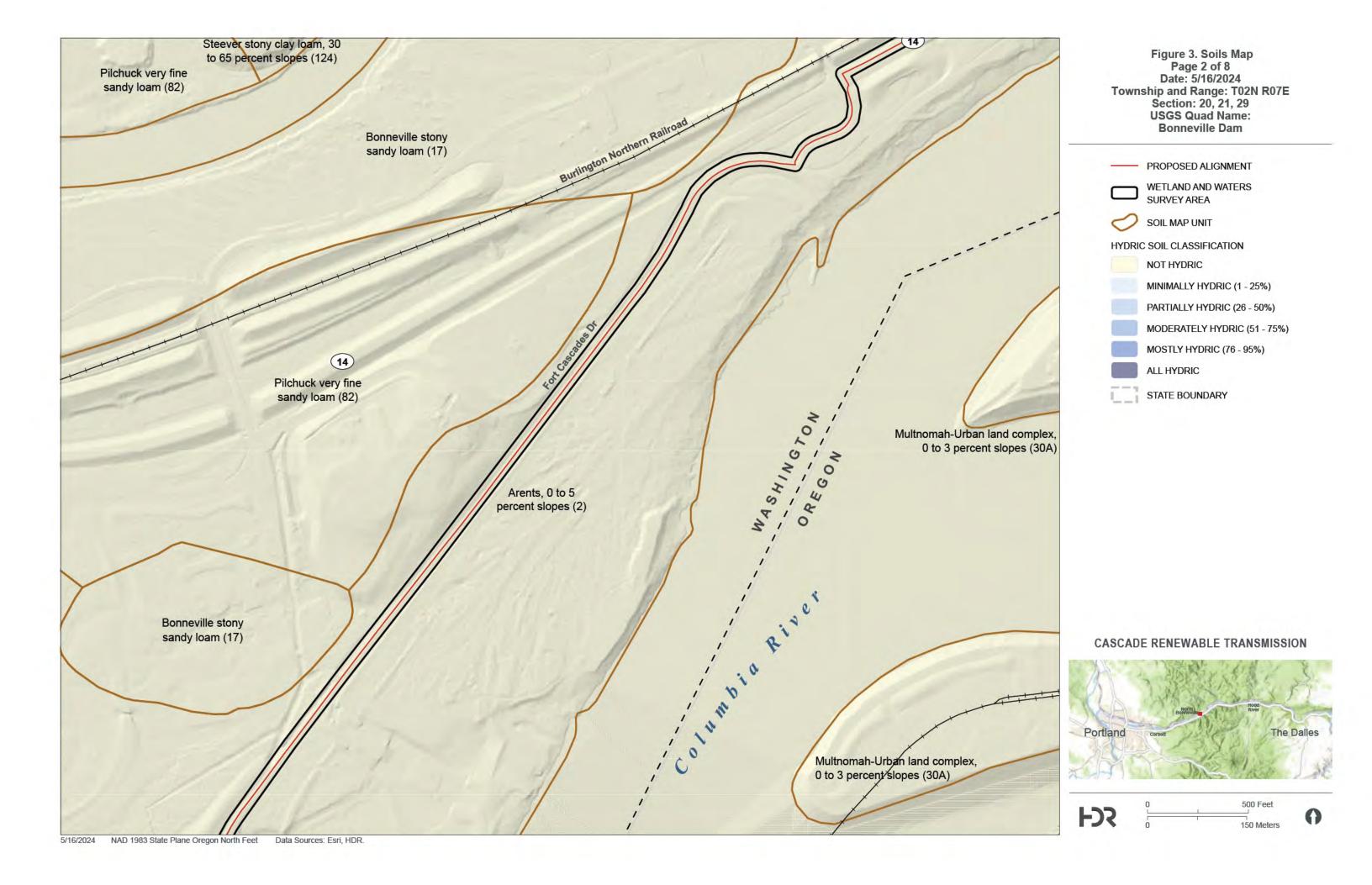
Figure 2. NWI and NHD Map
Page 8 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 1, 2, 11, 12
USGS Quad Name:
Bonneville Dam

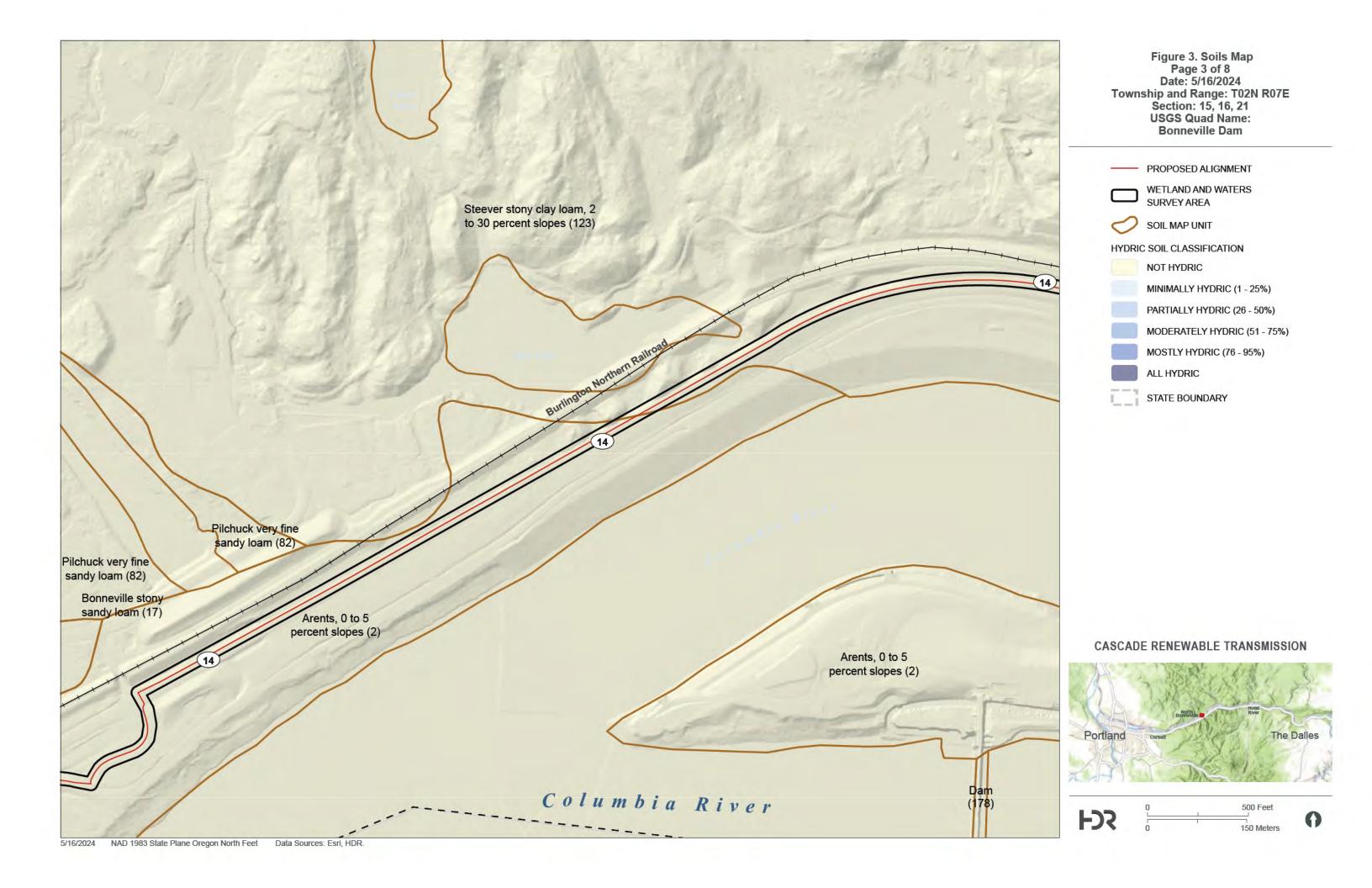
Proposed Alignment
Stevenson Landing Alternative
Wetland and Waters
Survey Area
Access Road
Coffer Dam
Temporary Horizontal
Directional
Drilling (HDD) area
Temporary Horizontal
Auger Bore (HAB)
NWI Wetland
NHD Stream/River
NHD Waterbody
State Boundary

