WETLAND AND FISH AND WILDLIFE HABITAT ASSESSMENT REPORT

SOUTH HILL DATA CENTER

DECEMBER 2020



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SOUTH HILL DATA CENTER

DECEMBER 7, 2020

PROJECT LOCATION

1015, 1019-1021, and 1023 39^{th} Avenue Southeast Puyallup, Washington 98374

PREPARED FOR

BENAROYA CAPITAL COMPANY 3600 136TH PLACE SOUTHEAST, SUITE 250 BELLEVUE, WASHINGTON 98006

PREPARED BY

SOUNDVIEW CONSULTANTS LLC 2907 HARBORVIEW DRIVE GIG HARBOR, WASHINGTON 98335 (253) 514-8952



Executive Summary

Soundview Consultants LLC (SVC) is assisting Benaroya Capital Company (Applicant) with wetland and habitat assessments and environmental regulatory compliance support for a proposed commercial parking lot expansion on an 86.65-acre site located at 1015, 1019-1021, and 1023 39th Avenue Southeast in the City of Puyallup, Washington. The subject property consists of three parcels situated in the Southeast ½ of Section 3, Township 19 North, Range 4 East, W.M. (Pierce County Tax Parcel Numbers 0419034036, 0419034037, and 0419034038).

SVC investigated the subject property for the presence of potentially regulated wetlands, waterbodies, and other fish and wildlife habitat in September 2016 and reconfirmed the site findings during a follow-up investigation in April 2018. Using current methodology, the site investigations identified six potentially regulated wetlands (Wetlands A through F) on the subject property. Wetland A is considered a Category III depressional wetland with a low habitat score which requires a standard 80-foot buffer based on the surrounding high intensity land use. Wetland B is also considered a Category III depressional wetland but with a moderate habitat score which requires a standard 150-foot buffer. Wetlands C, D, E, and F are Category IV wetlands and are likely non-regulated by the City of Puyallup's (City) critical areas regulations per Puyallup Municipal Code (PMC) 21.06.910(4) due to their small size (less than 10,000 square feet).

Four offsite wetlands were previously identified on the west-adjacent Parcel 0419037014 (SVC, 2017). The buffers for these features do not extend onto the subject property according to a 2017 City approval for the Wesley Homes development. In addition, Lake Bradley is located approximately 175 feet to the northwest of the subject property in Bradley Lake Park on Parcel 0419032111. No other potentially regulated wetlands or fish and wildlife habitat were identified within 300 feet of the subject property.

The proposed project includes the expansion of the existing parking area on the central portion of the site in support of new tenants occupying the existing commercial building. The proposed parking area must be continuous with the existing parking areas on the central portion of the site to continue servicing the existing commercial buildings while allowing an increase in new tenants and employees. Due to the need to expand the parking lot, the total fill of the small, low-functioning Category IV wetland (Wetland F) totaling 3,175 square feet is necessary and unavoidable to provide the necessary parking to utilize the existing office space at full capacity. Impacts to all other identified wetlands (Wetlands A-E) are avoided.

Compensatory mitigation for the total fill of Wetland F is proposed to be provided through the purchase of mitigation bank credits from the Upper Clear Creek Mitigation Bank (UCCMB). Due to the small size of the wetland proposed to be impacted, the proposed use of a mitigation bank is the most ecologically feasible option assuming the bank credits are available for purchase. The proposed project will likely result in a net increase in ecological functions within the Puyallup/White watershed (Water Resource Inventory Area 10) when compared to the existing conditions of the wetland proposed to be impacted. A comprehensive Mitigation Bank Use Plan with detailed impact analysis has been prepared by SVC under separate cover.

The summary table below identifies the onsite wetlands and potential regulatory status of local, state, and federal agencies.

Wetland Name	Size Onsite (SF)	Category ¹	Regulated Under PMC Chapter 21.06	RCW 90 48	Regulated Under Section 404 of the Clean Water Act ²
Wetland A	34,089	III	Yes	Yes	Assumed
Wetland B	19,762	III	Yes	Yes	Assumed
Wetland C	2,949	IV	Not Likely	Yes	Assumed
Wetland D	1,016	IV	Not Likely	Yes	Assumed
Wetland E	608	IV	Not Likely	Yes	Assumed
Wetland F	3,175	IV	Not Likely	Yes	Assumed

Notes:

Current Washington Department of Ecology (WSDOE) and PMC wetland definitions.

The proposed project assumes WOTUS jurisdiction of the onsite wetlands under the Navigable Waters Protection Rule effective June 22, 2020 to expedite the permitting process.

Site Map

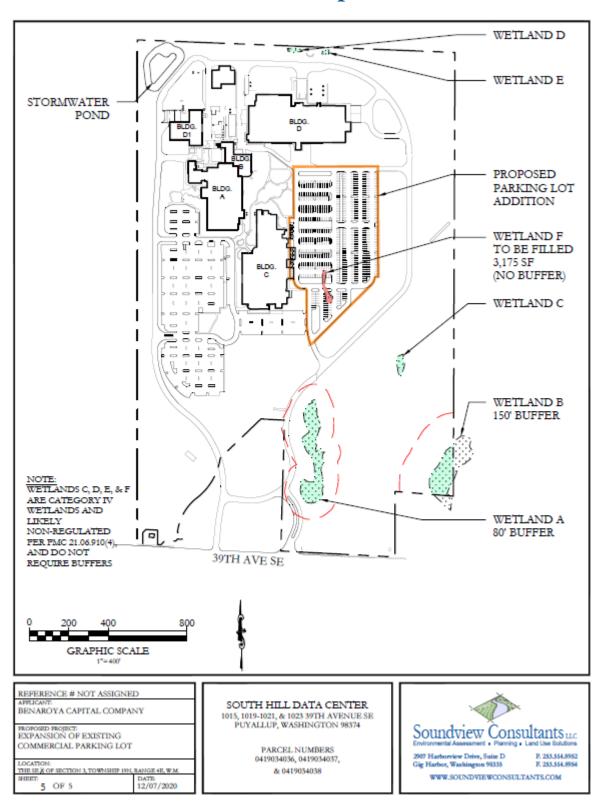


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Chapter 1. Introduction

Soundview Consultants LLC (SVC) is assisting Benaroya Capital Company (Applicant) with wetland and habitat assessments and environmental regulatory compliance support for a proposed commercial parking lot expansion on an 86.65-acre site located at 1015, 1019-1021, and 1023 39th Avenue Southeast in the City of Puyallup, Washington. The subject property consists of three parcels situated in the Southeast ½ of Section 3, Township 19 North, Range 4 East, W.M. (Pierce County Tax Parcel Numbers 0419034036, 0419034037, and 0419034038).

The purpose of this wetland, and fish and wildlife habitat assessment is to identify the presence of potentially regulated wetlands, waterbodies, and other fish and wildlife habitat on or near the subject site and to assess potential impacts to any such critical areas from the proposed project. A comprehensive Mitigation Bank Use Plan with detailed impact analysis has been prepared by SVC under separate cover.

This report provides conclusions and recommendations regarding:

- Site description, project description, and area of assessment;
- Background research and identification of potentially regulated critical areas within the vicinity of the proposed project;
- Identification and assessment of potentially regulated wetlands and other aquatic features;

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- Identification and assessment of potentially regulated fish and wildlife habitat;
- Existing site map detailing identified wetlands and standard buffers;
- Site plan detailing the proposed development; and
- Supplemental information necessary for regulatory review.

Chapter 2. Proposed Project

2.1 Project Location

The subject property consists of an 86.65-acre site located at 1015, 1019-1021, and 1023 39th Avenue Southeast in the City of Puyallup, Washington. The subject property consists of three parcels situated in the Southeast ½ of Section 3, Township 19 North, Range 4 East, W.M. (Pierce County Tax Parcel Numbers 0419034036, 0419034037, and 0419034038).

To access the subject property from downtown Tacoma via Interstate 5 northbound, take Exit 135 and merge onto State Route 167 toward Puyallup. Proceed six miles and turn right onto North Meridian, which becomes South Meridian after 0.4 mile. After approximately 2.65 miles, turn left onto Meridian Avenue East/ Meridian South. Proceed for 0.25 mile and turn left onto 37th Avenue Southeast. Proceed for 0.7 mile when the road turns into 39th Avenue Southeast. The subject property will be on the left.

100th St Ct E Subject Property Location 38 35th Ave SE 112th StE 112th 215 St PI SE 20th St PI SE 43rd Ave SE 1.18 056 9/10/2020, 2:28:02 PM 1,000 2,000 ft Pierce Parcels Query result 170 340

Figure 1. Vicinity Map.

2.2 Project Description

The proposed project includes the expansion of the existing parking area on the central portion of the site in support of new tenants occupying the existing commercial building. The proposed parking area must be continuous with the existing parking areas on the central portion of the site to continue servicing the existing commercial buildings while allowing an increase in new tenants and employees. Due to the need to expand the parking lot, the total fill of the small, low-functioning Category IV wetland (Wetland F) totaling 3,175 square feet is necessary and unavoidable to provide the necessary parking to utilize the existing office space at full capacity. Impacts to all other identified wetlands (Wetlands A-E) are avoided.

Compensatory mitigation for the total fill of Wetland F is proposed to be provided through the purchase of mitigation bank credits from the Upper Clear Creek Mitigation Bank (UCCMB). Due to the small size of the wetland proposed to be impacted, the proposed use of a mitigation bank is most ecologically feasible assuming the bank credits are available for purchase. The proposed project will likely result in a net increase in ecological functions within the Puyallup/White watershed (Water Resource Inventory Area 10) when compared to the existing conditions of the wetland proposed to be impacted. A comprehensive Mitigation Bank Use Plan with detailed impact analysis has been prepared by SVC under separate cover.

Chapter 3. Methods

SVC investigated, assessed, and/or delineated wetlands, drainages, and other potentially regulated fish and wildlife habitat on and within 300 feet of the subject property in September 2016, and reconfirmed the site findings during a follow-up site investigation in April 2018. All determinations were made using observable vegetation, hydrology, and soils in conjunction with background data collected from the U.S. Geological Survey (USGS) topographic map, Natural Resources Conservation Service (NRCS) Soil Survey, U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) and SalmonScape mapping tools, Washington State Department of Natural Resources (DNR) water typing data, Pierce County Geographic Information Systems (GIS) data, City of Puyallup's wetland inventory, precipitation data, and various orthophotographic resources. Appendix A contains further details for the methods and tools used to prepare this report.

Wetland boundaries were determined using the routine approach described in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory, 1987) and modified according to the guidelines established in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE, 2010). Qualified wetland scientists marked boundaries of onsite wetlands with orange surveyor's flagging labeled alphanumerically and tied to 3-foot lath or vegetation along the wetland boundary. Pink surveyor's flagging was labeled alphanumerically and tied to 3-foot lath or vegetation at formal sampling locations to mark the points where detailed data was collected (DP-1 to DP-20). Additional tests pits were excavated at regular intervals inside and outside of the wetland boundaries to further confirm each delineation.

Wetlands were classified using both the hydrogeomorphic (Brinson, 1993) and Cowardin (Cowardin, 1979; Federal Geographic Data Committee, 2013) classification systems, and generally assessed using the Wetland Functions Characterization Tool for Linear Projects (Null et al., 2000). Following classification and assessment, all wetlands were rated and categorized using the Washington State Wetlands Rating System for Western Washington – Washington State Department of Ecology Publication No. 14-06-029, published October 2014 (Hruby, 2014) and guidelines established in PMC 21.06.910.

The fish and wildlife habitat assessment was conducted during the same site visits by qualified fish and wildlife biologists. The experienced biologists made visual observations using stationary and walking survey methods for both aquatic and upland habitats noting any special habitat features or signs of fish and wildlife activity.

Chapter 4. Existing Conditions

4.1 Landscape Setting

The subject property is located in an urban commercial setting within the City of Puyallup's urban growth area (Figure 2). The subject property is currently developed with an office complex with associated infrastructure (e.g., access roads, parking areas, utilities, and storm pond) and areas of maintained lawn; the remainder of the site consists of undeveloped forested areas. The subject property abuts Pierce College Puyallup and undeveloped forested areas to the east; 112th Street East to the south with various commercial businesses and warehouse facilities beyond; undeveloped forested areas and Bradley Lake Park to the west; and undeveloped forested areas, a pedestrian trail, and Pierce College West Access Road to the north. Topography on the site generally slopes downward from the southeast to the northwest with elevations ranging from approximately 540 feet to 440 feet above mean sea level (amsl). A Pierce County topographic map is provided in Appendix B1. The subject property is located in Water Resource Inventory Area (WRIA) 10 – Puyallup-White.



Figure 2. Aerial Image of Subject Property.

4.2 Soils

The NRCS Soil Survey of Pierce County, Washington, identifies four soil series on the site: Everett gravelly sandy loam, 0 to 6 percent slopes; Indianola loamy sand, 6 to 15 percent slopes; Kapowsin gravelly loam, 0 to 6 percent slopes; and Kapowsin gravelly loam, 6 to 15 percent slopes (Zulauf, 1979). A soil map is provided in Appendix B2.

Everett gravelly sandy loam, 0 to 8 percent slopes (13B)

According to the survey, Everett gravelly sandy loam, 0 to 8 percent slopes is a somewhat excessively drained soil formed in gravelly glacial outwash under conifers. In a typical profile, the surface layer (0 to 2 inches) is a very dark brown gravelly sandy loam. The subsoil (2 to 19 inches) is a dark yellowish brown sandy loam and dark brown very gravelly coarse sandy loam. The substratum (19 to more than 60 inches) is clean, loose, very gravelly sand. Everett gravelly sandy loam, 0 to 6 percent slopes is listed as non-hydric on the Pierce County Hydric Soils List (NRCS, n.d.).

Indianola loamy sand, 6 to 15 percent slopes (18C)

According to the survey, Indianola loamy sand, 6 to 15 percent slopes, is a somewhat excessively drained soil formed in sandy glacial outwash on broad uplands. In a typical profile, the surface layer (7 inches thick) is dark brown loamy sand. The underlying material to a depth of 60 inches is dark yellowish brown, brown, or olive brown sand. Some areas of this soil series are known to rest on unstable lake sediments, and be adjacent to areas of a soil that is deep, loose, and gravelly. Roots extend to a depth of more than 60 inches. Indianola loamy sand, 6 to 15 percent slopes, is listed as non-hydric on the Pierce County Hydric Soils List, but as much as 2 percent of areas mapped as Indianola loamy sand, 6 to 15 percent slopes may contain inclusions of hydric Norma soils (NRCS, n.d.).

Kapowsin gravelly ashy loam, 0 to 6 percent slopes (19B)

According to the survey, Kapowsin gravelly ashy loam, 0 to 6 percent slopes have developed in glacial till under conifers and dominates the Midland-Parkland area in elevation ranges from 300 to 900 feet. In a typical profile, the surface layer is dark brown gravelly loam to a depth of 7 inches. The subsoil, between depths of 7 and 25 inches is dark brown or dark yellowish brown gravelly loam and brown loam. The substratum, to a depth of more than 60 inches, is mottled olive brown loam and grayish brown gravelly loam. The substratum is compact glacial till that is cemented in places, particularly in the upper part. Kapowsin gravelly ashy loam, 0 to 6 percent slopes is listed as non-hydric on the Pierce County Hydric Soils List, but as much as 6 percent of areas mapped as Kapowsin gravelly ashy loam, 0 to 6 percent slopes contain inclusions of hydric Norma, Dupont, and McKenna soils (NRCS, n.d.).

Kapowsin gravelly ashy loam, 6 to 15 percent slopes(19C)

According to the survey, Kapowsin gravelly ashy loam, 6 to 16 percent slopes are moderately well drained and formed in glacial till under conifers. In a typical profile the surface layer is dark brown gravelly loam to a depth of 7 inches. From 7 to 25 inches the soil is dark brown or dark yellowish brown gravelly loam and brown loam. From 25 to 60 inches the soil is mottled and olive brown loam and grayish brown gravelly loam. This soil is compact glacial till with moderate erosion hazard. Kapowsin gravelly ashy loam 6 to 15 percent slopes is listed as non-hydric on the Pierce County Hydric Soils List, but as much as 6 percent of areas mapped as Kapowsin gravelly ashy loam, 6 to 15 percent slopes contain hydric inclusions of Norma, Dupont, and McKenna soils (NRCS, n.d.).

4.3 Vegetation

The majority of the subject property consists of impervious surfaces (buildings and asphalt pavement) surrounded by maintained lawn and ornamental, non-native landscaping. The undeveloped forest patches on the rest of the site are generally dominated by a canopy of Douglas fir (*Pseudostuga menziesii*) and big leaf maple (*Acer macrophyllum*) with an understory of evergreen huckleberry (*Vaccinium ovatum*),

tall Oregon grape (Mahonia aquifolium), salal (Gaultheria shallon), stinging nettle (Urtica dioica), and non-native invasive Himalayan blackberry (Rubus armeniacus).

4.4 Wetland and Stream Inventories

The USFWS NWI map (Appendix B3) and Pierce County wetland inventory (Appendix B4) misidentify a linear wetland feature on the center of the subject property, where buildings, roads, and parking lots currently exist. These maps also identify a potential offsite wetland area approximately 150 feet to the east of the site, which the City of Puyallup wetland inventory (Appendix B5) misidentifies as extending onto the subject property. The City of Puyallup wetland inventory identifies two other potential wetland areas on the eastern portion of the site and four wetlands on the west-adjacent Parcel 0419037014. The buffers for these offsite wetlands to the west do not extend onto the subject property according to a 2017 City approval for the Wesley Homes development. The DNR stream typing map (Appendix B6) does not identify any potential streams on or within 300 feet of the subject property. No other potential wetlands or streams are documented in the vicinity of the subject property.

4.5 Priority Habitats and Species

The WDFW PHS map (Appendix B7) identifies waterfowl concentrations associated with Lake Bradley which is located approximately 175 feet to the northwest of the subject property in Bradley Lake Park on Parcel 0419032111. The WDFW SalmonScape map (Appendix B8) does not identify salmonid presence associated with Bradley Lake or within 300 feet of the site. No other priority habitats or threatened, endangered, or sensitive plant or animal species are identified within 300 feet of the subject property.

4.6 Precipitation

Precipitation data was obtained from the National Oceanic and Atmospheric Administration (NOAA) station at Seattle-Tacoma International Airport in order to obtain percent of normal precipitation during and preceding the investigations. A summary of data collected is provided in Table 1.

Table 1. Precipitation Summary¹

Date	Day of	Day Before	1 Week Prior	2 Weeks Prior	30 Days Prior (Observed/Normal)	Year to Date (Observed/Normal) ²	Percent of Normal ³
9/13/16	0.00	0.00	0.07	0.73	0.73/1.15	24.45/21.14	63/116
9/14/16	0.00	0.00	0.07	0.73	0.73/1.16	24.45/21.18	63/115
9/15/16	0.00	0.00	0.00	0.72	0.73/1.18	24.45/21.23	62/115
4/24/18	0.00	0.00	0.04	3.61	5.64/3.05	18.09/15.06	185/120

Precipitation volume provided in inches. Data obtained from NOAA (http://w2.weather.gov/climate/xmacis.php?wfo=sew) for Sea-Tac Airport.

During the September 2016 site visits, precipitation levels were approximately 63 percent of statistical normal levels for the 30 days prior and approximately 115 percent of normal levels for the calendar year. In April 2018, precipitation levels for the 30 days prior to the site visit were 185 percent of normal, and 120 percent of normal for the calendar year. This precipitation data suggests that both drier (2016) and wetter (2018) than normal conditions were encountered during the time of the site

^{2.} Year-to-date precipitation is for the calendar year from January 1 to the onsite date(s).

^{3.} Percent of normal is shown for the last 30 days and calendar year to date.

investigations; determinations.	such	conditions	were	considered	in	making	professional	wetland	boundary

Chapter 5. Results

5.1 Wetlands

5.1.1 Overview

The site investigations identified six wetlands on the subject property (Wetlands A through F). The identified wetlands contained indicators of wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation according to current wetland delineation methodology. Four additional wetlands and Lake Bradley were identified offsite to the west within 300 feet of the subject property. No other wetlands or fish and wildlife habitat were identified on or within 300 feet of the subject property. Wetland data forms are provided in Appendix D; wetland rating forms are provided in Appendix E; and wetland rating maps are provided in Appendix F for the onsite wetlands only. Table 2 summarizes the wetlands identified onsite during the site investigations.

Table 2. Wetland Summary

	Predor	minant Wetland	Rating	Wetland Size	Standard	
Wetland	Cowardin ¹	nini H(+ V 2 W/S)(JHJ '		City of Puyallup ⁴	Onsite (SF)	Buffer Width (feet)
A	PFOCD	Depressional	III	III	34,089	805
В	PFOCD	Depressional	III	III	19,762	150 ⁵
С	PFO/EMC	Depressional	IV	IV	2,949	N/A ⁶
D	PFOAD	Depressional	IV	IV	1,016	N/A ⁶
Е	PFOD	Slope	IV	IV	608	N/A ⁶
F	PFOB	Slope	IV	IV	3,175	N/A ⁶

Notes:

Wetland A

Wetland A is 34,089 square feet (0.78 acre) in size and located on the south-central portion of the subject property. Hydrology for Wetland A is provided by stormwater discharge, surface sheet flow, direct precipitation, and a seasonally-high groundwater table. Wetland vegetation is dominated by a canopy of red alder (*Alnus rubra*) and black cottonwood (*Populus balsamifera*) with an understory of hardhack (*Spiraea douglasii*) and salmonberry (*Rubus spectabilis*). Wetland A is a Palustrine Forested, Seasonally Flooded/Continuously Saturated wetland (PFOCD). Per PMC 21.06.910, Wetland A is a Category III depressional wetland with a total habitat score of 4 points. Table 3 summarizes Wetland A.

^{1.} Cowardin et al. (1979) or NWI Class based on vegetation: PFO = Palustrine Forested, PEM = Palustrine Emergent; Modifier for Water Regime: A = Temporarily Flooded, B = Seasonally Saturated, C = Seasonally Flooded; D = Continuously Saturated.

^{2.} Brinson, M. M. (1993).

^{3.} WSDOE rating according to Washington State Wetland Rating System for Western Washington (Hruby, 2014).

^{4.} PMC 21.06.910 rating definitions.

^{5.} Based on habitat score and high intensity land use per 21.06.930(2)(a).

Likely not regulated by the City's critical areas regulations per PMC 21.06.910(4) due to the unit's small size and Category IV classification.

Wetland B

Wetland B is 19,762 square feet (0.45 acre) in size onsite and is located on the southeastern corner of the subject property, extending offsite to the east. Hydrology for Wetland B is provided by surface sheet flow, direct precipitation, and a seasonally-high groundwater table. Wetland vegetation is dominated by a canopy of western red cedar (*Thuja plicata*) and red alder with an understory of hardhack and skunk cabbage (*Lysichiton americanus*). Wetland B is a Palustrine Forested, Seasonally Flooded/Continuously Saturated wetland (PFOCD). Per PMC 21.06.910, Wetland B is a Category III depressional wetland with a total habitat score of 5 points. Table 4 summarizes Wetland B.

Wetland C

Wetland C is 2,949 square feet (0.07 acre) in size and is located on the southeastern portion of the subject property. Hydrology for Wetland C is provided by surface sheet flow, direct precipitation, and a seasonally-high groundwater table. Wetland vegetation is dominated by a canopy of red alder with an understory of reed canarygrass (*Phalaris arundinacea*). Wetland C is a Palustrine Forested/Emergent, Seasonally Flooded wetland (PFO/EMC). Per PMC 21.06.910, Wetland C is a Category IV depressional wetland. Table 5 summarizes Wetland C.

Wetland D

Wetland D is 1,016 square feet (0.02 acre) in size and is located on the north-central portion of the subject property. Hydrology for Wetland D is provided by surface sheet flow, direct precipitation, and a seasonally-high groundwater table. Wetland vegetation is dominated by a canopy of black cottonwood and Pacific willow (*Salix lasiandra*) with an understory of salmonberry and field horsetail (*Equisetum arvense*). Wetland D is a Palustrine Forested, Occasionally Flooded/Continuously Saturated wetland (PFOAD). Per PMC 21.06.910, Wetland D is a Category IV depressional wetland. Table 6 summarizes Wetland D.

Wetland E

Wetland E is 608 square feet (0.01 acre) in size and is located on the north-central portion of the subject property. Hydrology for Wetland E is provided by surface sheet flow, direct precipitation, and a seasonally-high groundwater table provided by hillside seeps. Wetland vegetation is dominated by a canopy of red alder with an understory of skunk cabbage. Wetland E is a Palustrine Forested, Continuously Saturated wetland (PFOD). Per PMC 21.06.910, Wetland E is a Category IV slope wetland. Table 7 summarizes Wetland E.

Wetland F

Wetland F is 3,175 square feet (0.07 acre) in size and is located in the center of the subject property. Hydrology for Wetland F is provided by surface sheet flow, direct precipitation, and a seasonally-high groundwater table provided by hillside seeps. Wetland vegetation is dominated by a canopy of red alder with an understory of hardhack, non-native invasive Himalayan blackberry, soft rush (*Juncus effusus*), and colonial bentgrass (*Agrostis capillaris*). Wetland F is a Palustrine Forested, Seasonally Saturated wetland (PFOB). Per PMC 21.06.910, Wetland F is a Category IV slope wetland. Table 8 summarizes Wetland F.

Table 3. Wetland A Summary.

Tuble 5: Wettaile	A Summary.		
	WETLAND A – INFORM	MATION SUMMARY	
Location:	Located on the south-central portion		straddling the common
Location.	boundary between proposed Lots 7		
		Local Jurisdiction	City of Puyallup
The Control of the Co	上班 3.98 W. 人口对社会后	WRIA	10 – Puyallup/White
		WSDOE Rating (Hruby, 2014)	III
		City of Puyallup Rating	III
		City of Puyallup Buffer Width	80 feet
	是一种第一家是一种的 是	Wetland Size	34,089 SF
		Cowardin Classification	PFOCD
		HGM Classification	Depressional
		Wetland Data Sheet(s)	DP-1, DP-2
		Upland Data Sheet (s)	DP-3
		Boundary Flag color	Orange
Dominant	Wetland vegetation is dominated by	a canopy of red alder and bla	ick cottonwood with an
Vegetation	understory of hardhack and salmonl	perry.	
Soils	Hydric soil indicator F3 (Depleted Matrix) was observed.		
Hydrology	Hydrology for Wetland A is provided by stormwater discharge, surface sheet flow, direct precipitation, and a seasonally-high groundwater table. Primary hydrologic indicators B1 (Water Marks), B3 (Drift Deposits), and Water-Stained Leaves (B9) were observed.		
Rationale for	Wetland boundaries were determine	ned by topographic drop	and a transition to a
Delineation	hydrophytic plant community.		
Rationale for Local Rating	Local rating is based upon WSDOE		PMC 21.06.910.
	Wetland Function	<u> </u>	
Water Quality	Wetland A has a moderate ability to retain sediments and pollutants from surface runoff due to the direct stormwater input; the wetland containing persistent, ungrazed vegetation in greater than 95 percent of the area; and since greater than half of the wetland area exhibits seasonal ponding. Wetland A's score for Water Quality Functions using the 2014 method is moderate (6).		
Hydrologic	Wetland A provides moderate hydrologic functions due to its proximity to high-intensity land development that generates surface runoff and its storage capacity. Wetland A's score for Hydrologic Functions using the 2014 method is moderate (6).		
Habitat	Habitat functions provided by Wetland A are minimal as there is a lack of plant richness, interspersion of habitats, or accessible habitat as the wetland is adjacent to high-intensity land uses. However, Wetland A does contain special habitat features such as snags and logs which provide some level of habitat complexity for birds and small mammals. Wetland A's score for Habitat Functions using the 2014 method is low (4).		
Buffer	The buffer surrounding Wetland A		
Condition	undeveloped forested areas that are	degraded by non-native invas	sive species.

Table 4. Wetland B Summary.

Tusic II Welland	WETLAND B – INFORM	MATION SUMMARY	
Location:	Located on the southeastern corner		nding offsite to the east.
《沙兰》	公共	Local Jurisdiction	City of Puyallup
新疆,		WRIA	10 – Puyallup/White
	The Asset of	WSDOE Rating (Hruby, 2014)	III
		City of Puyallup Rating	III
		City of Puyallup Buffer Width	150 feet
	No. A STATE OF THE	Wetland Size	19,762 SF (onsite)
	MALA	Cowardin Classification	PFOCD
		HGM Classification	Depressional
		Wetland Data Sheet(s)	DP-4
		Upland Data Sheet (s)	DP-5
		Boundary Flag color	Orange
Dominant	Wetland vegetation is dominated by a canopy of western red cedar and red alder with an		
Vegetation	understory of hardhack and skunk cabbage.		
Soils	Soils consist of muck with organics. Hydric soil indicators A1 (Histosol) and A4 (Hydrogen Sulfide) were observed.		
Hydrology	Hydrology for Wetland B is provided by surface sheet flow, direct precipitation, and a seasonally-high groundwater table. Primary hydrologic indicators A2 (High Water Table), A3 (Saturation), B3 (Drift Deposits), and C1 (Hydrogen Sulfide) were observed.		
Rationale for	Wetland boundaries were determine	ined by topographic drop	and a transition to a
Delineation	hydrophytic plant community.		
Rationale for Local Rating	Local rating is based upon WSDOE's current rating system per PMC 21.06.910.		
	Wetland Function	v	
Water Quality	Wetland B has a moderate ability to retain sediments and pollutants from surface runoff due to the proximity to 39 th Avenue Southeast; the wetland containing persistent, ungrazed vegetation in greater than half of the area; and greater than one quarter of the wetland area ponding seasonally. Wetland B's score for Water Quality Functions using the 2014 method is moderate (6).		
Hydrologic	Wetland B provides moderate hydrologic functions due to its proximity to high-intensity land development that generates surface runoff and its storage capacity. Wetland B's score for Hydrologic Functions using the 2014 method is moderate (6).		
Habitat	Habitat functions provided by Wetland B are minimal due to the lack of plant richness and accessible habitat as the wetland is adjacent to high-intensity land uses. However, Wetland B does contain special habitat features such as snags and logs, multiple hydroperiods, and low invasive species cover which provides some level of habitat complexity for birds and small mammals. Wetland B's score for Habitat Functions using the 2014 method is moderate (5).		
Buffer	The buffer surrounding Wetland B is disturbed by 39th Avenue Southeast, a water utility		
Condition	facility, and undeveloped forested ar	reas that are degraded by non-	-native invasive species.

Table 5. Wetland C Summary.

	WETLAND C - INFORM	MATION SUMMARY	
Location:	Located on the southeastern portion	n of the subject property.	
		Local Jurisdiction	City of Puyallup
经过来 在	些行政、 下海市区 一人公	WRIA	10 – Puyallup/White
	网龙公为	WSDOE Rating (Hruby, 2014)	IV
A PARALA		City of Puyallup Rating	IV
		City of Puyallup Buffer	N/A – Likely Non-
11/1/1/1/1		Width	Regulated
		Wetland Size	2,949 SF
		Cowardin Classification	PFO/EMC
		HGM Classification	Depressional
		Wetland Data Sheet(s)	DP-6
		Upland Data Sheet (s)	DP-7
33		Boundary Flag color	Orange
Dominant	Wetland vegetation is dominated by a canopy of red alder with an understory of reed		
Vegetation	canarygrass.		
Soils	Hydric soil indicator A11 (Depleted	Below Dark Surface) was ob	served.
Hydrology	Hydrology for Wetland C is provided by surface sheet flow, direct precipitation, and a seasonally-high groundwater table. Primary hydrologic indicator A1 (Surface Water), A2 (High Water Table), A3 (Saturation), and B8 (Sparsely Vegetated Concave Surface) were observed.		
Rationale for	Wetland boundaries were determine	ined by topographic drop	and a transition to a
Delineation	hydrophytic plant community.		
Rationale for Local Rating	Local rating is based upon WSDOE	2's current rating system per F	PMC 21.06.910.
-	Wetland Function	ons Summary	
Water Quality	Wetland C has a moderate ability to retain sediments and pollutants from surface runoff due to the wetland containing persistent, ungrazed vegetation in greater than 95 percent of the area, and greater than one quarter of the wetland area ponding seasonally. However, this function is limited by the relatively small size of the wetland. Wetland C's score for Water Quality Functions using the 2014 method is moderate (5).		
Hydrologic	Wetland C provides moderate hydrologic functions as the unit provides decent storage capacity and lacks a surface water outlet. Wetland C's score for Hydrologic Functions using the 2014 method is moderate (5).		
Habitat	Habitat functions provided by Wetland C are minimal due to a lack of plant richness and presence of invasive species. However, Wetland C does contain special habitat features such as snags and logs and minimal habitat interspersion which provides some level of habitat complexity for birds and small mammals. Wetland C's score for Habitat Functions using the 2014 method is low (4).		
Buffer	The area surrounding Wetland C is	,	forested areas that are
Condition	degraded due to the presence of invi	asive species.	

Table 6. Wetland D Summary.

Table 6. Wetland	WETLAND D - INFORM	MATION SUMMARY		
Location:	Located on the north-central portion			
Location.	Escated on the north-central portion	Local Jurisdiction	City of Puyallup	
1 1 1 2 2		WRIA	10 – Puyallup/White	
1.000		WSDOE Rating (Hruby, 2014)	IV	
	学	City of Puyallup Rating	IV	
		City of Puyallup Buffer Width	N/A – Likely Non- Regulated	
		Wetland Size	1,016 SF	
		Cowardin Classification	PFOAD	
		HGM Classification	Depressional	
		Wetland Data Sheet(s)	DP-8	
		Upland Data Sheet (s)	DP-9	
		Boundary Flag color	Orange	
Dominant	Wetland vegetation is dominated by		ood and Pacific willow	
Vegetation	with an understory of salmonberry a	and field horsetail.		
Soils	Hydric soil indicator A11 (Depleted Below Dark Surface) was observed.			
Hydrology	Hydrology for Wetland D is provided by surface sheet flow, direct precipitation, and a seasonally-high groundwater table. Primary hydrologic indicators A3 (Saturation) and B4 (Algal Mat or Crust) were observed.			
Rationale for Delineation	Wetland boundaries were determine hydrophytic plant community.		and a transition to a	
Rationale for Local Rating	Local rating is based upon WSDOE's current rating system per PMC 21.06.910.			
	Wetland Function	<u> </u>		
Water Quality	Wetland D has some ability to retain sediments and pollutants from surface runoff due to the presence of persistent, ungrazed plants in greater than half the area of the unit. However, this function is limited by the relatively small size of the wetland and lack of seasonal ponding. Wetland D's score for Water Quality Functions using the 2014 method is moderate (5).			
Hydrologic	Wetland D provides limited hydrologic functions with the presence of an intermittently flowing ditch to facilitate reductions of surface flows during storm events. Wetland D's score for Hydrologic Functions using the 2014 method is low (4).			
Habitat	Habitat functions provided by Wetland D are very minimal due to a lack of plant richness and interspersion of habitats. However, downed woody debris is present in the wetland unit which provides some habitat complexity. Wetland D's score for Habitat Functions using the 2014 method is low (4).			
Buffer Condition	The area surrounding Wetland D coare degraded due to the presence of an access road to the south.			

Table 7. Wetland E Summary.

	WETLAND E – INFORMATION SUMMARY				
Location:	Located on the north-central portion	n of the subject property.			
XVXV		Local Jurisdiction	City of Puyallup		
	A CONTRACTOR OF THE PARTY OF TH	WRIA	10 – Puyallup/White		
		WSDOE Rating (Hruby, 2014)	IV		
		City of Puyallup Rating	IV		
		City of Puyallup Buffer	N/A – Likely Non-		
		Width	Regulated		
		Wetland Size	608 SF		
		Cowardin Classification	PFOD		
		HGM Classification	Slope		
No.		Wetland Data Sheet(s)	DP-19		
		Upland Data Sheet (s)	DP-9		
		Boundary Flag color	Orange		
Dominant	Wetland vegetation is dominated by a canopy of red alder with an understory of skunk				
Vegetation	cabbage.	, .,			
Soils	Hydric soil indicator A11 (Depleted Below Dark Surface) was observed.				
Hydrology	Hydrology for Wetland E is provided by surface sheet flow, direct precipitation, and a seasonally-high groundwater table provided through hillside seeps. Primary hydrologic indicators A2 (High Water Table) and A3 (Saturation) were observed.				
Rationale for	Wetland boundaries were determine	ned by point of saturation	and a transition to a		
Delineation	hydrophytic plant community.				
Rationale for Local Rating	Local rating is based upon WSDOE	's current rating system per F	PMC 21.06.910.		
	Wetland Function	· · · · · · · · · · · · · · · · · · ·			
Water Quality	Wetland E has some potential to improve water quality due to dense, woody plants covering greater than half of the wetland area, though such functions are extremely limited by its size and slope characteristics. Wetland E's score for Water Quality Functions using the 2014 method is moderate (5).				
Hydrologic	Wetland E provides minimal hydrologic functions due to its location within the landscape, slope characteristics, and lack of known flooding issues lower in the sub-basin. Wetland E's score for Hydrologic Functions using the 2014 method is low (4).				
Habitat	Habitat functions provided by Wetland E are very minimal. There is a lack of plant richness and interspersion of habitats. However, downed woody debris is present in the wetland unit which provides some habitat complexity. Wetland E's score for Habitat Functions using the 2014 method is low (4).				
Buffer Condition	The area surrounding Wetland E co are degraded due to the presence of an access road to the south.	1 ,	*		

Table 8. Wetland F Summary.