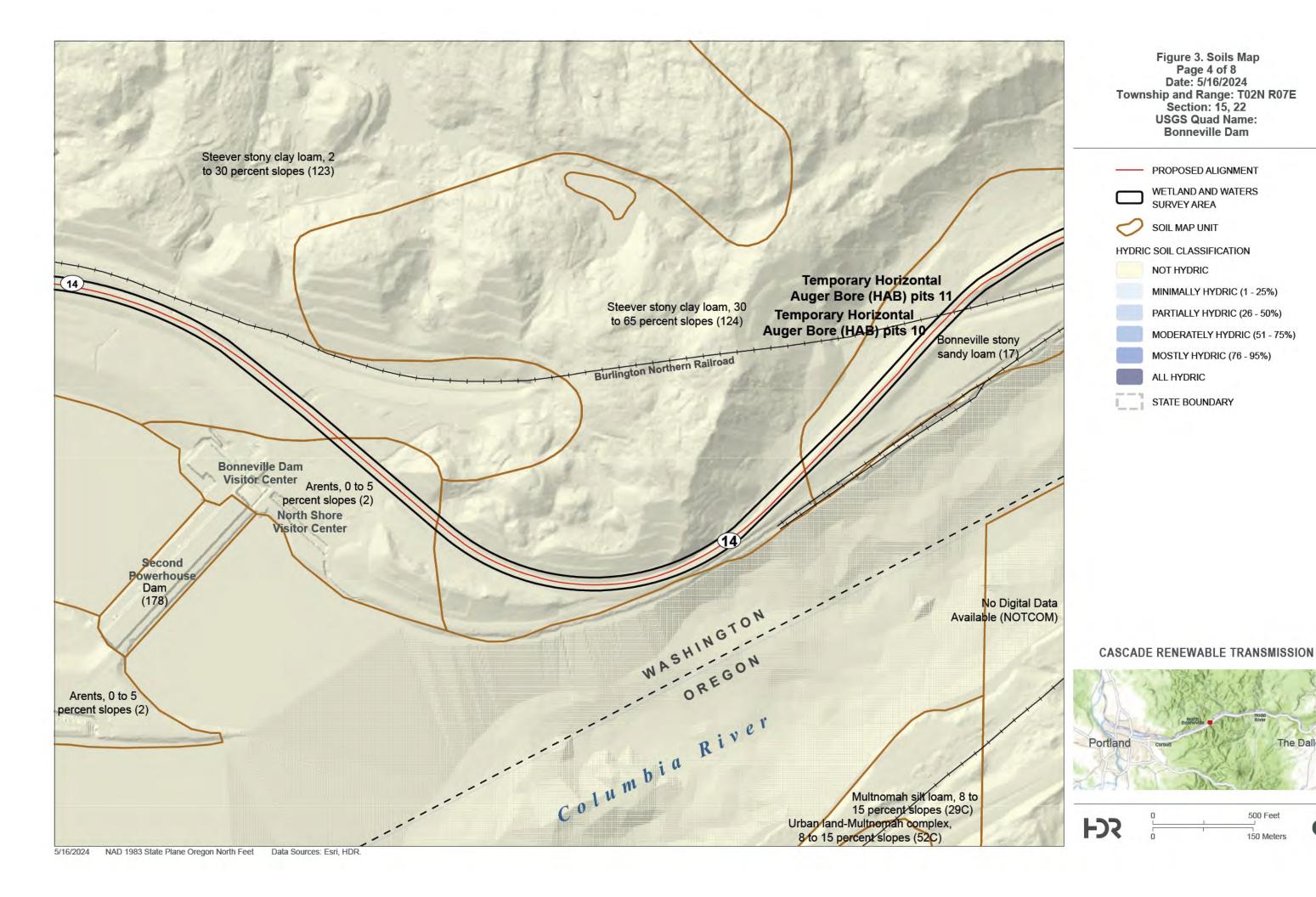
CASCADE RENEWABLE TRANSMISSION











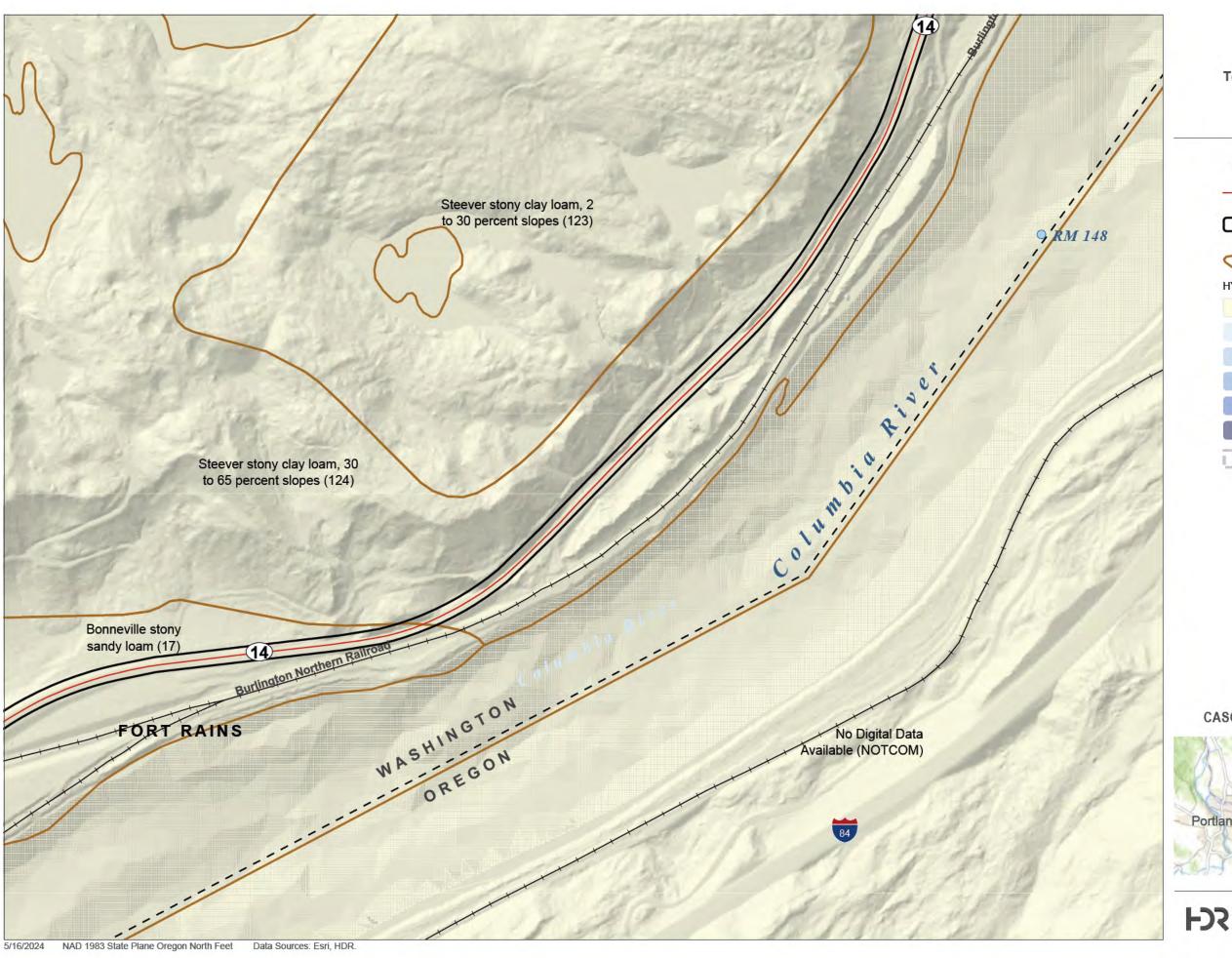


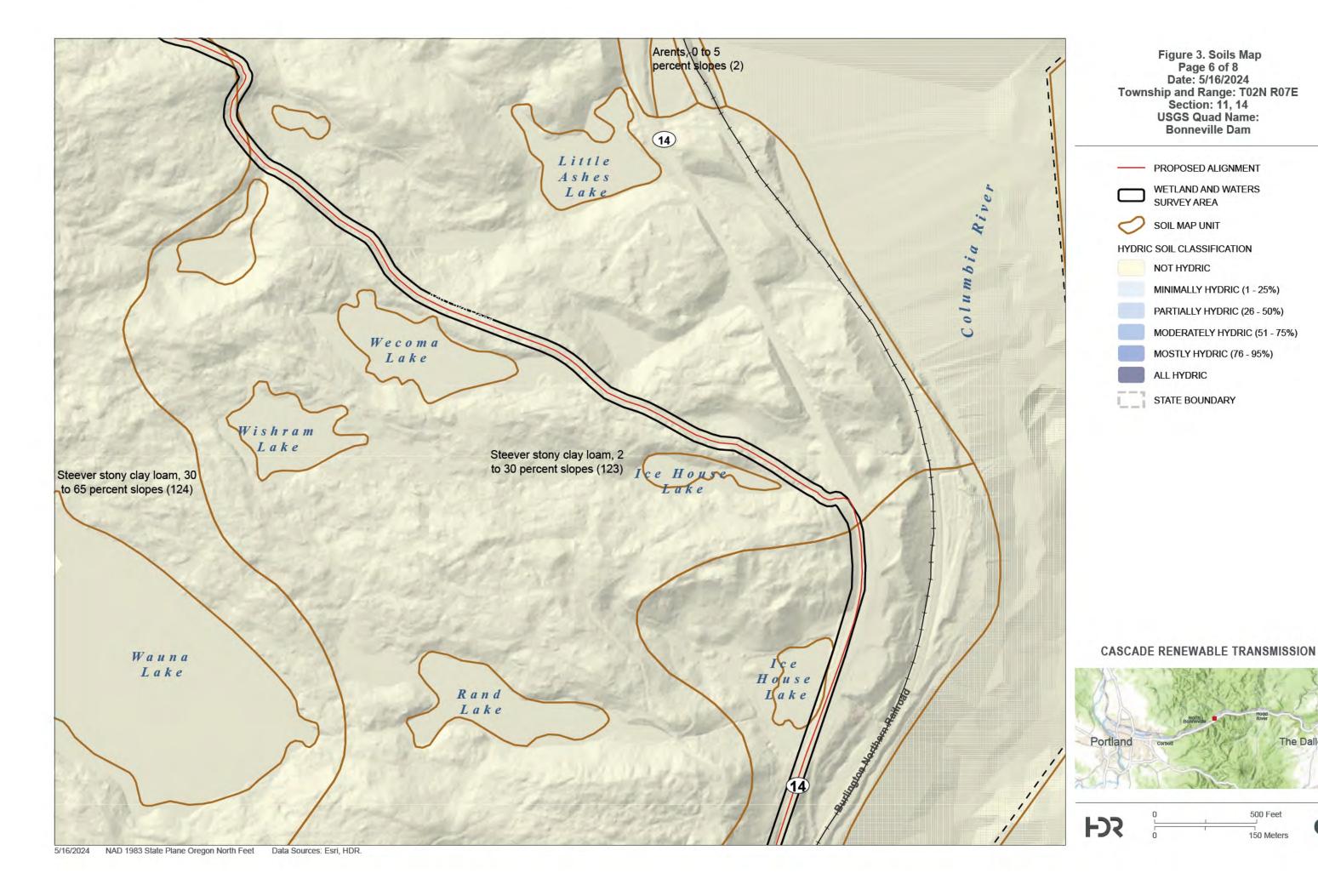
Figure 3. Soils Map
Page 5 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 14, 15
USGS Quad Name:
Bonneville Dam