WETLAND F – INFORMATION SUMMARY				
Location:	Located on the central of the subjec			
	STATE OF THE STATE	Local Jurisdiction	City of Puyallup	
V		WRIA	10 – Puyallup/White	
		WSDOE Rating (Hruby, 2014)	IV	
		City of Puyallup Rating	IV	
		City of Puyallup Buffer Width	N/A – Likely Non- Regulated	
	大大人	Wetland Size	3,175 SF	
		Cowardin Classification	PFOB	
1		HGM Classification	Slope	
		Wetland Data Sheet(s)	DP-16, DP-18	
		Upland Data Sheet (s)	DP-17	
		Boundary Flag color	Orange	
Dominant	Wetland vegetation is dominated by a canopy of red alder with an understory of hardhack,			
Vegetation	non-native invasive Himalayan blackberry, soft rush, and colonial bentgrass.			
Soils	Hydric soil indicator S5 (Sandy Rede	Hydric soil indicator S5 (Sandy Redox) was observed.		
Hydrology	Hydrology for Wetland F is provided by surface sheet flow, direct precipitation, and a seasonally-high groundwater table provided through hillside seeps. Primary hydrologic indicator A3 (Saturation) was observed.			
Rationale for Delineation	Wetland boundaries were determine hydrophytic plant community.	ned by point of saturation	and a transition to a	
Rationale for Local Rating	Local rating is based upon WSDOE	's current rating system per F	PMC 21.06.910.	
	Wetland Function			
Water Quality	Wetland F has a moderate ability to improve water quality due to dense, woody plants covering greater than half of the wetland area, and greater than 10 percent of the area within 150 feet upslope in land uses that generate pollutants. Wetland F's score for Water Quality Functions using the 2014 method is moderate (5).			
Hydrologic	Wetland F provides minimal hydrologic functions due to its location within the landscape, slope characteristics, and no known flooding issues lower in the sub-basin. Wetland F's score for Hydrologic Functions using the 2014 method is low (4).			
Habitat	Habitat functions provided by Wetland F are very minimal. There is a lack of plant richness and interspersion of habitats. However, downed woody debris is present in the wetland unit which provides some habitat complexity. Wetland F's score for Habitat Functions using the 2014 method is low (4).			
Buffer Condition	The area surrounding Wetland F condegraded due to the presence of invaccess road to the west.			

5.2 Offsite Features

Four offsite wetlands are located on the west-adjacent Parcel 0419037014. The buffers for these features do not extend onto the subject property according to a 2017 City approval for the Wesley Homes development. Lake Bradley is located approximately 175 feet to the northwest of the subject property in Bradley Lake Park on Parcel 0419032111; the maximum potential buffer from Lake Bradley, which is likely considered a regulated Fish and Wildlife Habitat Area under Article X of PMC 21.06, is not anticipated to encumber the subject property. No other wetlands, fish and wildlife habitat, or priority species were identified on or within 300 feet of the subject property.

Chapter 6. Regulatory Considerations

The results of the site investigations identified two Category III wetlands (Wetlands A and B) and four Category IV wetlands (Wetlands C-F) on the subject property. Four additional wetlands and Lake Bradley were identified offsite to the west of the subject property, but associated buffers were determined to not project onsite. No other potentially-regulated wetlands, waterbodies, or fish and wildlife habitat were identified on or within 300 feet the subject property.

6.1 Local Considerations

6.1.1 Buffer Requirements

PMC 21.06.910 has adopted the current wetland rating system used by WSDOE. Under the 2014 wetland rating system, Category IV wetlands are those that generally provide low levels of function and score less than 16 points. Category IV wetlands are often heavily disturbed and are wetlands that should be replaceable. Category III wetlands are those that generally provide moderate levels of function and score between 16 and 19 points. Category III wetlands have generally been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands. Category III wetlands can often be adequately replaced with a well-planned mitigation project.

Per PMC 21.06.910(2)(d), Wetland A is a Category III wetland with a low habitat score which requires a standard 80-foot buffer according based on the surrounding high land use intensity. Wetland B is a Category III wetland with a moderate habitat score which requires a standard 150-foot buffer. Per PMC 21.06.910(2)(e), Wetlands C, D, E, and F are Category IV wetlands and are likely exempt from the City's critical area regulations pursuant to PMC 21.06.910(4) as the wetlands are all less than 10,000 square feet in size.

6.1.2 Mitigation Sequencing

The proposed project requires the necessary and unavoidable fill of Wetland F located centrally on the subject property. Per PMC 21.06.610, projects should first attempt to avoid impacts all together by not taking certain actions. If actions cannot be eliminated, impacts should be minimized by restraining the magnitude of an action, using different technology or by taking steps to avoid or reduce impacts. For impacts that cannot be avoided or minimized, compensation or rectification for the impact should be provided by replacing, enhancing, or providing substitute resources or environments, followed by monitoring and reduction of the impact over time. Mitigation sequencing, outlined under PMC 21.06.210(84), for impacts to critical areas is as follows:

a. Avoiding an impact altogether by not taking a certain action or parts of actions;

The proposed project includes the expansion of the existing parking area on the central portion of the site. The proposed parking area must be continuous with the existing parking areas on the central portion of the site to continue servicing the existing commercial buildings while allowing an increase in new tenants and employees. Due to the need to expand the parking lot specifically in the center portion of the site, the total fill of the small, low-functioning Category IV wetland (Wetland F) totaling 3,175 square feet is necessary and unavoidable to provide the necessary parking to utilize the existing office space at full capacity. All other wetland impacts (Wetlands A-E) will be avoided.

b. Minimizing impacts by limiting the degree or magnitude of an action and its implementation;

As described above, the complete fill of Wetland F is unavoidable and necessary for the proposed parking lot. No other feasible option in site design would result in less impacts to critical areas while allowing reasonable parking lot expansion due to the extent of the existing developments onsite and encumbrance of multiple critical areas limiting the remaining developable areas. In addition, the location of the proposed parking lot on the central portion of the site was chosen due to its proximity to the building the parking areas will serve. To minimize temporary impacts to other wetland areas, all appropriate BMPs and TESC measures including the installation of silt fencing and temporary infiltration ponds throughout the site will be implemented throughout the course of construction.

c. Rectifying impacts by repairing, rehabilitating, or restoring the affected environment;

Repairing, rehabilitating, or restoring the affected critical areas onsite is not ecologically feasible. Much of the site is already developed with commercial buildings and the rest of the site is generally encumbered by the other wetlands, thus limiting the available space for the required parking lot expansion. Full wetland function compensation is better provided elsewhere, through a consolidated mitigation program that has greater potential to provide valuable wetland functions and that has the landscape potential to maintain each function. As such, the proposed direct impacts will be compensated through the purchase of mitigation bank credits from the Upper Clear Creek Mitigation Bank (UCCMB) if available. If credits cannot be purchased through the UCCMB, an onsite permittee-responsible mitigation plan can be pursued.

d. Reducing or eliminating an impact over time by preservation and maintenance operations during the life of the action;

The remaining wetlands and associated buffers onsite not affected by the proposed parking lot expansion will be preserved.

e. Compensating for an impact by replacing or providing substitute resources or environments; and

The necessary and unavoidable fill of approximately 3,175 square feet of Category IV wetland area will be compensated through the purchase of mitigation bank credits from the UCCMB. The proposed use of a mitigation bank was determined to be the most ecologically appropriate strategy that will result in a net gain in ecological functions within the Puyallup/White watershed over the existing degraded condition of the existing wetland proposed to be impacted.

f. Monitoring the mitigation and taking remedial action when necessary.

The wetlands created through the purchase of mitigation bank credits will be properly maintained and monitored by the appropriate agencies in perpetuity to ensure success of the mitigation actions.

December 7, 2020

6.1.3 General Mitigation Requirements

According to PMC 21.06.610, applicants proposing mitigation shall demonstrate adherence to the following criteria:

- 1. When an alteration to a critical area is proposed, the applicant shall demonstrate that all reasonable efforts have been taken to avoid, minimize, or compensate for impacts in that order and consistent with the mitigation definition contained in PMC 21.06.210(84).
 - Please refer to the avoidance measures outlined in Section 6.1.2 (Mitigation Sequencing) above.
- 2. Unless otherwise provided in this chapter, compensatory mitigation shall be provided for all unavoidable alterations of a critical area or buffer in accordance with an approved critical area report and mitigation plan, and consistent with best available science, to ensure no net loss of critical area functions and values. Mitigation shall not be implemented until after city approval of the critical area report and mitigation plan prepared in accordance with PMC 21.06.530 and 21.06.620.
 - The proposed compensatory mitigation is planned to consist of the purchase of credits from the UCCMB, as described in the Mitigation Bank Use Plan prepared by SVC under separate cover.
- 3. Mitigation actions shall be conducted within the same sub-drainage basin and on the same site as the alteration except when all of the following apply:
 - a. There are no reasonable on-site or in-drainage-basin opportunities or on-site and in-drainage-basin opportunities do not have a high likelihood of success due to development pressures, adjacent land uses, or on-site buffers or connectivity are inadequate;
 - b. Off-site mitigation has a greater likelihood of providing equal or improved critical areas functions; and
 - c. Off-site locations shall be in the same sub-drainage basin unless the action qualifies as innovative mitigation per the provisions of PMC 21.06.640.

Onsite permittee-responsible mitigation is possible but would have a lesser likelihood of success relative to a mitigation bank. In addition, such onsite mitigation actions could minimize the potential for future development expansion opportunities, should future expansion be necessary at the South Hill Data Center. The UCCMB is located in the same sub-drainage basin as the proposed project (HUC 171100140502 – Puyallup River) and has a greater likelihood of providing improved critical area functions by providing valuable wetland functions in a landscape that has the potential to maintain those functions. [It is noted that the one wetland proposed to be impacted, Wetland F, should not be regulated by the City of Puyallup due to its small size.]

- 4. Where feasible, mitigation projects shall be completed prior to activities that will disturb critical areas. In all other cases, mitigation shall be completed immediately following disturbance and prior to use or occupancy of the activity or development. Construction of mitigation projects shall be timed to reduce impacts to existing wildlife and vegetation.
 - The UCCMB was certified for use June 24, 2020 but is still in the process of being approved for the release of mitigation bank credits. The schedule for the release of those credits has yet to be determined but is expected in late 2020 or early 2021 based on conversations with the Port of Tacoma. The issuance of bank credits will take place as soon as they are available and will ultimately result in improved critical area functions by providing valuable wetland functions in a landscape that has the potential to maintain those functions. As such, the proposed use of a mitigation bank is considered the most ecologically feasible and is the stated preference of the USACE.
- 5. All mitigation sites shall have buffers consistent with the buffer requirements of this chapter. For mitigation projects that involve creating new wetlands or relocating streams, the director shall have the authority to modify the buffer requirements on a case-by-case basis to avoid unduly encumbering neighboring properties.
 - No onsite mitigation requiring a protective buffer is proposed. The proposed use of mitigation bank credits from the UCCMB will provide mitigation in an established protected area.
- 6. The applicant shall develop a mitigation plan that provides for construction, maintenance, monitoring and contingencies of the wetland compensation as required by conditions of approval and consistent with the requirements of this chapter. The mitigation plan must be consistent with PMC 21.06.620 and shall at a minimum contain the information listed in this chapter.
 - As the Applicant is proposing the purchase of mitigation bank credits to compensate for the necessary and unavoidable fill of the low-functioning Category IV wetland (Wetland F) onsite, construction, maintenance, and monitoring will be the responsibility of the UCCMB and associated sponsors. The UCCMB is an official established mitigation bank with specific sponsors and appropriate resources which effectively help maintain each mitigation site to ensure success of the mitigation actions.
- 7. All mitigation areas shall be provided with permanent protection and management to avoid degradation and ensure protection of critical area functions and values into perpetuity. Permanent protection shall be achieved through deed restriction or other protective covenant in accordance with PMC 21.06.820. (Ord. 2859 § 1, 2006).

The UCCMB is an official established mitigation bank that will be protected in perpetuity.

Per PMC 21.06.960, adverse impacts to critical area functions shall be mitigated, and mitigation actions shall be implemented in accordance with PMC 21.06.620. Proposed projects that require mitigation for impacts to wetlands shall also demonstrate the following:

1. Mitigation for alterations to wetlands shall achieve equivalent or greater biologic functions, and shall provide similar wetland functions as those lost.

The proposed purchase of mitigation bank credits to compensate for the necessary and unavoidable fill of Wetland F onsite will provide a net lift in biologic functions in the Puyallup/White watershed and the Puyallup River sub basin. Goals outlined in the UCCMB Mitigation Bank Instrument (MBI) include re-establishing floodplain connectivity by creating, re-establishing, and rehabilitating wetland habitat, and maximizing wetland area and functions associated with Clear Creek. These goals significantly surpass the functions provided by Wetland F, which is a low functioning Category IV wetland surrounded by high-intensity land use.

2. Mitigation in the form of wetland creation, restoration or enhancement is required when a wetland is altered permanently as a result of an approved project. Alterations shall not result in a net loss of wetland area except when the following criteria are met:

The purchase of mitigation bank credits from the UCCMB will contribute to large-scale wetland creation, restoration and rehabilitation which will provide a net lift in ecological functions in the Puyallup/White watershed as well as the Puyallup River sub basin. The proposed credits to be purchased will be sufficient to compensate for the area of Wetland F to be filled onsite.

6.1.4 Mitigation Bank Requirements

Per PMC 21.06.980(3), credits from an approved mitigation bank may be used as compensation for unavoidable wetland impacts when the following criteria are met:

1. The wetland mitigation bank is certified by the director and by state resource agencies with wetland jurisdiction

The UCCMB was certified for use on June 24, 2020.

2. The director determines that the wetland mitigation bank provides appropriate compensation for the authorized impacts

The proposed purchase of mitigation bank credits from the UCCMB is pending the approval of the comprehensive Mitigation Bank Use Plan prepared by SVC under separate cover. The proposed project will not proceed with construction prior to receiving this approval.

3. The proposed use of credits, including replacement ratios, is consistent with the terms and conditions of the wetland mitigation bank's certification. Certified wetland mitigation bank credits may be used to compensate for impacts located within the service area specified in the certification.

The Applicant proposes the purchase of mitigation bank credits at a 0.85:1 ratio which is consistent with the guidance outlined in the certified UCCMB Mitigation Banking Instrument document for Category IV wetlands.

6.2 State and Federal Considerations

The Federal Register published "The Navigable Waters Protection Rule: Definition of "Waters of the United States" on April 21, 2020. The Navigable Waters Protection Rule was the second step in reviewing and revising the definition of WOTUS as intended by the Executive Order "Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the 'Waters of the United States Rule." The Navigable Waters Protection Rule became effective June 22, 2020.

Under the final Navigable Waters Protection Rule, the agencies interpret the term WOTUS to encompass: 1) the territorial seas and traditional navigable waters; 2) perennial and intermittent tributaries that contribute surface water flow to such waters; 3) certain lakes, ponds, and impoundments of jurisdictional waters; and 4) wetlands adjacent to other jurisdictional waters.

The Navigable Waters Protection Rule specifies that WOTUS do not include: a) groundwater, including groundwater drained through subsurface drainage systems; b) ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools; c) diffuse stormwater runoff and directional sheet flow over upland; d) ditches that are not traditional navigable waters, tributaries, or that are not constructed in adjacent wetlands, subject to certain limitations; e) prior converted cropland; f) artificially irrigated areas that would revert to upland if artificial irrigation ceases; g) artificial lakes and ponds that are not jurisdictional impoundments and that are constructed or excavated in upland or non-jurisdictional waters; h) water-filled depressions constructed or excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel; i) stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater runoff; j) groundwater recharge, water reuse, and wastewater recycling structures constructed or excavated in upland or in non-jurisdictional waters; and k) waste treatment systems.

The onsite Wetlands A through F are presumed to be WOTUS and regulated under Section 404 of the CWA to expedite the permitting process. The WSDOE also regulates wetlands and natural surface waters under RCW 90.48. As the proposed project requires direct impacts to Wetland F onsite, permitting through the USACE and WSDOE is necessary to support the proposed development.

Chapter 7. Closure

The findings and conclusions documented in this report have been prepared for specific application to this project. They have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. Our work was also performed in accordance with the terms and conditions set forth in our proposal. The conclusions and recommendations presented in this report are professional opinions based on an interpretation of information currently available to us and are made within the operation scope, budget, and schedule of this project. No warranty, expressed or implied, is made. In addition, changes in government codes, regulations, or laws may occur. Due to such changes, our observations and conclusions applicable to this project may need to be revised wholly or in part.

All wetland boundaries identified by SVC are based on conditions present at the time of the site inspection and considered preliminary until the flagged wetland boundaries are validated by the jurisdictional agencies. Validation of the wetland boundaries by the regulating agency provides a certification, usually written, that the wetland boundaries verified are the boundaries that will be regulated by the agencies until a specific date or until the regulations are modified. Only the regulating agencies can provide this certification.

As wetlands are dynamic communities affected by both natural and human activities, changes in wetland boundaries may be expected; therefore, wetland delineations cannot remain valid for an indefinite period of time. Local agencies typically recognize the validity of wetland delineations for a period of five years after completion of a wetland delineation report. Development activities on a site five years after the completion of this wetland delineation report may require revision of the wetland delineation. In addition, changes in government codes, regulations, or laws may occur. Due of such changes, our observations and conclusions applicable to this site may need to be revised wholly or in part.

Chapter 8. References

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Appendix A — Methods and Tools

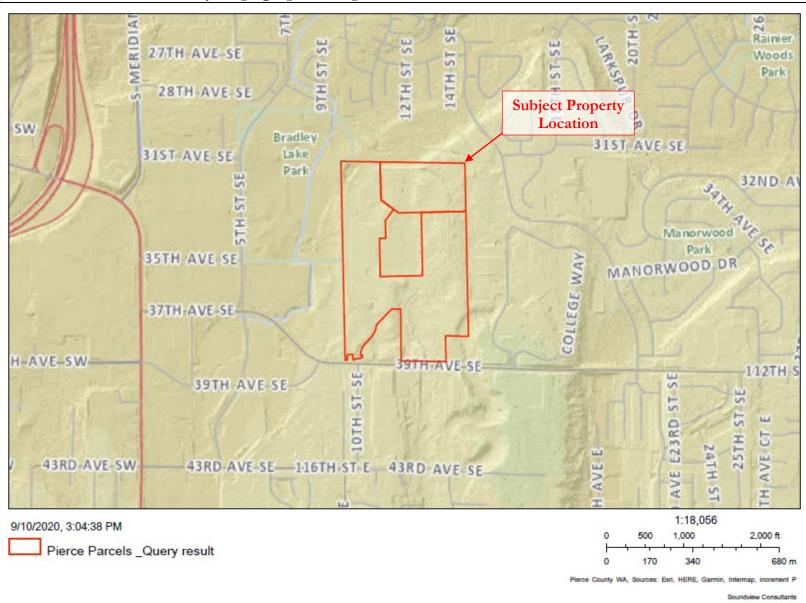
Table A-1. Methods and tools used to prepare the report.

Parameter	Method or Tool	Website	Reference
Wetland Delineation	USACE 1987 Wetland Delineation Manual	http://el.erdc.usace.army.mil /elpubs/pdf/wlman87.pdf	Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
	Western Mountains, Valleys, and Coast Region Regional Supplement	http://www.usace.army.mil/ Portals/2/docs/civilworks/r egulatory/reg_supp/west_mt _finalsupp.pdf	U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
Wetland Classification	USFWS / Cowardin Classification System	http://www.fws.gov/wetland s/Documents/Classification- of-Wetlands-and-Deepwater- Habitats-of-the-United- States.pdf https://www.fgdc.gov/stand ards/projects/wetlands/nvcs -2013	Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. Government Printing Office, Washington, D.C. Federal Geographic Data Committee. 2013. Classification of Wetlands and Deepwater Habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.
	Hydrogeomorphic Classification (HGM) System	http://el.erdc.usace.army.mil /wetlands/pdfs/wrpde4.pdf	Brinson, M. M. (1993). "A hydrogeomorphic classification for wetlands," Technical Report WRP-DE-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
Wetland Rating	Washington State Wetland Rating System	http://www.ecy.wa.gov/bibli o/0406025.html	Hruby, T . 2014. Washington State wetland rating system for western Washington –Revised. Publication # 04-06-025.
Wetland Indicator Status	2016 National Wetland Plant List	http://wetland- plants.usace.army.mil/	Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X
Plant Names	USDA Plant Database	http://plants.usda.gov/	Website
Soils Data	NRCS Soil Survey	http://websoilsurvey.nrcs.us da.gov/app/WebSoilSurvey.a spx	Website GIS data based upon: Zulauf, A.S. 1979. Soil Survey of Pierce County, Washington. United States Department of Agriculture, Soil Conservation Service in cooperation with Washington State Department of Natural Resources, and Washington State University, Agriculture Research Center. Washington, D.C.
Threatened and Endangered Species	Washington Natural Heritage Program	http://data- wadnr.opendata.arcgis.com/d atasets/wnhp-current- element-occurrences	Washington Natural Heritage Program (Data published 7/19/17). Endangered, threatened, and sensitive plants of Washington. Washington State Department of Natural Resources, Washington Natural Heritage Program, Olympia, WA
	Washington Priority Habitats and Species USFWS species lists by County	http://wdfw.wa.gov/hab/ph spage.htm http://www.fws.gov/wafwo /speciesmap.html	WDFW PHS Program (Data produced 11/22/17). Map of priority habitats and species in project vicinity. Website
	NOAA fisheries species list and maps	http://www.nwr.noaa.gov/E SA-Salmon-Listings/Salmon- Populations/Index.cfm and http://www.nmfs.noaa.gov/ pr/species/	Website
Species of Local Importance	WDFW GIS Data	http://wdfw.wa.gov/mappin g/salmonscape/	Website
Report Preparation	Puyallup Municipal Code	http://www.codepublishing.c om/WA/Puyallup/	PMC Chapter 21.06 – Critical Areas (passed 11/28/17).

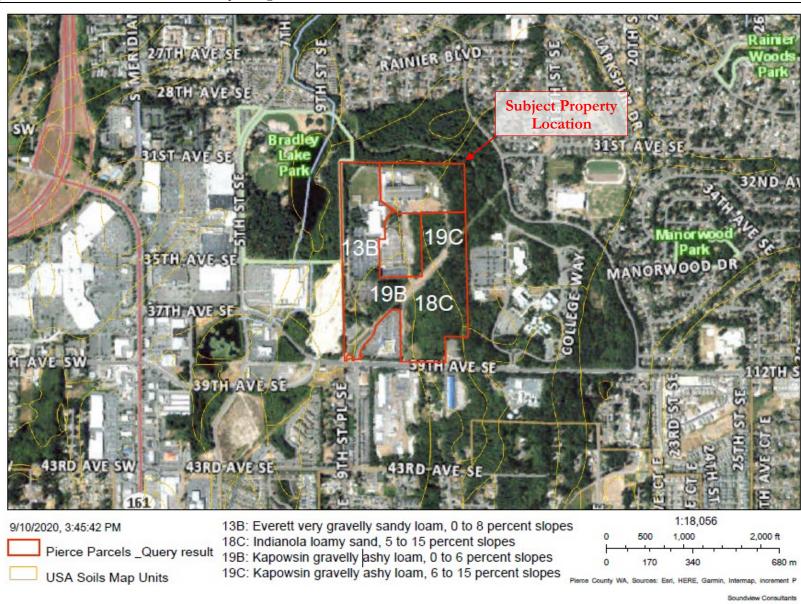
Appendix B — Background Information

This appendix includes a Pierce County Topographic Map (B1); NRCS Soil Survey Map (B2); USFWS NWI Map (B3); Pierce County Wetland and Stream Inventory (B4); City of Puyallup Wetland Inventory (B5); DNR Stream Typing Map (B6); WDFW PHS Map (B7); and WDFW SalmonScape Map (B8).

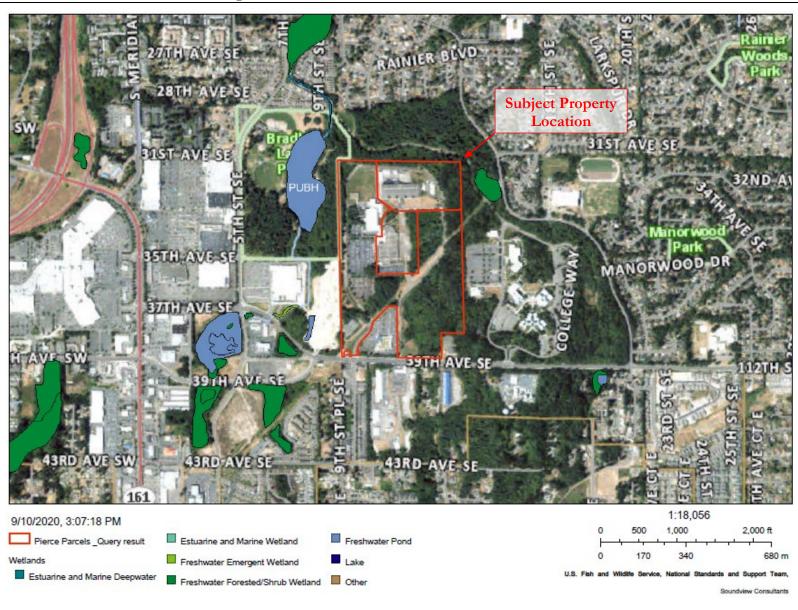
Appendix B1 — Pierce County Topographic Map



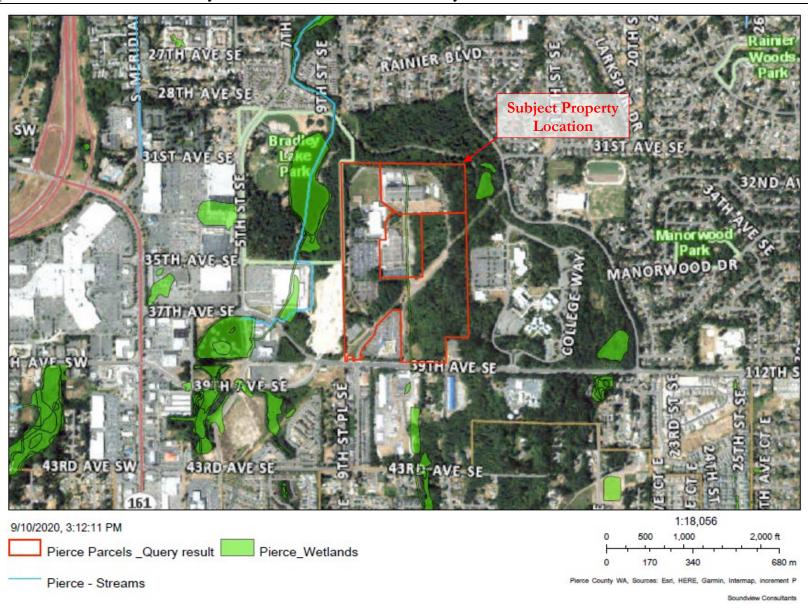
Appendix B2 – NRCS Soil Survey Map



Appendix B3 — USFWS NWI Map



Appendix B4 — Pierce County Wetland and Stream Inventory

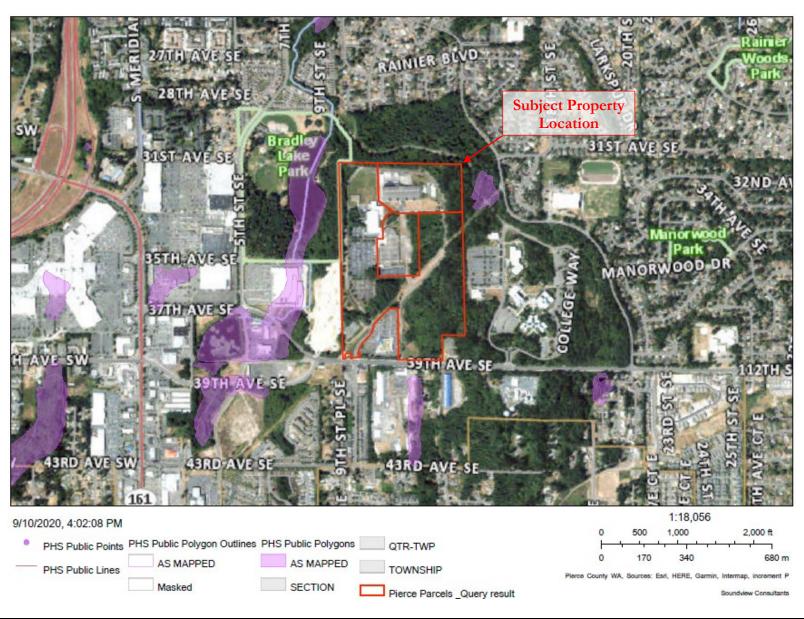


Appendix B5 – City of Puyallup Wetland Inventory Map



Appendix B6 — DNR Stream Typing Map







Priority Habitats and Species on the Web

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Generalized Location
Wetlands	N/A	N/A	No
Waterfowl Concentrations	N/A	N/A	No
Freshwater Forested/Shrub Wetland	N/A	N/A	No

PHS Species/Habitats Details:

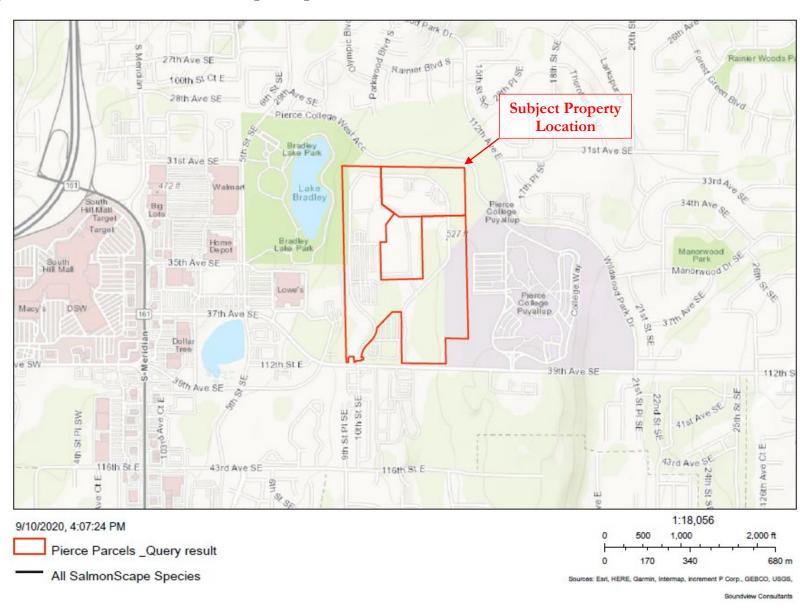
Wetlands	
Priority Area	Aquatic Habitat
Site Name	SOUTH PUYALLUP WETLANDS
Accuracy	1/4 mile (Quarter Section)
Notes	POTHOLE WETLANDS IN SOUTH PUYALLUP AREA
Source Record	902560
Source Dataset	PHSREGION
Source Name	NAUER, DON WDW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Waterfowl Concentrations	
Priority Area	Regular Concentration
Site Name	PIERCE COUNTY - NON FARM
Accuracy	1/4 mile (Quarter Section)
Notes	SMALL WATERFOWL CONCENTRATION AREAS, NON AGRICULTURAL.
Source Record	902564
Source Dataset	PHSREGION
Source Name	NAUER, DON WDW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00026
Geometry Type	Polygons

Freshwater Forested/Shrub Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: PALUSTRINE - NWI Code: PFOC
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.

Appendix B8 — WDFW SalmonScape Map



Appendix C — Existing Conditions and Proposed Exhibits

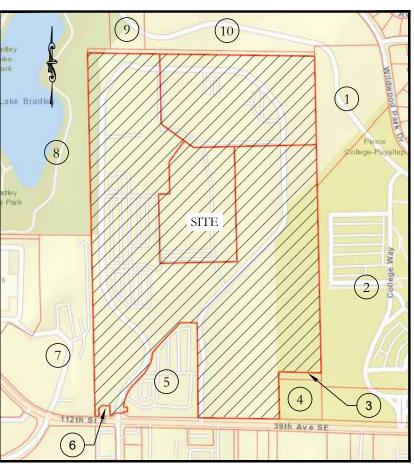
LOCATION:

THE SE 1/4 OF SECTION 3, TOWNSHIP 19N, RANGE 4E, W.M. PIERCE COUNTY PARCEL NUMBERS: 0419034036, 0419034037, & 0419034038 LAT 47°09'32.37" LONG 122°16'48.61"

VICINITY MAP

ADJACENT OWNERSHIP



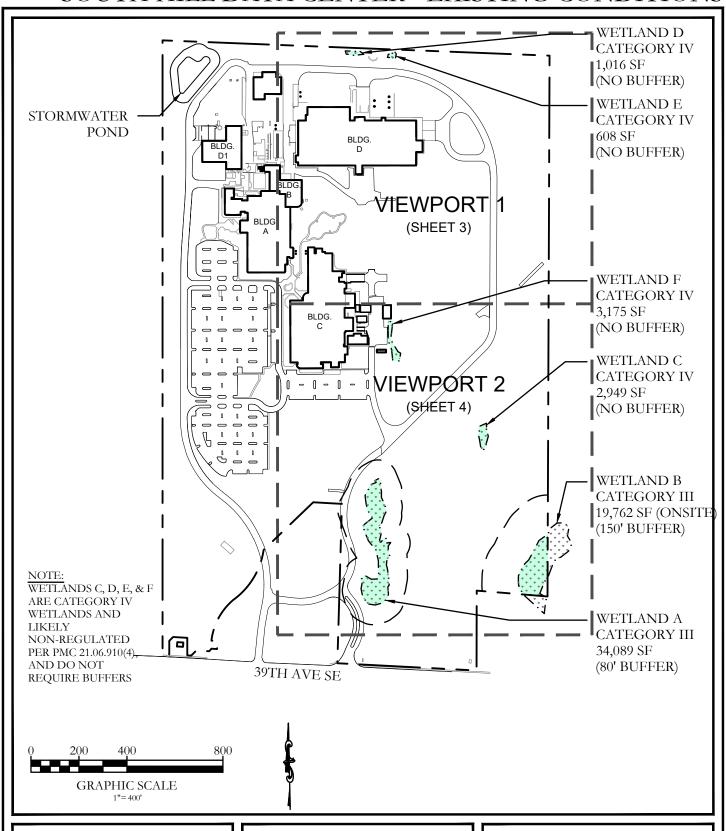


ADJACENT OWNERS:

- 1. PIERCE COLLEGE PUYALLUP
- 2. PIERCE COLLEGE PUYALLUP
- 3. FRUITLAND MUTAL WATER COMPANY, INC.
- 4. FRUITLAND MUTAL WATER COMPANY, INC
- 5. GROUP HEALTH
- 6. CITY OF PUYALLUP
- 7. WESLEY HOMES BRADLEY PARK
- 8. CITY OF PUYALLUP
- 9. STATE OF WASHINGTON
- 10. PIERCE COLLEGE PUYALLUP

PROJECT: 1077.0012 SOUTH HILL DATA CENTER							
		REFERNCE NUMBER: NOT ASSIGNED					
	COMMERCIAL PARKING LOT	IN: LAKE BRADLEY					
		NEAR: PUYALLUP					
		COUNTY: PIERCE					
		APPLICANT: BENAROYA CAPITAL COMPAN					
	PUYALLUP, WA 98374	SHEET: 1 of 5	DATE: 12/07/2020				

SOUTH HILL DATA CENTER - EXISTING CONDITIONS





BENAROYA CAPITAL COMPANY

PROPOSED PROJECT: EXPANSION OF EXISTING

COMMERCIAL PARKING LOT

2 OF 5

THE SE 🔏 OF SECTION 3, TOWNSHIP 19N, RANGE 4E, W.M 12/07/2020

SOUTH HILL DATA CENTER 1015, 1019-1021, & 1023 39TH AVENUE SE PUYALLUP, WASHINGTON 98374

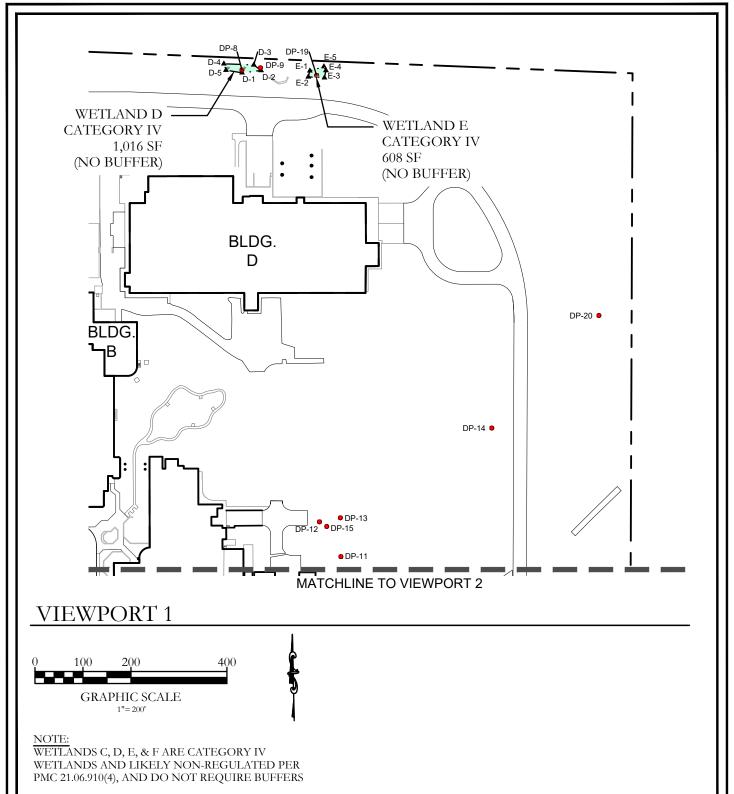
PARCEL NUMBERS 0419034036, 0419034037, & 0419034038

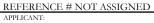


Gig Harbor, Washington 98335

F. 253.514.8954

SOUTH HILL DATA CENTER - EXISTING CONDITIONS





BENAROYA CAPITAL COMPANY

PROPOSED PROJECT: EXPANSION OF EXISTING COMMERCIAL PARKING LOT

LOCATION

SHEETS

3 OF 5

12/07/2020

SOUTH HILL DATA CENTER 1015, 1019-1021, & 1023 39TH AVENUE SE

PUYALLUP, WASHINGTON 98374

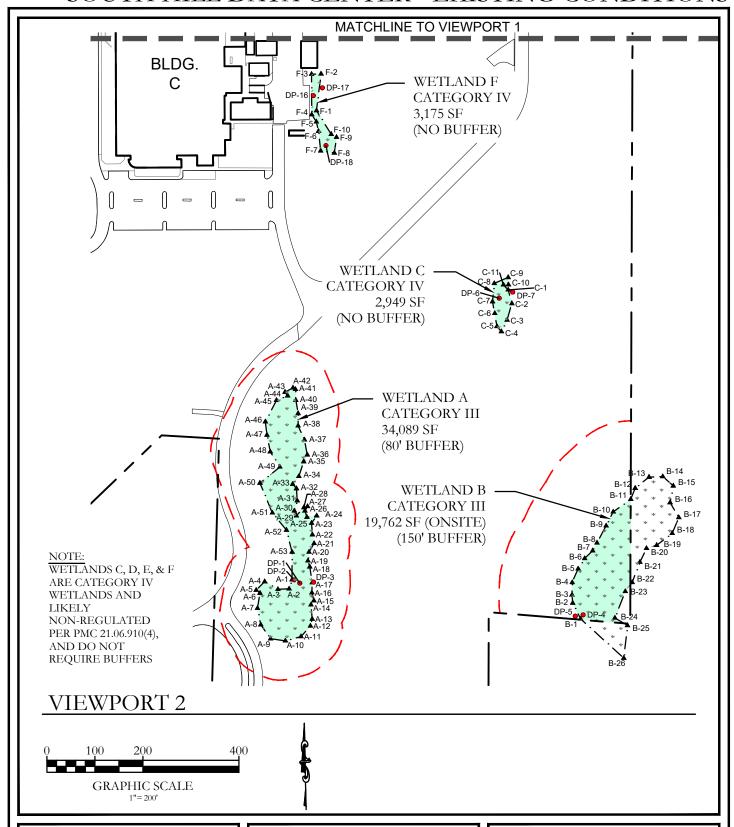
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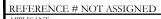


Gig Harbor, Washington 98335

F. 253.514.8954

SOUTH HILL DATA CENTER - EXISTING CONDITIONS





BENAROYA CAPITAL COMPANY

PROPOSED PROJECT:

EXPANSION OF EXISTING COMMERCIAL PARKING LOT

4 OF 5

12/07/2020

SOUTH HILL DATA CENTER 1015, 1019-1021, & 1023 39TH AVENUE SE

PUYALLUP, WASHINGTON 98374

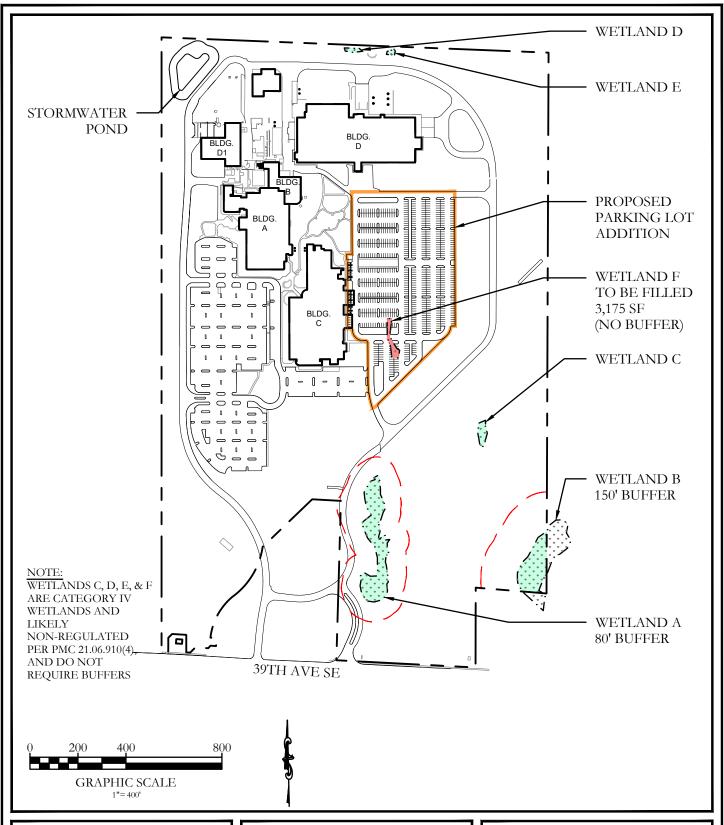
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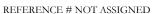


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F. 253.514.8954

SOUTH HILL DATA CENTER - PROPOSED SITE PLAN





BENAROYA CAPITAL COMPANY

PROPOSED PROJECT:

EXPANSION OF EXISTING COMMERCIAL PARKING LOT

THE SE 🔏 OF SECTION 3, TOWNSHIP 19N, RANGE 4E, W.M 12/07/2020

5 OF 5

SOUTH HILL DATA CENTER 1015, 1019-1021, & 1023 39TH AVENUE SE PUYALLUP, WASHINGTON 98374

> PARCEL NUMBERS 0419034036, 0419034037, & 0419034038



Gig Harbor, Washington 98335

F. 253.514.8954

Appendix D — Data Forms

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

Project/Site: 1077.0012 - South Hill Data Center		City/Cou	Sampling Date: 9/13/16				
Applicant/Owner: Benaroya Capital Company	State: WA Sampling Point: DP-1						
Investigator(s): Richard Peel, Emily Swaim		Section, Township, Range: 03, 19, 04					
•					e Slope (%): 0		
Subregion (LRR): A2		_	,	,			
Soil Map Unit Name: Indianola Loamy Sand				NWI classifica			
Are climatic / hydrologic conditions on the site typical for this							
Are Vegetation, Soil, or Hydrology sign	nificantly dis	turbed?	Are "No	ormal Circumstances" pres	ent? Yes ☒ No ☐		
Are Vegetation, Soil, or Hydrology natu	rally probler	matic?	(If need	led, explain any answers in	Remarks.)		
SUMMARY OF FINDINGS - Attach site map	showing	samp	ling point l	ocations, transects,	important features, etc.		
Hydrophytic Vegetation Present? Yes ☒ No ☐							
Hydric Soil Present? Yes ☒ No ☐			the Sampled				
Wetland Hydrology Present? Yes ☒ No ☐		, w	rithin a Wetlaı	nd? Yes ☒ No) ⊔		
Remarks: Data collected near center of Wet	land A	·					
VEGETATION – Use scientific names of plant	ts.						
	Absolute		ant Indicator	Dominance Test works	heet:		
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	<u>% Cover</u> 50	Specie Yes	es? Status FAC	Number of Dominant Sp			
2. Populus balsamifera	40	Yes	FAC	That Are OBL, FACW, o	r FAC: <u>4</u> (A)		
3		-		Total Number of Domina Species Across All Strate			
4	90	= Tota	al Cover	Percent of Dominant Spo That Are OBL, FACW, o			
Sapling/Shrub Stratum (Plot size: 15 ft)							
1. Rubus spectabilis	30	Yes		Prevalence Index work			
2. Spiraea douglasii	30	Yes	<u>FACW</u>	Total % Cover of:			
3					x 1 = 0		
4				FACW species 30			
5	60				x = 360 x = 4 = 0		
Herb Stratum (Plot size: 5 ft)	60	= I ota	al Cover		x = 0 x = 0		
1				Column Totals: 150	(A) $\frac{420}{}$ (B)		
2				Column Totals. 100	(A) <u>+20</u> (B)		
3				Prevalence Index	= B/A = 2.8		
4				Hydrophytic Vegetation	n Indicators:		
5				☐ Rapid Test for Hydro	phytic Vegetation		
6				■ Dominance Test is >	50%		
7				➤ Prevalence Index is	≤3.0 ¹		
8					ations ¹ (Provide supporting or on a separate sheet)		
9				☐ Wetland Non-Vascul	• /		
10					nytic Vegetation ¹ (Explain)		
11					and wetland hydrology must		
Woody Vine Stratum (Plot size: 30 ft)	0		al Cover	be present, unless distu			
1				Hydrophytic			
2	^		10	Vegetation	☑ Na □		
% Bare Ground in Herb Stratum 100	<u> </u>	= Tota	al Cover	Present? Yes	⊠ No □		
Remarks: FAC-FACW vegetation observed.				1			
1 AO-1 AOVV Vegetation observed.							

Profile Descri	Matrix				x Featur	es_					
	Color (moist)	%	Colo	r (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-12	10YR 2/1	100			-	_		LoSa		Loamy Fine Sand	
12-16	10YR 3/4	95	10\	/R 3/6	5	CS	M	Sand		Fine Sand	
					_	-					
					_						
											
	ncentration, D=Dep						ed Sand G			ation: PL=Pore Lining, M=Matrix.	
	dicators: (Applic	cable to a				tea.)				rs for Problematic Hydric Soils ³ :	
☐ Histosol (A	•			Sandy Redox (S				_		Muck (A10)	
☐ Histic Epip☐ Black Histic	, ,			Stripped Matrix Loamy Mucky N	` '	1) (ovcon	+ MI D A 1\			Parent Material (TF2) Shallow Dark Surface (TF12)	
	Sulfide (A4)			_oamy Gleyed I			LIVILNA I)		-	r (Explain in Remarks)	
	Below Dark Surfac	e (A11)		Depleted Matrix		-/			Othic	(Explain in Romano)	
•	Surface (A12)	- (Redox Dark Sui)		3In	dicato	rs of hydrophytic vegetation and	
☐ Sandy Mud	cky Mineral (S1)			Depleted Dark S	Surface (F7)			wetlar	nd hydrology must be present,	
	yed Matrix (S4)		☐ F	Redox Depress	ions (F8)				unles	s disturbed or problematic.	
	yer (if present):										
Depth (inch	nes):							Hydri	c Soil	Present? Yes 🗵 No 🗌	
Remarks:											
			ممما	dua ta pravir	~i+	المسر منط	and have	adom.			
Trydric 30ii3	not observed t	out assi	umed (due to proxir	mity wit	hin wetla	and bour	ndary.			
,		out assi	umed (due to proxir	mity wit	hin wetla	and bour	ndary.			
HYDROLOG	ŝΥ		umed (due to proxir	mity wit	hin wetla	and bour	ndary.			
HYDROLOG Wetland Hydr	iY rology Indicators	:		·		hin wetla	and bour		Secon	dary Indicators (2 or more required	
HYDROLOG Wetland Hydro	iY ology Indicators: tors (minimum of o	:	ired; che	eck all that appl	у)					dary Indicators (2 or more required	
HYDROLOG Wetland Hydro Primary Indicat Surface Wi	ology Indicators: tors (minimum of dater (A1)	:	ired; che	eck all that appl Water-Stai	y) ned Leav	ves (B9) (є				ater-Stained Leaves (B9) (MLRA 1,	
HYDROLOG Wetland Hydro Primary Indicar Surface Wo	ology Indicators: tors (minimum of ole) ater (A1) r Table (A2)	:	ired; che	eck all that appl ☑ Water-Stai 1, 2, 4	y) ned Leav	ves (B9) (є		RA	□ Wa	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B)	_
HYDROLOG Wetland Hydro Primary Indicar Surface Woodling High Water Saturation	ology Indicators: tors (minimum of olater (A1) r Table (A2) (A3)	:	ired; che	eck all that appl Water-Stai 1, 2, 4	y) ned Leav A, and 4E (B11)	ves (B9) (є		RA	□ Wa	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10)	
HYDROLOG Wetland Hydr. Primary Indicat Surface With High Water Saturation Water Mark	ology Indicators: tors (minimum of olater (A1) r Table (A2) (A3) ks (B1)	:	ired; che	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv	y) ned Leav A, and 4E (B11) vertebrate	ves (B9) (є 3) es (B13)		RA	☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2)	, 2 ,
HYDROLOG Wetland Hydro Primary Indicat Surface With High Water Saturation Water Mark Sediment I	cology Indicators: stors (minimum of colored (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	:	ired; che	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv	y) ned Leav A, and 4E (B11) vertebrate Sulfide O	ves (B9) (6 3) es (B13) edor (C1)	except MLI	RA	☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (, 2 ,
HYDROLOG Wetland Hydro Primary Indicat Surface Water High Water Saturation Water Mari Sediment I Drift Depos	rology Indicators: stors (minimum of cater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3)	:	ired; che	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen	y) ned Leav A, and 4E (B11) vertebrate Sulfide C	ves (B9) (6 3) es (B13) edor (C1) eres along	except MLI	RA ots (C3)	☐ Wa	Ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (comorphic Position (D2)	, 2 ,
HYDROLOG Wetland Hydro Primary Indicar Surface Woodling High Water Saturation Water Marl Sediment I Drift Depos	rology Indicators: tors (minimum of cater (A1) or Table (A2) (A3) dks (B1) Deposits (B2) sits (B3) or Crust (B4)	:	ired; che	eck all that appl Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized R	y) ned Leav ned A, and 4E (B11) vertebrate Sulfide C Rhizosphe of Reduce	ves (B9) (c 3) es (B13) edor (C1) eres along ed Iron (C	except MLI Living Roo 4)	RA obts (C3)	☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (comorphic Position (D2) allow Aquitard (D3)	, 2 ,
HYDROLOG Wetland Hydre Primary Indicat Surface Water High Water Saturation Water Mart Sediment I Drift Depos Algal Mat o	tors (minimum of of atter (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	:	ired; che	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o	y) ned Leav ned Leav (B11) vertebrate Sulfide C thizosphe of Reduce n Reduct	ves (B9) (e 3) es (B13) edor (C1) eres along ed Iron (C- ion in Tille	Except MLI Living Roo 4) d Soils (Co	RA ots (C3)	☐ W: ☐ Dr ☐ Dr ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (emorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5)	, 2 ,
HYDROLOG Wetland Hydre Primary Indicat Surface Water High Water Saturation Water Mark Sediment I Drift Depos Algal Mat of Iron Depos Surface So	tors (minimum of of atter (A1) or Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6)	: one requi	ired; che	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or	y) ned Leav A, and 4E (B11) vertebrate Sulfide C thizosphe of Reduce n Reduct Stressec	ves (B9) (6 3) es (B13) edor (C1) eres along ed Iron (C ion in Tille d Plants (D	Except MLI Living Roo 4) d Soils (Co	RA ots (C3)	☐ Wai	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) iised Ant Mounds (D6) (LRR A)	, 2 ,
HYDROLOG Wetland Hydr. Primary Indicat Surface Water High Water Saturation Water Mark Sediment I Drift Depos Algal Mat of Iron Depos Surface So Inundation	tors (minimum of of atter (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	: one requi	ired; che	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or	y) ned Leav A, and 4E (B11) vertebrate Sulfide C thizosphe of Reduce n Reduct Stressec	ves (B9) (6 3) es (B13) edor (C1) eres along ed Iron (C ion in Tille d Plants (D	Except MLI Living Roo 4) d Soils (Co	RA ots (C3)	☐ Wai	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (emorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5)	, 2 ,
HYDROLOG Wetland Hydr. Primary Indicat Surface Water High Water Saturation Water Mark Sediment I Drift Depos Algal Mat of Iron Depos Surface So Inundation	rology Indicators: stors (minimum of orestators (Minimum of orestators (Management of orestators	: one requi	ired; che	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or	y) ned Leav A, and 4E (B11) vertebrate Sulfide C thizosphe of Reduce n Reduct Stressec	ves (B9) (6 3) es (B13) edor (C1) eres along ed Iron (C ion in Tille d Plants (D	Except MLI Living Roo 4) d Soils (Co	RA ots (C3)	☐ Wai	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) iised Ant Mounds (D6) (LRR A)	, 2 ,
HYDROLOG Wetland Hydro Primary Indicat Surface Water Mart Sediment It Drift Depost Algal Mat of Iron Depost Inundation Sparsely V	rology Indicators: tors (minimum of of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bil Cracks (B6) Visible on Aerial I degetated Concave	: one requi	(B7) (B8)	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or	y) ned Leav ned Leav (B11) vertebrate Sulfide O Rhizosphe of Reduce n Reduct Stressed	ves (B9) (e 3) es (B13) edor (C1) eres along ed Iron (C ion in Tille d Plants (D emarks)	Except MLI Living Roo 4) d Soils (Co	RA ots (C3)	☐ Wai	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) iised Ant Mounds (D6) (LRR A)	, 2 ,
HYDROLOG Wetland Hydren Primary Indicat Surface Water High Water Saturation Water Mark Sediment I Drift Depos Algal Mat of Iron Depos Surface So Inundation Sparsely W Field Observat Surface Water	tology Indicators: tors (minimum of of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial Indicators: regresent?	: one requi	(B7) e (B8)	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp	y) ned Leav ned Leav (B11) vertebrate Sulfide C Rhizosphe of Reduct Reduct Stressec plain in Re	ves (B9) (e 3) es (B13) edor (C1) eres along ed Iron (Cion in Tille d Plants (Demarks)	Except MLI Living Roo 4) d Soils (Co	RA ots (C3)	☐ Wai	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) iised Ant Mounds (D6) (LRR A)	, 2 ,
HYDROLOG Wetland Hydr. Primary Indicat Surface With High Water Saturation Water Marl Sediment In Drift Deposed In Indication Sparsely Wetland Observation Field Observation Water Table Primary Indication Surface Water Water Table Primary Indication	ology Indicators: tors (minimum of olater (A1) or Table (A2) (A3) dks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial Indicators: represent?	: one requi	(B7) e (B8) No 🗵	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp	y) ned Leav A, and 4E (B11) vertebrate Sulfide C thizosphe of Reduct n Reduct Stressec clain in Re	ves (B9) (6 3) es (B13) edor (C1) eres along ed Iron (C ion in Tille d Plants (D emarks)	Except MLI Living Roo 4) d Soils (C6 01) (LRR A	RA ots (C3) 6)	☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)	, 2 ,
HYDROLOG Wetland Hydre Primary Indicat Surface Water High Water Saturation Water Mark Sediment I Drift Depos Algal Mat of Iron Depos Inundation Sparsely V Field Observat Surface Water Water Table Posaturation Predicted includes capille	tology Indicators: tors (minimum of of ater (A1) Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial I degetated Concave ations: Present? Tresent?	: one requi lmagery (e Surface /es /es /es /es	(B7) e (B8) No 🔀 No 🔀	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp	y) ned Leav ned Leav (B11) vertebrate Sulfide C Rhizosphe of Reduct Stressec slain in Re s): s): s):	ves (B9) (e 3) es (B13) edor (C1) eres along ed Iron (Cion in Tille d Plants (Demarks)	Living Roo 4) d Soils (Ce 01) (LRR A	RA ots (C3) S)	□ W: □ Dr □ Dr □ Sa □ Ge □ Sh □ FA	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) iised Ant Mounds (D6) (LRR A)	, 2 ,
HYDROLOG Wetland Hydre Primary Indicat Surface Water High Water Saturation Water Mark Sediment I Drift Depos Algal Mat of Iron Depos Inundation Sparsely V Field Observat Surface Water Water Table Posaturation Prediction	ology Indicators: tors (minimum of olater (A1) or Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial Investment (regetated Concave ations: Present?	: one requi lmagery (e Surface /es /es /es /es /es	(B7) e (B8) No 🔀 No 🔀	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp	y) ned Leav ned Leav (B11) vertebrate Sulfide C Rhizosphe of Reduct Stressec slain in Re s): s): s):	ves (B9) (e 3) es (B13) edor (C1) eres along ed Iron (Cion in Tille d Plants (Demarks)	Living Roo 4) d Soils (Ce 01) (LRR A	RA ots (C3) S)	□ W: □ Dr □ Dr □ Sa □ Ge □ Sh □ FA	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)	, 2 ,
HYDROLOG Wetland Hydre Primary Indicat Surface Water High Water Saturation Water Mark Sediment I Drift Depos Algal Mat of Iron Depos Inundation Sparsely V Field Observat Surface Water Water Table Posaturation Prediction	tology Indicators: tors (minimum of of ater (A1) Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial I degetated Concave ations: Present? Tresent?	: one requi lmagery (e Surface /es /es /es /es /es	(B7) e (B8) No 🔀 No 🔀	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp	y) ned Leav ned Leav (B11) vertebrate Sulfide C Rhizosphe of Reduct Stressec slain in Re s): s): s):	ves (B9) (e 3) es (B13) edor (C1) eres along ed Iron (Cion in Tille d Plants (Demarks)	Living Roo 4) d Soils (Ce 01) (LRR A	RA ots (C3) S)	□ W: □ Dr □ Dr □ Sa □ Ge □ Sh □ FA	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)	, 2 ,
HYDROLOG Wetland Hydre Primary Indicat Surface Water High Water Saturation Water Mark Sediment I Drift Depos Algal Mat of Iron Depos Surface So Inundation Sparsely V Field Observat Surface Water Water Table Posaturation Presection Presection Control (includes capill) Describe Reco	tology Indicators: tors (minimum of of ater (A1) Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial I degetated Concave ations: Present? Tresent?	Imagery (e Surface	(B7) e (B8) No 🗵 No 🗵 monitori	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp Depth (inchest Depth (inchest Depth (inchest ing well, aerial	y) ned Leav ned Leav (B11) vertebrate Sulfide C chizosphe of Reduct n Reduct Stressec slain in Re s): s): photos, p	ves (B9) (e 3) es (B13) ed (C1) eres along ed Iron (C- ion in Tille d Plants (C- emarks)	Living Roo 4) 40 Soils (Ce 01) (LRR A	RA ots (C3) iland Hyd if availab	□ W: □ Dr □ Dr □ Sa □ Ge □ Sh □ FA	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)	, 2 ,
HYDROLOG Wetland Hydren Primary Indicate Surface Water Mark Sediment In Drift Depose Inundation Sparsely Weter Table Proceedings Saturation Precedence Remarks:	tology Indicators: tors (minimum of of ater (A1) Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial I Vegetated Concave ations: Present? Tresent? In a concave at a concav	Imagery (e Surface	(B7) e (B8) No 🗵 No 🗵 monitori	eck all that appl Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp Depth (inchest Depth (inchest Depth (inchest ing well, aerial	y) ned Leav ned Leav (B11) vertebrate Sulfide C chizosphe of Reduct n Reduct Stressec slain in Re s): s): photos, p	ves (B9) (e 3) es (B13) ed (C1) eres along ed Iron (C- ion in Tille d Plants (C- emarks)	Living Roo 4) 40 Soils (Ce 01) (LRR A	RA ots (C3) iland Hyd if availab	□ W: □ Dr □ Dr □ Sa □ Ge □ Sh □ FA	ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)	, 2 ,

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

Project/Site: 1077.0012 - South Hill Data Center	(City/County	_{y:} Puyallu	p/Pierce	Sampling Date: 9/13/16		
Applicant/Owner: Benaroya Capital Company	State: WA Sampling Point: DP-2						
		Section, Township, Range: 03, 19, 04					
					e Slope (%): 0		
Subregion (LRR): A2		="	•	,			
Soil Map Unit Name: Indianola Loamy Sand				NWI classificat			
Are climatic / hydrologic conditions on the site typical for this							
Are Vegetation, Soil, or Hydrology sign	ificantly dis	turbed?	Are "No	ormal Circumstances" pres	ent? Yes ☒ No ☐		
Are Vegetation, Soil, or Hydrology natu	rally probler	natic?	(If neede	ed, explain any answers in	Remarks.)		
SUMMARY OF FINDINGS - Attach site map	showing	samplin	g point lo	ocations, transects,	important features, etc.		
Hydrophytic Vegetation Present? Yes ☒ No ☐							
Hydric Soil Present? Yes ☒ No ☐			e Sampled				
Wetland Hydrology Present? Yes ☒ No ☐		with	in a Wetlan	nd? Yes ☒ No) [
Remarks:		CXX	.1 1 А				
Data collected near central-weste	rn borae	r of We	tland A				
VEGETATION – Use scientific names of plant	ts.						
	Absolute	Dominant		Dominance Test works	heet:		
Tree Stratum (Plot size: 30 ft)	% Cover	Species? Yes	Status FAC	Number of Dominant Sp			
1. Alnus rubra 2. Populus balsamifera	45 45		FAC	That Are OBL, FACW, o	r FAC: <u>5</u> (A)		
3		Yes	FAC	Total Number of Domina Species Across All Strata	_		
4.				·			
	90	= Total C	over	Percent of Dominant Spe That Are OBL, FACW, o			
Sapling/Shrub Stratum (Plot size: 15 ft)	25	Vaa	EA C\A/				
1. Spiraea douglasii	35	Yes	FACW	Prevalence Index work			
2. Rubus spectabilis	30 5	Yes No	FAC FACU	Total % Cover of:			
3. Pseudotsuga menziesii		INO	FACO		x 1 = <u>0</u>		
4				FACW species 00	x 2 = 110		
5	70			FACILIPACION 5	x = 360 x = 4 = 20		
Herb Stratum (Plot size: 5 ft)	10	= Total C	over	-	x = 20 x = 0		
1. Phalaris arundinacea	20	Yes	FACW	Column Totals: 180	(A) $\frac{490}{}$ (B)		
2.				Column rotals. 100	(A) <u>+50</u> (B)		
3				Prevalence Index	= B/A = <u>2.72</u>		
4				Hydrophytic Vegetation	n Indicators:		
5				☐ Rapid Test for Hydro	phytic Vegetation		
6				Dominance Test is >	50%		
7				➤ Prevalence Index is:	≤3.0¹		
8					ations ¹ (Provide supporting or on a separate sheet)		
9				☐ Wetland Non-Vascul	• /		
10					nytic Vegetation ¹ (Explain)		
11	20				and wetland hydrology must		
Woody Vine Stratum (Plot size: 30 ft)	20	= Total C	over	be present, unless distur	bed or problematic.		
1				Hydrophytic			
2				Vegetation			
% Bare Ground in Herb Stratum 80	0	= Total C	over	Present? Yes	X No □		
Pamarke:							
FACU-FACW vegetation observed. Ps	eudotsug	a menzie	esii growir	ng on upland berm.			

Sampling Point: DP-2

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

Project/Site: 1077.0012 - South Hill Data Center	_{y:} Puyallu	ıp/Pierce	Sampling Date: 9/13/16		
Applicant/Owner: Benaroya Capital Company				State: WA	Sampling Point: DP-3
				ownship, Range: <u>03, 19,</u>	
Landform (hillslope, terrace, etc.): Valley Floor		Local relie	ef (concave,	, convex, none): Concav	<u>e</u> Slope (%): 0
Subregion (LRR): A2	_ Lat: <u>47.</u> ′	15582		Long: -122.27858	Datum: WGS84
Soil Map Unit Name: Indianola Loamy Sand				NWI classifica	tion: N/A
Are climatic / hydrologic conditions on the site typical for this	time of yea	r? Yes 🗷	No ☐ (I	f no, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology sign	ificantly dist	urbed?	Are "No	ormal Circumstances" pres	ent? Yes 🗷 No 🗌
Are Vegetation, Soil, or Hydrology natu	rally problen	natic?	(If need	ed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	samplin	g point le	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ☐ No 🗵					
Hydric Soil Present? Yes ☐ No 🗵			e Sampled		
Wetland Hydrology Present? Yes ☐ No 🗵		with	in a Wetlar	nd? Yes □ N	o 🔀
Remarks:					
Data point collected east of Wetla	ınd A bo	undary.	,		
VEGETATION – Use scientific names of plant	s.				
		Dominant	Indicator	Dominance Test works	sheet:
Tree Stratum (Plot size: 30 ft)	% Cover	Species? Yes	Status FAC	Number of Dominant Sp	
1. Alnus rubra	80			That Are OBL, FACW, o	or FAC: <u>2</u> (A)
2				Total Number of Domina Species Across All Strat	_
4				Species Across Air Strat	а. <u>Э</u> (В)
	80	= Total C	over	Percent of Dominant Spe That Are OBL, FACW, o	
Sapling/Shrub Stratum (Plot size: 15 ft)	20	V	E4011		
1. Vaccinium ovatum	30	Yes	FACU	Prevalence Index work	
2. Rubus spectabilis	30	Yes	FAC	Total % Cover of:	
3					x 1 = 0 $x 2 = 0$
4					x = 0 x = 330
5	60	Total C			x = 300 x = 280
Herb Stratum (Plot size: 5 ft)	00	= Total C	over		x = 5 = 5
1. Polystichum munitum	30	Yes	FACU	Column Totals: 180	(A) 610 (B)
2. Pteridium aquilinum	10	Yes	FACU		
3				Prevalence Index	$= B/A = \underline{3.39}$
4				Hydrophytic Vegetation	n Indicators:
5				Rapid Test for Hydro	· ·
6				Dominance Test is >	
7				☐ Prevalence Index is	
8					tations ¹ (Provide supporting or on a separate sheet)
9				☐ Wetland Non-Vascu	• • • • • • • • • • • • • • • • • • • •
10				☐ Problematic Hydroph	hytic Vegetation¹ (Explain)
11	40				and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)	40	= Total C	over	be present, unless distu	rbed or problematic.
1				Hydrophytic	
2				Vegetation	
% Bare Ground in Herb Stratum 60	0	= Total C	over	Present? Yes	s □ No ⊠
Pomarke:					
FACU-FAC vegetation observed.					

Sampling Point: DP-3

Depth (inches)	Color (moist)	%	Colo	or (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 3/3	99		YR 4/6	1	CS	M	LoSa	Loamy Sand
4-6	10YR 4/6	100			-		_	LoSa	Loamy Sand
6-16	10YR 3/4	99	10`	YR 4/6	1	CS	M	LoSa	Loamy Sand
			_						
	oncentration, D=D Indicators: (Appl						ted Sand G		² Location: PL=Pore Lining, M=Matrix. icators for Problematic Hydric Soils ³ :
Histosol				Sandy Redox		,			2 cm Muck (A10)
	pipedon (A2)			Stripped Matrix					Red Parent Material (TF2)
Black Hi				Loamy Mucky	. ,	F1) (excen	t MLRA 1)		Very Shallow Dark Surface (TF12)
	n Sulfide (A4)			Loamy Gleyed					Other (Explain in Remarks)
	d Below Dark Surfa	ace (A11)		Depleted Matri		_,			Carlor (Explain in Normanie)
	ark Surface (A12)	200 (7111)		Redox Dark Si		6)		3Inc	licators of hydrophytic vegetation and
_	lucky Mineral (S1)			Depleted Dark	`	,			wetland hydrology must be present,
	lleyed Matrix (S4)			Redox Depres					unless disturbed or problematic.
	Layer (if present)	•	<u>' ' '</u>	redox pepies	SIONS (FC	"		<u> </u>	unices disturbed of problematic.
Type: Gr		•		_					
	40							1	Call Brancost 2 Van D Na W
Depth (in	ches): <u>12</u>							Hydric	Soil Present? Yes ☐ No 🗵
emarks:	soil indicators o	observe	d.					Hydric	Soil Present? Yes No K
demarks: o hydric s	soil indicators o		d.					Hydric	Soil Present? Yes No K
Remarks: o hydric s YDROLO Vetland Hy	soil indicators of GY drology Indicator	's:		eck all that ap	ply)				
emarks: o hydric : /DROLO /etland Hy /rimary India	soil indicators of GY drology Indicator cators (minimum o	's:				ayes (BQ) (avcent MI		Secondary Indicators (2 or more required)
emarks: O hydric s O DROLO /etland Hy rimary India Surface	soil indicators of GY drology Indicator	's:		☐ Water-Sta			except ML		
emarks: o hydric : 'DROLO 'etland Hy rimary India] Surface] High Wa	soil indicators of the soil indicators of the soil indicators of the soil indicator of the soil indicators of the	's:		☐ Water-Sta	ained Lea 4A, and 4		except ML		Secondary Indicators (2 or more required) ☐ Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
emarks: O hydric : O h	oGY drology Indicators cators (minimum o Water (A1) tter Table (A2) on (A3)	's:		☐ Water-Sta 1, 2, 4 ☐ Salt Crus	ained Lea 4A, and 4 t (B11)	IB)	except ML	<u>S</u>	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)
emarks: O hydric : O h	GY drology Indicators cators (minimum o Water (A1) tter Table (A2) on (A3) arks (B1)	's:		☐ Water-Sta 1, 2, 4 ☐ Salt Crus ☐ Aquatic Ir	ained Lea 4A, and 4 t (B11) nvertebra	IB) tes (B13)	except ML	RA [Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
emarks: O hydric s I broke s O hydric s	drology Indicators of the cators (minimum of the cators (minimum of the cators (Management)) arks (B1) arks (B2)	's:		Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide (tes (B13) Odor (C1)		RA [Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS
emarks: o hydric s /DROLO /etland Hy rimary India Surface High Wa Saturatio Water M Sedimer Drift Dep	drology Indicators of the cators (minimum of the Table (A2) on (A3) arks (B1) on the Deposits (B2) posits (B3)	's:		Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide (Rhizosph	tes (B13) Odor (C1) neres along	Living Ro	RA [Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2)
emarks: o hydric : O hydric :	drology Indicators of the Cators (minimum of the Table (A2) on (A3) arks (B1) on the Deposits (B2) on the Cators (B3) art or Crust (B4)	's:		Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide (Rhizosph e of Redu	tes (B13) Odor (C1) heres along ced Iron (C	Living Roo	RA [[[[[[[[[[[[[[[[[[[Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3)
emarks: o hydric : O h	degy drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4)	's:		Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide (Rhizosph e of Reduction Reduction	tes (B13) Odor (C1) neres along ced Iron (C	Living Roo 4) ed Soils (Co	RA [C C C C C C C C C C C C C C C C C C	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
emarks: o hydric : O h	dGY drology Indicators of cators (minimum of cators	's: f one requ	uired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted o	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide (Rhizosph e of Reduction Reduction Reduction Stresse	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E	Living Roo 4) ed Soils (Co	RA [C C C C C C C C C C C C C C C C C C	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
emarks: o hydric : O h	drology Indicators of the cators (minimum of	s: f one requ	uired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide (Rhizosph e of Reduction Reduction Reduction Stresse	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E	Living Roo 4) ed Soils (Co	RA [C C C C C C C C C C C C C C C C C C	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
emarks: o hydric s /DROLO /etland Hy rimary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely	degy drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) on t Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria	s: f one requ	uired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted o	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide (Rhizosph e of Reduction Reduction Reduction Stresse	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E	Living Roo 4) ed Soils (Co	RA [C C C C C C C C C C C C C C C C C C	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
emarks: o hydric s /DROLO /etland Hy rimary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely	degy drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) on t Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria	s: f one requ	uired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted o	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide (Rhizosph e of Reduction Reduction Reduction Stresse	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E	Living Roo 4) ed Soils (Co	RA [C C C C C C C C C C C C C C C C C C	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
emarks: o hydric : o h	degy drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) on t Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria	s: f one requ	uired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted o	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide o Rhizosph e of Reduc on Reduc or Stresse xplain in F	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille d Plants (E Remarks)	Living Roo 4) ed Soils (Co	RA [C C C C C C C C C C C C C C C C C C	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
rimary India Surface High Wa Sedimer Drift Dep Algal Ma Iron Dep Surface Inundation Sparsely ield Obser	dGY drology Indicators of cators (minimum of cators	rs: If one required the second of the secon	uired; cho	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide o Rhizosph e of Reduct on Reduct or Stresse xplain in F	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Co	RA [C C C C C C C C C C C C C C C C C C	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Gurface Water Table Saturation P	drology Indicators of the cators (minimum of	f one required in the second of the second o	uired; che (B7) te (B8)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide (Rhizosph of Reduction Reduction Reduction Reduction Reduction Reduction Reduction Stresses explain in Figure (B) ess):	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Co 01) (LRR A	RA [[[[[[[[[[[[[[[[[[[Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Primary India Surface High Wa Saturatio Vater M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water Table Saturation Pencludes ca	drology Indicators of Cators (minimum of Cators (mi	I Imagery ve Surface Yes Yes Yes Yes Yes Yes Yes Yes	uired; che (B7) te (B8) No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide o Rhizosph e of Reduct on Reduct or Stresse xplain in F es): es): es):	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Co 01) (LRR A	S S C C C C C C C C	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water Table Saturation P Includes ca	dGY drology Indicators cators (minimum of water (A1) ater Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria at Vegetated Concators are Present? are Present? aresent? aresent? aresent? aresent?	I Imagery ve Surface Yes Yes Yes Yes Yes Yes Yes Yes	uired; che (B7) te (B8) No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide o Rhizosph e of Reduct on Reduct or Stresse xplain in F es): es): es):	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Co 01) (LRR A	S S C C C C C C C C	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely ield Obser furface Water Table staturation P includes ca Describe Re	dGY drology Indicators cators (minimum of water (A1) ater Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria at Vegetated Concators are Present? are Present? aresent? aresent? aresent? aresent?	f one required in the second of the second o	uired; che (B7) te (B8) No 🗵 No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide o Rhizosph e of Reduct on Reduct or Stresse xplain in F es): es): I photos,	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Co 01) (LRR A	S S C C C C C C C C	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

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

Project/Site: 1077.0012 - South Hill Data Center	_{y:} Puyallu	ıp/Pierce	Sampling Date: 9/13/16		
Applicant/Owner: Benaroya Capital Company				State: WA	Sampling Point: DP-4
				ownship, Range: <u>03, 19,</u>	
Landform (hillslope, terrace, etc.): Valley Floor		Local reli	ef (concave,	, convex, none): Concav	<u>e</u> Slope (%): 0
Subregion (LRR): A2	_ _{Lat:} <u>47.</u> ′	15563		Long: -122.27630	Datum: WGS84
Soil Map Unit Name: Indianola Loamy Sand				NWI classifica	
Are climatic / hydrologic conditions on the site typical for this	time of yea	ır? Yes 🗵] No □ (I	f no, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology sign	ificantly dist	turbed?	Are "No	ormal Circumstances" pres	ent? Yes 🗷 No 🗌
Are Vegetation, Soil, or Hydrology natu	rally problen	natic?	(If need	ed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	samplin	g point le	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐					
Hydric Soil Present? Yes ☒ No ☐			ne Sampled		
Wetland Hydrology Present? Yes ☒ No ☐		with	nin a Wetlar	nd? Yes ເເ N	0 📙
Remarks:					
Data collected in Wetland B.					
VEGETATION – Use scientific names of plant	ts.				
- C			Indicator	Dominance Test works	sheet:
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	<u>% Cover</u> 80	Yes	FAC	Number of Dominant Sp That Are OBL, FACW, o	
2.					
3				Total Number of Domina Species Across All Strat	_
4				Percent of Dominant Sp	acies ,
Sapling/Shrub Stratum (Plot size: 15 ft)	80	= Total C	Cover	That Are OBL, FACW, o	
1. Salix sitchensis	10	Yes	FACW	Prevalence Index work	sheet:
2. Rubus spectabilis	10	Yes	FAC	Total % Cover of:	
3					x 1 = <u>80</u>
4				FACW species 10	
5.				FAC species 90	x 3 = <u>270</u>
	20	= Total C	Cover	FACU species 0	x 4 = 0
Herb Stratum (Plot size: 5 ft)	50	V	ODI	UPL species 0	x 5 = 0
1. Lysichiton americanus	50 30	Yes Yes	OBL	Column Totals: 180	(A) <u>370</u> (B)
2. Oenanthe sarmentosa			OBL	Prevalence Index	= B/A = 2.06
3				Hydrophytic Vegetatio	
5				☐ Rapid Test for Hydro	
6.				■ Dominance Test is >	•50%
7				▼ Prevalence Index is	≤3.0 ¹
8					tations ¹ (Provide supporting
9					or on a separate sheet)
10				☐ Wetland Non-Vascu	
11					hytic Vegetation ¹ (Explain) and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)	80	= Total C	Cover	be present, unless distu	
1					
2				Hydrophytic Vegetation	
	0	= Total C	Cover		i⊠ No □
% Bare Ground in Herb Stratum 80 Remarks:					
FAC-OBL vegetation observed.					