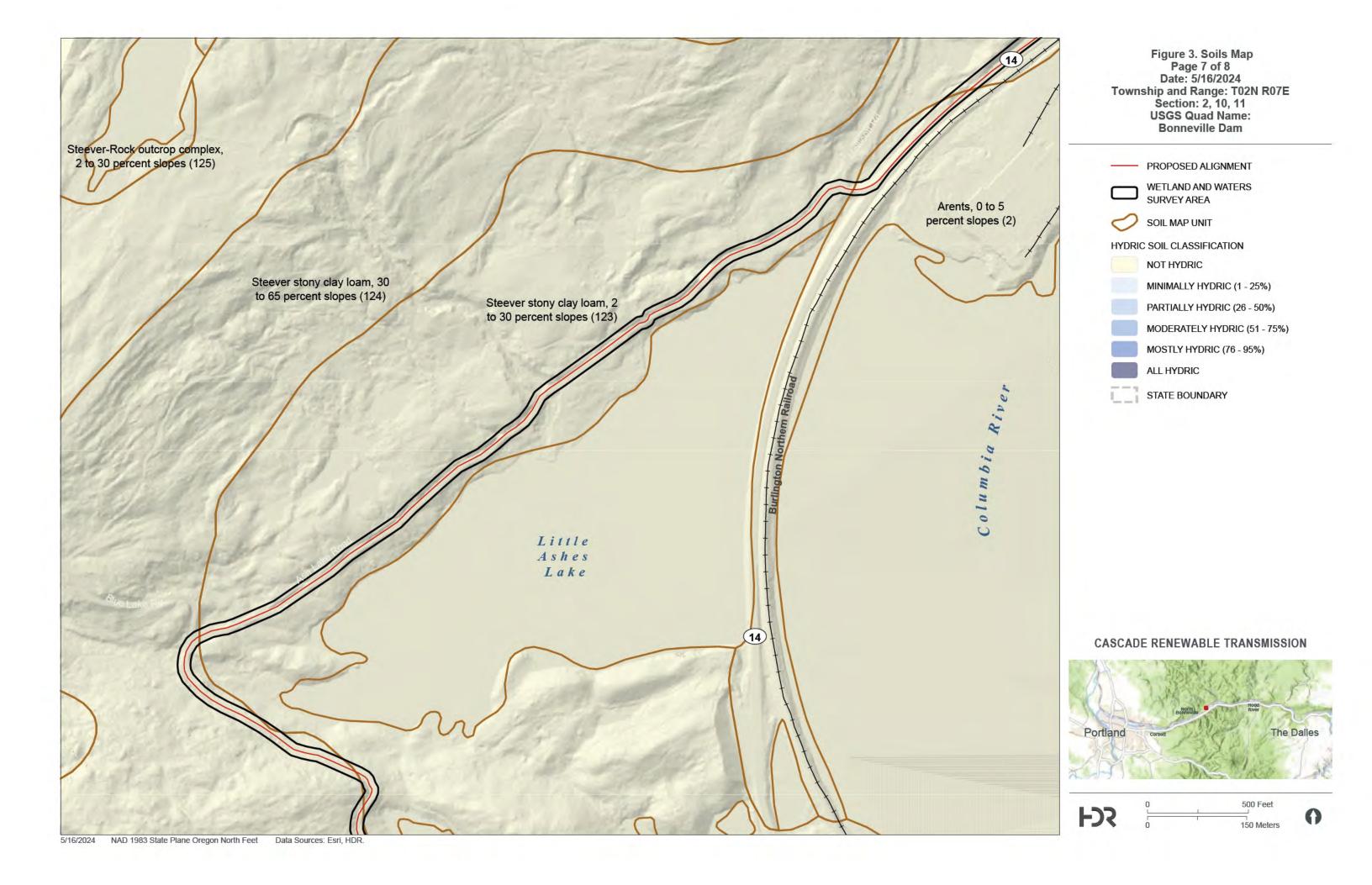


CASCADE RENEWABLE TRANSMISSION









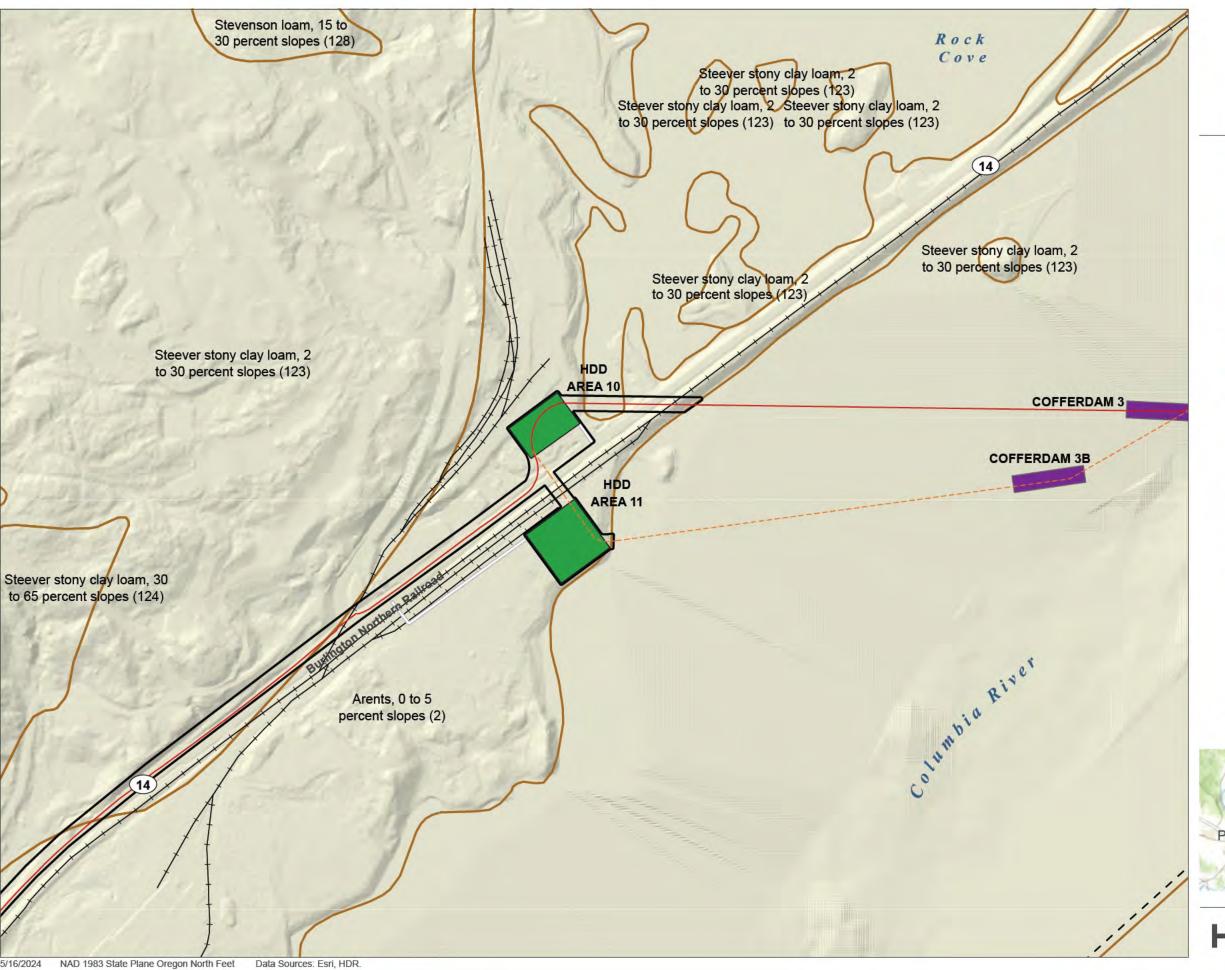
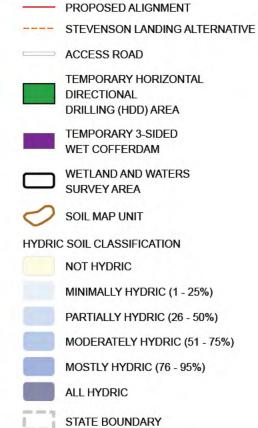
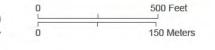