Sampling Point: DP-4

Depth	cription: (Describ Matrix		иерин не		ox Feature		or comm	II lile al	Sence	or mulcators.)
(inches)	Color (moist)	%	Colo	or (moist)	%	Type ¹	Loc ²	Textu	re	Remarks
0-16	5YR 2.5/1	100	-		-	-	-	Mucl	<	Organic peat/muck
			_		_					
	-									
								-		
					_					
	oncentration, D=D						ed Sand G			cation: PL=Pore Lining, M=Matrix.
-	Indicators: (Appl	icable to	all LRR	s, unless othe	erwise not	ed.)		lr	ndicato	ors for Problematic Hydric Soils ³ :
Histosol	• •			Sandy Redox (Muck (A10)
	oipedon (A2)			Stripped Matrix	, ,					Parent Material (TF2)
	stic (A3)			Loamy Mucky I			MLRA 1)	_		Shallow Dark Surface (TF12)
	en Sulfide (A4)	00 (144)		Loamy Gleyed)			_ Othe	er (Explain in Remarks)
•	d Below Dark Surfa ark Surface (A12)	ice (ATT)		Depleted Matri Redox Dark Su				31	ndicata	are of hydrophytic vogotation and
	Mucky Mineral (S1)			Redox Dark Su Depleted Dark	` ,	7)		۳		ors of hydrophytic vegetation and nd hydrology must be present,
-	Gleyed Matrix (S4)			Redox Depress	•	')				s disturbed or problematic.
	Layer (if present):	•		Todox Bopicos	310113 (1 0)				unico	is distarbed of problematic.
Type:										
,,	ches):							Hydr	ic Sail	Present? Yes ⊠ No □
Remarks:	,							riyui	10 3011	Tresent: Tes M NO
	indicator F3 of									
HYDROLO)GY									
	drology Indicator	s.								
_	cators (minimum o		ired: che	eck all that ann	nlv)				Secor	ndary Indicators (2 or more required)
☐ Surface		r one requ	inca, cri			oo (BO) (a	voont MI I			
	ater Table (A2)			☐ Water-Sta	A, and 4B		xcept witi	XA.	△ VV	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
⋉ High Wa⋉ Saturation				I, 2, 4 ☐ Salt Crust	•	')			П Б	rainage Patterns (B10)
	` '				` '	o (D12)				ry-Season Water Table (C2)
➤ Water M	` '			Aquatic In		, ,				
	nt Deposits (B2)			➤ Hydrogen		, ,	Living Dog	to (C2)		aturation Visible on Aerial Imagery (C9)
	posits (B3)			☐ Oxidized I☐ Presence		_	_	ols (C3)		eomorphic Position (D2)
	at or Crust (B4)			☐ Recent Iro		•	•	2)		hallow Aquitard (D3)
-	oosits (B5)						,	,		AC-Neutral Test (D5)
	Soil Cracks (B6)	l Imagan,	(D7)	☐ Stunted of			I) (LKK A)		aised Ant Mounds (D6) (LRR A)
	on Visible on Aeria			☐ Other (Ex	piaiii iii Ke	marks)			Ц г	rost-Heave Hummocks (D7)
	/ Vegetated Conca	ve Sullac	е (Бо)							
Field Obse		V 🗖	N- E	Danilla Caraba	-1					
Surface Wa		Yes 🗌	No 🗵	Depth (inche						
Water Table	Present?	Yes 🔀	No 🗌	Depth (inche						
Saturation F		Yes 🗵	No 🗌	Depth (inche	es): <u>U</u>		Wet	land Hy	drolog	y Present? Yes ⊠ No 🗌
	pillary fringe) ecorded Data (strea	ım gauge	monitor	ing well, aerial	photos. ni	revious ins	spections)	if availa	able:	
20001100110		34490,			F5.50, Pi			availe		
Remarks:										
	indicators A2	Λ2 D 1	and C	1 observed						
i iyardidgil	c indicators A2,	AJ, DI,	anu C	, i observed	•					

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

Project/Site: 1077.0012 - South Hill Data Center	y/County: Puyallup/Pierce Sampling Date: 9/13/1						
Applicant/Owner: Benaroya Capital Company			State: WA Sampling Point: DP-5				
				ownship, Range: <u>03, 19,</u>			
Landform (hillslope, terrace, etc.): Slope		Local reli	ef (concave,	convex, none): Concav	e Slope (%): 20		
Subregion (LRR): A2	_ _{Lat:} <u>47.</u> ′	15550		Long: -122.27639	Datum: WGS84		
Soil Map Unit Name: Indianola Loamy Sand				NWI classificat	tion: N/A		
Are climatic / hydrologic conditions on the site typical for this	time of yea	r? Yes 🗵		f no, explain in Remarks.)			
Are Vegetation, Soil, or Hydrology sign	ificantly dist	urbed?	Are "No	ormal Circumstances" pres	ent? Yes 🗷 No 🗌		
Are Vegetation, Soil, or Hydrology natu	rally problen	natic?	(If neede	ed, explain any answers in	Remarks.)		
SUMMARY OF FINDINGS - Attach site map	showing	samplir	ng point le	ocations, transects,	important features, etc.		
Hydrophytic Vegetation Present? Yes ☒ No ☐							
Hydric Soil Present? Yes ☐ No 🗵			he Sampled				
Wetland Hydrology Present? Yes ☐ No 🗵		With	nin a Wetlar	nd? Yes ☐ No	o 🔀		
Remarks:							
Data point collected east of Wetla	ınd B bo	undary	•				
VEGETATION – Use scientific names of plant							
Francisco de Constituto de Prantico de Prantico		Dominan	t Indicator	Dominance Test works	sheet:		
Tree Stratum (Plot size: 30 ft)	% Cover			Number of Dominant Sp			
1. Alnus rubra	60	Yes	FAC	That Are OBL, FACW, o	r FAC: <u>4</u> (A)		
2. Thuja plicata	20	Yes	FAC	Total Number of Domina	ant		
3				Species Across All Strate	a: <u>6</u> (B)		
4				Percent of Dominant Spe	ecies		
Sapling/Shrub Stratum (Plot size: 15 ft)	80	= Total C	Cover	That Are OBL, FACW, o	r FAC: <u>67%</u> (A/B)		
1. Rubus spectabilis	30	Yes	FAC	Prevalence Index work	sheet:		
2. Rubus armeniacus	10	Yes	FAC	Total % Cover of:	Multiply by:		
3.					x 1 = 0		
4				FACW species 0	x 2 = 0		
5.				FAC species 120	x 3 = <u>360</u>		
	40	= Total C	Cover	FACU species 20	x 4 = <u>80</u>		
Herb Stratum (Plot size: 5 ft)	40	V	EAGLI	UPL species 0	x 5 = <u>0</u>		
1. Polystichum munitum	10		FACU	Column Totals: 140	(A) <u>440</u> (B)		
2. Rubus ursinus	10	Yes	FACU	Prevalence Index	- B/A - 314		
3			-	Hydrophytic Vegetation			
4				Rapid Test for Hydro			
5				Dominance Test is >	· ·		
6				☐ Prevalence Index is:			
7				_	tations ¹ (Provide supporting		
8 9					or on a separate sheet)		
10				☐ Wetland Non-Vascul	ar Plants ¹		
11.				☐ Problematic Hydroph	nytic Vegetation1 (Explain)		
	20	= Total 0	Cover		and wetland hydrology must		
Woody Vine Stratum (Plot size: 30 ft)				be present, unless distur	bed of problematic.		
1				Hydrophytic			
2				Vegetation			
% Bare Ground in Herb Stratum 80	0	= Total C	Cover	Present? Yes	I ⊠ No □		
Remarks:							
FACU-FAC vegetation observed.							

Sampling Point: DP-5

Depth	cription: (Descril Matrix				lox Featur		0. 00		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	or mandatoroly
(inches)	Color (moist)	%	Colo	or (moist)	%	Type ¹	Loc ²	<u>Textu</u>		Remarks Remarks
0-14	10YR 3/3	99	10	YR 3/6	1	CS	М	LoSa	a	Loamy Sand
			_							
		-								
	_									
¹Type: C=C	Concentration, D=D	epletion, l	RM=Red	duced Matrix, C	CS=Covere	ed or Coat	ed Sand C	Grains.	² Loc	cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (App	licable to	all LRR	s, unless oth	erwise no	ted.)		lı		ors for Problematic Hydric Soils ³ :
☐ Histosol	(A1)			Sandy Redox	(S5)] 2 cm	n Muck (A10)
☐ Histic E	pipedon (A2)			Stripped Matri	x (S6)				Red	Parent Material (TF2)
☐ Black H	istic (A3)			Loamy Mucky	Mineral (F	1) (excep	t MLRA 1) [☐ Very	Shallow Dark Surface (TF12)
☐ Hydroge	en Sulfide (A4)			Loamy Gleyed		2)			Othe	er (Explain in Remarks)
	d Below Dark Surfa	ace (A11)		Depleted Matr	, ,					
	ark Surface (A12)			Redox Dark S	•			³ l		ors of hydrophytic vegetation and
-	Mucky Mineral (S1)			Depleted Dark	,	- 7)				and hydrology must be present,
	Gleyed Matrix (S4)			Redox Depres	sions (F8)				unles	ss disturbed or problematic.
	Layer (if present)):								
Type: Re	nches): 14			_						
Depth (ir	icnes): 17			-				Hydi	ric Soil	Present? Yes ☐ No ☒
Remarks:										
HYDROLO	ncv									
-	drology Indicator		مام بام مداد	- th - t	- l. d				C	andoni la disatana (O an manus na mirad)
	icators (minimum o	or one requ	urea; cn							ndary Indicators (2 or more required)
Surface	` '			☐ Water-Sta			xcept ML	.RA	⊔ W	/ater-Stained Leaves (B9) (MLRA 1, 2,
_	ater Table (A2)				4A, and 4E	3)				4A, and 4B)
☐ Saturati	` ,			☐ Salt Crus	` '	(5.46)				rainage Patterns (B10)
	farks (B1)			☐ Aquatic Ir		` ,				ry-Season Water Table (C2)
	nt Deposits (B2)			Hydroger						aturation Visible on Aerial Imagery (C9)
	posits (B3)			Oxidized		_	_	ots (C3)		eomorphic Position (D2)
	at or Crust (B4)			☐ Presence				_,		hallow Aquitard (D3)
· ·	posits (B5)				on Reduct		,	,		AC-Neutral Test (D5)
	Soil Cracks (B6)		(5 -1)		or Stressed	•	1) (LRR <i>A</i>	A)		aised Ant Mounds (D6) (LRR A)
	on Visible on Aeria			☐ Other (Ex	cplain in Re	emarks)			∐ Fr	rost-Heave Hummocks (D7)
	y Vegetated Conca	ave Surfac	e (B8)							
Field Obse		_								
Surface Wa	ter Present?	Yes 🗌	No 🔀	Depth (inche	es):					
Water Table	Present?	Yes 🗌	No 🗵	Depth (inche	es):					
Saturation F		Yes 🗌	No 🗵	Depth (inche	es):		We	tland Hy	drolog	y Present? Yes ☐ No ⊠
	pillary fringe) ecorded Data (strea	am gauge	monitor	ring well, aeria	I photos, n	revious in	spections)), if availa	able:	
	(5.1.5.	gg-	,					,,		
Remarks:										
	y or secondary	hydrolo	aic ind	licators obse	erved					
. to primar	, 0. 000011da1y	,	9.0 1110		J. 70u.					

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

Project/Site: 1077.0012 - South Hill Data Center	ity/County: Puyallup/Pierce Sampling Date: 9/14/1							
Applicant/Owner: Benaroya Capital Company				State: WA Sampling Point: DP-6				
				Township, Range: 03, 19,				
Landform (hillslope, terrace, etc.): Valley Floor		Local	relief (conca	ve, convex, none): Concav	/e Slope (%): 2			
Subregion (LRR): A2	_ _{Lat:} <u>47.</u>	15753	}	Long: -122.27711	Datum: WGS84			
Soil Map Unit Name: Indianola Loamy Sand				NWI classifica	ation: PFOC			
Are climatic / hydrologic conditions on the site typical for this	time of yea	ır? Yes	× No □	(If no, explain in Remarks.)				
Are Vegetation, Soil, or Hydrology sign	nificantly dist	turbed?	Are	"Normal Circumstances" pres	sent? Yes 🗵 No 🗌			
Are Vegetation, Soil, or Hydrology natu	rally problen	natic?	(If ne	eded, explain any answers in	n Remarks.)			
SUMMARY OF FINDINGS - Attach site map	showing	samp	ling poin	t locations, transects,	, important features, etc.			
Hydrophytic Vegetation Present? Yes ☒ No ☐								
Hydric Soil Present? Yes ☒ No ☐			s the Samp		. =			
Wetland Hydrology Present? Yes ☒ No ☐		٧	vithin a We	tland? Yes 🗷 N	io [_]			
Remarks:		l .						
Data point collected in interior of	Wetland	1 C						
VEGETATION – Use scientific names of plan		Damia		Dominones Test week				
Tree Stratum (Plot size: 30 ft)	Absolute % Cover		ant Indicato es? Status					
1. Acer macrophyllum	15	Yes		- I Number of Dominant St				
2. Frangula purshiana	5	Yes	FAC					
3. Pseudotsuga menziesii	5	Yes	FACL	Total Number of Domina Species Across All Strategies	_			
4				- Demonst of Demonstrant Co	, ,			
	25	= Tota	al Cover	Percent of Dominant Sp That Are OBL, FACW, of				
Sapling/Shrub Stratum (Plot size: 15 ft) 1. Alnus rubra	20	Yes	FAC	Prevalence Index work	kohooti			
				Total % Cover of:				
2				_	x 1 = 0			
					x = 200			
4 5				_	$x = \frac{75}{}$			
0	20	= Tota	al Cover		x 4 = 80			
Herb Stratum (Plot size: 5 ft)		- 100	ai Oovei	-	x 5 = 0			
1. Phalaris arundinacea	100	Yes	FACV	Column Totals: 145	(A) <u>355</u> (B)			
2				_				
3				Prevalence Index				
4				Hydrophytic Vegetatio				
5				Rapid Test for Hydro	· ·			
6				Prevalence Index is				
7				- -	otations ¹ (Provide supporting			
8					s or on a separate sheet)			
9 10				─	ılar Plants ¹			
				Problematic Hydrop	hytic Vegetation ¹ (Explain)			
11	100	= Tota	al Cover	¹ Indicators of hydric soil	and wetland hydrology must			
Woody Vine Stratum (Plot size: 30 ft)		_ 100	ai 0010i	be present, unless distu	rbed or problematic.			
1				Hydrophytic				
2				 Vegetation 				
% Bare Ground in Herb Stratum 0	0	= Tota	al Cover	Present? Yes	s⊠ No□			
Remarks:								
FACU-FACW vegetation observed.								

(inches)	Matrix Color (moist)	%	Colo	r (moist)	dox Featur %	Type ¹	Loc ²	Textu	re	Remarks	
0-6	10YR 2/1	100				-		LoSa	a L	oamy Sand	
6-12	10YR 3/2	90	10`	YR 3/6	10	CS	М	LoSa	a L	oamy Sand	
12-18	10YR 4/2	90	10`	YR 4/6	10	CS	M	LoSa	a L	oamy Sand	
										•	-
					·		-				
											
											<u> </u>
¹Type: C=C	Concentration, D=D	epletion, F	RM=Red	uced Matrix,	CS=Cover	ed or Coat	ed Sand G	rains.	² Locatio	on: PL=Pore Lining, I	M=Matrix.
	Indicators: (App									or Problematic Hyd	
☐ Histosol	I (A1)			Sandy Redox	(S5)] 2 cm Mu	uck (A10)	
	pipedon (A2)			Stripped Matr	, ,					ent Material (TF2)	
	istic (A3)			_oamy Mucky			t MLRA 1)			allow Dark Surface (T	TF12)
	en Sulfide (A4) d Below Dark Surfa	aca (Δ11)		_oamy Gleye Depleted Mat		2)		L	_ Other (E	Explain in Remarks)	
	ark Surface (A12)	acc (ATT)		Redox Dark S)		3	ndicators of	of hydrophytic vegetat	tion and
	Mucky Mineral (S1)			Depleted Dar	,	•				hydrology must be pre	
☐ Sandy C	Gleyed Matrix (S4)			Redox Depre	ssions (F8)				unless di	sturbed or problemat	ic.
	Layer (if present)										
Depth (ir	nches):							Hydr	ic Soil Pre	esent? Yes 🗵 N	o 🗌
Remarks:											
HYDDOLO											
)CV										
		re-									
_	drology Indicator		uired: ch	eck all that ar	volaci				Seconda	ry Indicators (2 or mo	re required)
Wetland Hy	drology Indicator		uired; che			/es (B9) (e	except MI I			ry Indicators (2 or mo	
Wetland Hy Primary Indi ☐ Surface	ydrology Indicator icators (minimum o Water (A1)		uired; ch	☐ Water-S	tained Leav	` , `	except MLI	RA	☐ Wate	r-Stained Leaves (B9	
Wetland Hy Primary Indi Surface High Wa	ydrology Indicator icators (minimum o Water (A1) ater Table (A2)		uired; ch	☐ Water-S	tained Leav	` , `	except MLI	RA	☐ Wate	r-Stained Leaves (B9 A, and 4B)	
Wetland Hy Primary Indi ☐ Surface	ydrology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3)		iired; ch	☐ Water-S 1, 2,	tained Leaver tained Leaver tained Leaver tail tail tail tail tail tail tail tail	3)	except MLI	RA	☐ Water	r-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M	ydrology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3)		uired; ch	☐ Water-S 1, 2, ☐ Salt Crus	tained Leaver 4A, and 4I st (B11) Invertebrate	3) es (B13)	except MLI	RA	Water 4/ Drain	r-Stained Leaves (B9 A, and 4B) age Patterns (B10)) (MLRA 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimen	ydrology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3) Marks (B1)		uired; che	☐ Water-S 1, 2, ☐ Salt Crus ☐ Aquatic ☐ Hydroge	tained Leaver 4A, and 4I st (B11) Invertebrate	es (B13) Odor (C1)	·		Water 4/ Drain Dry-S Satur	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) teason Water Table () (MLRA 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimed	ydrology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2)		uired; ch	Water-S 1, 2, Salt Crus Aquatic Hydroge Oxidized	tained Leaver 4A, and 4I st (B11) Invertebraten Sulfide C	es (B13) odor (C1) eres along	Living Roc		Water 4/ Drain Dry-S Satur Geom	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) season Water Table (ation Visible on Aeria) (MLRA 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimei Drift Dej Algal Ma	ydrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)		uired; ch	Water-S 1, 2, Salt Crus Aquatic Hydroge Oxidized Presence	tained Leaver 4A, and 4I st (B11) Invertebrate n Sulfide C	es (B13) odor (C1) eres along ed Iron (C	Living Roo 4)	ots (C3)	Water 4/ Drain Dry-S Satur Geom Shalld FAC-I	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) season Water Table (Gation Visible on Aeria norphic Position (D2) ow Aquitard (D3) Neutral Test (D5)) (MLRA 1, 2, C2) I Imagery (C9)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der	ydrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	of one requ		Water-S 1, 2, Salt Crus Aquatic Hydroge Oxidized Presenc Recent I Stunted	4A, and 4I st (B11) Invertebrate n Sulfide C I Rhizosphe e of Reduct ron Reduct or Stressed	es (B13) odor (C1) eres along ed Iron (Cion in Tille d Plants (D	Living Roc 4) d Soils (C6	ots (C3)	Water 4/ Drain Dry-S Satur Geom Shalld FAC- Raise	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) deason Water Table (Gation Visible on Aeria norphic Position (D2) bow Aquitard (D3) Neutral Test (D5) dd Ant Mounds (D6) (I) (MLRA 1, 2, C2) I Imagery (C9)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface	ydrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria	of one requ	(B7)	Water-S 1, 2, Salt Crus Aquatic Hydroge Oxidized Presenc Recent I Stunted	tained Leav 4A, and 4I st (B11) Invertebrate n Sulfide C I Rhizosphe e of Reduct ron Reduct	es (B13) odor (C1) eres along ed Iron (Cion in Tille d Plants (D	Living Roc 4) d Soils (C6	ots (C3)	Water 4/ Drain Dry-S Satur Geom Shalld FAC- Raise	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) season Water Table (Gation Visible on Aeria norphic Position (D2) ow Aquitard (D3) Neutral Test (D5)) (MLRA 1, 2, C2) I Imagery (C9)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati	widrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Conca	of one requ	(B7)	Water-S 1, 2, Salt Crus Aquatic Hydroge Oxidized Presenc Recent I Stunted	4A, and 4I st (B11) Invertebrate n Sulfide C I Rhizosphe e of Reduct ron Reduct or Stressed	es (B13) odor (C1) eres along ed Iron (Cion in Tille d Plants (D	Living Roc 4) d Soils (C6	ots (C3)	Water 4/ Drain Dry-S Satur Geom Shalld FAC- Raise	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) deason Water Table (Gation Visible on Aeria norphic Position (D2) bow Aquitard (D3) Neutral Test (D5) dd Ant Mounds (D6) (I) (MLRA 1, 2, C2) I Imagery (C9)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsel	vdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Concar rvations:	one requal Imagery	(B7) e (B8)	Water-S 1, 2, Salt Crus Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	tained Leaver 4A, and 4I st (B11) Invertebrate n Sulfide Coll Rhizosphe e of Reduction	es (B13) Dodor (C1) Deres along ed Iron (Cition in Tille d Plants (Citemarks)	Living Roc 4) d Soils (C6	ots (C3)	Water 4/ Drain Dry-S Satur Geom Shalld FAC- Raise	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) deason Water Table (Gation Visible on Aeria norphic Position (D2) bow Aquitard (D3) Neutral Test (D5) dd Ant Mounds (D6) (I) (MLRA 1, 2, C2) I Imagery (C9)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsely Field Obset	widrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Conca rvations: tter Present?	al Imagery ave Surfac	(B7) e (B8) No ⊠	Water-S 1, 2, Salt Crus Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	4A, and 4I st (B11) Invertebrate In Sulfide C I Rhizosphe I Reduct	es (B13) dor (C1) eres along ed Iron (C- ion in Tille d Plants (D- emarks)	Living Roc 4) d Soils (C6	ots (C3)	Water 4/ Drain Dry-S Satur Geom Shalld FAC- Raise	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) deason Water Table (Gation Visible on Aeria norphic Position (D2) bow Aquitard (D3) Neutral Test (D5) dd Ant Mounds (D6) (I) (MLRA 1, 2, C2) I Imagery (C9)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimel Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Wa Water Table	widrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria by Vegetated Concar rvations: ater Present?	al Imagery ave Surfac Yes Yes	(B7) e (B8) No ⊠ No ⊠	Water-S 1, 2, Salt Crue Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	tained Leaver AA, and 4I and 4	es (B13) clor (C1) eres along ed Iron (C ion in Tille d Plants (C emarks)	Living Roc 4) d Soils (C6 11) (LRR A	ots (C3)	Water 4/ Drain: Dry-S Satur. Geom Shalld FAC- Raise Frost-	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) deason Water Table (Gation Visible on Aerianorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ded Ant Mounds (D6) (Index of the August (D5) ded Heave Hummocks (D6)	(MLRA 1, 2, C2) I Imagery (C9) LRR A) D7)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsely Field Obser Surface Wa Water Table Saturation F	vdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Conca rvations: ater Present? Present?	al Imagery ave Surfac Yes Yes	(B7) e (B8) No ⊠	Water-S 1, 2, Salt Crus Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	tained Leaver AA, and 4I and 4	es (B13) clor (C1) eres along ed Iron (C ion in Tille d Plants (C emarks)	Living Roc 4) d Soils (C6 11) (LRR A	ots (C3)	Water 4/ Drain: Dry-S Satur. Geom Shalld FAC- Raise Frost-	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) deason Water Table (deation Visible on Aerial norphic Position (D2) downward (D3) Neutral Test (D5) down Ant Mounds (D6) (Index of the Ant Mounds (D6)) (MLRA 1, 2, C2) I Imagery (C9)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsely Field Obset Saturation F (includes ca	widrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria by Vegetated Concar rvations: ater Present?	al Imagery ave Surfac Yes Yes Yes Yes Yes Yes	(B7) e (B8) No 🗵 No 🗵 No 🗵	Water-S 1, 2, Salt Crus Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	tained Leav 4A, and 4I st (B11) Invertebrate In Sulfide C I Rhizosphe e of Reduct ron Reduct or Stressed xxplain in R Invertebrate I Rhizosphe e of Reduct I Rhizosphe e of Reduct I Rhizosphe I Rhizosphe I Rhizosphe I Rhizosphe I Rhizosphe I Reduct I Rhizosphe I Rh	es (B13) ador (C1) ares along ed Iron (C- ion in Tille d Plants (D- emarks)	Living Roc 4) d Soils (C6 1) (LRR A	ots (C3) S))	Water 4/ Drain Dry-S Satur Geom Shalld FAC- Raise Frost-	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) deason Water Table (Gation Visible on Aerianorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ded Ant Mounds (D6) (Index of the August (D5) ded Heave Hummocks (D6)	(MLRA 1, 2, C2) I Imagery (C9) LRR A) D7)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsely Field Obset Saturation F (includes ca	ydrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Conca rvations: ter Present? e Present? publicators (Minimum of present (Minimum of present)	al Imagery ave Surfac Yes Yes Yes Yes Yes Yes	(B7) e (B8) No 🗵 No 🗵 No 🗵	Water-S 1, 2, Salt Crus Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	tained Leav 4A, and 4I st (B11) Invertebrate In Sulfide C I Rhizosphe e of Reduct ron Reduct or Stressed xxplain in R Invertebrate I Rhizosphe e of Reduct I Rhizosphe e of Reduct I Rhizosphe I Rhizosphe I Rhizosphe I Rhizosphe I Rhizosphe I Reduct I Rhizosphe I Rh	es (B13) ador (C1) ares along ed Iron (C- ion in Tille d Plants (D- emarks)	Living Roc 4) d Soils (C6 1) (LRR A	ots (C3) S))	Water 4/ Drain Dry-S Satur Geom Shalld FAC- Raise Frost-	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) deason Water Table (Gation Visible on Aerianorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ded Ant Mounds (D6) (Index of the August (D5) ded Heave Hummocks (D6)	(MLRA 1, 2, C2) I Imagery (C9) LRR A) D7)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsely Field Obset Saturation F (includes ca	ydrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Conca rvations: ter Present? e Present? publicators (Minimum of present (Minimum of present)	al Imagery ave Surfac Yes Yes Yes Yes Yes Yes	(B7) e (B8) No 🗵 No 🗵 No 🗵	Water-S 1, 2, Salt Crus Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	tained Leav 4A, and 4I st (B11) Invertebrate In Sulfide C I Rhizosphe e of Reduct ron Reduct or Stressed xxplain in R Invertebrate I Rhizosphe e of Reduct I Rhizosphe e of Reduct I Rhizosphe I Rhizosphe I Rhizosphe I Rhizosphe I Rhizosphe I Reduct I Rhizosphe I Rh	es (B13) ador (C1) ares along ed Iron (C- ion in Tille d Plants (D- emarks)	Living Roc 4) d Soils (C6 1) (LRR A	ots (C3) S))	Water 4/ Drain Dry-S Satur Geom Shalld FAC- Raise Frost-	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) deason Water Table (Gation Visible on Aerianorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ded Ant Mounds (D6) (Index of the August (D5) ded Heave Hummocks (D6)	(MLRA 1, 2, C2) I Imagery (C9) LRR A) D7)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Surface Inundati Sparsely Field Obset Saturation F (includes ca Describe Re	ydrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Conca rvations: ter Present? e Present? publicators (Minimum of present (Minimum of present)	al Imagery ave Surfac Yes Yes Yes am gauge,	(B7) e (B8) No ☒ No ☒ No ☒ monitor	Water-S 1, 2, Salt Crus Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	tained Leaver 4A, and 4I st (B11) Invertebrate in Sulfide Color Reduction Reduction Reduction Stressed explain in Reduction Stressed explain in Reduction Reduction Stressed explain in Reduction Reduction Reduction Stressed explain in Reduction Re	es (B13) dor (C1) eres along ed Iron (C- ion in Tille d Plants (Demarks)	Living Roo 4) d Soils (C6 1) (LRR A Wet	ots (C3) S)) land Hyo if availa	Water 4/ Drain Dry-S Satur Geom Shalld FAC- Raise Frost-	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) deason Water Table (Gation Visible on Aerianorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ded Ant Mounds (D6) (Index of the August (D5) ded Heave Hummocks (D6)	(MLRA 1, 2, C2) I Imagery (C9) LRR A)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Iron Dep Inundati Sparsely Field Obset Surface Wa Water Table Saturation F (includes ca Describe Re	ydrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria by Vegetated Conca rvations: ater Present? Present? apillary fringe) ecorded Data (streat	al Imagery ave Surfac Yes Yes Yes am gauge,	(B7) e (B8) No ☒ No ☒ No ☒ monitor	Water-S 1, 2, Salt Crus Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	tained Leaver 4A, and 4I st (B11) Invertebrate in Sulfide Color Reduction Reduction Reduction Stressed explain in Reduction Stressed explain in Reduction Reduction Stressed explain in Reduction Reduction Reduction Stressed explain in Reduction Re	es (B13) dor (C1) eres along ed Iron (C- ion in Tille d Plants (Demarks)	Living Roo 4) d Soils (C6 1) (LRR A Wet	ots (C3) S)) land Hyo if availa	Water 4/ Drain Dry-S Satur Geom Shalld FAC- Raise Frost-	r-Stained Leaves (B9 A, and 4B) age Patterns (B10) deason Water Table (Gation Visible on Aerianorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ded Ant Mounds (D6) (Index of the August (D5) ded Heave Hummocks (D6)	(MLRA 1, 2, C2) I Imagery (C9) LRR A) D7)

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

Project/Site: 1077.0012 - South Hill Data Center	City/County: Puyallup/Pierce Sampling Date: 9/14							
Applicant/Owner: Benaroya Capital Company					State: WA	Sampling Point: DP-7	7	
Investigator(s): Richard Peel, Matthew DeCaro					ownship, Range: 03, 19,			
Landform (hillslope, terrace, etc.): Valley Floor		Local	relief (d	concave,	convex, none): Concav	'e Slope (%)	. 0	
Subregion (LRR): A2								
Soil Map Unit Name: Indianola Loamy Sand					NWI classificat			
Are climatic / hydrologic conditions on the site typical for this								
Are Vegetation, Soil, or Hydrology sign	ificantly dis	turbed?	?	Are "No	ormal Circumstances" pres	ent? Yes 🗵 No 🗌		
Are Vegetation, Soil, or Hydrology natu	rally probler	matic?		(If neede	ed, explain any answers in	Remarks.)		
SUMMARY OF FINDINGS - Attach site map	showing	samp	ling _l	point lo	ocations, transects,	important feature	s, etc.	
Hydrophytic Vegetation Present? Yes ☐ No 🗵								
Hydric Soil Present? Yes ☐ No 🗵				Sampled		_		
Wetland Hydrology Present? Yes ☐ No 🗵		V	within a	a Wetlan	nd? Yes □ No	o 🔀		
Remarks: Data collected upland of Wetland	С	I						
_								
VEGETATION – Use scientific names of plant	ts.							
Tron Stratum (Plot airo: 20 ft)	Absolute			dicator	Dominance Test works			
Tree Stratum (Plot size: 30 ft) 1. Acer macrophyllum	% Cover 50	Yes		ACU	Number of Dominant Sports That Are OBL, FACW, or		(A)	
2. Alnus rubra	25	Yes		AC			(~)	
3. Pseudotsuga menziesii	25	Yes		ACU	Total Number of Domina Species Across All Strata	•	(B)	
4.					·		(D)	
	100	= Tota	al Cove	er	Percent of Dominant Spe That Are OBL, FACW, or		(A/B)	
Sapling/Shrub Stratum (Plot size: 15 ft)	20	Vaa	_	- ^ _				
1. Rubus spectabilis	30	Yes		ACLI	Prevalence Index work			
2. Ilex aquifolium 3. Frangula purshiana	10 10	Yes Yes		ACU AC	Total % Cover of:			
-		163		<u> </u>	OBL species 0 FACW species 0	x 1 = 0		
4					FACW species 70	x = 0 x = 210	_	
5	50		al Cov		FACU species 130			
Herb Stratum (Plot size: 5 ft)		- 100	ai Cove	Ci		x 5 = 0		
1. Polystichum munitum	30	Yes	<u>F</u>	ACU	Column Totals: 200	(A) 730	(B)	
2. Pteridium aquilinum	15	Yes		ACU		. ,	_ ` ′	
3. Rubus armeniacus	5	No	<u>F</u>	AC	Prevalence Index			
4					Hydrophytic Vegetation			
5					Rapid Test for Hydro			
6					☐ Dominance Test is > ☐ Prevalence Index is:			
7					_	≤3.0 tations¹ (Provide suppor	rtina	
8						or on a separate sheet)		
9					☐ Wetland Non-Vascul	ar Plants ¹		
10 11					☐ Problematic Hydroph	nytic Vegetation¹ (Expla	in)	
	50	= Tota	al Cove	er	¹ Indicators of hydric soil		must	
Woody Vine Stratum (Plot size: 30 ft)		_ 100	u. 0011	0.	be present, unless distur	bed or problematic.		
1					Hydrophytic			
2					Vegetation	_		
% Bare Ground in Herb Stratum 50	0	= Tota	al Cove	er	Present? Yes	□ No 🗵		
Remarks: FAC-FACU vegetation observed.								

Sampling Point: DP-7

	cription: (Describe	e to the d	epth ne				or confirn	n the ab	sence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Colo	r (moist)	ox Feature %	<u>s</u> Type¹	Loc ²	Textu	re	Remarks
0-12	10YR 3/6	100	-	. (-	-	GrSa		Gravelly sand
								-		
		_								
<u> </u>	-									
					_					
1Type: C-C	oncentration, D=De	nletion P	M-Rad	uced Matrix C	S-Covere	d or Coate	ad Sand Gi	raine	21.00	cation: PL=Pore Lining, M=Matrix.
	Indicators: (Appli						eu Sanu Gi			ors for Problematic Hydric Soils ³ :
☐ Histosol				Sandy Redox (·,				Muck (A10)
	ipedon (A2)			Stripped Matrix						Parent Material (TF2)
☐ Black His				oamy Mucky N	, ,) (except	MLRA 1)			Shallow Dark Surface (TF12)
	n Sulfide (A4)			oamy Gleyed			,	Ē	-	er (Explain in Remarks)
	Below Dark Surfac	ce (A11)		Depleted Matrix				_	_	,
☐ Thick Da	rk Surface (A12)		□ F	Redox Dark Su	rface (F6)			3	ndicato	ors of hydrophytic vegetation and
☐ Sandy M	lucky Mineral (S1)			Depleted Dark	Surface (F	7)			wetla	nd hydrology must be present,
-	leyed Matrix (S4)		☐ F	Redox Depress	ions (F8)				unles	s disturbed or problematic.
	Layer (if present):									
Type:										
Depth (in	ches):							Hydr	ic Soil	Present? Yes ☐ No ⊠
Remarks:								ı		
No hydric	soil indicators of	hserved								
No riyano s	John maladiatora of	ooci vca	•							
HYDROLO	GY									
_	drology Indicators									
Primary Indi	cators (minimum of	one requi	red; che	eck all that app	ly)				Secor	ndary Indicators (2 or more required)
☐ Surface	Water (A1)			☐ Water-Sta	ined Leave	es (B9) (e	xcept MLF	RA	\square W	ater-Stained Leaves (B9) (MLRA 1, 2,
☐ High Wa	ter Table (A2)			1, 2, 4	A, and 4B)				4A, and 4B)
☐ Saturation	on (A3)			☐ Salt Crust	(B11)				☐ Di	rainage Patterns (B10)
☐ Water M	arks (B1)			☐ Aquatic In	vertebrate	s (B13)			☐ Di	ry-Season Water Table (C2)
☐ Sedimer	t Deposits (B2)			☐ Hydrogen	Sulfide Od	dor (C1)			☐ Sa	aturation Visible on Aerial Imagery (C9)
☐ Drift Dep	osits (B3)			☐ Oxidized F	Rhizosphei	es along	Living Roo	ts (C3)	☐ G	eomorphic Position (D2)
☐ Algal Ma	t or Crust (B4)			☐ Presence	of Reduce	d Iron (C4	1)		☐ Sh	nallow Aquitard (D3)
☐ Iron Dep	osits (B5)			☐ Recent Iro	n Reductio	on in Tille	d Soils (C6	5)	☐ FA	AC-Neutral Test (D5)
☐ Surface	Soil Cracks (B6)			☐ Stunted or	Stressed	Plants (D	1) (LRR A))	☐ Ra	aised Ant Mounds (D6) (LRR A)
	on Visible on Aerial	Imagery (B7)	Other (Exp		•	,			rost-Heave Hummocks (D7)
☐ Sparsely	Vegetated Concav	e Surface	(B8)							
Field Obser										
Surface Wat	er Present?	Yes 🔲 🗆	No 🗷	Depth (inches	s):					
Water Table			No 🗵	Depth (inches						
Saturation P		_	No 🗵	Depth (inches			Wetl	and Hw	drolog	y Present? Yes □ No ⊠
(includes ca		163 🔲	10 🖸	Deptil (illiche	3)		Well	and my	urolog	y resent: res - No M
Describe Re	corded Data (strear	n gauge, i	monitor	ing well, aerial	photos, pr	evious in	spections),	if availa	ıble:	
Remarks:										
	or secondary i	ndicator	s of h	vdrology ob	served					
proary			· · · ·	,						

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

Project/Site: 1077.0012 - South Hill Data Center	City/County: Puyallup/Pierce Sampling Date: 9/14							
Applicant/Owner: Benaroya Capital Company					State: WA	Sampling Point: DP-	8	
					ownship, Range: 03, 19,			
Landform (hillslope, terrace, etc.): Slope): 5	
Subregion (LRR): A2								
Soil Map Unit Name: Indianola Loamy Sand					NWI classificat			
Are climatic / hydrologic conditions on the site typical for this								
Are Vegetation, Soil, or Hydrology sign	nificantly dis	turbed?	?	Are "No	ormal Circumstances" pres	ent? Yes 🗵 No 🗌		
Are Vegetation, Soil, or Hydrology natu	rally probler	matic?		(If neede	ed, explain any answers in	Remarks.)		
SUMMARY OF FINDINGS - Attach site map	showing	samp	oling p	point lo	ocations, transects,	important feature	es, etc.	
Hydrophytic Vegetation Present? Yes ☒ No ☐								
Hydric Soil Present? Yes ⊠ No □				Sampled		_		
Wetland Hydrology Present? Yes ☒ No ☐		V	within a	a Wetlan	nd? Yes ☒ No	o 📙		
Remarks:	1 D	ı						
Data collected in interior of Wetla	ına D.							
VEGETATION – Use scientific names of plan	ts.					_		
	Absolute		nant In		Dominance Test works	heet:		
Tree Stratum (Plot size: 30 ft) 1. Populus balsamifera	<u>% Cover</u> 50	Yes		Status AC	Number of Dominant Sp		(4)	
2. Alnus rubra	20	Yes		AC	That Are OBL, FACW, o	r FAC: <u>8</u>	(A)	
3. Salix lucida	20	Yes		ACW	Total Number of Domina	^		
3. Calix Idolda	20	163	<u> </u>	ACVV	Species Across All Strata	a: <u>8</u>	(B)	
4	90		-1 0		Percent of Dominant Spe			
Sapling/Shrub Stratum (Plot size: 15 ft)	30	= 100	al Cove	er	That Are OBL, FACW, o	r FAC: <u>100%</u>	(A/B)	
1. Rubus armeniacus	25	Yes	F	AC	Prevalence Index work	sheet:		
2. Rubus spectabilis	15	Yes	F	AC	Total % Cover of:	Multiply by:		
3.					OBL species 5	x 1 = <u>5</u>		
4					FACW species 20			
5.					FAC species 120	x 3 = <u>360</u>		
	40	= Tota	al Cove	er	FACU species 0	x 4 = 0		
Herb Stratum (Plot size: 5 ft)					UPL species 0	x 5 = 0		
1. Equisetum arvense	5				Column Totals: 145	(A) <u>405</u>	(B)	
2. Glyceria striata	5	Yes		DBL_	Daniela da la dani	D/A 2.70		
3. Ranunculus repens		Yes		AC	Prevalence Index			
4					Hydrophytic Vegetation			
5					Rapid Test for Hydro			
6					✓ Dominance Test is >✓ Prevalence Index is :			
7						≤3.0 tations¹ (Provide suppo	rting	
8						or on a separate sheet	0	
9					☐ Wetland Non-Vascul	lar Plants ¹		
10					☐ Problematic Hydroph	nytic Vegetation ¹ (Expla	ain)	
11	15	Total	ol Cove		¹ Indicators of hydric soil		must	
Woody Vine Stratum (Plot size: 30 ft)		= 1018	al Cove) I	be present, unless distur	bed or problematic.		
1								
2					Hydrophytic Vegetation			
	^	= Tota	al Cove	er	_	⊠ No □		
% Bare Ground in Herb Stratum 85								
Remarks: FAC-OBL vegetation observed.								
1								

Depth	Matrix				lox Featu			_	- .
(inches) 0-4	Color (moist) 7.5YR 2.5/1	<u>%</u> 100	_ Cold	or (moist)	<u>%</u>	Type ¹	Loc ²	Texture Silt	Remarks Silt muck
4-7	10YR 4/2	93	10	YR 4/6	7		M	CILo	Clay Loam
								-	
7-16	10YR 2/1	98	10	YR 5/8	_ 2	<u>C</u>	<u>M</u>	Silt	Silt muck
	-								
	-								
								-	
			_						
¹ Type: C=C	Concentration, D=D	epletion, F	RM=Red	luced Matrix, C	CS=Cove	red or Coat	ed Sand G	rains.	² Location: PL=Pore Lining, M=Matrix.
	Indicators: (App								icators for Problematic Hydric Soils ³ :
☐ Histosol	(A1)			Sandy Redox					2 cm Muck (A10)
	pipedon (A2)			Stripped Matrix	` '				,
☐ Black Hi				Loamy Mucky			t MLRA 1)	_	Very Shallow Dark Surface (TF12)
	en Sulfide (A4)	(0.4.4)		Loamy Gleyed		-2)		Ш	Other (Explain in Remarks)
_ ,	d Below Dark Surfa ark Surface (A12)	ace (A11)		Depleted Matri Redox Dark Si	. ,	2)		310.	dicators of hydrophytic vegetation and
	Ark Sunace (A12) Aucky Mineral (S1)			Depleted Dark	,	,			wetland hydrology must be present,
	Bleyed Matrix (S4)			Redox Depres					unless disturbed or problematic.
	Layer (if present)	:		todox 2 op. oo	0.01.0 (1.0	,			annoco distanzos or prosionidato.
				_					
Depth (in	nches):							Hydric	Soil Present? Yes 🗵 No 🗌
Remarks:								<u> </u>	
HYDROLO)GY								
-	drology Indicator		dan di ab	11 11 1	-1. 3				
Primary Indi	icators (minimum o		uired; ch			(20)			Secondary Indicators (2 or more required)
Primary Indi	icators (minimum o		uired; ch	➤ Water-Sta	ained Lea		except MLI		▼ Water-Stained Leaves (B9) (MLRA 1, 2,
Primary Indi	cators (minimum o Water (A1) ater Table (A2)		uired; ch	X Water-Sta	ained Lea		except MLI	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Primary Indi Surface High Wa Saturation	icators (minimum o Water (A1) ater Table (A2) on (A3)		iired; ch	➤ Water-Sta 1, 2, 4	ained Lea 4A, and 4 t (B11)	В)	except MLI	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Primary Indi Surface High Wa Saturation Water M	icators (minimum o Water (A1) ater Table (A2) on (A3) farks (B1)		uired; ch	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir	ained Lea 1A, and 4 t (B11) nvertebra	tes (B13)	except MLI	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Primary Indi Surface High Wa Saturatio Water M Sedimen	icators (minimum o Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2)		uired; ch	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger	ained Lea 1A, and 4 t (B11) nvertebra n Sulfide (tes (B13) Odor (C1)		RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Primary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep	water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3)		uired; ch	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized	ained Lea 1A, and 4 t (B11) nvertebra n Sulfide (Rhizosph	tes (B13) Odor (C1) heres along	Living Roc	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	water (A1) ater Table (A2) on (A3) farks (B1) ant Deposits (B2) posits (B3) at or Crust (B4)		uired; ch	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence	ained Lea 4A, and 4 t (B11) nvertebra n Sulfide (Rhizosph e of Reduce	tes (B13) Odor (C1) teres along ced Iron (C	Living Roo 4)	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Primary Indi Surface High Wa Saturation Water M Sedimer Drift Dep Algal Ma	water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		uired; ch	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Lea 14, and 4 t (B11) nvertebra n Sulfide (Rhizosph e of Reduction Reduction	tes (B13) Odor (C1) heres along ced Iron (C	Living Roo 4) ed Soils (Ce	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	f one requ		Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted o	ained Lea 4A, and 4 t (B11) nvertebra a Sulfide (Rhizosph of Reduction Reduction Reduction	tes (B13) Odor (C1) heres along ced Iron (C tion in Tille d Plants (E	Living Roo 4)	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati	icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) on Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria	f one requ	(B7)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Lea 4A, and 4 t (B11) nvertebra a Sulfide (Rhizosph of Reduction Reduction Reduction	tes (B13) Odor (C1) heres along ced Iron (C tion in Tille d Plants (E	Living Roo 4) ed Soils (Ce	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati	water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Conca	f one requ	(B7)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted o	ained Lea 4A, and 4 t (B11) nvertebra a Sulfide (Rhizosph of Reduction Reduction Reduction	tes (B13) Odor (C1) heres along ced Iron (C tion in Tille d Plants (E	Living Roo 4) ed Soils (Ce	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation F (includes ca	water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Conca rvations: ter Present? Present?	Il Imagery ve Surfac Yes Yes Yes Yes Yes Yes X	(B7) e (B8) No ⊠ No ⊠ No □	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lea 4A, and 4 t (B11) nvertebra a Sulfide (Rhizosph e of Reduc on Reduc or Stresse xplain in F es): es):	tes (B13) Odor (C1) heres along ced Iron (C tion in Tille d Plants (E Remarks)	Living Roo 4) ed Soils (C6 01) (LRR A	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) rology Present? Yes ☑ No □
Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation F (includes ca	water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Conca rvations: ter Present? Present? pillary fringe)	Il Imagery ve Surfac Yes Yes Yes Yes Yes Yes X	(B7) e (B8) No ⊠ No ⊠ No □	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lea 4A, and 4 t (B11) nvertebra a Sulfide (Rhizosph e of Reduc on Reduc or Stresse xplain in F es): es):	tes (B13) Odor (C1) heres along ced Iron (C tion in Tille d Plants (E Remarks)	Living Roo 4) ed Soils (C6 01) (LRR A	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) rology Present? Yes ☑ No □
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Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation F (includes ca Describe Re	cators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria by Vegetated Concarvations: ter Present? Present? pillary fringe) ecorded Data (streat	Il Imagery ve Surfac Yes Yes Yes Yes Am gauge,	(B7) e (B8) No ☑ No ☑ no ☐	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lea 4A, and 4 t (B11) nvertebra a Sulfide (Rhizosph e of Reduc on Reduc or Stresse xplain in F es): es): T I photos,	tes (B13) Odor (C1) heres along ced Iron (C tion in Tille d Plants (E Remarks)	Living Roo 4) ed Soils (C6 01) (LRR A	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) rology Present? Yes ☑ No □

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

Project/Site: 1077.0012 - South Hill Data Center	City/County: Puyallup/Pierce Sampling Date: 9/14/State: WA Sampling Point: DP-9							
Applicant/Owner: Benaroya Capital Company								
Investigator(s): Richard Peel, Matthew DeCaro					ownship, Range: 03, 19,			
Landform (hillslope, terrace, etc.): Slope					· -): 5	
Subregion (LRR): A2								
Soil Map Unit Name: Indianola Loamy Sand					NWI classificat			
Are climatic / hydrologic conditions on the site typical for thi								
Are Vegetation, Soil, or Hydrology sig	nificantly dis	turbed?	?	Are "No	ormal Circumstances" pres	ent? Yes 🗷 No 🗌		
Are Vegetation, Soil, or Hydrology nat	urally proble	matic?		(If neede	ed, explain any answers in	Remarks.)		
SUMMARY OF FINDINGS - Attach site map	showing	samp	oling	point lo	ocations, transects,	important feature	es, etc.	
Hydrophytic Vegetation Present? Yes ☒ No ☐								
Hydric Soil Present? Yes ☐ No 🗵				Sampled				
Wetland Hydrology Present? Yes ☐ No ☒		'	withir	n a Wetlan	nd? Yes ☐ No	o 🔀		
Remarks:	1.0	ı						
Data collected upland of Wetland	ıD.							
VEGETATION – Use scientific names of plan	its.							
	Absolute			ndicator	Dominance Test works	heet:		
Tree Stratum (Plot size: 30 ft)	% Cover				Number of Dominant Sp			
1. Populus balsamifera	35	Yes		FAC	That Are OBL, FACW, o	r FAC: <u>5</u>	(A)	
2. Alnus rubra	<u>25</u> 5	Yes		FAC	Total Number of Domina	ınt		
3. Salix lucida	5	No		<u>FACW</u>	Species Across All Strata	a: <u>6</u>	(B)	
4	GE.				Percent of Dominant Spe			
Sapling/Shrub Stratum (Plot size: 15 ft)	65	= Tot	tal Co	ver	That Are OBL, FACW, o	r FAC: <u>83%</u>	(A/B)	
1. Rubus spectabilis	25	Yes	6	FAC	Prevalence Index work	sheet:		
2. Rubus armeniacus	15	Yes		FAC	Total % Cover of:	Multiply by:		
3. Physocarpus capitatus	5	No		FACW		x 1 = 0		
4. Salix sitchensis	5	No		FACW	FACW species 20			
5.					FAC species 130	x 3 = <u>390</u>		
	50	= Tot	tal Co	ver	FACU species 50	x 4 = <u>200</u>	<u></u>	
Herb Stratum (Plot size: 5 ft)					UPL species 0	x 5 = 0		
1. Rubus ursinus	40				Column Totals: 200	(A) <u>630</u>	(B)	
2. Ranunculus repens	20	Yes		FAC		2.1 <i>E</i>		
3. Geranium robertianum	10	No		FACU	Prevalence Index			
4. Equisetum arvense	10	No		FAC VA	Hydrophytic Vegetation			
5. Dicentra formosa	5	No		<u>FACW</u>	Rapid Test for Hydro			
6					✓ Dominance Test is >✓ Prevalence Index is:			
7					<u> </u>		etio a	
8						tations¹ (Provide suppo or on a separate sheet		
9					☐ Wetland Non-Vascul	lar Plants ¹	•	
10					☐ Problematic Hydroph	nytic Vegetation ¹ (Expla	ain)	
11	85				¹ Indicators of hydric soil		must	
Woody Vine Stratum (Plot size: 30 ft)	00	= 100	tal Co	ver	be present, unless distur	bed or problematic.		
1	-							
2					Hydrophytic Vegetation			
	^	= Tot	tal Co	ver	_	No □		
% Bare Ground in Herb Stratum 15								
Remarks: FAC-OBL vegetation observed.								

Depth	Matrix	K		Red	ox Feature	<u>es</u>			
(inches)	Color (moist)	%	Colc	or (moist)	%	Type ¹	Loc ²	Texture	
0-18	10YR 3/2	100	<u>-</u>					Sand	Coarse sand
18-24	10YR 3/2	100	-		-	-	-	GrSa	Gravelly sand
									
									
	-								
1Tymov C C	`anaantration D F	Doplotion F		lugad Matrix C	Covere	d or Coot		raina	21 continue DL Doro Lining M Matrix
	Concentration, D=D Indicators: (App						eu Sanu Gi		² Location: PL=Pore Lining, M=Matrix. licators for Problematic Hydric Soils ³ :
☐ Histosol				Sandy Redox (,			2 cm Muck (A10)
	pipedon (A2)			Stripped Matrix				П	,
☐ Black Hi	. ,			Loamy Mucky	` '	1) (excep	t MLRA 1)		Very Shallow Dark Surface (TF12)
	en Sulfide (A4)			Loamy Gleyed					Other (Explain in Remarks)
☐ Depleted	d Below Dark Surf	ace (A11)		Depleted Matri	x (F3)				
	ark Surface (A12)			Redox Dark Sເ	` '				dicators of hydrophytic vegetation and
-	Mucky Mineral (S1)			Depleted Dark		- 7)			wetland hydrology must be present,
	Bleyed Matrix (S4)			Redox Depress	sions (F8)			1	unless disturbed or problematic.
	Layer (if present)								
	nches):								0-11 B
				-				Hydrid	Soil Present? Yes No 🗵
Remarks:									
No hydric	soil indicators	observed	d .						
HYDROLO									
)GY								
	OGY odrology Indicato	rs:							
Wetland Hy	drology Indicato		ired; ch	eck all that app	oly)				Secondary Indicators (2 or more required)
Wetland Hy Primary Indi	drology Indicato		ired; ch			es (B9) (e	except MLF		Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MI RA 1 2
Wetland Hy Primary Indi ☐ Surface	vdrology Indicato icators (minimum o Water (A1)		ired; ch	☐ Water-Sta	ained Leav		except MLF		Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hy Primary Indi Surface High Wa	rdrology Indicato icators (minimum o Water (A1) ater Table (A2)		ired; ch	☐ Water-Sta	ained Leav		except MLF	RA	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hy Primary Indi ☐ Surface ☐ High Wa ☐ Saturation	rdrology Indicato icators (minimum o Water (A1) ater Table (A2) on (A3)		ired; ch	☐ Water-Sta 1, 2, 4 ☐ Salt Crust	ained Leav I A, and 4E I (B11)	3)	except MLF	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hy Primary Indi Surface High Wa Saturatio Water M	rdrology Indicato icators (minimum o Water (A1) ater Table (A2) on (A3) farks (B1)		ired; ch	☐ Water-Sta 1, 2, 4 ☐ Salt Crust ☐ Aquatic In	ained Leav I A, and 4E t (B11) overtebrate	s (B13)	except MLF	RA	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2)
Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer	rdrology Indicato icators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2)		ired; cho	Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen	ained Leav IA, and 4E t (B11) overtebrate Sulfide O	es (B13) dor (C1)		RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9
Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep	rdrology Indicato icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3)		ired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized	ained Leav IA, and 4E t (B11) overtebrate Sulfide O Rhizosphe	es (B13) dor (C1) eres along	Living Roo	RA ets (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2)
Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	rdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) and Deposits (B2) posits (B3) at or Crust (B4)		ired; cho	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence	nined Leaver A.A., and 4E to (B11) invertebrate Sulfide O Rhizosphe of Reduce	es (B13) dor (C1) eres along ed Iron (C4	Living Roo 4)	RA ts (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hy Primary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma	rdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) and Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		ired; che	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Iro	ained Leave IA, and 4E t (B11) Invertebrate Sulfide O Rhizosphe of Reduce on Reduce	es (B13) dor (C1) eres along ed Iron (C4 on in Tille	Living Roo 4) d Soils (C6	ts (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	rdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) and Deposits (B2) posits (B3) at or Crust (B4)	of one requ		Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Iro	nined Leav IA, and 4E t (B11) Invertebrate Sulfide O Rhizosphe of Reduce on Reducet r Stressec	es (B13) dor (C1) eres along ed Iron (Co on in Tille Plants (D	Living Roo 4)	ts (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	rdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) aters (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	of one requ	(B7)	Water-Star 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Iro Stunted o	nined Leav IA, and 4E t (B11) Invertebrate Sulfide O Rhizosphe of Reduce on Reducet r Stressec	es (B13) dor (C1) eres along ed Iron (Co on in Tille Plants (D	Living Roo 4) d Soils (C6	ts (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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Wetland Hy Primary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely	rdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria	of one requi	(B7)	Water-Star 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Iro Stunted o	ained Leave IA, and 4E it (B11) avertebrate Sulfide O Rhizosphe of Reduce on Reduct r Stressed plain in Re	es (B13) dor (C1) eres along ed Iron (Co on in Tille Plants (D emarks)	Living Roo 4) d Soils (C6	ts (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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Wetland Hy Primary Indi Surface High Water M Sedimer Drift Dep Algal Mater M Iron Dep Surface Inundation Sparsely Field Obser Surface Water Table Saturation P (includes ca	rdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Concarvations: ter Present? Present?	al Imagery ave Surface Yes Yes Yes Yes Yes Yes Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ained Leaver A, and 4E (B11) invertebrate Sulfide O Rhizosphe of Reduction Reduction Reduction Resplain in Reseases:	es (B13) dor (C1) eres along ed Iron (C4 on in Tille Plants (D4 emarks)	Living Roo 4) d Soils (C6 1) (LRR A)	ts (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9 □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7)
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WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: 1077.0012 - South Hill Data Center	City/County: Puyallup/Pierce Sampling Date: 9/1							
Applicant/Owner: Benaroya Capital Company				State: WA	Sampling Point: DP-10			
				ownship, Range: <u>03, 19,</u>				
Landform (hillslope, terrace, etc.): Slope		Local reli	ef (concave,	, convex, none): Concav	'e Slope (%): <u>5</u>			
Subregion (LRR): A2	_ Lat: 47.	15747		Long: -122.28034	Datum: WGS84			
Soil Map Unit Name: Indianola Loamy Sand				NWI classifica				
Are climatic / hydrologic conditions on the site typical for this	time of yea	ır? Yes 🗵] No □ (I	f no, explain in Remarks.)				
Are Vegetation, Soil, or Hydrology sign	nificantly dist	turbed?	Are "No	ormal Circumstances" pres	ent? Yes 🗵 No 🗌			
Are Vegetation, Soil, or Hydrology natu	rally probler	natic?	(If need	ed, explain any answers in	Remarks.)			
SUMMARY OF FINDINGS - Attach site map	showing	samplin	g point l	ocations, transects,	important features, etc.			
Hydrophytic Vegetation Present? Yes ☐ No 🗵								
Hydric Soil Present? Yes ☐ No 🗵			ne Sampled					
Wetland Hydrology Present? Yes ☐ No 🗵		with	nin a Wetlar	nd? Yes ☐ N	o 🔀			
Remarks:		<u> </u>						
Data collected in uplands								
VEGETATION – Use scientific names of plan	ts.							
	Absolute		Indicator	Dominance Test works	sheet:			
Tree Stratum (Plot size: 30 ft) 1. Pseudotsuga menziesii	% Cover 75	Species?	Status FACU	Number of Dominant Sp				
2				That Are OBL, FACW, o				
3				Total Number of Domina Species Across All Strat	_			
4				Percent of Dominant Sp	、,			
Condition/Objects Chaptering (Districts 45.4)	75	= Total C	Cover	That Are OBL, FACW, o				
Sapling/Shrub Stratum (Plot size: 15 ft) 1. Oemleria cerasiformis	30	Yes	FACU	Prevalence Index work	shoot:			
2. Acer macrophyllum		No	FACU	Total % Cover of:				
3					x 1 = 0			
4					x 2 = 0			
5.					x 3 = 0			
· ·	35	= Total C	Cover		x 4 = 660			
Herb Stratum (Plot size: 5 ft)				· ·	x 5 = 0			
1. Rubus ursinus	45	Yes	FACU	Column Totals: 165	(A) <u>660</u> (B)			
2. Polystichum munitum	5	No	FACU					
3. Pteridium aquilinum	5	No	FACU	Prevalence Index				
4				Hydrophytic Vegetation				
5				☐ Rapid Test for Hydro ☐ Dominance Test is >	· ·			
6				☐ Prevalence Index is				
7					tations ¹ (Provide supporting			
8					or on a separate sheet)			
9				☐ Wetland Non-Vascu	lar Plants ¹			
10				☐ Problematic Hydroph	nytic Vegetation1 (Explain)			
11	55	= Total C	`ovor	¹ Indicators of hydric soil	and wetland hydrology must			
Woody Vine Stratum (Plot size: 30 ft)		= Total C	ovei	be present, unless distur	bed or problematic.			
1				Hydrophytic				
2				Vegetation				
% Bare Ground in Herb Stratum 45	0	= Total C	Cover	Present? Yes	s □ No ⊠			
				1				
Remarks: FAC-FACU vegetation observed.								

Depth	Matrix				dox Featur	<u>'es</u>			
(inches)	Color (moist)	<u>%</u>	Colo	or (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-3	10YR 3/3	100						SiLo	Silt Loam
3-8	10YR 4/4	100	<u>-</u>					GrSiLo	Gravelly Silt loam
8/18	10YR 5/6	100	_		-			GrSaLc	Gravelly Sandy Loam
			_						
									_
	-								
	-								
									
	oncentration, D=D						ed Sand G		² Location: PL=Pore Lining, M=Matrix.
	Indicators: (App	licable to				oted.)			cators for Problematic Hydric Soils ³ :
☐ Histosol				Sandy Redox					2 cm Muck (A10) Red Parent Material (TF2)
☐ Black Hi	oipedon (A2)			Stripped Matri: Loamy Mucky	. ,	1) (excen	t MI RA 1)		/ery Shallow Dark Surface (TF12)
	n Sulfide (A4)			Loamy Gleyed			t william i)		Other (Explain in Remarks)
	d Below Dark Surf	ace (A11)		Depleted Matr		_/			Sine (Explain in temane)
	ark Surface (A12)	, ,		Redox Dark S		i)		³ Indi	cators of hydrophytic vegetation and
☐ Sandy M	Mucky Mineral (S1))		Depleted Dark	Surface (F7)		W	etland hydrology must be present,
	Bleyed Matrix (S4)			Redox Depres	sions (F8))		uı	nless disturbed or problematic.
	Layer (if present)								
	- h \								
Deptn (in	ches):			-				Hydric S	Soil Present? Yes ☐ No 🗵
Remarks:									
– – –									
Wetland Hy	drology Indicato		des de ele		-1.3			-	
Wetland Hy	drology Indicato		uired; ch						econdary Indicators (2 or more required)
Wetland Hy Primary India ☐ Surface	drology Indicator cators (minimum of Water (A1)		uired; ch	☐ Water-St	ained Lea		except MLF		Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hy Primary India ☐ Surface ☐ High Wa	drology Indicato cators (minimum o Water (A1) ater Table (A2)		uired; ch	☐ Water-St	ained Lea 4 A, and 4		except MLF	RA 🗆	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hy Primary India ☐ Surface ☐ High Wa ☐ Saturation	drology Indicato cators (minimum o Water (A1) ater Table (A2) on (A3)		uired; ch	☐ Water-Sta	ained Lea 4A, and 4 st (B11)	В)	except MLF	RA 🗆	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hy Primary India Surface High Wa Saturatio Water M	drology Indicato cators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1)		uired; ch	☐ Water-Standard 1, 2, 4 ☐ Salt Crus ☐ Aquatic In	ained Lea 4 A, and 4 at (B11) nvertebrat	B) es (B13)	except MLF	RA 🗆	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer	cators (minimum of Water (A1) Inter Table (A2) Ion (A3) Iarks (B1) Int Deposits (B2)		uired; ch	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger	ained Lea 4A, and 4 it (B11) nvertebrat n Sulfide C	es (B13) Odor (C1)		RA 🗆	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2) posits (B3)		uired; ch	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized	ained Lea 4A, and 4 It (B11) Invertebrat In Sulfide (Rhizosph	es (B13) Odor (C1) eres along	Living Roo	RA Grant Carlotte (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4)		uired; ch	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence	ained Lea 4A, and 4 it (B11) invertebrat in Sulfide C Rhizosph e of Reduc	es (B13) Odor (C1) eres along red Iron (C	Living Roo 4)	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		uired; ch	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ained Lea 4A, and 4 It (B11) Invertebrat In Sulfide (I) Rhizosph It of Reduction Reduction	es (B13) Odor (C1) eres along red Iron (C	Living Roo 4) d Soils (C6	ets (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	drology Indicator cators (minimum of Water (A1) hter Table (A2) on (A3) darks (B1) ht Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	of one requ		Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ained Lea 4A, and 4 it (B11) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse	es (B13) Ddor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Roo 4)	ets (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria	of one requ	(B7)	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ained Lea 4A, and 4 It (B11) Invertebrat In Sulfide (I) Rhizosph It of Reduction Reduction	es (B13) Ddor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Roo 4) d Soils (C6	ets (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundation	cators (minimum of Water (A1) Inter Table (A2) Ion (A3) Iarks (B1) Int Deposits (B2) Ionsits (B3) Int or Crust (B4) Ionsits (B5) Soil Cracks (B6) Ion Visible on Aeria	of one requ	(B7)	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ained Lea 4A, and 4 it (B11) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse	es (B13) Ddor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Roo 4) d Soils (C6	ets (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) tarks (B1) on Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar	of one requ al Imagery ave Surfac	(B7) e (B8)	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted o	ained Lea 4A, and 4 it (B11) nvertebrat n Sulfide (Rhizosph e of Reduc on Reduc or Stresse xplain in R	es (B13) Ddor (C1) eres along ed Iron (Cition in Tille d Plants (Diemarks)	Living Roo 4) d Soils (C6	ets (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar evations:	al Imagery ave Surfac	(B7) e (B8) No ⊠	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Lea 4A, and 4 it (B11) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct on Reduct or Stresse xplain in R	es (B13) Ddor (C1) eres along ed Iron (C- tion in Tille d Plants (C- emarks)	Living Roo 4) d Soils (C6	ets (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Obser Surface Water Table	drology Indicator cators (minimum of Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (B1) Int Deposits (B2) Int Deposits (B3) Int or Crust (B4) Inter Table (B5) Inter Table (B5) Inter Table (B6) Inter	al Imagery ave Surfac Yes Yes	(B7) e (B8) No ⊠ No ⊠	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lea 4A, and 4 it (B11) nvertebrate in Sulfide C Rhizosph e of Reduct on Reduct on Reduct or Stresse kplain in R es): es):	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (C emarks)	Living Roo 4) d Soils (C6 11) (LRR A)	ets (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicator cators (minimum of Water (A1) atter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria vegetated Concarvations: ter Present? Present?	al Imagery ave Surfac Yes Yes Yes Yes Yes Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Lea 4A, and 4 it (B11) nvertebrate in Sulfide C Rhizosph ie of Reduct on Reduct on Reduct or Stresse (plain in Reduct) es): es): es):	es (B13) Ddor (C1) eres along ed Iron (C- tion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 01) (LRR A)	ets (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicator cators (minimum of Water (A1) atter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerica Vegetated Concarrations: ter Present?	al Imagery ave Surfac Yes Yes Yes Yes Yes Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Lea 4A, and 4 it (B11) nvertebrate in Sulfide C Rhizosph ie of Reduct on Reduct on Reduct or Stresse (plain in Reduct) es): es): es):	es (B13) Ddor (C1) eres along ed Iron (C- tion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 01) (LRR A)	ets (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicator cators (minimum of Water (A1) atter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria vegetated Concarvations: ter Present? Present?	al Imagery ave Surfac Yes Yes Yes Yes Yes Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Lea 4A, and 4 it (B11) nvertebrate in Sulfide C Rhizosph ie of Reduct on Reduct on Reduct or Stresse (plain in Reduct) es): es): es):	es (B13) Ddor (C1) eres along ed Iron (C- tion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 01) (LRR A)	ets (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca Describe Re	drology Indicator cators (minimum of Water (A1) atter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aerica Vegetated Concarvations: ter Present? Present? Present? pillary fringe) corded Data (street	al Imagery ave Surfac Yes Yes Yes am gauge,	(B7) e (B8) No ☑ No ☑ No ☑ no ☑ monitor	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Lea 4A, and 4 it (B11) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse xplain in R es): es): ll photos, p	es (B13) Ddor (C1) eres along ed Iron (C- tion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 01) (LRR A)	ets (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water Table Saturation P (includes ca) Describe Re	drology Indicator cators (minimum of Water (A1) atter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria vegetated Concarvations: ter Present? Present?	al Imagery ave Surfac Yes Yes Yes am gauge,	(B7) e (B8) No ☑ No ☑ No ☑ no ☑ monitor	Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Lea 4A, and 4 it (B11) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse xplain in R es): es): ll photos, p	es (B13) Ddor (C1) eres along ed Iron (C- tion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 01) (LRR A)	ets (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Project/Site: 1077.0012 - South Hill Data Center	City/County: Puyallup/Pierce Sampling Date: 9/15							
Applicant/Owner: Benaroya Capital Company				State: WA	Sampling Point: DP-11			
				ownship, Range: <u>03, 19,</u>				
Landform (hillslope, terrace, etc.): HIIIslope		Local reli	ief (concave,	, convex, none): None	Slope (%): 20			
Subregion (LRR): A2	_ Lat: 47.1	15919		Long: -122.27853	Datum: WGS84			
Soil Map Unit Name: Indianola Loamy Sand				NWI classification				
Are climatic / hydrologic conditions on the site typical for this	time of yea	r?Yes 🛚	No 🗌 (I	f no, explain in Remarks.)				
Are Vegetation, Soil, or Hydrology sign	ificantly dist	urbed?	Are "No	ormal Circumstances" pres	ent? Yes 🗵 No 🗌			
Are Vegetation, Soil, or Hydrology natu	rally problen	natic?	(If neede	ed, explain any answers in	Remarks.)			
SUMMARY OF FINDINGS - Attach site map	showing	samplir	ng point lo	ocations, transects,	important features, etc.			
Hydrophytic Vegetation Present? Yes ☐ No 🗵								
Hydric Soil Present? Yes ☐ No 🗵			he Sampled					
Wetland Hydrology Present? Yes ☐ No 🗵		Witi	hin a Wetlar	nd? Yes ☐ No) <u>X</u>			
Remarks:								
Data collected in uplands								
VEGETATION – Use scientific names of plant	ts.							
T. O. J. (D. J.) 20 (V.)			t Indicator	Dominance Test works	heet:			
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	<u>% Cover</u> 80	Yes	FAC	Number of Dominant Sp				
2. Pseudotsuga menziesii	5	No	FACU	That Are OBL, FACW, o	r FAC: <u>2</u> (A)			
3. Populus balsamifera	5	No	FAC	Total Number of Domina				
4.		110	1710	Species Across All Strate	a: <u>4</u> (B)			
7.	90	= Total (Cover	Percent of Dominant Spo				
Sapling/Shrub Stratum (Plot size: 15 ft)		- rotar (50101	That Are OBL, FACW, o	r FAC: <u>50%</u> (A/B)			
1. Rubus spectabilis	70	Yes	FAC	Prevalence Index work	sheet:			
2. Oemleria cerasiformis	10	No	FACU	Total % Cover of:				
3. Corylus cornuta	5	No	FACU		x 1 = <u>0</u>			
4					x 2 = 10			
5		-			x 3 = 450			
Harb Chrotum (Plot circ. 5 ft)	85	= Total (Cover	· ·	x 4 = <u>200</u>			
Herb Stratum (Plot size: <u>5 ft)</u> 1. Polystichum munitum	20	Yes	FACU	UPL species 0	x = 0			
o Pubue ureinue	10	Yes	FACU	Column Totals: 205	(A) <u>660</u> (B)			
3				Prevalence Index	= B/A = 3.22			
4				Hydrophytic Vegetation				
5				☐ Rapid Test for Hydro	phytic Vegetation			
6.				☐ Dominance Test is >	·50%			
7				☐ Prevalence Index is	≤3.0 ¹			
8					tations ¹ (Provide supporting			
9					or on a separate sheet)			
10				☐ Wetland Non-Vascul				
11					nytic Vegetation ¹ (Explain) and wetland hydrology must			
Woody Vine Stratum (Plot size: 30 ft)	30	= Total (Cover	be present, unless distur				
1				Healman bestle				
2				Hydrophytic Vegetation				
	0	= Total (Cover		□ No 🗵			
% Bare Ground in Herb Stratum 70								
Remarks: FAC-FACU vegetation observed.								