Figure 3. Soils Map
Page 8 of 8
Date: 5/16/2024
Township and Range: T02N R07E
Section: 1, 2, 11, 12
USGS Quad Name:
Bonneville Dam







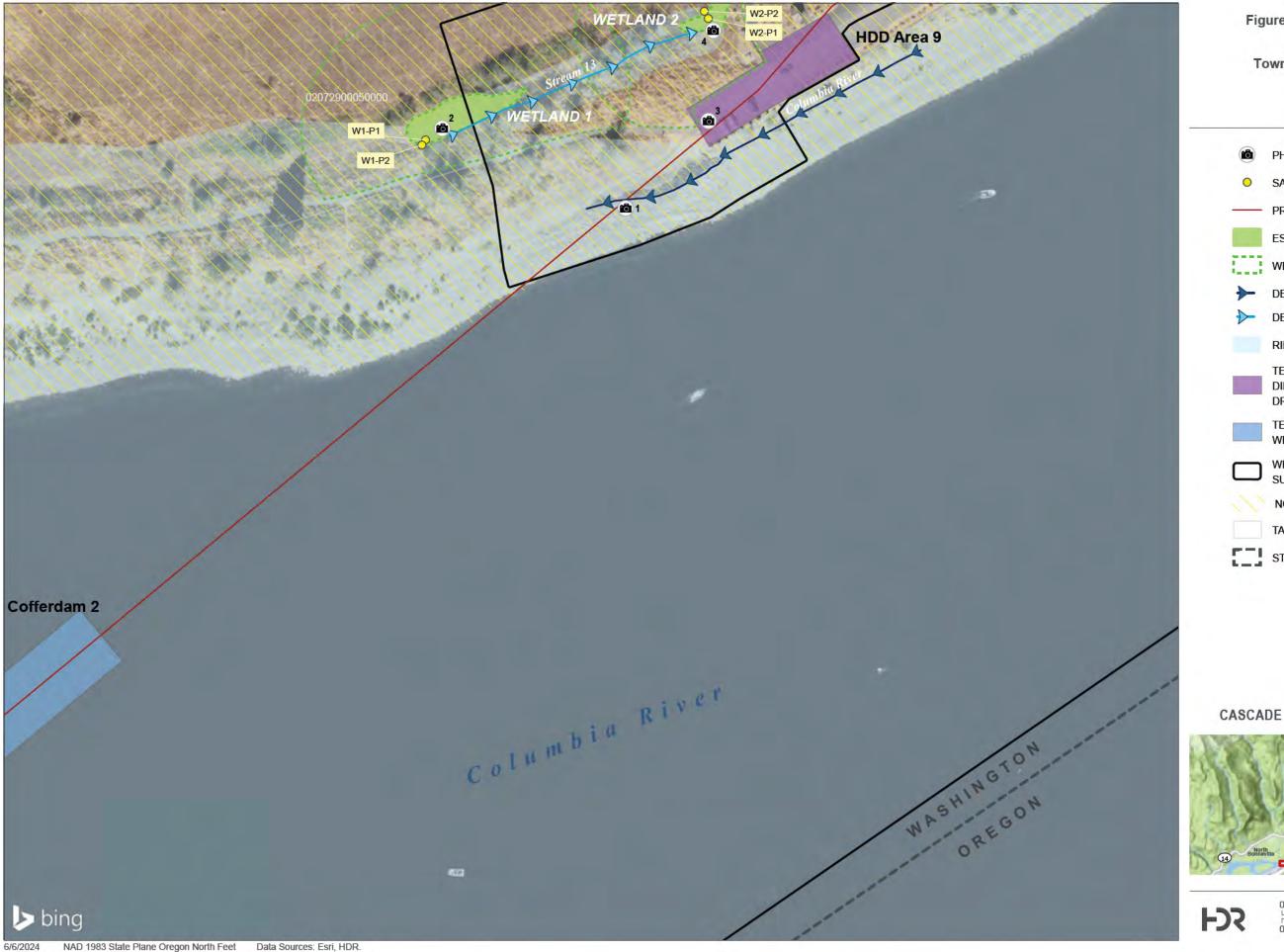


Figure 4. Wetland and Water Survey
Map Page 1 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 29
USGS Quad Name: **Bonneville Dam**







Figure 4. Wetland and Water Survey
Page 2 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 29
USGS Quad Name: **Bonneville Dam**





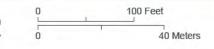




Figure 4. Wetland and Water Survey
Page 3 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 29
USGS Quad Name:
Bonneville Dam

- PHOTO POINT
- SAMPLE PLOT
- CULVERTS
- PROPOSED ALIGNMENT
- DELINEATED DITCH CENTERLINE
 - RIPARIAN BUFFER
- WETLAND AND WATERS SURVEY AREA
- NO DIG ZONE
- TAXLOT
- CITY BOUNDARY
- STATE BOUNDARY

CASCADE RENEWABLE TRANSMISSION



FDR

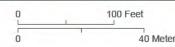






Figure 4. Wetland and Water Survey
Page 4 of 33
Date: 6/7/2024
Township and Range: T02N R07E
Section: 29
USGS Quad Name: **Bonneville Dam**







Figure 4. Wetland and Water Survey
Page 5 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 29
USGS Quad Name: **Bonneville Dam**







Figure 4. Wetland and Water Survey
Date: 6/6/2024
Township and Range: T02N R07E
Section: 20, 21, 29
USGS Quad Name: **Bonneville Dam**











Figure 4. Wetland and Water Survey
Page 7 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 20, 21, 29
USGS Quad Name: **Bonneville Dam**







Figure 4. Wetland and Water Survey
Page 8 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 20, 21, 29
USGS Quad Name: **Bonneville Dam**











Figure 4. Wetland and Water Survey
Page 9 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 20, 21, 29
USGS Quad Name:
Bonneville Dam



CASCADE RENEWABLE TRANSMISSION



100 Feet 40 Meters





Figure 4. Wetland and Water Survey
Page 10 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 15, 16, 21
USGS Quad Name: **Bonneville Dam**







Figure 4. Wetland and Water Survey
Page 11 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 15, 16, 21
USGS Quad Name: **Bonneville Dam**







Figure 4. Wetland and Water Survey
Page 12 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 15, 16, 21
USGS Quad Name:
Bonneville Dam





0 100 Feet 0 40 Mete



Figure 4. Wetland and Water Survey
Page 13 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 15, 16, 21
USGS Quad Name:
Bonneville Dam







Figure 4. Wetland and Water Survey
Page 14 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 15, 22
USGS Quad Name: **Bonneville Dam**





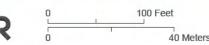




Figure 4. Wetland and Water Survey
Page 15 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 15, 22
USGS Quad Name:
Bonneville Dam