Depth	Matrix			Redo	x Feature	e <u>s</u>			ence of indicators.)
(inches)	Color (moist)	<u>%</u>	Color	(moist)	%	Type ¹	Loc ²	Texture	
0-2	7.5YR 4/3	100			-			SaLo	Sandy Loam
2-12	10YR 5/4	75	7.5Y	R 4/6	25	С	M	SaLo	Sandy Loam
	-								 -
					_				
					-			-	
¹ Type: C=C	oncentration, D=D	epletion, RM	∕l=Reduc	ed Matrix, CS	S=Covere	d or Coat	ed Sand Gr	rains.	² Location: PL=Pore Lining, M=Matrix.
	Indicators: (App								licators for Problematic Hydric Soils ³ :
☐ Histosol	(A1)		☐ Sa	ındy Redox (S	S5)				2 cm Muck (A10)
	ipedon (A2)			ripped Matrix	, ,				,
☐ Black Hi				amy Mucky N			t MLRA 1)		,
	n Sulfide (A4)	(0.4.4)		amy Gleyed I		2)		Ш	Other (Explain in Remarks)
•	l Below Dark Surfa irk Surface (A12)	ace (A11)		epleted Matrix edox Dark Su				3In/	dicators of hydrophytic vegetation and
	lucky Mineral (S1)			epleted Dark Sui	` ,				wetland hydrology must be present,
-	leyed Matrix (S4)			edox Depress		')			unless disturbed or problematic.
	Layer (if present)	:		•	. ,				
Type:									
Depth (in	ches):							Hydric	: Soil Present? Yes ☐ No ⊠
Remarks:									
HYDROLO									
•	drology Indicator				,				
'	cators (minimum o	f one requir							Secondary Indicators (2 or more required)
	Water (A1)		L	☐ Water-Stai			except MLR	RA [Water-Stained Leaves (B9) (MLRA 1, 2,
_	ter Table (A2)		_		A, and 4B	5)		-	4A, and 4B)
☐ Saturation ☐ Water M	` '		_	Salt Crust		o (D12)			Drainage Patterns (B10)
	t Deposits (B2)			」 Aquatic In\] Hydrogen∹		. ,			☐ Dry-Season Water Table (C2)☐ Saturation Visible on Aerial Imagery (C9)
	osits (B3)			Oxidized R		, ,	Living Poo		Geomorphic Position (D2)
	t or Crust (B4)			Presence		_	_		☐ Shallow Aquitard (D3)
	osits (B5)			Recent Iro				_	☐ FAC-Neutral Test (D5)
-	Soil Cracks (B6)		Ē	Stunted or			,	•	Raised Ant Mounds (D6) (LRR A)
	on Visible on Aeria	ıl Imagery (E	37)	-			., (=::::-,	[☐ Frost-Heave Hummocks (D7)
	Vegetated Conca	• • •	,	_		,		_	
Field Obser	vations:								
Surface Wat	er Present?	Yes 🔲 N	lo 🔀	Depth (inches	s):				
Water Table	Present?	Yes 🗆 N		Depth (inches					
Saturation P	resent?	Yes 🗌 N		Depth (inches			Wetla	and Hydr	ology Present? Yes □ No ⊠
(includes ca	oillary fringe)							-	
Describe Re	corded Data (stream	am gauge, n	nonitorin	g well, aerial	photos, p	revious in	spections),	if availab	le:
Remarks:									
	or secondary	hydrolog	ic indic	ators ohse	rved				
140 pilitiai	, or occorridary	riyarolog	o in luit	aloi 3 0036	. vou.				

Project/Site: 1077.0012 - South Hill Data Center	ty/County: Puyallup/Pierce Sampling Date: 9/15/20					
Applicant/Owner: Benaroya Capital Company				State: WA	Sampling Point: DP-12	
Investigator(s): Richard Peel, Alex Callender			Section, To	ownship, Range: <u>03, 19,</u>	04	
Landform (hillslope, terrace, etc.): HIIIslope		Local reli	ef (concave,	, convex, none): Concav	re Slope (%): 10	
Subregion (LRR): A2	_ Lat: 47.	15931		Long: <u>-122.27867</u>	Datum: WGS84	
Soil Map Unit Name: Kapowsin				NWI classification	tion: N/A	
Are climatic / hydrologic conditions on the site typical for this	time of yea	r? Yes 🗷] No □ (I	f no, explain in Remarks.)		
Are Vegetation, Soil, or Hydrology sign	ificantly dist	turbed?	Are "No	ormal Circumstances" pres	ent? Yes 🗷 No 🗌	
Are Vegetation, Soil, or Hydrology natu	rally probler	natic?	(If need	ed, explain any answers in	Remarks.)	
SUMMARY OF FINDINGS - Attach site map	showing	samplir	ng point le	ocations, transects,	important features, etc.	
Hydrophytic Vegetation Present? Yes ☒ No ☐						
Hydric Soil Present? Yes ☐ No 🗵			he Sampled		_	
Wetland Hydrology Present? Yes ☐ No 🗵		with	nin a Wetlar	nd? Yes ☐ No	o 🔀	
Remarks:		I				
All three wetland criteria not obse	erved.					
VEGETATION – Use scientific names of plant	s.					
		Dominan	t Indicator	Dominance Test works	heet:	
Tree Stratum (Plot size: <u>30 ft</u>)	% Cover			Number of Dominant Sp		
1. Alnus rubra	90	Yes	FAC	That Are OBL, FACW, o	r FAC: <u>4</u> (A)	
2				Total Number of Domina	_	
3				Species Across All Strate	a: <u>6</u> (B)	
7.	00	= Total 0	Cover	Percent of Dominant Spe That Are OBL, FACW, o		
Sapling/Shrub Stratum (Plot size: 15 ft)	40	Yes	FAC			
1. Rubus spectabilis				Prevalence Index work Total % Cover of:		
2					x 1 = 0	
3					x = 0 x = 0	
4 5.					$x = \frac{540}{}$	
0	40	= Total 0	Cover		x 4 = 200	
Herb Stratum (Plot size: 5 ft)				· ·	x 5 = 0	
1. Juncus effusus	30	Yes	FACW		(A) <u>740</u> (B)	
2. Rubus ursinus	30	Yes	FACU		50. 2.22	
3. Polystichum munitum	20	Yes	FACU FAC	Prevalence Index		
4. Agrostis capillaris	20	Yes		Hydrophytic Vegetation		
5				Rapid Test for Hydro Dominance Test is >		
6				☐ Prevalence Index is:		
7					tations ¹ (Provide supporting	
8					or on a separate sheet)	
9				☐ Wetland Non-Vascul	ar Plants ¹	
10				☐ Problematic Hydroph	nytic Vegetation ¹ (Explain)	
11	100	= Total 0	Cover	¹ Indicators of hydric soil	and wetland hydrology must	
Woody Vine Stratum (Plot size: 30 ft)		- rotar c	30101	be present, unless distur	bed or problematic.	
1				Hydrophytic		
2				Vegetation		
% Bare Ground in Herb Stratum 0	0	= Total (Cover	Present? Yes	i⊠ No □	
Remarks:			alaa aba	l n.o.d		
Predominance of FAC-FACU voluntee	r, aggress	sive spe	cies obsei	rvea.		

Depth	Matrix				ox Featur					
(inches) 0-2	Color (moist) 10YR 4/2	<u>%</u> 99		or (moist) YR 4/6	<u> </u>	<u>Type¹</u> C	<u>Loc²</u> M	<u>Textu</u> SaLo		Remarks Sandy Loam - roots
							· -			<u> </u>
2-12	10YR 6/2	60	7.5	YR 5/6	40	CS	М	San	<u>d</u>	Sand
			_							
								-		
								-		·
¹Type: C=C	Concentration, D=D	epletion, l	- RM=Red	luced Matrix, C	S=Cover	ed or Coat	ted Sand (Grains.	² Loc	cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (App	licable to	all LRR	s, unless othe	erwise no	oted.)		li	ndicato	rs for Problematic Hydric Soils ³ :
☐ Histoso	` '			Sandy Redox (Muck (A10)
	pipedon (A2)			Stripped Matrix	. ,	-4) (Parent Material (TF2)
_	istic (A3) en Sulfide (A4)			Loamy Mucky Loamy Gleyed			t MLRA 1	_	-	Shallow Dark Surface (TF12) er (Explain in Remarks)
	d Below Dark Surfa	ace (A11)		Depleted Matri		2)		L		(Explain in Remarks)
	ark Surface (A12)	200 (7.1.1)		Redox Dark Su		5)		3	Indicato	ors of hydrophytic vegetation and
	Mucky Mineral (S1)			Depleted Dark	Surface ((F7)				nd hydrology must be present,
	Gleyed Matrix (S4)			Redox Depress	sions (F8))			unles	s disturbed or problematic.
	Layer (if present)	:								
Type:	l V.			-						
Depth (ir	ncnes):			•				Hyd	ric Soil	Present? Yes ☐ No ☒
Remarks:										
HYDROLO										
•	drology Indicato									
	icators (minimum o	of one requ	ired; ch							ndary Indicators (2 or more required)
Surface				☐ Water-Sta			except ML	_RA	☐ W	ater-Stained Leaves (B9) (MLRA 1, 2,
_	ater Table (A2)				A, and 4	В)				4A, and 4B)
☐ Saturati				☐ Salt Crust		(D40)				rainage Patterns (B10)
☐ Water N	nt Deposits (B2)			☐ Aquatic Ir☐ Hydrogen		` ,				ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
	posits (B3)					eres along	Livina Ro	note (C3)	_	eomorphic Position (D2)
	at or Crust (B4)					ed Iron (C	_	0013 (00)		nallow Aquitard (D3)
	posits (B5)					tion in Tille		26)		AC-Neutral Test (D5)
	Soil Cracks (B6)					d Plants (D				aised Ant Mounds (D6) (LRR A)
	ion Visible on Aeria	al Imagery	(B7)	☐ Other (Ex			, ,	•		ost-Heave Hummocks (D7)
☐ Sparsel	y Vegetated Conca	ve Surfac	e (B8)							
Field Obse	rvations:									
Surface Wa	ter Present?	Yes 🗌	No 🗵	Depth (inche	es):					
Water Table	e Present?	Yes 🗌	No 🗵	Depth (inche	es):					
	apillary fringe)	Yes 🗌	No 🗵	Depth (inche				-		y Present? Yes ☐ No ⊠
Describe Re	ecorded Data (strea	am gauge	monito	ring well, aerial	photos, p	orevious in	spections), if availa	able:	
Remarks:										
No primar										on. Precipitation during the cent of normal for the
	ate per NOAA v								<u> </u>	

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

Project/Site: 1077.0012 - South Hill Data Center		City/Cou	_{ınty:} Puyallı	Sampling Date: 9/15/16	
Applicant/Owner: Benaroya Capital Company				State: WA	Sampling Point: DP-13
				ownship, Range: <u>03, 19,</u>	
Landform (hillslope, terrace, etc.): HIIIslope		Local r			/e Slope (%): 20
Subregion (LRR): A2	_ Lat: 47.	15924		Long: -122.27868	Datum: WGS84
Soil Map Unit Name: Indianola				NWI classifica	tion: N/A
Are climatic / hydrologic conditions on the site typical for this	time of yea	ır? Yes	× No □ (I	If no, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology sign	nificantly dist	turbed?	Are "No	ormal Circumstances" pres	ent? Yes 🗷 No 🗌
Are Vegetation, Soil, or Hydrology natu	rally probler	natic?	(If need	led, explain any answers in	Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	sampl	ing point l	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ☐ No 🗵					
Hydric Soil Present? Yes ☐ No 🗵			the Sampled		
Wetland Hydrology Present? Yes ☐ No 🗵		W	ithin a Wetlai	nd? Yes ☐ N	o 🔀
Remarks:		ı			
No wetland criteria observed.					
VEGETATION – Use scientific names of plan	ts.				
	Absolute		ant Indicator	Dominance Test works	sheet:
Tree Stratum (Plot size: 30 ft)			Status	Number of Dominant Sp	ecies
1. Alnus rubra 2. Acer macrophyllum	10	Yes Yes	FAC FACU	That Are OBL, FACW, o	or FAC: <u>2</u> (A)
		165	_ FACO	Total Number of Domina	
3		-		Species Across All Strat	a: <u>6</u> (B)
4	20	= Tota	l Cover	Percent of Dominant Sp	ecies
Sapling/Shrub Stratum (Plot size: 15 ft)		- 10ta	100001	That Are OBL, FACW, o	or FAC: <u>33%</u> (A/B)
1. Rubus spectabilis	50	Yes	FAC	Prevalence Index work	sheet:
2. Sorbus scopulina	30	Yes	<u>FACU</u>	Total % Cover of:	
3					x 1 = <u>0</u>
4					x 2 = 0
5					x 3 = <u>180</u>
Harb Chrotum (Plot circu 5 th)	80	= Tota	l Cover	-	x 4 = <u>320</u>
Herb Stratum (Plot size: 5 ft) 1. Rubus ursinus	20	Yes	FACU	UPL species 0	x = 0
2 Polystichum munitum	20	Yes	FACU	Column Totals: 140	(A) <u>500</u> (B)
3				Prevalence Index	= B/A = 3.57
4.				Hydrophytic Vegetation	
5				☐ Rapid Test for Hydro	
6.				☐ Dominance Test is >	•50%
7				☐ Prevalence Index is	≤3.0 ¹
8					tations ¹ (Provide supporting
9					or on a separate sheet)
10				☐ Wetland Non-Vascu	
11					hytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 30 ft)	40	= Tota	l Cover	be present, unless distu	and wetland hydrology must rbed or problematic.
1		_			
2				Hydrophytic Vegetation	
	0	= Tota	l Cover		i □ No ⊠
% Bare Ground in Herb Stratum 60					
Remarks: FAC-FACU volunteer, aggressive spec	cies obser	ved.			

Depth	Matrix				ox Feature							
(inches)	Color (moist)	<u>%</u>	Colc	or (moist)	%	Type ¹	Loc ²	Textu		Canadaal	Remarks	<u>i</u>
0-3	10YR 4/3	100		VD 5/0	-	-	-	SaL		Sandy L	.oam	
3-4	10YR 5/3	50		YR 5/6	50	CS	M	San		Sand		
4-18	10YR 5/2	25	10	YR 5/6	75	CS	M	San	<u>d</u>	Sand		
			_					_				
			_					_				
	-						-			-		
	oncentration, D=D						ed Sand					g, M=Matrix.
-	Indicators: (Appl	icable to				tea.)						ydric Soils³:
☐ Histosol	(A1) pipedon (A2)			Sandy Redox (Stripped Matrix				L [Muck (A10 Parent Mate	,	
☐ Black Hi				Loamy Mucky I		1) (exce p	t MLRA 1	1) [Shallow Da		
	n Sulfide (A4)			Loamy Gleyed	•			· _	-	(Explain ir		, ,
	d Below Dark Surfa	ace (A11)		Depleted Matrix	. ,							
	ark Surface (A12)			Redox Dark Su	` '			3				etation and
	Mucky Mineral (S1)			Depleted Dark	,	F7)				nd hydrolog	-	•
•	Gleyed Matrix (S4) Layer (if present):			Redox Depress	sions (F8)				uniess	disturbed	or problem	natic.
Type:	Layer (ii present)											
, , ,	ches):			_				Hvd	ric Soil I	Present?	Yes □	No 🗵
Remarks:								1194	110 0011 1	10301111	103 🗆	110 🖸
	indicator S5 w	ac tachr	nicolly.	obcorvod: b	owovor	obcorv	od coil r	orofilo i	annar	onthy ron	roconto	tive of subsoils
	peen exposed b										nesenia	live of Subsolis
linat navo k	эсси схросса г	oy onouv	allon	donvinoo. 7	01170 101	30X 0011	annonio i	11010110	r prooc	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
HYDROLO												
_	drology Indicator											
	cators (minimum o	f one requ	ired; ch	•					_			more required)
Surface				☐ Water-Sta			except MI	LRA	☐ Wa			B9) (MLRA 1, 2,
_	iter Table (A2)				A, and 4E	3)				4A, and 4	-	
Saturation	` ,			☐ Salt Crust	` '	(0.40)				ainage Patt	` '	
	arks (B1)			☐ Aquatic In						/-Season V		` ,
	nt Deposits (B2)			☐ Hydrogen			Listin as Da	(C2)				erial Imagery (C9)
	oosits (B3) at or Crust (B4)			☐ Oxidized F☐ Presence		_		50ts (C3)		omorphic Fallow Aquit		(2)
	oosits (B5)			☐ Recent Iro				<u> </u>		C-Neutral ⁻	` '	
-	Soil Cracks (B6)			☐ Stunted or			,	,		ised Ant M		(LRR A)
	on Visible on Aeria	I Imagery	(B7)	Other (Ex			(,		st-Heave I	,	, , ,
	Vegetated Conca			_ ` .	'	,			_			,
Field Obser	vations:											
Surface Wat	ter Present?	Yes 🗌	No 🗷	Depth (inche	s):							
Water Table	Present?	Yes □	No 🗵	Depth (inche	s):							
Saturation P	resent?	Yes □	No 🗵	Depth (inche	s):		We	etland Hy	/drology	Present?	Yes □	No ⊠
	pillary fringe)			امنده المسام				·\ :f =::=:!	-61			
Describe Re	corded Data (strea	ım gauge,	monitor	rıng well, aerlal	pnotos, p	revious in	spections	s), if avail	abie:			
Remarks:												
	ogic indicators	observe	nd oo	confirmed d	urina th	2/24/4	Q ro ove	aluation	Drooi	oitation o	luring the	0 1/21/19 vioit
	ogic indicators											date per NOAA
	ation at Sea-Ta			131 tilo pe	00 u	Ly o and	0 po	. 55116 01			, 541 10 0	25.0 poi 110/1/1

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

Project/Site: 1077.0012 - South Hill Data Center	City/Count	ty/County: Puyallup/Pierce Sampling Date: 9/15					
Applicant/Owner: Benaroya Capital Company				State: WA	Sampling Point: DP-14		
				ownship, Range: <u>03, 19,</u>			
Landform (hillslope, terrace, etc.): Terrace		Local reli	ef (concave,	, convex, none): Concav	<u>'e</u> Slope (%): 0		
Subregion (LRR): A2	_ Lat: 47.	15983		Long: <u>-122.27728</u>	Datum: WGS84		
Soil Map Unit Name: Indianola				NWI classification	tion: N/A		
Are climatic / hydrologic conditions on the site typical for this	time of yea	ır? Yes 🗵] No □ (I	f no, explain in Remarks.)			
Are Vegetation, Soil, or Hydrology sign	ificantly dist	turbed?	Are "No	ormal Circumstances" pres	ent? Yes 🗵 No 🗌		
Are Vegetation, Soil, or Hydrology natu	rally probler	natic?	(If neede	ed, explain any answers in	Remarks.)		
SUMMARY OF FINDINGS - Attach site map	showing	samplin	g point le	ocations, transects,	important features, etc.		
Hydrophytic Vegetation Present? Yes ☒ No ☐							
Hydric Soil Present? Yes ☐ No 🗵			ne Sampled				
Wetland Hydrology Present? Yes ☐ No 🗵		with	nin a Wetlar	nd? Yes ☐ No	o 🔀		
Remarks:							
All three wetland criteria not obse	erved. Da	ata colle	ected on	road terrace.			
VEGETATION – Use scientific names of plant	rs.						
Control Control Manager Plant		Dominant	Indicator	Dominance Test works	sheet:		
Tree Stratum (Plot size: 30 ft)	% Cover			Number of Dominant Sp			
1. Alnus rubra	10	Yes	FAC	That Are OBL, FACW, o	r FAC: <u>6</u> (A)		
2				Total Number of Domina	unt		
3				Species Across All Strate	a: <u>6</u> (B)		
4	10			Percent of Dominant Spo			
Sapling/Shrub Stratum (Plot size: 15 ft)	10	= Total C	Cover	That Are OBL, FACW, o	r FAC: <u>100%</u> (A/B)		
1. Rubus armeniacus	30	Yes	FAC	Prevalence Index work	sheet:		
2. Rubus spectabilis	20	Yes	FAC	Total % Cover of:	Multiply by:		
3. Acer macrophyllum	10	No	FACU	OBL species 0	x 1 = 0		
4				FACW species 0	x 2 = 0		
5				FAC species 155	x 3 = <u>465</u>		
	60	= Total C	Cover	FACU species 15	x 4 = <u>60</u>		
Herb Stratum (Plot size: 5 ft)	0.5	.,	E4 0\4/	UPL species 0	x 5 = 0		
1. Juncus effusus	35	Yes		Column Totals: 170	(A) <u>525</u> (B)		
2. Agrostis capillaris	30	Yes	FAC				
3. Ranunculus repens	30 5	Yes No	FAC FACU	Prevalence Index			
4. Cirsium vulgare				Hydrophytic Vegetation Rapid Test for Hydro			
5				Dominance Test is >			
6				☐ Prevalence Index is:			
7					tations ¹ (Provide supporting		
8					or on a separate sheet)		
9				☐ Wetland Non-Vascul	ar Plants ¹		
10				☐ Problematic Hydroph	nytic Vegetation1 (Explain)		
11	100	= Total C	`over		and wetland hydrology must		
Woody Vine Stratum (Plot size: 30 ft)		= Total C	ovei	be present, unless distur	bed or problematic.		
1				Hydrophytic			
2				Vegetation			
	0	= Total C	Cover		i⊠ No □		
% Bare Ground in Herb Stratum 0							
Remarks: FAC-FACU volunteer, aggressive spec	cies obser	ved. He	avily distu	ırbed.			

	cription: (Describe	e to the de	epth ne				or confirm	the abs	ence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Colo	Redo r (moist)	ox Feature: %	<u>s</u> Type¹	Loc ²	Texture)	Remarks
0-18	10Yr 4/2	100	-	<u>,</u>	-	-	-	GrSaL		Gravelly Sandy Loam
					_					
		_	· -		_					
								-		
		_								
								-		
					_					
¹Type: C=C	oncentration, D=De	epletion, R	M=Red	uced Matrix, C	S=Covered	d or Coate	ed Sand Gr	ains.	² Loc	cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Appli	cable to a	III LRR	s, unless othe	rwise not	ed.)		Ind	licato	rs for Problematic Hydric Soils ³ :
☐ Histosol	(A1)			Sandy Redox (S5)				2 cm	Muck (A10)
	ipedon (A2)			Stripped Matrix	` '					Parent Material (TF2)
☐ Black Hi				oamy Mucky N			t MLRA 1)		-	Shallow Dark Surface (TF12)
	n Sulfide (A4)	(* ()		oamy Gleyed)			Othe	r (Explain in Remarks)
	Below Dark Surfa	ce (A11)		Depleted Matrix				31	al: a a 4 a	
	rk Surface (A12) lucky Mineral (S1)			Redox Dark Su Depleted Dark :	, ,	7)				ors of hydrophytic vegetation and nd hydrology must be present,
-	leyed Matrix (S4)			Redox Depress	,	')				s disturbed or problematic.
	Layer (if present):			.одож 2 ор. ооо	(. 0)					<u> </u>
Type:										
Depth (in	ches):							Hvdrid	: Soil	Present? Yes ☐ No ☒
Remarks:								,		
	soil indicators o	haarvad								
ino flydric s	soil indicators o	DServeu	•							
HYDROLO										
_	drology Indicators									
Primary Indi	cators (minimum of	one requi	red; che	ck all that app	ly)				Secor	ndary Indicators (2 or more required)
	Water (A1)			☐ Water-Sta			xcept MLR	RA [□ W	ater-Stained Leaves (B9) (MLRA 1, 2,
_	ter Table (A2)				A, and 4B)				4A, and 4B)
Saturation	on (A3)			Salt Crust	` '					rainage Patterns (B10)
_	arks (B1)			Aquatic In		` ,				y-Season Water Table (C2)
	t Deposits (B2)			Hydrogen		, ,				aturation Visible on Aerial Imagery (C9)
	oosits (B3)					_	Living Root			eomorphic Position (D2)
	t or Crust (B4)			☐ Presence		•	•			nallow Aquitard (D3)
-	osits (B5)						d Soils (C6)			AC-Neutral Test (D5)
	Soil Cracks (B6)	las a mar of	רבי			•	1) (LRR A)	l		aised Ant Mounds (D6) (LRR A)
	on Visible on Aerial			☐ Other (Exp	olain in Rei	marks)		l	∐ Fr	ost-Heave Hummocks (D7)
	Vegetated Concav	e Surface	(RR)				1			
Field Obser				5	`					
Surface Wat			No 🗵	Depth (inches						
Water Table			No 🗵	Depth (inches						<u>_</u> _
Saturation P		Yes 🗌 I	No 🔀	Depth (inches	s):		Wetla	and Hydr	rology	y Present? Yes □ No ⊠
(includes ca Describe Re	corded Data (strea	m gauge. r	nonitori	ng well. aerial	photos. pr	evious ins	spections).	if availab	le:	
	2000	J g = , .		J . , ,,,,,,,,,,,			, , ,			
Remarks:										
	, hydrologic ind	icatore c	heary	ed No bydr	ology ob	neerved	on 4/24/	18 at 19	30%	precipitation for past 30 days.
i vo primar	, riyarologic iria	iodiois C	,DGCI V	ou. INO HYUI	ciogy of	Jour Vea	JII 7/24/	10 01 10	JU /U	prodipitation for past 30 days.

Project/Site: 1077.0012 - South Hill Data Center		Sampling Date: 9/15/16				
Applicant/Owner: Benaroya Capital Company					State: WA	Sampling Point: DP-15
Investigator(s): Richard Peel, Alex Callender						
Landform (hillslope, terrace, etc.): Hillslope		Local	relief (co	oncave,	convex, none): None	Slope (%): 20
Subregion (LRR): A2	_ _{Lat:} <u>47.</u>	15919)		Long: -122.27870	Datum: WGS84
						tion: N/A
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrology sign	nificantly dis	turbed?	?	Are "No	ormal Circumstances" pres	ent? Yes ☒ No ☐
Are Vegetation, Soil, or Hydrology natu	rally probler	matic?	(1	(If neede	ed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	samp	oling po	oint lo	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ☐ No 🗵						
Hydric Soil Present? Yes ☐ No 🗵			s the Sa	-		_
Wetland Hydrology Present? Yes ☐ No 🗵		V	within a	Wetlan	nd? Yes □ N) ×
Remarks:		<u> </u>				
Data collected on terrace slope.						
VEGETATION – Use scientific names of plan	ts.					
	Absolute		nant Indi		Dominance Test works	heet:
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	<u>% Cover</u> 80	Speci Yes		tatus AC	Number of Dominant Sp That Are OBL, FACW, o	
2						
3					Total Number of Domina Species Across All Strat	4
4					Percent of Dominant Sp	
Conline/Chrub Ctratum (Diet size) 45 (t)	80	= Tota	al Cover	r		r FAC: <u>50%</u> (A/B)
Sapling/Shrub Stratum (Plot size: 15 ft) 1. Rubus spectabilis	70	Yes	FΑ	٩C	Prevalence Index work	sheet:
2. Crataegus douglasii	10	No		ACU	Total % Cover of:	
3						x = 0
4.					· ·	x 2 = 0
5.					FAC species 150	x 3 = <u>450</u>
	80	= Tota	al Cover	r		x 4 = <u>400</u>
Herb Stratum (Plot size: 5 ft)	70	V			UPL species 0	x 5 = <u>0</u>
1. Rubus ursinus 2. Polystichum munitum	70 20	Yes		ACU ACU	Column Totals: 250	(A) <u>850</u> (B)
					Prevalence Index	= B/A = 3.4
3					Hydrophytic Vegetatio	
5					☐ Rapid Test for Hydro	
6					☐ Dominance Test is >	· ·
7					☐ Prevalence Index is	≤3.0 ¹
8.						tations ¹ (Provide supporting
9						or on a separate sheet)
10					☐ Wetland Non-Vascu	
11						nytic Vegetation ¹ (Explain) and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)	90	= Tota	al Cover	r	be present, unless distu	
1					Hardward and	
2					Hydrophytic Vegetation	
	^	= Tota	al Cover	r		□ No ⊠
% Bare Ground in Herb Stratum 10						
Remarks: FAC-FACU volunteer, aggressive spec	cies obsei	rved. I	Heavily	y distu	rbed.	

Profile Desc											
Depth (in all as)	Matrix	0/		Redo	x Feature	<u>S</u>	12	T		Damadia	
(inches) 0-4	Color (moist) 10YR 6/1	<u>%</u> 100		or (moist)	%	Type ¹	Loc ²	Textur Sand		Remarks Sand	
	•										
4-18	10YR 5/4	100						Sand	<u> </u>	Sand	
-								-			
· 								-			
	_										
¹Type: C=Co	oncentration, D=De	pletion,	RM=Red	luced Matrix, CS	S=Covere	d or Coate	ed Sand G	rains.	² Loc	ation: PL=Pore Lining, M=	Matrix.
	Indicators: (Appli									rs for Problematic Hydric	
☐ Histosol	(A1)		□ :	Sandy Redox (S	S5)] 2 cm	Muck (A10)	
	pipedon (A2)			Stripped Matrix	` '					Parent Material (TF2)	
☐ Black His				Loamy Mucky N	•		MLRA 1)		-	Shallow Dark Surface (TF1	2)
	n Sulfide (A4)			Loamy Gleyed I	•)] Othe	r (Explain in Remarks)	
	Below Dark Surfa	ce (A11)		Depleted Matrix				0-			
	ark Surface (A12)			Redox Dark Su		_\		3 r		rs of hydrophytic vegetation	
-	lucky Mineral (S1)			Depleted Dark S	•	7)				nd hydrology must be prese	ent,
-	leyed Matrix (S4) Layer (if present):			Redox Depress	ions (Fo)			1	unies	s disturbed or problematic.	
Type:	Layer (ii present).										
, , , , , ,	ches):							Hydri	ic Sail	Present? Yes \(\) No [⊽ 1
. `				-				пуш	ic Soii	Present? res No	<u> </u>
Remarks:											
No nyaric s	soil indicators o	bserve	a.								
HYDROLO	GY										
	GY drology Indicators	S:									
-	drology Indicators		uired; ch	eck all that appl	y)				Secon	dary Indicators (2 or more	required)
Wetland Hyd	drology Indicators		uired; ch			es (B9) (e	xcept MLF	RA		,	
Wetland Hyd Primary Indic ☐ Surface	drology Indicators cators (minimum of Water (A1)		uired; ch	☐ Water-Stai	ned Leave		xcept MLF	RA		ater-Stained Leaves (B9) (I	
Wetland Hyd Primary India □ Surface \ □ High Wa	drology Indicators cators (minimum of Water (A1) ter Table (A2)		uired; ch	☐ Water-Stai	ned Leave A, and 4B		xcept MLF	RA	☐ Wa	ater-Stained Leaves (B9) (I	
Wetland Hyd Primary India □ Surface \ □ High Wa □ Saturatio	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3)		uired; ch	☐ Water-Stai	ned Leave A, and 4B (B11))	xcept MLF	RA	☐ Wa	ater-Stained Leaves (B9) (In 4A, and 4B) (B10)	/ILRA 1, 2,
Wetland Hyd Primary India Surface V High Wa Saturatio Water Mi	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1)		uired; ch	☐ Water-Stai 1, 2, 4/ ☐ Salt Crust ☐ Aquatic Inv	ned Leave A, and 4B (B11) vertebrate) s (B13)	xcept MLF	RA	☐ Wa	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2)	MLRA 1, 2,
Wetland Hyden Primary India Surface Value High War Saturation Water March Sediment	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2)		uired; ch	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen	ned Leave A, and 4B (B11) vertebrate Sulfide Od) s (B13) dor (C1)			☐ Wa	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2 turation Visible on Aerial In	MLRA 1, 2,
Wetland Hyden Primary India Surface Value High Wa Saturation Water Main Sedimen Drift Dep	drology Indicators cators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3)		uired; ch	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized R	ned Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe) s (B13) dor (C1) res along	Living Roo		☐ Wa	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2 turation Visible on Aerial In comorphic Position (D2)	MLRA 1, 2,
Wetland Hyderimary Indice Not Surface Not High War Saturation Water Mark Sedimen Drift Dep	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4)		uired; ch	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence	ned Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce	s (B13) dor (C1) res along d Iron (C4	Living Roo 1)	ots (C3)	 □ Wa □ Dr □ Dr □ Sa □ Sh 	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2 turation Visible on Aerial In comorphic Position (D2) allow Aquitard (D3)	MLRA 1, 2,
Wetland Hyd Primary Indic Surface N High Wa Saturatio Water M Sedimen Drift Dep Algal Ma	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5)		uired; ch	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence c Recent Iro	ned Leave A, and 4B (B11) vertebrate Sulfide Oo Rhizosphe of Reduce n Reduction	s (B13) dor (C1) res along d Iron (C4 on in Tille	Living Roo 4) d Soils (C6	ots (C3)	 □ Wa □ Dr. □ Sa □ Ge □ Sh □ FA 	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial In comorphic Position (D2) iallow Aquitard (D3) i.C-Neutral Test (D5)	MLRA 1, 2,
Wetland Hyd Primary Indic Surface V High Wa Saturatio Water Mi Sedimen Drift Dep Algal Ma Iron Dep Surface S	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6)	one req		Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence	ned Leave A, and 4B (B11) vertebrate Sulfide Od Rhizosphe of Reduce n Reduction	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D	Living Roo 4) d Soils (C6	ots (C3)	 □ Wa □ Dr. □ Dr. □ Sa □ Sh □ FA □ Ra 	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2 turation Visible on Aerial In comorphic Position (D2) allow Aquitard (D3)	MLRA 1, 2, nagery (C9)
Wetland Hyd Primary India Surface V High Wat Saturation Water Mater	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5)	one req	v (B7)	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or	ned Leave A, and 4B (B11) vertebrate Sulfide Od Rhizosphe of Reduce n Reduction	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D	Living Roo 4) d Soils (C6	ots (C3)	 □ Wa □ Dr. □ Dr. □ Sa □ Sh □ FA □ Ra 	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial In eomorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LR	MLRA 1, 2, nagery (C9)
Wetland Hyd Primary India Surface V High Wat Saturation Water Mater	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aerial	one req	v (B7)	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or	ned Leave A, and 4B (B11) vertebrate Sulfide Od Rhizosphe of Reduce n Reduction	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D	Living Roo 4) d Soils (C6	ots (C3)	 □ Wa □ Dr. □ Dr. □ Sa □ Sh □ FA □ Ra 	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial In eomorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LR	MLRA 1, 2, nagery (C9)
Wetland Hyderimary Indice North High Water Mark Sedimen Drift Dep Algal Mark Iron Dep Inundation Sparsely	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concavivations:	Imagery	v (B7) ce (B8)	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce n Reduction Stressed plain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6	ots (C3)	 □ Wa □ Dr. □ Dr. □ Sa □ Sh □ FA □ Ra 	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial In eomorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LR	MLRA 1, 2, nagery (C9)
Wetland Hyd Primary India Surface V High Wa Saturatio Water Mi Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatio Sparsely Field Obsert	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concav vations: er Present?	Imagery	v (B7) ce (B8) No ⊠	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce in Reduction Stressed blain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6	ots (C3)	 □ Wa □ Dr. □ Dr. □ Sa □ Sh □ FA □ Ra 	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial In eomorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LR	MLRA 1, 2, nagery (C9)
Wetland Hyderimary India Surface Name High War Saturation Water Mark Sediment Drift Dep Algal Mater High Ward Iron Dep Surface Street Inundation Sparsely Field Obsert Surface Water Table	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) ot Deposits (B2) osits (B3) ot or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial or Vegetated Concav vations: er Present?	Imagery ve Surface Yes Yes	v (B7) ce (B8) No ⊠ No ⊠	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leave A, and 4B (B11) /ertebrate Sulfide Oc Rhizosphe of Reduce n Reduction Stressed blain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A)	ots (C3)	☐ Wa	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2 turation Visible on Aerial In comorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LR ost-Heave Hummocks (D7)	nagery (C9)
Wetland Hyderimary Indice Primary Indice Surface V High Water Mater Table Saturation P (includes cap	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concav vations: er Present? Present? resent? poillary fringe)	Imagery ve Surface Yes Yes Yes Yes Yes Yes	v (B7) ce (B8) No ⊠ No ⊠ No ⊠	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reductic Stressed blain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A)	ots (C3)	☐ Wa	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial In eomorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LR	nagery (C9)
Wetland Hyderimary Indice Primary Indice Surface V High Water Mater Table Saturation P (includes cap	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) ot Deposits (B2) osits (B3) ot or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concav vations: er Present? Present?	Imagery ve Surface Yes Yes Yes Yes Yes Yes	v (B7) ce (B8) No ⊠ No ⊠ No ⊠	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reductic Stressed blain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A)	ots (C3)	☐ Wa	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2 turation Visible on Aerial In comorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LR ost-Heave Hummocks (D7)	nagery (C9)
Wetland Hyderimary Indice Primary Indice Surface V High Water Mater Table Saturation P (includes cap	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concav vations: er Present? Present? resent? poillary fringe)	Imagery ve Surface Yes Yes Yes Yes Yes Yes	v (B7) ce (B8) No ⊠ No ⊠ No ⊠	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reductic Stressed blain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A)	ots (C3)	☐ Wa	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2 turation Visible on Aerial In comorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LR ost-Heave Hummocks (D7)	nagery (C9)
Wetland Hyd Primary Indic Surface V High Wa Saturatio Water Mi Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely Field Obsert Surface Water Water Table Saturation P (includes cap	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concav vations: er Present? Present? resent? poillary fringe)	Imagery ve Surface Yes Yes Yes Yes Yes Yes	v (B7) ce (B8) No ⊠ No ⊠ No ⊠	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reductic Stressed blain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A)	ots (C3)	☐ Wa	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2 turation Visible on Aerial In comorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LR ost-Heave Hummocks (D7)	nagery (C9)
Wetland Hyderimary India Surface Name High Water Mater Table Saturation Polincludes cap Describe Remarks:	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concav vations: er Present? Present? resent? pillary fringe) corded Data (strean	Imagery ve Surface Yes Yes Yes Yes m gauge	v (B7) ce (B8) No 🗵 No 🗵 No 🗷 e, monitor	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp Depth (inchest Depth (inchest Depth (inchest	ned Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reductic Stressed blain in Re s): s): photos, pr	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A) Wetl	ots (C3) i) and Hyc if availal	☐ Wa ☐ Dra ☐ Dra ☐ Ge ☐ Sh ☐ FA ☐ Fre	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2 turation Visible on Aerial In comorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LR ost-Heave Hummocks (D7)	nagery (C9)
Wetland Hyderimary India Surface Name High Water Mater Table Saturation Polincludes cap Describe Remarks:	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial vegetated Concav vations: er Present? Present? resent? pillary fringe) corded Data (streat	Imagery ve Surface Yes Yes Yes Yes m gauge	v (B7) ce (B8) No 🗵 No 🗵 No 🗷 e, monitor	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp Depth (inchest Depth (inchest Depth (inchest	ned Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reductic Stressed blain in Re s): s): photos, pr	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A) Wetl	ots (C3) i) and Hyc if availal	☐ Wa ☐ Dra ☐ Dra ☐ Ge ☐ Sh ☐ FA ☐ Fre	ater-Stained Leaves (B9) (I 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial In eomorphic Position (D2) iallow Aquitard (D3) i.C-Neutral Test (D5) iised Ant Mounds (D6) (LR ost-Heave Hummocks (D7)	nagery (C9)

Project/Site: 1077.0012 - South Hill Data Center		City/Count	y: Puyallu	Sampling Date: 9/15/16	
Applicant/Owner: Benaroya Capital Company				State: WA	Sampling Point: DP-16
				ownship, Range: <u>03, 19,</u>	
Landform (hillslope, terrace, etc.): Terrace		Local reli	ef (concave,	, convex, none): Concav	<u>e</u> Slope (%): 0
Subregion (LRR): A2	_ Lat: 47.	15859		Long: -122.27864	Datum: WGS84
Soil Map Unit Name: Indianola					tion: N/A
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	nificantly dist	turbed?	Are "No	ormal Circumstances" pres	ent? Yes ☒ No ☐
Are Vegetation, Soil, or Hydrology natu	rally probler	matic?	(If need	ed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	samplin	ng point le	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐					
Hydric Soil Present? Yes ⊠ No □			ne Sampled		_
Wetland Hydrology Present? Yes ☒ No ☐		with	nin a Wetlar	nd? Yes ເເ N	0 📙
Remarks:		I			
Data collected in Wetland F.					
VEGETATION – Use scientific names of plan	ts.				
- O	Absolute		Indicator	Dominance Test works	sheet:
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	<u>% Cover</u> 40	Yes	FAC	Number of Dominant Sp That Are OBL, FACW, o	
2.					
3				Total Number of Domina Species Across All Strat	_
4	40			Percent of Dominant Sp	ecies
Sapling/Shrub Stratum (Plot size: 15 ft)	= Total Cover			That Are OBL, FACW, o	
Crataegus douglasii	5	Yes	FACU	Prevalence Index work	sheet:
2				Total % Cover of:	
3					x 1 = <u>0</u>
4					$\times 2 = 50$
5					x 3 = <u>345</u>
Harb Stratum (Plot size: 5 ft)	5	= Total C	Cover	· ·	x 4 = <u>20</u>
Herb Stratum (Plot size: 5 ft) 1. Holcus lanatus	55	Yes	FAC	UPL species 0	x = 0
2. Juncus effusus	25	Yes	FACW	Column Totals: 145	(A) <u>415</u> (B)
3. Agrostis capillaris	20	Yes	FAC	Prevalence Index	= B/A = <u>2.86</u>
4				Hydrophytic Vegetation	n Indicators:
5				☐ Rapid Test for Hydro	ophytic Vegetation
6				■ Dominance Test is >	·50%
7				▼ Prevalence Index is	≤3.0 ¹
8					tations ¹ (Provide supporting
9				□ Wetland Non-Vascu	or on a separate sheet)
10					hytic Vegetation ¹ (Explain)
11					and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)	100	= Total C	Cover	be present, unless distu	rbed or problematic.
1				Hydrophytic	
2				Vegetation	
% Bare Ground in Herb Stratum 0	0	= Total C	Cover		s⊠ No □
Remarks:		_I		1	
FAC-FACW species observed. Heavily	aisturbe	u.			

Depth	Matrix	(Red	ox Feature	es				
(inches)	Color (moist)	%	Cold	or (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-4	10YR 5/2	95	10	YR 4/6	5	С	M	Sand	Sand	
4-12	10YR 5/4	100	-		-	-	-	Sand	Sand	
	-									
	oncentration, D=D						ed Sand G		² Location: PL=Pore Lining, M=Matrix.	
_	Indicators: (App	licable to				tea.)			cators for Problematic Hydric Soils	:
Histosol	• •			Sandy Redox (2 cm Muck (A10)	
Black Hi	oipedon (A2)			Stripped Matrix Loamy Mucky	. ,	1) (evcen	+ MI RΔ 1)		Red Parent Material (TF2) Very Shallow Dark Surface (TF12)	
	en Sulfide (A4)			Loamy Gleyed	,		t WILKA I)		Other (Explain in Remarks)	
	d Below Dark Surfa	ace (A11)		Depleted Matri		-/			• (<u>=</u> , p.a toae)	
	ark Surface (A12)	,		Redox Dark Sı)		3Inc	icators of hydrophytic vegetation and	
☐ Sandy M	Mucky Mineral (S1)			Depleted Dark	Surface (I	- 7)		,	vetland hydrology must be present,	
	Bleyed Matrix (S4)			Redox Depress	sions (F8)			-	unless disturbed or problematic.	
	Layer (if present)):								
Type:										
Depth (in	ches):			-				Hydric	Soil Present? Yes ⊠ No □	
Remarks:										
Hydric soil	indicator S5 o	bserved	d. Poter	ntially subsc	ils from	excavat	ion.			
HYDROLO	ogy									
		rs:								
Wetland Hy	drology Indicator		uired; ch	eck all that app	oly)				Secondary Indicators (2 or more require	d)
Wetland Hy	drology Indicator		uired; ch			res (B9) (s	except MLF		Secondary Indicators (2 or more require	
Wetland Hy Primary India ☐ Surface	drology Indicator cators (minimum o Water (A1)		uired; ch	☐ Water-Sta	ained Leav	, , ,	except MLF		Water-Stained Leaves (B9) (MLRA	
Wetland Hy Primary India ☐ Surface ☐ High Wa	rdrology Indicator cators (minimum o Water (A1) ater Table (A2)		uired; ch	☐ Water-Sta	ained Leav	, , ,	except MLF	RA [Water-Stained Leaves (B9) (MLRA 4A, and 4B)	
Wetland Hy Primary India □ Surface □ High Wa ☑ Saturatio	cators (minimum o Water (A1) ater Table (A2) on (A3)		uired; ch	☐ Water-Sta 1, 2, 4 ☐ Salt Crust	ained Leav I A, and 4E t (B11)	3)	except MLF	RA [Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10)	
Wetland Hy Primary India □ Surface □ High Wa ⊠ Saturatio □ Water M	cators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1)		uired; ch	☐ Water-Sta 1, 2, 4 ☐ Salt Crust ☐ Aquatic Ir	ained Leav I A, and 4E t (B11) overtebrate	B) es (B13)	except MLF	RA [Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)	1, 2,
Wetland Hy Primary India □ Surface □ High Wa ☒ Saturatio □ Water M □ Sedimer	cators (minimum of water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2)		uired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen	ained Leav IA, and 4E t (B11) overtebrate Sulfide O	es (B13) dor (C1)	·	RA [Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery	1, 2,
Wetland Hy Primary India □ Surface □ High Wa ☒ Saturatic □ Water M □ Sedimer □ Drift Dep	cators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1)		uired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen	ained Leav IA, and 4E t (B11) overtebrate Sulfide O Rhizosphe	es (B13) dor (C1) eres along	Living Roo	RA [Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)	1, 2,
Wetland Hy Primary India □ Surface □ High Wa ☑ Saturatio □ Water M □ Sedimer □ Drift Dep □ Algal Ma	cators (minimum of water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2) cosits (B3) at or Crust (B4)		uired; ch	Water-State 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence	ained Leav IA, and 4E t (B11) avertebrate Sulfide O Rhizosphe of Reduce	es (B13) dor (C1) eres along ed Iron (C	Living Roo	RA [Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2)	1, 2,
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2) oosits (B3)		uired; ch	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Iro	ained Leav IA, and 4E t (B11) overtebrate Sulfide O Rhizosphe of Reduct	es (B13) dor (C1) eres along ed Iron (Co	Living Roo 4)	(C3) (C3) (C3) (C3) (C3) (C3) (C3) (C3)	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3)	1, 2,
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Project/Site: 1077.0012 - South Hill Data Center	(City/C	ounty:	Puyallu	o/Pierce	Samplir	ng Date: <u>9/15/</u>	/16
Applicant/Owner: Benaroya Capital Company					State: WA	Samplir	ng Point: DP-	·17
					wnship, Range: <u>03, 19,</u>			
Landform (hillslope, terrace, etc.): Terrace		Loca			convex, none): Concav			
Subregion (LRR): A2	_ Lat: <u>47.</u> ′	1586	57		Long: <u>-122.27869</u>		_ Datum: W	GS84
Soil Map Unit Name: Indianola					NWI classifica	ation: N/	<u>A</u>	
Are climatic / hydrologic conditions on the site typical for this	time of yea	ır? Ye	es 🕱	No ☐ (If	no, explain in Remarks.)	ı		
Are Vegetation, Soil, or Hydrology sign	ificantly dist	turbec	ქ?	Are "No	rmal Circumstances" pres	sent? Yo	es 🗵 No 🗌	
Are Vegetation, Soil, or Hydrology natu	rally problen	natic?	•	(If neede	d, explain any answers in	n Remark	is.)	
SUMMARY OF FINDINGS - Attach site map	showing	sam	pling	point lo	cations, transects	, impor	tant feature	es, etc.
Hydrophytic Vegetation Present? Yes ☐ No 🗵					_			
Hydric Soil Present? Yes ☐ No 🗵				Sampled		. 🖼		
Wetland Hydrology Present? Yes ☐ No 🗵			within	a Wetlan	d? Yes □ N	10 🔀		
Remarks:								
Data collected north of Wetland I	' in upla	nds.	•					
VEGETATION – Use scientific names of plant								
		Dom	inant Ir	ndicator	Dominance Test work	sheet:		
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	<u>% Cover</u> 90	Spec Ye:		Status FAC	Number of Dominant Sp That Are OBL, FACW, of		1	(A)
2.					Total Number of Domina			(* ')
3					Species Across All Stra		2	(B)
4Sapling/Shrub Stratum (Plot size: 15 ft)	00		otal Cov	er	Percent of Dominant Sp That Are OBL, FACW, o		50%	(A/B)
1				-	Prevalence Index worl	ksheet:		
2.					Total % Cover of:		Multiply by:	
3					OBL species 0	x	1 = 0	
4					FACW species 0	x	2 = 0	
5					FAC species 90	x	3 = 270	
	0	= To	otal Cov	er	FACU species 60	x	4 = 240	_
Herb Stratum (Plot size: 5 ft)	00	Va	. [- ^ C	UPL species 0	x	5 = 0	
1. Rubus ursinus	60		s <u>F</u>	_	Column Totals: 150	(A) <u>510</u>	(B)
2					Prevalence Index	= B/A =	3.4	
4				•	Hydrophytic Vegetation	n Indica	tors:	
5.					☐ Rapid Test for Hydr	ophytic V	egetation	
6.					☐ Dominance Test is :	>50%		
7				<u> </u>	☐ Prevalence Index is	≤3.0 ¹		
8					☐ Morphological Adap data in Remarks			
9					☐ Wetland Non-Vascu		•	.)
10					☐ Problematic Hydrop			ain)
11					¹Indicators of hydric soil	, ,	` '	,
Woody Vine Stratum (Plot size: 30 ft)	60	= To	otal Cov	er	be present, unless distu			
1					Hydrophytic			
2	0				Vegetation	e □ N/	. [⊽]	
% Bare Ground in Herb Stratum 40	0	= Tc	otal Cov	er	Present? Yes	s ∐ No		
Remarks: FAC-FACU species observed. Heavily	disturbed	ı		I				
. 7.6 17.60 opened observed. Heavily	3.0.0.000	••						

Sampling Point: DP-17

Profile Description: (Describe to the	depth no	eeded to docu	nent the	maicatoi	or commi	n the ab	sence	or indicators.)
Depth Matrix			x Feature					
(inches) Color (moist) %		or (moist)	%	Type ¹	Loc ²	<u>Textu</u>		Remarks
0-18 10YR 5/4 100	<u> </u>		-		-	SaGı	rLo	Sandy Gravelly Loam
			_					
						-		
¹ Type: C=Concentration, D=Depletion,	RM=Red	duced Matrix, C	S=Covere	d or Coat	ed Sand Gr	rains.	² Loc	cation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to	all LRR	s, unless othe	rwise not	ed.)		In	dicato	rs for Problematic Hydric Soils ³ :
☐ Histosol (A1)	×	Sandy Redox (S5)] 2 cm	Muck (A10)
☐ Histic Epipedon (A2)		Stripped Matrix	(S6)				Red	Parent Material (TF2)
☐ Black Histic (A3)		Loamy Mucky N	/lineral (F1	l) (except	MLRA 1)		-	Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)		Loamy Gleyed)] Othe	r (Explain in Remarks)
☐ Depleted Below Dark Surface (A11)		Depleted Matrix				0-		
☐ Thick Dark Surface (A12)		Redox Dark Su	. ,	\		3		ors of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		Depleted Dark	•	7)				nd hydrology must be present,
Sandy Gleyed Matrix (S4) Restrictive Layer (if present):	Ш	Redox Depress	ions (F8)				unies	s disturbed or problematic.
Type:								
Depth (inches):		_						
		-				Hydr	ic Soil	Present? Yes ☐ No ☒
Remarks:								
No hydric soil indicators observe	ed.							
HADDOLOGA								
HYDROLOGY								
Wetland Hydrology Indicators:								
	uired; ch						Secon	ndary Indicators (2 or more required)
Wetland Hydrology Indicators:	uired; ch	eck all that app ☐ Water-Sta		es (B9) (e	xcept MLR	RA		ndary Indicators (2 or more required) ater-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one rec	uired; ch	☐ Water-Sta		, , ,	xcept MLR	RA		<u> </u>
Wetland Hydrology Indicators: Primary Indicators (minimum of one recommend of the control of th	uired; ch	☐ Water-Sta	ined Leave A, and 4B	, , ,	xcept MLR	RA	× W	ater-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one recommend of the control of th	uired; ch	☐ Water-Sta	ined Leave A, and 4B (B11))	xcept MLR	RA	× W	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one recommend of the primary Indicators) Surface Water (A1) High Water Table (A2) Saturation (A3)	uired; ch	☐ Water-Sta 1, 2, 4	ined Leave A, and 4B (B11) vertebrate) s (B13)	xcept MLR	RA	× W	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one recommend of the control of th	uired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic In	ined Leave A, and 4B (B11) vertebrate Sulfide Od) s (B13) dor (C1)	xcept MLR			ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	uired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic In	ined Leave A, and 4B (B11) vertebrate Sulfide Oo Rhizosphe	s (B13) dor (C1) res along	Living Roo		DI DI SI	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one recompliance) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	uired; ch	Water-Sta 1, 2, 4. Salt Crust Aquatic Int Hydrogen Oxidized F Presence	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce	s (B13) dor (C1) res along d Iron (C4	Living Roo	ts (C3)	N N N N N N N N N N	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2)
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Project/Site: 1077.0012 - South Hill Data Center		City/Cou	_{nty:} Puyallu	ıp/Pierce	_ Sampling Date: 9/15/16
Applicant/Owner: Benaroya Capital Company				State: WA	_ Sampling Point: DP-18
Investigator(s): Richard Peel, Alex Callender					
Landform (hillslope, terrace, etc.): Terrace		Local re	elief (concave,	, convex, none): Conca	slope (%): <u>5</u>
Subregion (LRR): A2					
					eation: N/A
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	nificantly dis	turbed?	Are "No	ormal Circumstances" pre	esent? Yes 🗷 No 🗌
Are Vegetation, Soil, or Hydrology natu	rally probler	matic?	(If need	ed, explain any answers	in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	sampli	ing point le	ocations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐					
Hydric Soil Present? Yes ☒ No ☐			the Sampled		
Wetland Hydrology Present? Yes ☒ No ☐		WI	thin a Wetlar	nd? Yes ເ⊠	No 📙
Remarks:					
Data collected in Wetland F.					
VEGETATION – Use scientific names of plant	ts.				
	Absolute	Domina	nt Indicator	Dominance Test work	ksheet:
Tree Stratum (Plot size: 30 ft)			Status	Number of Dominant S	Species
1. Alnus rubra	90	Yes	<u>FAC</u>	That Are OBL, FACW,	or FAC: <u>2</u> (A)
2				Total Number of Domir	nant
3				Species Across All Stra	ata: <u>2</u> (B)
4	00			Percent of Dominant S	pecies
Sapling/Shrub Stratum (Plot size: 15 ft)	90	= Total	Cover	That Are OBL, FACW,	or FAC: 100% (A/B)
1. Rubus spectabilis	30	Yes	FAC	Prevalence Index wor	rksheet:
2. Rubus armeniacus	5	No	FAC	Total % Cover of:	Multiply by:
3. Spireae douglasii	5	No	FACW	OBL species 0	x 1 = <u>0</u>
4				FACW species 5	x 2 = <u>10</u>
5				FAC species 125	x 3 = <u>375</u>
	40	= Total	Cover		x 4 = 0
Herb Stratum (Plot size: <u>5 ft</u>)					x 5 = <u>0</u>
1.				Column Totals: 130	(A) <u>385</u> (B)
2				Prevalence Index	c = B/A = 2.96
3				Hydrophytic Vegetati	
4. 5.					rophytic Vegetation
6				■ Dominance Test is	· · ·
7.					s ≤3.0¹
8.				☐ Morphological Ada	ptations ¹ (Provide supporting
9.					s or on a separate sheet)
10				☐ Wetland Non-Vasc	
11				- , ,	phytic Vegetation ¹ (Explain)
	0	= Total	Cover	¹ Indicators of hydric so be present, unless dist	il and wetland hydrology must urbed or problematic.
Woody Vine Stratum (Plot size: 30 ft)				The state of the s	1
1				Hydrophytic	
2	^			Vegetation Present? Ye	es⊠ No⊡
% Bare Ground in Herb Stratum 100	-	= Total	Cover	inescitt 16	:3 M NU
Remarks:	, dicturb -	۸		1	
FAC-FACW species observed. Heavily	ขารเนเซย	u.			

Depth	Matrix				dox Feature		1 2	T	_	D
(inches)	Color (moist)	<u>%</u>		r (moist)	<u>%</u>	Type ¹		CrSol		Remarks Gravelly Sandy Learn
0-12	10YR 5/2	90	101	YR 4/6	10	CS	<u>M</u>	GrSal	LU	Gravelly Sandy Loam
		-						-		
			_ —							
		-						-		
									0:	
	oncentration, D=D Indicators: (Appl						ed Sand G			cation: PL=Pore Lining, M=Matrix. ors for Problematic Hydric Soils ³ :
-		iicabie to				tea.)				•
☐ Histosol	, ,			Sandy Redox						Muck (A10)
	oipedon (A2)			Stripped Matri: _oamy Mucky	` '	1) (avaon	4 MI DA 1\			Parent Material (TF2) Shallow Dark Surface (TF12)
	en Sulfide (A4)			_oamy Gleyed			LIVILKA I)	_		er (Explain in Remarks)
	d Below Dark Surfa	ace (A11)		Depleted Matr		-,		Ш	Julie	A LEADIGHT III NGHIGINƏ)
	ark Surface (A12)	200 (7111)		Redox Dark S)		³ In	ndicato	ors of hydrophytic vegetation and
	fucky Mineral (S1)			Depleted Dark	` '			•••		nd hydrology must be present,
-	Gleyed Matrix (S4)			Redox Depres		,				s disturbed or problematic.
	Layer (if present)	:		•	. ,					•
Type:				-						
Depth (in	ches):							Hvdri	c Soil	Present? Yes ⊠ No □
Remarks: Hydric soil	indicator S5 of	bserved	I. Poter	ntially subsc	oils from	excavat	tion.	<u> </u>		
Hydric soil		bserved	l. Poter	ntially subso	oils from	excava	tion.			
Hydric soil			I. Poter	ntially subso	pils from	excava	tion.			
Hydric soil HYDROLO Wetland Hy	GY	s:				excava	iion.		Secor	ndary Indicators (2 or more required)
Hydric soil HYDROLO Wetland Hy	GY drology Indicator cators (minimum o	s:			ply)					ndary Indicators (2 or more required) dater-Stained Leaves (B9) (MLRA 1, 2,
Hydric soil HYDROLC Wetland Hy Primary Indi Surface	GY drology Indicator cators (minimum o	s:		eck all that ap	ply)	ves (B9) (•				
Hydric soil HYDROLC Wetland Hy Primary Indi Surface	drology Indicator cators (minimum o Water (A1) ater Table (A2)	s:		eck all that ap	ply) ained Leav 4 A, and 4 E	ves (B9) (•			× W	ater-Stained Leaves (B9) (MLRA 1, 2,
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio	drology Indicator cators (minimum o Water (A1) ater Table (A2)	s:		eck all that ap Water-St. 1, 2, 4	ply) ained Leav 4A, and 4E t (B11)	ves (B9) (6		RA	× W	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatie Water M	drology Indicator cators (minimum o Water (A1) ater Table (A2) on (A3)	s:		eck all that app Water-St 1, 2, 4	ply) ained Leav 4A, and 4E tt (B11) nvertebrate	res (B9) (6 3) es (B13)		RA	× W	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10)
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturation Water M Sedimer	drology Indicator cators (minimum o Water (A1) tter Table (A2) on (A3) larks (B1)	s:		eck all that ap Water-St: 1, 2, 4 Salt Crus Aquatic II	ply) ained Leav 4A, and 4E it (B11) nvertebrate n Sulfide O	res (B9) (6 3) es (B13) dor (C1)		RA	× W	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2)
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Dep	drology Indicator cators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2)	s:		eck all that ap Water-St 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized	ply) ained Leav 4A, and 4E it (B11) nvertebrate n Sulfide O	res (B9) (6 3) es (B13) dor (C1) eres along	except MLI	RA ots (C3)	W Di	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
Hydric soil HYDROLC Wetland Hy Primary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma	drology Indicator cators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2)	s:		eck all that ap Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence	ply) ained Leav 4A, and 4E it (B11) nvertebrate n Sulfide O Rhizosphe	res (B9) (6 3) es (B13) dor (C1) eres along	except MLI	RA ots (C3)	N W D D	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2)
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Dep Algal Ma Iron Dep	drology Indicator cators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4)	s:		eck all that ap Water-St: 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ply) ained Leav 4A, and 4E at (B11) avertebrate a Sulfide O Rhizosphe e of Reduce on Reducti	ves (B9) (case (B13)) dor (C1) eres along ed Iron (C ion in Tille	except MLI Living Roc 4)	RA ots (C3)	Di Di Si Si Si F/	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3)
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturation Vater M Sedimer Drift Dep Algal Ma Iron Dep	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4)	s: f one req	uired; che	eck all that app Water-Sta 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ply) ained Leav 4A, and 4E at (B11) avertebrate a Sulfide O Rhizosphe e of Reduce on Reducti	res (B9) (6 B) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (E	except MLI Living Roc 4) d Soils (C6	RA ots (C3)	Di Di Si Si Si F/4 Ri	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5)
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6)	s: f one requ	uired; che	eck all that app Water-Sta 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ply) ained Leav 4A, and 4E at (B11) nvertebrate a Sulfide O Rhizosphe e of Reduce on Reduction	res (B9) (6 B) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (E	except MLI Living Roc 4) d Soils (C6	RA ots (C3)	Di Di Si Si Si F/4 Ri	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rhallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati	drology Indicator cators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria	s: f one requ	uired; che	eck all that app Water-Sta 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ply) ained Leav 4A, and 4E at (B11) nvertebrate a Sulfide O Rhizosphe e of Reduce on Reduction	res (B9) (6 B) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (E	except MLI Living Roc 4) d Soils (C6	RA ots (C3)	Di Di Si Si Si F/4 Ri	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rhallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria (Vegetated Concarvations:	s: f one requ	uired; che	eck all that ap Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted o	ply) ained Leav 4A, and 4E at (B11) avertebrate a Sulfide O Rhizosphe e of Reduce on Reducti or Stressed xplain in Re	res (B9) (case (B13)) dor (C1) deres along ded Iron (Case (C	except MLI Living Roc 4) d Soils (C6	RA ots (C3)	Di Di Si Si Si F/4 Ri	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rhallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
Hydric soil HYDROLC Wetland Hy Primary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely	drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria v Vegetated Concarvations:	s: f one requ I Imagery ve Surfac	uired; che (B7) te (B8)	eck all that app Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C	ply) ained Leav 4A, and 4E at (B11) nvertebrate a Sulfide O Rhizosphe a of Reduce on Reduction Stressed xplain in Re	res (B9) (e 3) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	except MLI Living Roc 4) d Soils (C6	RA ots (C3)	Di Di Si Si Si F/4 Ri	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rhallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Vater M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Conca	I Imagery ve Surface Yes Yes	uired; che (B7) te (B8) No 🗷	eck all that app Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ply) ained Leav 4A, and 4E at (B11) nvertebrate a Sulfide O Rhizosphe a of Reduct on Reduction Stressed xplain in Re es):	res (B9) (e 3) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	Except MLI Living Roc 4) and Soils (C6 01) (LRR A	ets (C3)	N Di Di Si Si Si Si Si Fr	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) reallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Sedimer Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation F	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Conca	s: f one required in the second in the secon	uired; che (B7) te (B8)	eck all that app Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C	ply) ained Leav 4A, and 4E at (B11) nvertebrate a Sulfide O Rhizosphe a of Reduct on Reduction Stressed xplain in Re es):	res (B9) (e 3) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	Except MLI Living Roc 4) and Soils (C6 01) (LRR A	ets (C3)	N Di Di Si Si Si Si Si Fr	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rhallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturation Vater M Sedimer Algal Ma Iron Dep Iron Dep Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation Feincludes ca	drology Indicator cators (minimum of water (A1) atter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concators are Present?	s: f one required in the second secon	uired; che (B7) te (B8) No 🗵 No 🖸	eck all that app Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ply) ained Leav 4A, and 4E at (B11) nvertebrate a Sulfide O Rhizosphe a of Reduct on Reducti or Stressed xplain in Re es):	res (B9) (e 3) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (E emarks)	Living Roo 4) d Soils (C6 01) (LRR A	ets (C3)	Di Di Si Si Si Si F/	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) reallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturation Vater M Sedimer Algal Ma Iron Dep Iron Dep Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation Feincludes ca	drology Indicator cators (minimum o Water (A1) ter Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Conca reations: ter Present? Present? Present?	s: f one required in the second secon	uired; che (B7) te (B8) No 🗵 No 🖸	eck all that app Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ply) ained Leav 4A, and 4E at (B11) nvertebrate a Sulfide O Rhizosphe a of Reduct on Reducti or Stressed xplain in Re es):	res (B9) (e 3) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (E emarks)	Living Roo 4) d Soils (C6 01) (LRR A	ets (C3)	Di Di Si Si Si Si F/	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) reallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Hydric soil HYDROLO Wetland Hy Primary Indi Surface High Wa Saturation Vater M Sedimer Algal Ma Iron Dep Iron Dep Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation Feincludes ca	drology Indicator cators (minimum o Water (A1) ter Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Conca reations: ter Present? Present? Present?	s: f one required in the second secon	uired; che (B7) te (B8) No 🗵 No 🖸	eck all that app Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ply) ained Leav 4A, and 4E at (B11) nvertebrate a Sulfide O Rhizosphe a of Reduct on Reducti or Stressed xplain in Re es):	res (B9) (e 3) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (E emarks)	Living Roo 4) d Soils (C6 01) (LRR A	ets (C3)	Di Di Si Si Si Si F/	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) reallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Hydric soil HYDROLC Wetland Hy Primary Indi Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation F (includes ca Describe Re	drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria (Vegetated Concarvations: ter Present? Present? Present? Present? pillary fringe) corded Data (streat	I Imagery ve Surface Yes Yes Yes Yes Xem gauge	uired; che (B7) ee (B8) No 🗵 No 🖸 , monitor	eck all that ap Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ply) ained Leav 4A, and 4E at (B11) nvertebrate a Sulfide O Rhizosphe a of Reduct on Reduct or Stressed (xplain in Re es):	res (B9) (6 3) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	Living Rood 4) 4) 60 Soils (C6 01) (LRR A	ots (C3) i) land Hyd if availab	Di Di Si Si Si Si F/	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) reallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Hydric soil HYDROLC Wetland Hy Primary Indi Surface High Wa Saturatio Vater M Sedimer Jorift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation F (includes ca Describe Re	drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria (Vegetated Concarvations: ter Present? Present? Present? Present? pillary fringe) corded Data (streat	I Imagery ve Surface Yes Yes Yes Yes Xem gauge	uired; che (B7) ee (B8) No 🗵 No 🖸 , monitor	eck all that ap Water-St. 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ply) ained Leav 4A, and 4E at (B11) nvertebrate a Sulfide O Rhizosphe a of Reducti on Reducti or Stressed (xplain in Re es):	res (B9) (6 3) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	Living Rood 4) 4) 60 Soils (C6 01) (LRR A	ots (C3) i) land Hyd if availab	Di Di Si Si Si Si F/	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) rAC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)

Project/Site: 1077.0012 - South Hill Data Center		City/Count	y: Puyallu	ıp / Pierce	Sampling Date: 04/24/2018
Applicant/Owner: Benaroya Capital Company				State: WA	Sampling Point: DP-19
				ownship, Range: 03, 19,	
					e Slope (%): 10
Subregion (LRR): A2					
				NWI classificat	
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	nificantly dis	turbed?	Are "No	ormal Circumstances" pres	ent? Yes ☐ No ☐
Are Vegetation, Soil, or Hydrology natu	rally probler	natic?	(If need	ed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	samplir	ng point l	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐					
Hydric Soil Present? Yes ☒ No ☐			he Sampled		
Wetland Hydrology Present? Yes ☒ No ☐		Witi	nin a Wetlar	nd? Yes ☒ No) [
Remarks: Data collected in Wetland E.		•			
VEGETATION – Use scientific names of plan	te				
VEGETATION OSC SCIENTING HARRIES OF PIANT	Absolute	Dominan	t Indicator	Dominance Test works	heet:
Tree Stratum (Plot size: 30 ft)	% Cover			Number of Dominant Sp	
1. Alnus rubra	100	Yes	FAC	That Are OBL, FACW, or	r FAC: <u>4</u> (A)
3				Total Number of Domina Species Across All Strate	4
4	100	= Total (Cover	Percent of Dominant Spe That Are OBL, FACW, or	
Sapling/Shrub Stratum (Plot size: 15 ft)	100	Yes	EAC		
1. Acer circinatum			FAC	Prevalence Index work Total % Cover of:	
2					$ \qquad $
3					x = 0
4 5				FAC species 220	x = 660
·	100	= Total 0	Cover		x 4 = 0
Herb Stratum (Plot size: 5 ft)				· -	x 5 = 0
1. Maianthemum dilatatum		Yes		Column Totals: 240	(A) <u>680</u> (B)
2. <u>Lysichiton americanus</u>	20	Yes	OBL	Prevalence Index	- B/A - 283
3				Hydrophytic Vegetation	
4. 5.				Rapid Test for Hydro	
6.					
7.				➤ Prevalence Index is :	≤3.0¹
8.					ations ¹ (Provide supporting
9					or on a separate sheet)
10				☐ Wetland Non-Vascul	
11				,	nytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 30 ft)	40	= Total (Cover	be present, unless distur	and wetland hydrology must bed or problematic.
1				Hydrophytic	
2	^			Vegetation	
% Bare Ground in Herb Stratum 60	0	= Total (Cover	Present? Yes	⊠ No □
<u> </u>				l	
Remarks: FAC-OBL vegetation observed.					

Depth	cription: (Descri Matrix		epui ne		ox Feature		or commi	ii uie abs	ence or man	Jaiors.)	
(inches)	Color (moist)	%	Colo	r (moist)	%	Type ¹	Loc ²	_Texture		Remarks	
0 - 11	10yr 2/1	100						SaMu	Mi		
11 - 16	10yr 4/1	98	10y	⁄r 4/6	2	C,CS	M	SaGrl	_0		
	-										
	-										
					_						
1Tymay C. C	anacatrotica D. F	Donlotion D	M Dad	used Metrix C	C Covers	d or Coot		roino	21 apptions I	DI Doro Lining M	Motrix
	oncentration, D=D Indicators: (App						ea Sana Gr			PL=Pore Lining, M= Problematic Hydric	
☐ Histosol				Sandy Redox (,			2 cm Muck (-	
	pipedon (A2)			Stripped Matrix				H	,	Material (TF2)	
☐ Black His				oamy Mucky N	` '	1) (except	MLRA 1)			v Dark Surface (TF	12)
	n Sulfide (A4)			oamy Gleyed			,		•	nin in Remarks)	,
▼ Depleted	d Below Dark Surf	ace (A11)		Depleted Matrix	(F3)						
	ark Surface (A12)			Redox Dark Su	` '					drophytic vegetatio	
-	lucky Mineral (S1)			Depleted Dark	•	- 7)			-	ology must be pres	
	leyed Matrix (S4)			Redox Depress	ions (F8)				unless disturl	bed or problematic.	
	Layer (if present)										
	ches):							1			
	CHC3)							Hydrid	Soil Presen	t? Yes⊠ No	
Remarks:											
Hydric soil	indicator A11	observed	d.								
HYDROLO	GY										
Wetland Hy	drology Indicato	rs:									
Primary Indi	cators (minimum o	of one requ	ired; che	eck all that app	ly)				Secondary In-	dicators (2 or more	required)
☐ Surface	Water (A1)			☐ Water-Sta	ined Leav	es (B9) (e	xcept MLR	RA	☐ Water-Sta	ained Leaves (B9) (MLRA 1, 2,
	ter Table (A2)				A, and 4E		•			nd 4B)	
■ Saturation	on (A3)			☐ Salt Crust	(B11)				☐ Drainage	Patterns (B10)	
☐ Water M	arks (B1)			☐ Aquatic In	vertebrate	es (B13)			☐ Dry-Seaso	on Water Table (C2	2)
☐ Sedimer	nt Deposits (B2)			☐ Hydrogen	Sulfide O	dor (C1)			☐ Saturation	n Visible on Aerial II	magery (C9)
☐ Drift Dep	oosits (B3)			☐ Oxidized F	Rhizosphe	res along	Living Roo	ts (C3)	Geomorpl	hic Position (D2)	
☐ Algal Ma	it or Crust (B4)			☐ Presence	of Reduce	ed Iron (C4	!)		☐ Shallow A	quitard (D3)	
☐ Iron Dep	osits (B5)			☐ Recent Iro	n Reducti	on in Tille	d Soils (C6	6)	☐ FAC-Neut	tral Test (D5)	
☐ Surface	Soil Cracks (B6)			☐ Stunted or	Stressed	Plants (D	1) (LRR A))	☐ Raised Ar	nt Mounds (D6) (LR	RR A)
	on Visible on Aeria			☐ Other (Exp	olain in Re	emarks)		ļ	☐ Frost-Hea	ive Hummocks (D7))
☐ Sparsely	Vegetated Conca	ave Surface	e (B8)								
Field Obser	vations:										
Surface Wat	er Present?	Yes 🗌	No 🔀	Depth (inche							
Water Table	Present?	Yes 🗵	No 🗌	Depth (inche	_{s):} <u>10</u>						
Saturation P		Yes 🗵	No 🗌	Depth (inche	s): <u>5</u>		Wetla	and Hydı	ology Prese	nt? Yes 🗵 No	
	pillary fringe)	om gouge	monitor	ing well coricl	nhotos =	rovious is:	noctions)	if availab	lo:		
Describe Re	corded Data (stre	am gauge,	HOHITOF	ırıg well, aerial	ρποιος, β	revious ins	spections),	ıı avallab	i c .		
Domorlini											
Remarks:	indicators AC	and AO	ahaa ==	ad							
inyurulogic	indicators A2	anu A3 (JUSEIV	eu.							