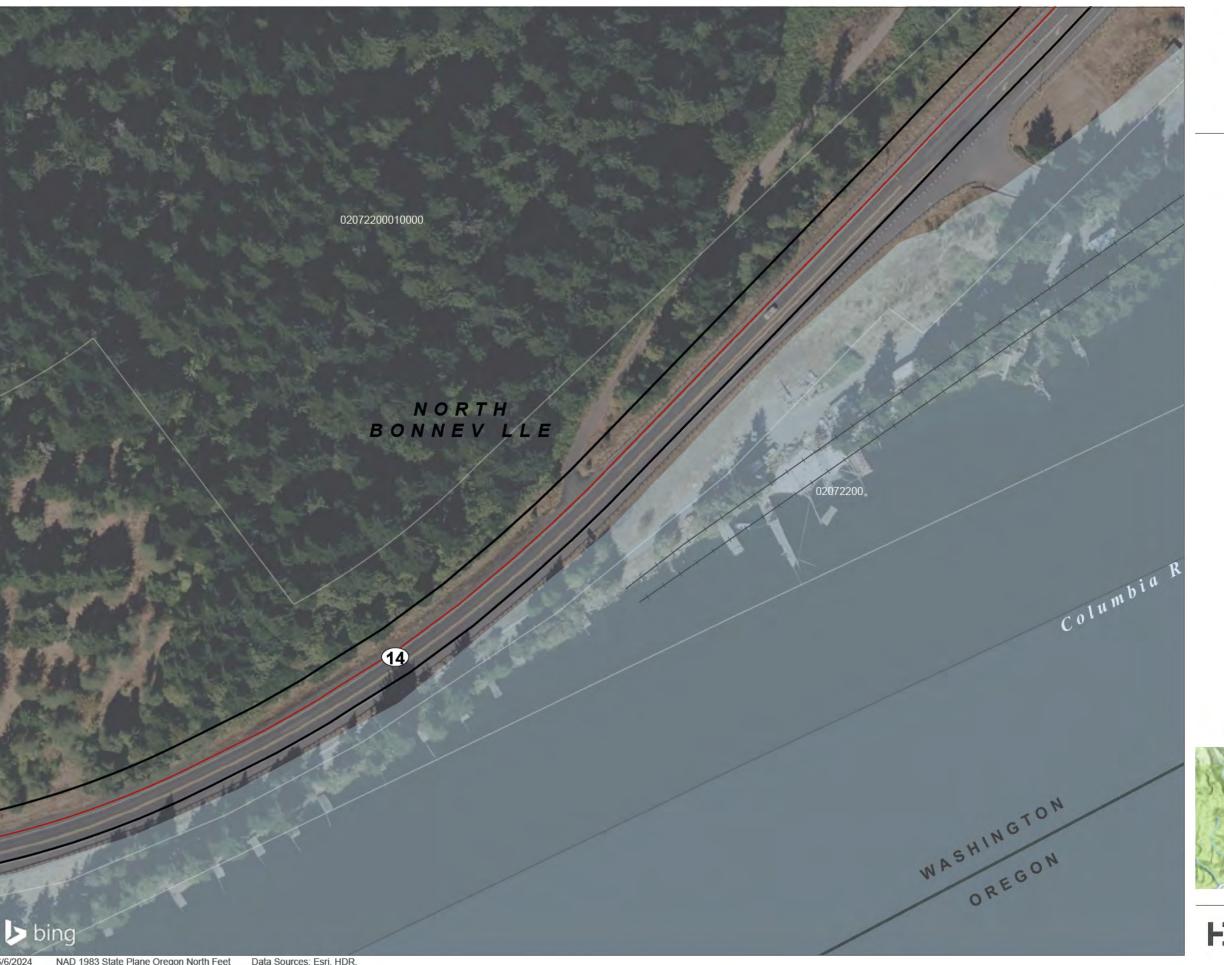


Figure 4. Wetland and Water Survey
Page 16 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 15, 22
USGS Quad Name: **Bonneville Dam**







Figure 4. Wetland and Water Survey
Page 17 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 15, 22
USGS Quad Name: **Bonneville Dam**









Figure 4. Wetland and Water Survey
Page 18 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 14, 15
USGS Quad Name: **Bonneville Dam**





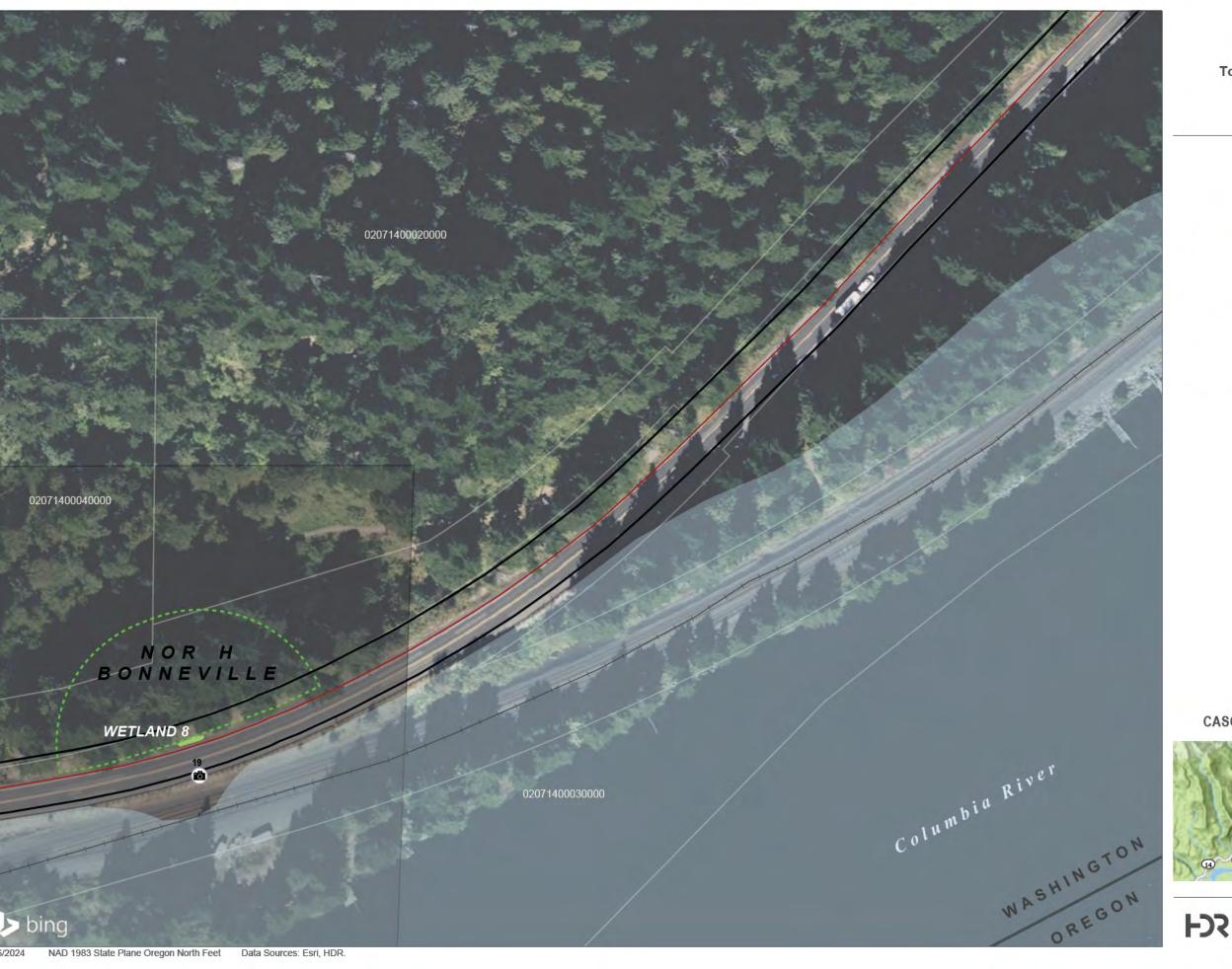
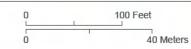


Figure 4. Wetland and Water
Survey Page 19 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 14, 15
USGS Quad Name: **Bonneville Dam**







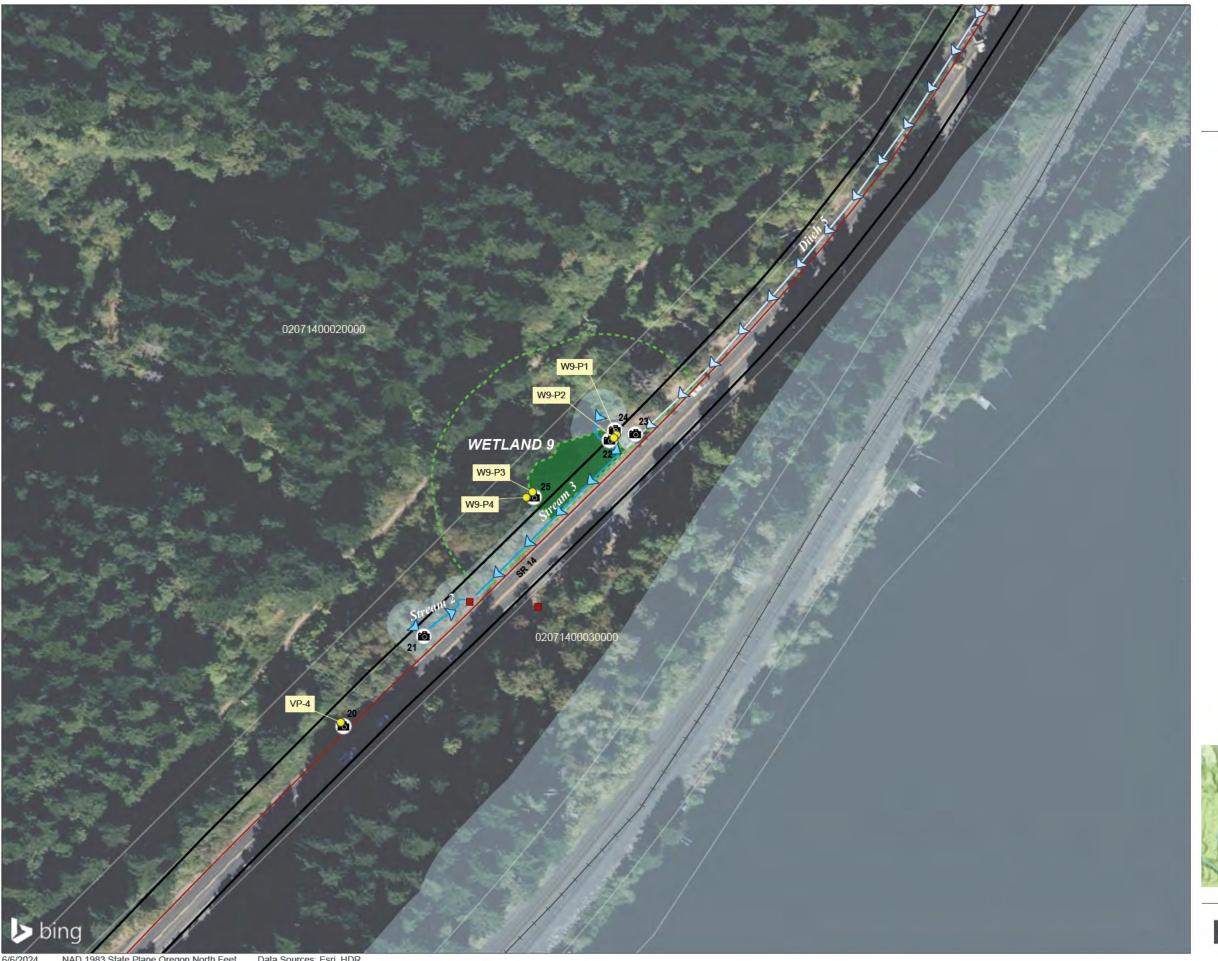


Figure 4. Wetland and Water Survey
Page 20 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 14, 15
USGS Quad Name: **Bonneville Dam**







Figure 4. Wetland and Water Survey
Page 21 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 14, 15
USGS Quad Name: **Bonneville Dam**

PROPOSED ALIGNMENT

DELINEATED DITCH CENTERLINE

RIPARIAN BUFFER

WETLAND AND WATERS SURVEY AREA

TAXLOT

STATE BOUNDARY









Figure 4. Wetland and Water Survey
Page 22 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 11, 14
USGS Quad Name: **Bonneville Dam**

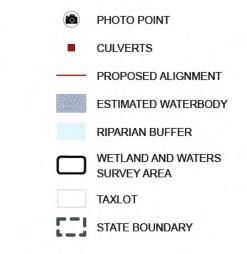
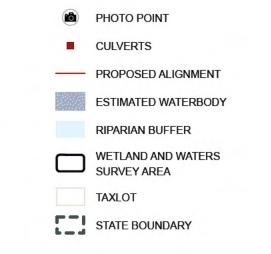






Figure 4. Wetland and Water Survey
Page 23 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 11, 14
USGS Quad Name:
Bonneville Dam







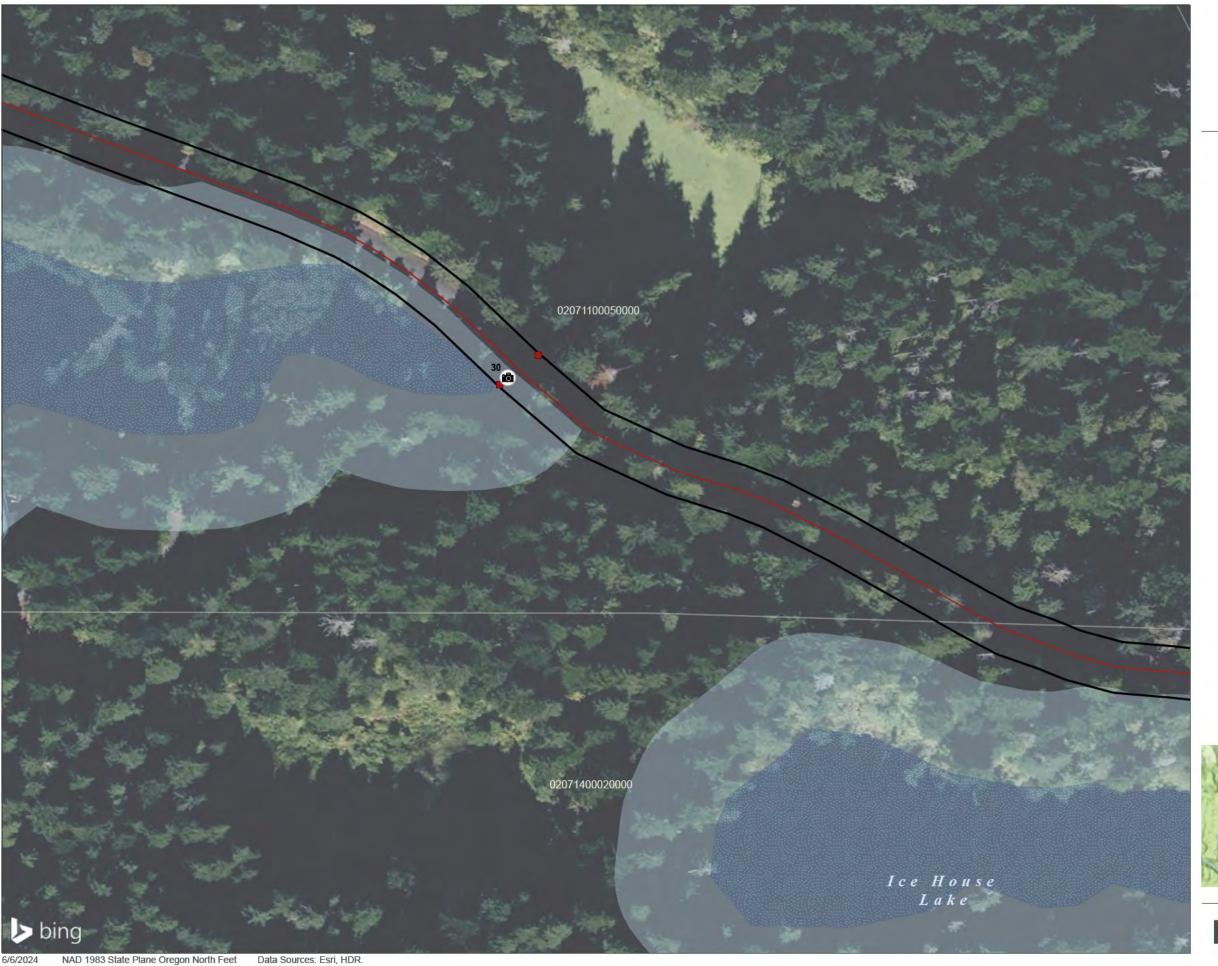
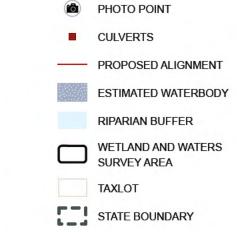


Figure 4. Wetland and Water Survey
Page 24 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 11, 14
USGS Quad Name: **Bonneville Dam**





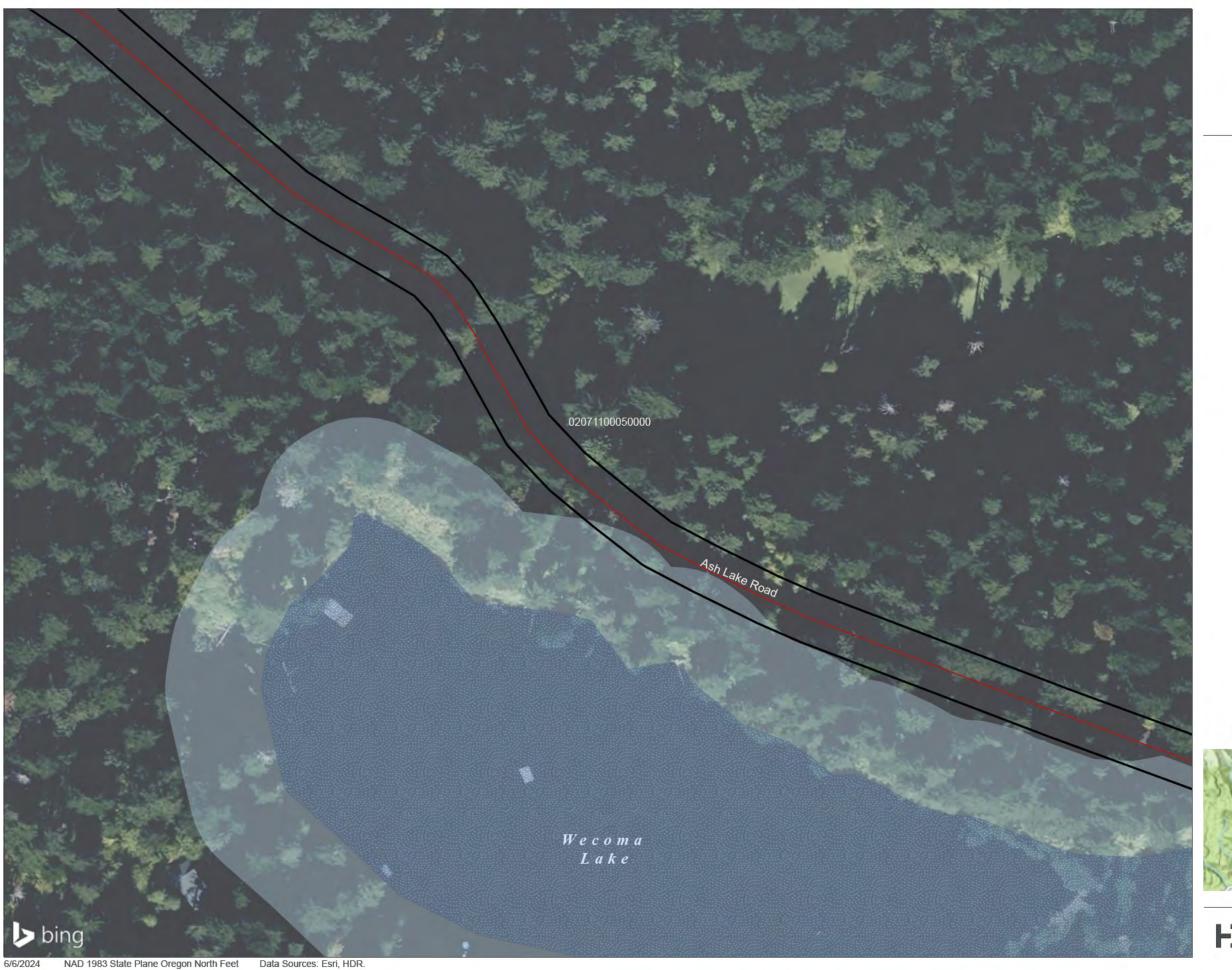


Figure 4. Wetland and Water Survey
Page 25 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 11, 14
USGS Quad Name:
Bonneville Dam





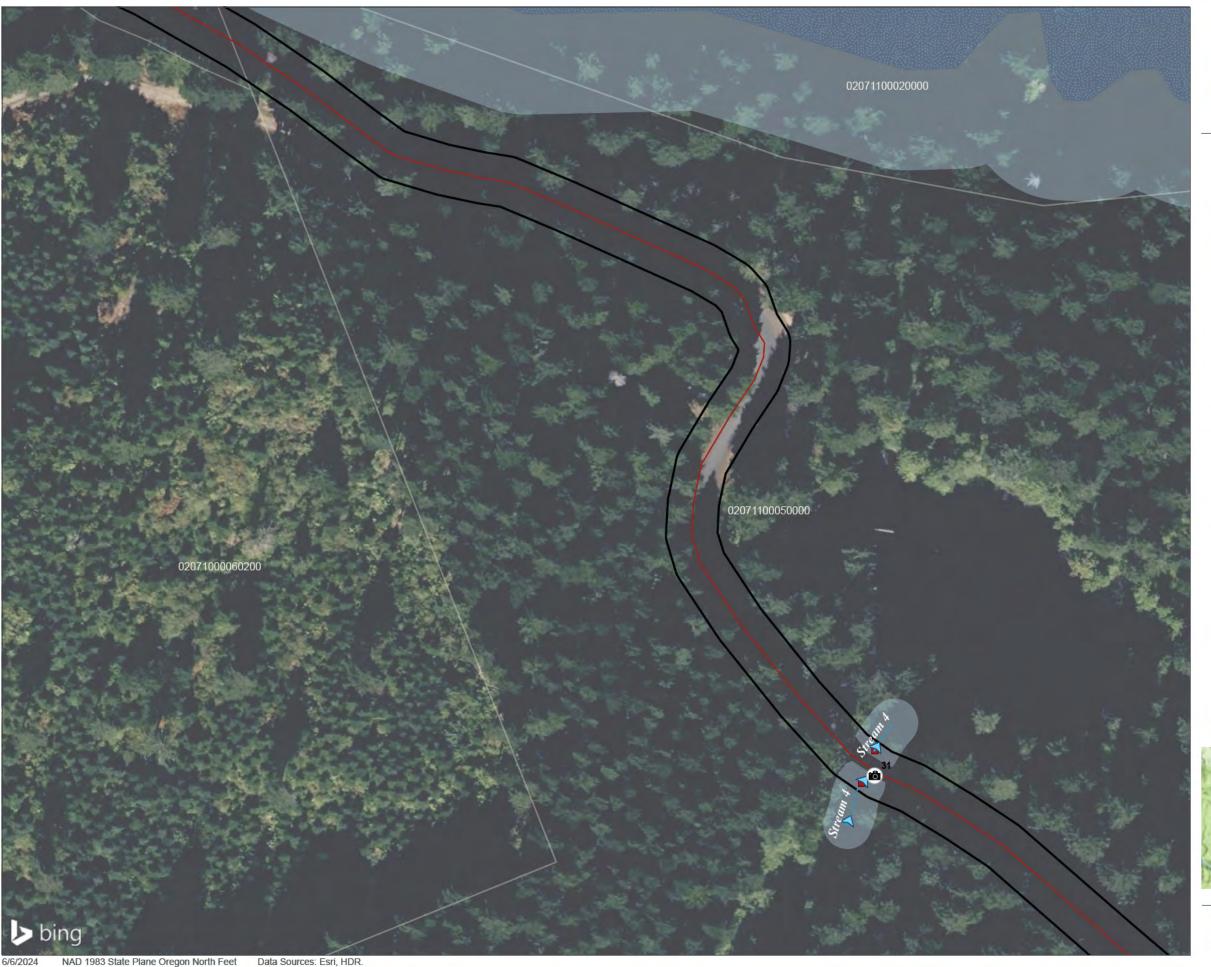
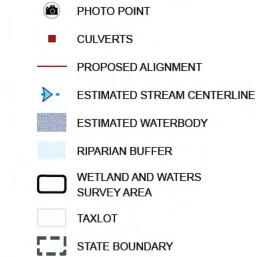


Figure 4. Wetland and Water Survey
Page 26 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 11, 14
USGS Quad Name: **Bonneville Dam**





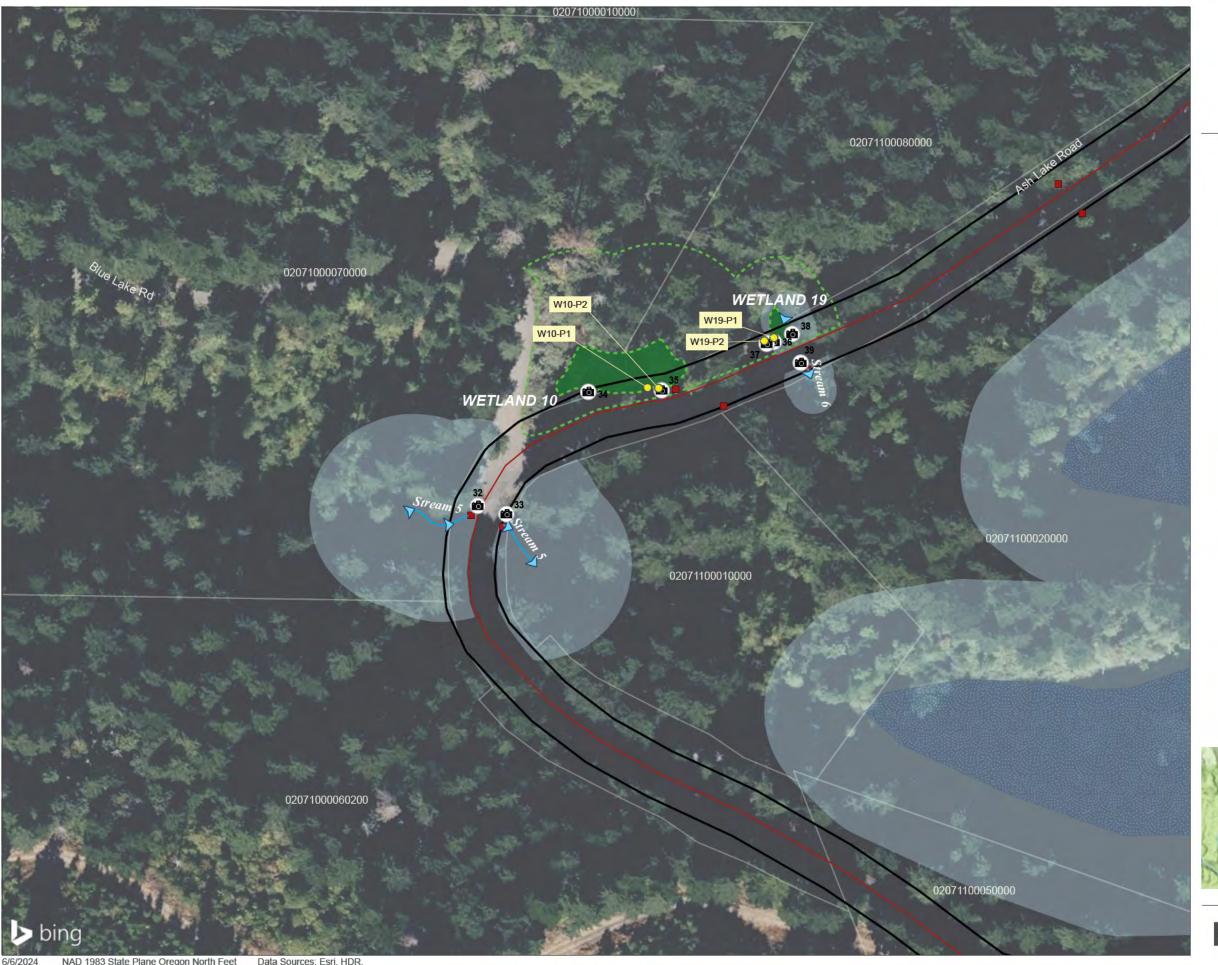


Figure 4. Wetland and Water Survey
Page 27 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 2, 10, 11
USGS Quad Name: **Bonneville Dam**







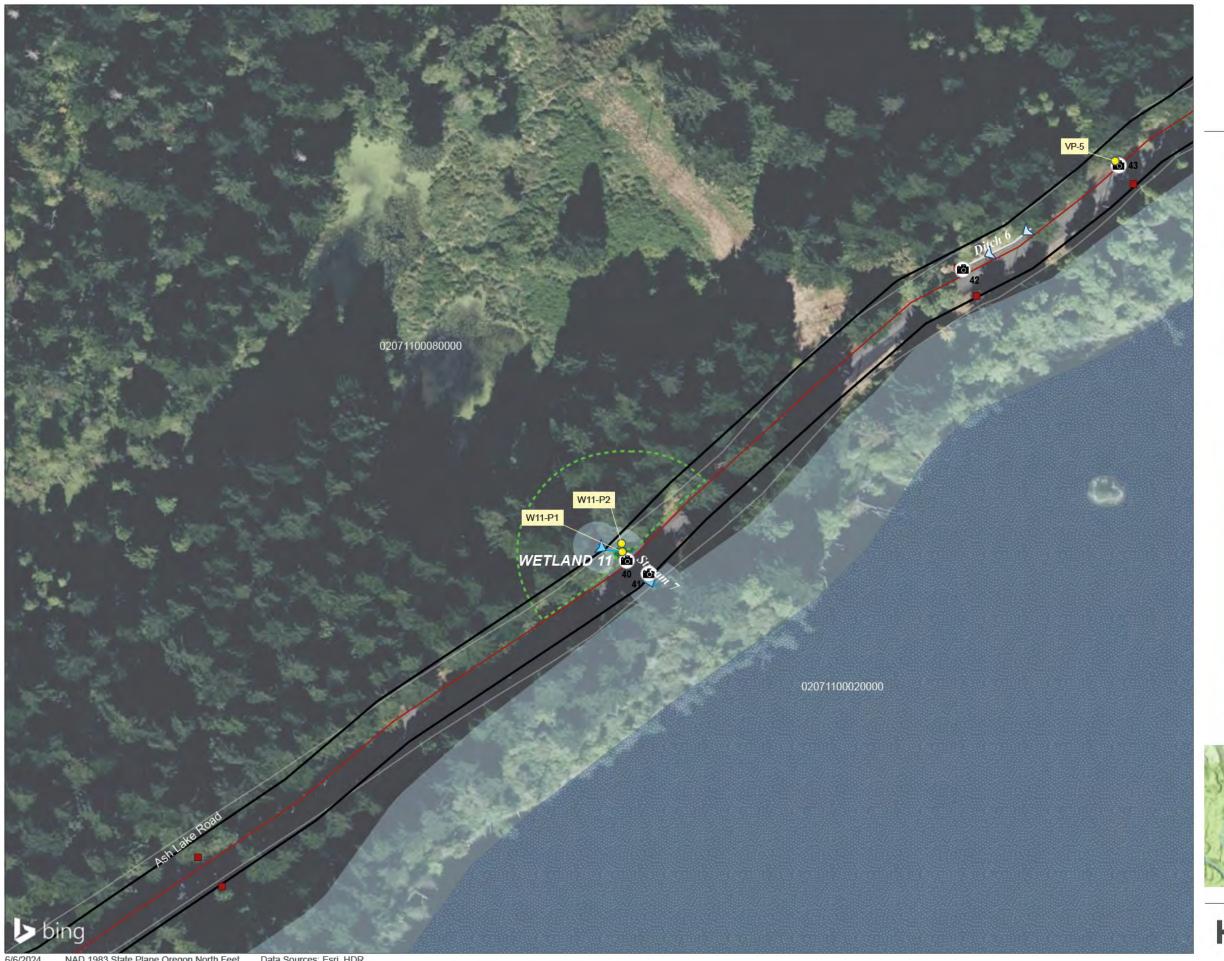


Figure 4. Wetland and Water
Survey Page 28 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 2, 10, 11
USGS Quad Name: **Bonneville Dam**

PHOTO POINT

SAMPLE PLOT

CULVERTS

PROPOSED ALIGNMENT

DELINEATED WETLAND

WETLAND BUFFER

DELINEATED DITCH CENTERLINE

DELINEATED STREAM CENTERLINE

ESTIMATED WATERBODY

RIPARIAN BUFFER

WETLAND AND WATERS SURVEY AREA

TAXLOT

STATE BOUNDARY





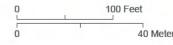
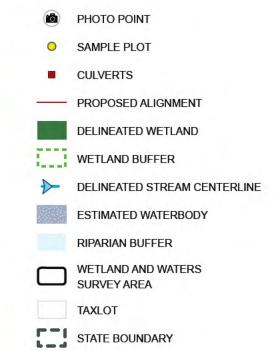




Figure 4. Wetland and Water Survey
Page 29 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 2, 10, 11
USGS Quad Name: **Bonneville Dam**





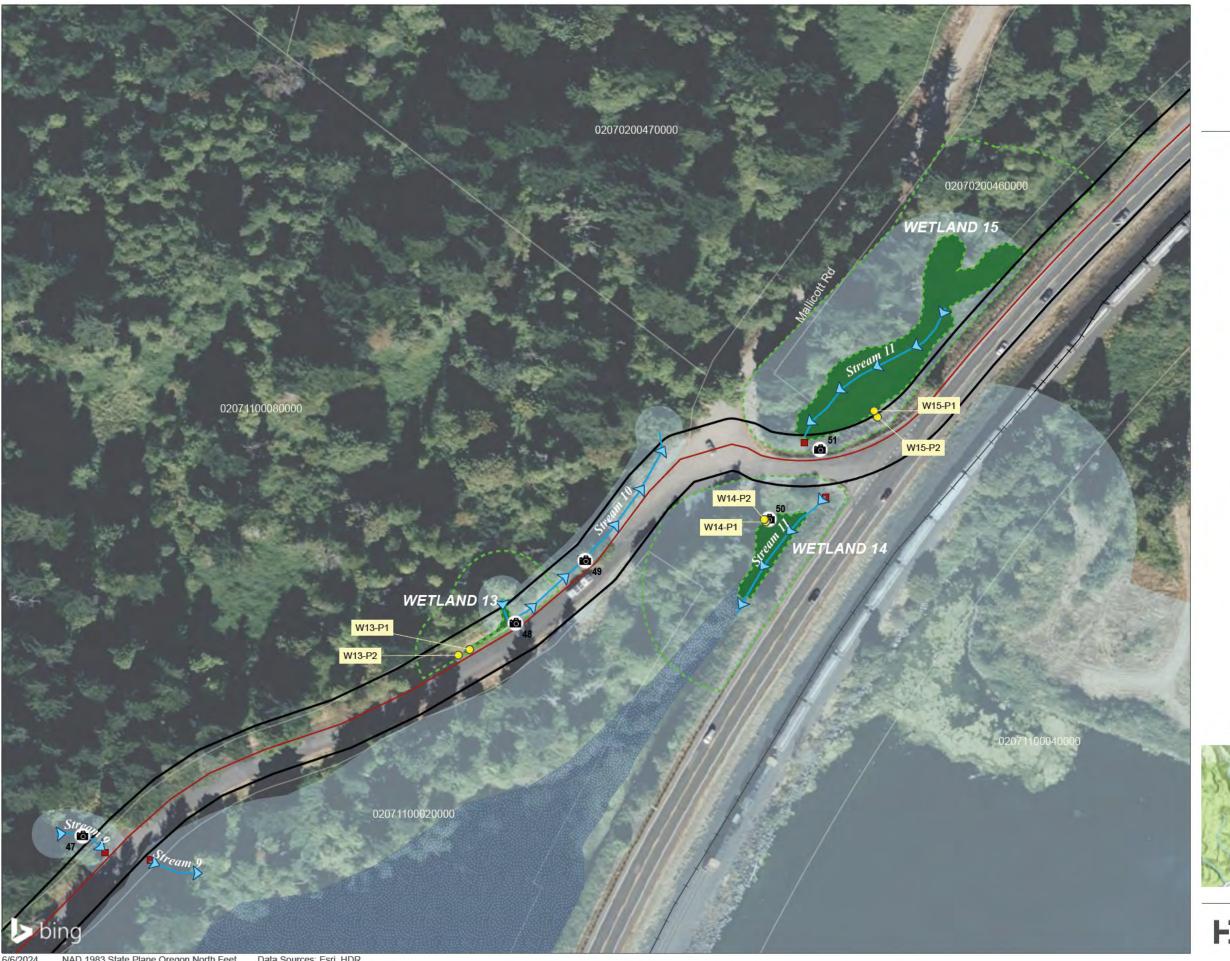


Figure 4. Wetland and Water Survey
Page 30 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 2, 10, 11
USGS Quad Name: **Bonneville Dam**



STATE BOUNDARY





Figure 4. Wetland and Water Survey
Page 31 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 1, 2, 11, 12
USGS Quad Name: **Bonneville Dam**





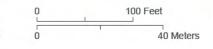






Figure 4. Wetland and Water Survey
Page 32 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 1, 2, 11, 12
USGS Quad Name: **Bonneville Dam**







Figure 4. Wetland and Water Survey
Page 33 of 33
Date: 6/6/2024
Township and Range: T02N R07E
Section: 1, 2, 11, 12
USGS Quad Name:
Bonneville Dam



STATE BOUNDARY