Project/Site: 1077.0012 - South Hill Data Center	(City/Count	y: Puyallu	ıp / Pierce	Sampling Date: 04/24/2018
				State: WA	
				ownship, Range: 03, 19,	
					e Slope (%): <u>5</u>
Subregion (LRR): A2					
					tion: N/A
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	ificantly dis	turbed?	Are "No	ormal Circumstances" pres	ent? Yes ☒ No ☐
Are Vegetation, Soil, or Hydrology natu	rally probler	natic?	(If need	ed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	samplir	ng point le	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ☐ No 🗵					
Hydric Soil Present? Yes ☐ No 🗵			ne Sampled		
Wetland Hydrology Present? Yes ☐ No 🗵		Witi	nin a Wetlar	nd? Yes ☐ No) 🔀
Remarks: Data collected in upland forested	area pre	eviously	mapped	l as potential wetla	nds.
VEGETATION – Use scientific names of plant	he.				
VEGETATION – Ose scientific fiames of plant	Absolute	Dominan	t Indicator	Dominance Test works	heet:
Tree Stratum (Plot size: 30 ft)	% Cover		Status	Number of Dominant Spe	
1. Acer macrophyllum	60	Yes	FACU	That Are OBL, FACW, or	
Pseudotsuga menziesii .	40	Yes	FACU	Total Number of Domina Species Across All Strata	4
4	100	= Total 0	Cover	Percent of Dominant Spe That Are OBL, FACW, or	ecies r FAC: <u>50%</u> (A/B)
Sapling/Shrub Stratum (Plot size: 15 ft) 1. Rubus spectabilis	30	Yes	FAC	Prevalence Index work	
Rubus spectabilis Z				Total % Cover of:	
3				_	x 1 = 0
4					x 2 = 0
5				FAC species 40	x 3 = 120
	30	= Total C	Cover		x 4 = <u>400</u>
Herb Stratum (Plot size: 5 ft)				UPL species 0	x 5 = <u>0</u>
1. Urtica dioica		Yes		Column Totals: 140	(A) <u>520</u> (B)
2				Prevalence Index :	= B/A = 3.71
4				Hydrophytic Vegetation	
5				☐ Rapid Test for Hydro	
6				☐ Dominance Test is >	50%
7				☐ Prevalence Index is	≤3.0¹
8					ations ¹ (Provide supporting or on a separate sheet)
9				☐ Wetland Non-Vascul	ar Plants ¹
10 11				☐ Problematic Hydroph	nytic Vegetation¹ (Explain)
11.	10	= Total 0	Cover		and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)		= Total C	JOVCI	be present, unless distur	bed or problematic.
1 2				Hydrophytic	
	^	= Total C	Cover	Vegetation Present? Yes	□ No ⊠
% Bare Ground in Herb Stratum 90					
Remarks: FAC-FACU species observed.					

Profile Desc Depth	Matri	X		Red	ox Features	3			
(inches)	Color (moist)	%	Colo	or (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 8	10yr 2/2	100						SaLo	
8 - 14	10yr 3/3	100						SaLo	
	•								
		· · · · · · · · · · · · · · · · · · ·	_						
					_				
	oncentration, D=D						ed Sand Gr		² Location: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (App	olicable to	all LRR	ls, unless other	erwise note	ed.)		Ind	licators for Problematic Hydric Soils ³ :
Histosol	` '			Sandy Redox (2 cm Muck (A10)
	oipedon (A2)			Stripped Matrix	, ,				,
☐ Black Hi				Loamy Mucky			MLRA 1)		Very Shallow Dark Surface (TF12)
	en Sulfide (A4)	· (A44)		Loamy Gleyed				Ц	Other (Explain in Remarks)
-	d Below Dark Surf ark Surface (A12)	ace (ATT)		Depleted Matri Redox Dark Su				310	dicators of hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted Dark	` ,	7)			wetland hydrology must be present,
-	Gleyed Matrix (S4)			Redox Depres		')			unless disturbed or problematic.
	Layer (if present				()				
				_					
	ches):							Hydric	Soil Present? Yes ☐ No 区
Remarks:								11,741.10	
		. م رسم مام	_1						
ino riyane s	soil indicators	observe	u.						
HYDROLO)GY								
	IGY drology Indicato	ors:							
Wetland Hy			uired; ch	eck all that app	oly)				Secondary Indicators (2 or more required)
Wetland Hy Primary Indi	drology Indicato		uired; ch	eck all that app		es (B9) (e	xcept MLR		Secondary Indicators (2 or more required) ☐ Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hy Primary India ☐ Surface	drology Indicato		uired; ch	☐ Water-Sta			xcept MLR		<u> </u>
Wetland Hy Primary India ☐ Surface	rdrology Indicato cators (minimum o Water (A1) ater Table (A2)		uired; ch	☐ Water-Sta	ained Leave A, and 4B)		xcept MLR		Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hy Primary India ☐ Surface ☐ High Wa ☐ Saturation	rdrology Indicato cators (minimum o Water (A1) ater Table (A2)		uired; ch	☐ Water-Sta	ained Leave A, and 4B) (B11))	xcept MLR	RA [☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hy Primary India Surface High Wa Saturatio Water M	rdrology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3)		uired; ch	☐ Water-Sta 1, 2, 4 ☐ Salt Crust ☐ Aquatic Ir	ained Leave A, and 4B) (B11)	s (B13)	xcept MLR	R A [Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer	cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1)		uired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen	ained Leave A, and 4B) (B11) (vertebrates	s (B13) lor (C1)		AR [Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep	drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)		uired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized	ained Leave A, and 4B) (B11) evertebrates Sulfide Od	s (B13) lor (C1) es along	Living Roo	RA [Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)		uired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence	nined Leave A, and 4B) (B11) overtebrates Sulfide Od Rhizospher	s (B13) for (C1) es along d Iron (C4	Living Roo	[[[[[[[[[[[[[[[[[[[Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	rdrology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		uired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ire	nined Leave A, and 4B) (B11) evertebrates Sulfide Od Rhizospher of Reduced	s (B13) lor (C1) es along d Iron (C4 on in Tilled	Living Roo I) d Soils (C6	RA [[[[[[[[[[[]]]	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	of one requ		Water-State 1, 2, 4 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	nined Leave A, and 4B) (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction	s (B13) lor (C1) es along d Iron (C4 on in Tilled Plants (D	Living Roo I) d Soils (C6	RA [[[[[[[[[[[]]]	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	of one requ	(B7)	Water-State 1, 2, 4 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	ained Leave A, and 4B) (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction	s (B13) lor (C1) es along d Iron (C4 on in Tilled Plants (D	Living Roo I) d Soils (C6	RA [[[[[[[[[[[]]]	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aericy Vegetated Concrete (A1)	of one requ	(B7)	Water-State 1, 2, 4 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	ained Leave A, and 4B) (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction	s (B13) lor (C1) es along d Iron (C4 on in Tilled Plants (D	Living Roo I) d Soils (C6	RA [[[[[[[[[[[]]]	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	drology Indicator cators (minimum of water (A1) atter Table (A2) on (A3) atter Table (B1) on the Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerica Vegetated Concertations:	of one requ	(B7)	Water-State 1, 2, 4 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	ained Leave A, and 4B) (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction r Stressed I	s (B13) lor (C1) es along d Iron (C4 on in Tilled Plants (D marks)	Living Roo I) d Soils (C6	RA [[[[[[[[[[[]]]	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely	drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aericy Vegetated Concervations:	of one requ al Imagery ave Surfac	(B7) e (B8)	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	sined Leave A, and 4B) (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction r Stressed I plain in Rer	s (B13) lor (C1) es along d Iron (C4 on in Tilled Plants (D marks)	Living Roo I) d Soils (C6	RA [[[[[[[[[[[]]]	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser	drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) cators (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aericy Vegetated Concervations: ter Present?	al Imagery ave Surfac	(B7) ee (B8) No 🗵	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Irc Stunted o Other (Ex	ained Leave A, and 4B) (B11) Evertebrates Sulfide Od Rhizospher of Reduced on Reduction r Stressed I plain in Rer es):	s (B13) for (C1) es along d Iron (C4 on in Tilled Plants (D marks)	Living Roo l) d Soils (C6 1) (LRR A)	RA [ts (C3) [(b) [(c) (C3) [(c) (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicator cators (minimum of cators (minimu	al Imagery ave Surfac Yes Yes Yes Yes Yes	(B7) ee (B8) No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	sined Leave A, and 4B) (B11) E	s (B13) or (C1) es along d Iron (C4 on in Tilled Plants (D marks)	Living Roo I) d Soils (C6 1) (LRR A)	RA [Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicator cators (minimum of cators (minimu	al Imagery ave Surfac Yes Yes Yes Yes Yes	(B7) ee (B8) No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	sined Leave A, and 4B) (B11) E	s (B13) or (C1) es along d Iron (C4 on in Tilled Plants (D marks)	Living Roo I) d Soils (C6 1) (LRR A)	RA [Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7)
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Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicator cators (minimum of cators (minimu	al Imagery ave Surfac Yes Yes Yes Yes Yes	(B7) ee (B8) No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	sined Leave A, and 4B) (B11) E	s (B13) or (C1) es along d Iron (C4 on in Tilled Plants (D marks)	Living Roo I) d Soils (C6 1) (LRR A)	RA [Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water Table Saturation P (includes ca Describe Re	drology Indicator cators (minimum of cators (minimu	al Imagery ave Surfac Yes Yes Yes eam gauge	(B7) se (B8) No 🗵 No 🗵 No 🗵 , monitor	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex Depth (inche Depth (inche	sined Leave A, and 4B) (B11) E	s (B13) or (C1) es along d Iron (C4 on in Tilled Plants (D marks)	Living Roo I) d Soils (C6 1) (LRR A)	RA [Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7)
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Appendix E — Wetland Rating Forms

RATING SUMMARY – Western Washington

Name of wetland (or ID #): A - SHDC	Date of site visit: 9/13/16
Rated by Richard Peel	_ Trained by Ecology? <u>✓</u> YesNo Date of training 9/29/16
HGM Class used for rating Depressional	Wetland has multiple HGM classes?Y <u>✓</u> N
NOTE: Form is not complete witho Source of base aerial photo/ma	p Esri Arc GIS
OVERALL WETLAND CATEGORY	III (based on functions <u>✓</u> 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					
Circle the appropriate ratings								
Site Potential	М	M	L					
Landscape Potential	М	Н	L					
Value	М	L	М	TOTAL				
Score Based on Ratings	6	6	4	16				

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M 6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CAT	EGORY
Estuarine	I	II
Wetland of High Conservation Value		I
Bog		I
Mature Forest		I
Old Growth Forest		I
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above	N/A	

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	

Riverine Wetlands

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

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km 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)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense , rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	\$ 3.3	

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the entire	e unit usually controlled	by tides except during floods?
	☑NO – go to 2	YES – the wetl	and class is Tidal Fringe – go to 1.1
-	1.1 Is the salinity of the water dur	ing periods of annual lo	w flow below 0.5 ppt (parts per thousand)?
		d as a Freshwater Tidal n Estuarine wetland an	☐ YES - Freshwater Tidal Fringe Fringe use the forms for Riverine wetlands. If it d is not scored. This method cannot be used to
2.	The entire wetland unit is flat an and surface water runoff are NO		nly source (>90%) of water to it. Groundwater to unit.
×	NO – go to 3 If your wetland can be classified	as a Flats wetland, use t	☐ YES – The wetland class is Flats he form for Depressional wetlands.
3.	Does the entire wetland unit me ☐The vegetated part of the wet plants on the surface at any to ☐At least 30% of the open wate	cland is on the shores of ime of the year) at least	a body of permanent open water (without any 20 ac (8 ha) in size;
×	☑NO – go to 4 □	YES – The wetland class	is Lake Fringe (Lacustrine Fringe)
4.	Does the entire wetland unit me The wetland is on a slope (sl The water flows through the seeps. It may flow subsurface The water leaves the wetland	ope can be very gradual wetland in one direction e, as sheetflow, or in a s), on (unidirectional) and usually comes from wale without distinct banks,
×	☑NO – go to 5		☐ YES – The wetland class is Slope
	-		tlands except occasionally in very small and are usually <3 ft diameter and less than 1 ft
5.	Does the entire wetland unit me The unit is in a valley, or stre stream or river, The overbank flooding occur	eam channel, where it go	ets inundated by overbank flooding from that

V V (cuand name of number
X	NO – go to 6
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 7 YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
X	NO – go to 8

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

Wotland name or number A -

D1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing by points = 1 D1.1. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0 D1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent plants > ½ to a farea Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent plants > ½ to a farea Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent ungrazed, plants > ½ of area Wetland has persistent ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ to farea Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent. Ungrazed plants > ½ of area Wetland has persistent. Wetland has per	DEPRESSIONAL AND FLATS WETLANDS		
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Rating of Site Potential If score is:12-16 = HX 6-11 = M0-5 = 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 = 1 No = 0	Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ¼ total area of wetland po	oints = 2	
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2.3. Are there septic systems within 250 ft of the wetland? 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source		No = 0 1	
2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source	D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1	No = 0 1	
Source	D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1	No = 0 0	
Rating of Landscape Potential If score is:3 or 4 = HX1 or 2 = M0 = L0 = L		()	
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 Yes = 1 No = 0 D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? O 3.0. Is the water quality improvement provided by the site valuable to society? O 3.1. Does the water that is on the Yes = 1 No = 0 O 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? O 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES Yes = 2 No = 0)	Total for D 2 Add the points in the boxes	s above 2	
O 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the Yes = 1 No = 0 O 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? O 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? O 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the Yes = 1 No = 0 O 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0 O 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES Yes = 2 No = 0	Rating of Landscape Potential If score is:3 or 4 = HX_1 or 2 = M0 = L Record the rational score is:3 or 4 = HX_1 or 2 = M0 = L	ing on the first page	е
303(d) list? Yes = 1 No = 0 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0 1 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 1 No = 0 1	D 3.0. Is the water quality improvement provided by the site valuable to society?		
O 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0		()	
if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0	D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1	No = 0 1	
Total for D 3 Add the points in the boxes above 1			
	Total for D 3 Add the points in the boxes	s above 1	

DEPRESSIONAL AND FLATS WETLANDS Underlocie Functions Indicators that the site functions to reduce flooding and stream degradations.	ion
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradate D 4.0. Does the site have the potential to reduce flooding and erosion?	ion
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> : Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4	_
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outletpoints = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1	2
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	
D 4.2. <u>Depth of storage during wet periods:</u> Estimate the height of ponding above the bottom of the outlet. For wetlands	
with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7	
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	3
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3	3
The wetland is a "headwater" wetland points = 3	
Wetland is flat but has small depressions on the surface that trap water points = 1	
Marks of ponding less than 0.5 ft (6 in) points = 0	
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin	
contributing surface water to the wetland to the area of the wetland unit itself.	
The area of the basin is less than 10 times the area of the unit points = 5	3
The area of the basin is 10 to 100 times the area of the unit The area of the basin is more than 100 times the area of the unit The area of the basin is more than 100 times the area of the unit	
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	_
Total for D 4 Add the points in the boxes above Rating of Site Potential If score is: 12-16 = H × 6-11 = M0-5 = L Record the rating on the	8
	Jiist page
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	1
Total for D 5 Add the points in the boxes above	3
Rating of Landscape Potential If score is: X 3 = H 1 or 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. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):	
• Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2	0
• Surface flooding problems are in a sub-basin farther down-gradient. points = 1	U
Flooding from groundwater is an issue in the sub-basin. points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why</i> points = 0	
There are no problems with flooding downstream of the wetland. 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 = $2 No = 0$	0
Total for D 6 Add the points in the boxes above	0

Rating of Value If score is:____2-4 = H ____1 = M ___X_0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 ___Emergent 0 ___Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 × Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 × Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 × Saturated only 1 type present: points = 0 ___Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1 points = 0 < 5 species H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 0 None = 0 points Moderate = 2 points Low = 1 point All three diagrams in this row are **HIGH** = 3points

H.1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of points. x. Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). X. Standing snags (dbh > 4 in) within the wetland (> 4 in diameter and 6 ft long). X. Standing snags (dbh > 4 in) within the wetland Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) Stable steep banks of fine material that might be used by beaver or mustars 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) X. At least % ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-leving by amphibians) Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of stroto) Total for H		
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Calculate: 2.97 % undisturbed habitat		
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Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: *NOTE:* This question is independent of the land use between the wetland unit and the priority habitat.

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests: Old-growth west of Cascade crest Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
Does the wetland meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to SC 1.1 ☑ No= Not an estuarine wetland	
SC 1.1. 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 ☐No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
\square The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less	
than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)	
At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed 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 chambers, depressions with open water, of the following features: tidal chambers, depressions with open water, of the following features: tidal chambers, depressions with open water, of the following features: tidal chambers, depressions with open water, of the following features: tidal chambers, depressions with open water, of the following features: tidal chambers, depressions with open water, of the following features: tidal chambers, depressions with open water, of the following features: tidal chambers, depressions with open water, of the following features: tidal chambers, depressions with open water, of the following features: tidal chambers, depressions with open water, of the following features: tidal chambers, depressions with open water, of the following features: tidal chambers, depressions with open water, of the following features: tidal chambers, depressions with open water, of the features water, depressions with open water, of the features water, depressions with open water, depressions with the features water, depressions with the features water water, depressions with the features water water, depressions with the features water water water, depressions with the features water wat	
contiguous resirvater wetianas.	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value?	
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
☐Yes = Category I ☑No = Not a WHCV	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Tes – Contact WNHP/WDNR and go to SC 2.4 ⊠No = Not a WHCV	
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website?	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or	
more of the first 32 in of the soil profile?	
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 a lake or	
pond? \square Yes – Go to SC 3.3 \square No = Is not a bog	
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	
cover of plant species listed in Table 4?	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by	
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the	
plant species in Table 4 are present, the wetland is a bog. 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	
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	
Yes = Is a Category I bog \(\subseteq \text{In ot a bog} \)	

Wetland name or number A -

SC 4.0. Forested Wetlands	
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i>	
 Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). 	
☐ Yes = Category I 図No = Not a forested wetland for this section	
SC 5.0. Wetlands in 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, less frequently, rocks — The lagoon 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 lagoon (needs to be measured near the bottom) □ Yes − Go to SC 5.1 ☑No = Not a wetland in a coastal lagoon SC 5.1. 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 on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than ¹/₁₀ ac (4350 ft²) □ Yes = Category I □ No = Category II	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 — Yes – Go to SC 6.1 No = not an interdunal wetland for rating SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2 SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? — Yes = Category II No – Go to SC 6.3 SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? — Yes = Category III No – Category IV	
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number A -

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RATING SUMMARY – Western Washington

Name of wetland (or ID #): B - SHDC	Date of site visit: 9/13/16
Rated by Richard Peel	_ Trained by Ecology? $ \underline{\checkmark}$ YesNo Date of training $\underline{^{9/29/16}}$
HGM Class used for rating Depressional	Wetland has multiple HGM classes?Y <u>✓</u> N
NOTE: Form is not complete without Source of base aerial photo/ma	p Esri Arc GIS
OVERALL WETLAND CATEGORY _	III (based on functions <u>v</u> 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	
Circle the appropriate ratings				
Site Potential	М	M	М	
Landscape Potential	М	Н	L	
Value	М	L	М	TOTAL
Score Based on Ratings	6	6	5	17

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M 6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M,L,L3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog		I
Mature Forest		I
Old Growth Forest	I	
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above	N/A	

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	

Riverine Wetlands

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

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km 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)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the entire	e unit usually controlled	by tides except during floods?		
	▼NO – go to 2				
-	1.1 Is the salinity of the water dur	ing periods of annual lo	w flow below 0.5 ppt (parts per thousand)?		
		d as a Freshwater Tidal n Estuarine wetland an	☐ YES - Freshwater Tidal Fringe Fringe use the forms for Riverine wetlands. If it d is not scored. This method cannot be used to		
2.	The entire wetland unit is flat an and surface water runoff are NO		nly source (>90%) of water to it. Groundwater to unit.		
×	NO – go to 3 If your wetland can be classified	as a Flats wetland, use t	☐ YES – The wetland class is Flats he form for Depressional wetlands.		
3.	Does the entire wetland unit me ☐The vegetated part of the wet plants on the surface at any to ☐At least 30% of the open wate	cland is on the shores of ime of the year) at least	a body of permanent open water (without any 20 ac (8 ha) in size;		
×	☑NO – go to 4 □	YES – The wetland class	is Lake Fringe (Lacustrine Fringe)		
4.	Does the entire wetland unit me The wetland is on a slope (sl The water flows through the seeps. It may flow subsurface The water leaves the wetland	ope can be very gradual wetland in one direction e, as sheetflow, or in a s), on (unidirectional) and usually comes from wale without distinct banks,		
×	☑NO – go to 5		☐ YES – The wetland class is Slope		
	-		tlands except occasionally in very small and are usually <3 ft diameter and less than 1 ft		
5.	Does the entire wetland unit me The unit is in a valley, or stre stream or river, The overbank flooding occur	eam channel, where it go	ets inundated by overbank flooding from that		

V V (cuand name of number
×	NO – go to 6
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 7 YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
X	NO – go to 8

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

Wotland name or number B -

D.1.0. Does the site have the potential to improve water quality? D.1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet), points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing gitch. Doints = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing gitch. Doints = 1 Wetland has partiseted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland has persistent, ungrazed, plants > 55% of area Wetland has persistent, ungrazed, plants > 55% of area Wetland has persistent, ungrazed, plants > 55% of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed, plants > ½, of area Wetland has persistent, ungrazed, plants > ½, of area Wetland has persistent, ungrazed, plants > ½, of area Wetland has persistent, ungrazed, plants > ½, of area Wetland has persistent, ungrazed, plants > ½, of area Wetland has persistent, ungrazed, plants > ½, of area Wetland has persistent, ungrazed, plants > ½, of area Wetland has persistent, ungraze	DEPRESSIONAL AND FLATS WETLANDS			
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing gitch. D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0 4 D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > 1 of area Wetland has persistent, ungrazed plants > 1/30 of area Wetland has persistent, ungrazed plants > 1/30 of area Wetland has persistent, ungrazed plants > 1/30 of area D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of 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 = 1 No = 0 1 D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 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. And the points in the boxes above Rating of Landscape Potential If score is: 3 or 4 = 1 X 1 or 2 = M	Water Quality Functions - Indicators that the site functions to improve water quality			
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. Points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (OUESTION 7 on key), whose outlet is a permanently flowing ditch. D 1.2. The soil 2 in below the surface (or duff laver) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0 4 D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed plants > 1/10 of area Wetland has persistent, ungrazed plants > 1/10 of area Wetland has persistent, ungrazed plants > 1/10 of area D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetla	D 1.0. Does the site have the potential to improve water quality?			
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing points = 1 D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0 D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed plants > 1/10 of area Wetland has persistent, ungrazed plants > 1/10 of area Wetland has persistent, ungrazed plants > 1/10 of area Wetland has persistent, ungrazed plants > 1/10 of area Wetland has persistent is points = 1 Wetland has persistent is = 2 D 1.4 Characteristics of seasonal pointins = 1 Wetland has persistent is = 2 D 2.4 Area seasonally ponded is > ½ total area of wetland Points = 1 D 2.2 Area bert evential if score is: 10.0 Experiment is points = 1 D 2.3. Are th	D 1.1. Characteristics of surface water outflows from the wetland:			
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1 D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0 D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 D 1.4. Characteristics of seasonal ponded is = ½ total area of wetland in land use. Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is > ½ total area of wetland uses that generate pollutants? 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 = 1 No = 0 D 2.2. Is > 10% of the area within 150 ft of the wetland? Yes = 1 No = 0 D 2.3. Are t	points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.	2		
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Points = 1 Wetland has persistent, ungrazed plants > ½, of area Wetland has persistent, ungrazed plants > ½, of area Points = 0 D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Points = 2 Points = 0 Total for D 1 Add the points in the boxes above 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? Total for D 2 D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 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? Source				
Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants < ½ of area Wetland has persistent, ungrazed plants < ½ of area Wetland has persistent, ungrazed plants < ½ of area Wetland has persistent, ungrazed plants < ½ of area Wetland has persistent, ungrazed plants < ½ of area Wetland has persistent, ungrazed plants < ½ of area Wetland has persistent, ungrazed plants < ½ of area Wetland has persistent, ungrazed plants < ½ of area Wetland has persistent, ungrazed plants < ½ of area Wetland has persistent, ungrazed plants < ½ of area points = 0 D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Points = 0 Total for D 1 Radd the points in the boxes above 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 = 1 No = 0 1 D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 1 D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 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 = 1 No = 0 Total for D 2 Radd the points in the boxes above 2 Rating of Landscape Potential If score is: 3 or 4 = H × 1 or 2 = M 0 = L Record the rating on the first page D 3.0. Is the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d	D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	4		
This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > % total area of wetland Area seasonally ponded is > % total area of wetland Area seasonally ponded is > % total area of wetland Area seasonally ponded is > % total area of wetland Area seasonally ponded is > % total area of wetland Doints = 2 Points = 0 Total for D 1 Rating of Site Potential If score is: 12-16 = H	Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > $\frac{1}{10}$ of area points = 3 Wetland has persistent, ungrazed plants > $\frac{1}{10}$ of area points = 1			
Rating of Site Potential If score is:12-16 = HX_6-11 = M0-5 = L	This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ¼ total area of wetland points = 2	2		
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? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? 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? Source	Total for D 1 Add the points in the boxes above	11		
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0 1 D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 1 D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0 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? Source Yes = 1 No = 0 0 Total for D 2 Add the points in the boxes above 2 Rating of Landscape Potential If score is: 3 or 4 = H × 1 or 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 Yes = 1 No = 0 D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0 D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 1 No = 0 O	Rating of Site Potential If score is:12-16 = H \times 6-11 = M0-5 = L Record the rating on the first	st page		
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? 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? Source	D 2.0. Does the landscape have the potential to support the water quality function of the site?			
D 2.3. Are there septic systems within 250 ft of the wetland? 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? Source	D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1		
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? Source	D 2.2. ls > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1		
Source	D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	0		
Rating of Landscape Potential If score is:3 or 4 = HX _1 or 2 = M0 = L0 = L		0		
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 Yes = 1 No = 0 D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? O	Total for D 2 Add the points in the boxes above	2		
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 Yes = 1 No = 0 D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0 D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0	Rating of Landscape Potential If score is:3 or 4 = HX_1 or 2 = M0 = L Record the rating on the first page			
303(d) list? D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0 1 D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 1 No = 0 1	D 3.0. Is the water quality improvement provided by the site valuable to society?			
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0		0		
if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0	D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1		
Total for D 3 Add the points in the boxes above 1		0		
	Total for D 3 Add the points in the boxes above	1		

DEPRESSIONAL AND FLATS WETLANDS			
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation			
D 4.0. Does the site have the potential to reduce flooding and erosion?			
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outletpoints = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	2		
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in)	3		
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. 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	3		
Total for D 4 Add the points in the boxes above Rating of Site Potential If score is: 12-16 = H × 6-11 = M 0-5 = L Record the rating on the	first nage		
	Jirst puge		
D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	_		
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1		
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	1		
Total for D 5 Add the points in the boxes above	3		
Rating of Landscape Potential If score is: X 3 = H1 or 2 = M0 = 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. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0 There are no problems with flooding downstream of the wetland. points = 0	0		
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?			
Yes = 2 No = 0	0		
Total for D 6 Add the points in the boxes above	0		

Rating of Value If score is: $_2$ -4 = H $_1$ = M $_2$ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 ___Emergent 1 ___Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 × Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: × The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 × Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 × Saturated only 1 type present: points = 0 ___Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1 points = 0 < 5 species H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 0 None = 0 points Moderate = 2 points Low = 1 point All three diagrams in this row are **HIGH** = 3points

	1			
H 1.5. Special habitat features:				
Check the habitat features that are present in the wetland. The number of checks is the number of points.				
 _x_Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). _x_Standing snags (dbh > 4 in) within the wetland 				
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	4			
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)				
_ x_ At least ¼ ac 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)				
Total for H 1 Add the points in the boxes above	7			
Rating of Site Potential If score is: 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 the habitat functions of the site?				
	T			
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).				
Calculate: 2.97 % undisturbed habitat $+$ [(% moderate and low intensity land uses)/2] $\frac{0}{0}$ = $\frac{2.97}{0}$ %				
If total accessible habitat is:				
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	0			
20-33% of 1 km Polygon points = 2				
10-19% of 1 km Polygon points = 1				
< 10% of 1 km Polygon points = 0				
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.				
Calculate: % undisturbed habitat $\frac{7.16}{}$ + [(% moderate and low intensity land uses)/2] $\frac{9.87}{}$ = $\frac{17.03}{}$ %				
Undisturbed habitat > 50% of Polygon points = 3	1			
Undisturbed habitat 10-50% and in 1-3 patches points = 2	'			
Undisturbed habitat 10-50% and > 3 patches points = 1				
Undisturbed habitat < 10% of 1 km Polygon points = 0				
H 2.3. Land use intensity in 1 km Polygon: If				
> 50% of 1 km Polygon is high intensity land use points = (-2)	-2			
≤ 50% of 1 km Polygon is high intensity points = 0				
Total for H 2 Add the points in the boxes above	-1			
Rating of Landscape Potential If score is:4-6 = H1-3 = MX < 1 = L	he 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? Choose only the highest score				
that applies to the wetland being rated.				
Site meets ANY of the following criteria: points = 2				
 It has 3 or more priority habitats within 100 m (see next page) 				
 It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) 				
 — It is mapped as a location for an individual WDFW priority species 				
 — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources 				
It has been categorized as an important habitat site in a local or regional comprehensive plan, in a				
Shoreline Master Plan, or in a watershed plan				
× Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1				
Site does not meet any of the criteria above points = 0				
Rating of Value If score is: 2 = H X 1 = M 0 = L Record the rating on	the first page			

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: *NOTE:* This question is independent of the land use between the wetland unit and the priority habitat.

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests: Old-growth west of Cascade crest Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
Does the wetland meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
Vegetated, and	
☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to SC 1.1 ☑ No= Not an estuarine wetland	
SC 1.1. 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 ☐No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
\square The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less	
than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)	
At least ¾ of the landward edge of the wetland has a 100 ft 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.	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value?	
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
☐Yes = Category I ☑No = Not a WHCV	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
☐ Yes – Contact WNHP/WDNR and go to SC 2.4 図No = Not a WHCV	
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website? ☐Yes = Category I ☑No = Not a WHCV	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or	
more of the first 32 in of the soil profile?	
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 a lake or	
pond? \square Yes – Go to SC 3.3 \square No = Is not a bog	
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	
cover of plant species listed in Table 4? \square Yes = Is a Category I bog \square No – Go to SC 3.4	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by	
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the	
plant species in Table 4 are present, the wetland is a bog.	
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	
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	
☐Yes = Is a Category I bog ☐No = Is not a bog	

SC 4.0. Forested Wetlands		
Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions. — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).		
☐ Yes = Category I ☑No = Not a forested wetland for this section		
SC 5.0. Wetlands in 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, less frequently, rocks — The lagoon 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 lagoon (needs to be measured near the bottom) □Yes − Go to SC 5.1 ☑No = Not a wetland in a coastal lagoon SC 5.1. 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 on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than ¹/₁₀ ac (4350 ft²) □Yes = Category I □No = Category II		
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 — Yes − Go to SC 6.1 ⊠No = not an interdunal wetland for rating SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? — Yes = Category II □No − Go to SC 6.3 SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? □ Yes = Category III □No = Category IV		
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form		

Wetland name or number $\underline{\mathsf{B}}$ -

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RATING SUMMARY – Western Washington

Name of wetland (or ID #): C - SHDC	Date of site visit: 9/1416
Rated by Richard Peel	_ Trained by Ecology? <u>✓</u> YesNo Date of training_9/29/16
HGM Class used for rating Depressional	Wetland has multiple HGM classes?Y <u>✓</u> N
NOTE: Form is not complete without Source of base aerial photo/map	ut the figures requested (figures can be combined). Esri Arc GIS
OVERALL WETLAND CATEGORY	V (based on functions <u>✓</u> or special characteristics)
4. Cataram aforether diseased on Fi	INCTIONS

1. Category of wetland based on FUNCTIONS

Category I – Total score = 23 - 27

Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

X Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the ap	propriate ratings	
Site Potential	М	M	L	
Landscape Potential	L	M	L	
Value	М	L	М	TOTAL
Score Based on Ratings	5	5	4	14

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M,L,L3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog	I	
Mature Forest	I	
Old Growth Forest		I
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above	N/A	

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	

Riverine Wetlands

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

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km 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)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the entire un	nit usually controlled by tides except during floods?	
Σ			
1	1.1 Is the salinity of the water during	periods of annual low flow below 0.5 ppt (parts per thousand)?	
		s a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it stuarine wetland and is not scored. This method cannot be used to	
2.	The entire wetland unit is flat and pand surface water runoff are NOT s	precipitation is the only source (>90%) of water to it. Groundwater ources of water to the unit.	
×	☑NO – go to 3 If your wetland can be classified as a	TYES – The wetland class is Flats a Flats wetland, use the form for Depressional wetlands.	
3.	<u> </u>	d is on the shores of a body of permanent open water (without any of the year) at least 20 ac (8 ha) in size;	
X	☑NO – go to 4 ☐YES	5 - The wetland class is Lake Fringe (Lacustrine Fringe)	
4.	_	e can be very gradual), etland in one direction (unidirectional) and usually comes from s sheetflow, or in a swale without distinct banks,	
X	☑NO – go to 5	☐ YES – The wetland class is Slope	
		d in these type of wetlands except occasionally in very small and nmocks (depressions are usually <3 ft diameter and less than 1 ft	
5.	Does the entire wetland unit meet The unit is in a valley, or stream stream or river, The overbank flooding occurs a	channel, where it gets inundated by overbank flooding from that	

• • •		
X	NO – go to 6 NOTE : The Riverine unit can contain depress flooding	☐ YES – The wetland class is Riverine ions that are filled with water when the river is not
6.	1 9 1	pression in which water ponds, or is saturated to the neans that any outlet, if present, is higher than the interior
	NO – go to 7	▼YES – The wetland class is Depressional
7.	flooding? The unit does not pond surface wat	t area with no obvious depression and no overbank er more than a few inches. The unit seems to be The wetland may be ditched, but has no obvious natural
X	NO – go to 8	☐ YES – The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

Wetland name or number C -

D 1.0. Does the site have the potential to improve water quality? D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing gitch. points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing gitch. points = 1 D 1.2. The soil 2 in below the surface for duff laven is true clay or true organic fuse NRCS definitions).Yes = 4 No = 0 D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent,	DEPRESSIONAL AND FLATS WETLANDS	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing gitch. points = 1 D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0 0 D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > 1 of area Wetland has persistent, ungrazed plants > 1/10 of area Wetland has persistent, ungrazed plants > 1/10 of area Points = 1 Wetland has persistent, ungrazed plants > 1/10 of area Points = 0 D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > 1/10 total area of wetland Area seasonally ponded is > 1/10 total area of wetland Area seasonally ponded is > 1/10 total area of wetland Area seasonally ponded is > 1/10 total area of wetland Area seasonally ponded is > 1/10 total area of wetland Area seasonally ponded is > 1/10 total area of wetland Area seasonally ponded is > 1/10 total area of wetland Points = 0 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 = 1 No = 0 D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 D 2.3. Are there septic systems within 250 ft of the wetland that are not listed in questions D 2.1. D 2.3? O 2.5. Are there other sources of pollu	Water Quality Functions - Indicators that the site functions to improve water quality	/
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. Points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing by points = 1 D 1.2. The soil 2 in below the surface (or duff laver) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0 D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed plants > 1/3 of area Wetland has persistent, ungrazed plants > 1/3 of area Wetland has persistent, ungrazed plants > 1/3 of area Points = 1 Wetland has persistent, ungrazed plants > 1/3 of area Points = 1 Wetland has persistent, ungrazed plants > 1/3 of area Points = 0 D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Points = 2 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 = 1 No = 0 D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 D 2.3. Are there espetic systems within 250 ft of the wetland? Yes = 1 No = 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 = 1 No = 0 D 2.3. The second the rating on the first page D 3.0. Is the water quality improvement provided by the site valuable to s	D 1.0. Does the site have the potential to improve water quality?	
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Rating of Site Potential If score is:12-16 = HX_6-11 = M0-5 = L	This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland points = 2	2
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? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? 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? Source Yes = 1 No = 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 = 1 No = 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 = 1 No = 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 = 1 No = 0 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 Yes = 1 No = 0 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 Yes = 1 No = 0 D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0 D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0	Total for D 1 Add the points in the boxes above	10
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0 D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 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? Source Yes = 1 No = 0 Total for D 2 Add the points in the boxes above O Rating of Landscape Potential If score is: 3 or 4 = H 1 or 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 Yes = 1 No = 0 D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0 O D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 1 No = 0 O	Rating of Site Potential If score is:12-16 = HX_6-11 = M0-5 = L Record the rating on the first	st page
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? 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? Source	D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.3. Are there septic systems within 250 ft of the wetland? 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? Source	D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	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? Source	D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	0
Source	D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	0
Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = MX_0 = L		0
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 Yes = 1 No = 0 D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? O	Total for D 2 Add the points in the boxes above	0
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 Yes = 1 No = 0 D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0 D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0	Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = MX_0 = L	ne first page
303(d) list? D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Ves = 1 No = 0 1 D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Ves = 2 No = 0	D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0		0
if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0	D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
Total for D 3 Add the points in the boxes above 1		^{ES} 0
	Total for D 3 Add the points in the boxes above	1

DEPRESSIONAL AND FLATS WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradat	ion
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outletpoints = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	4
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in)	3
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. 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	0
Total for D 4 Add the points in the boxes above	7
Rating of Site Potential If score is: 12-16 = H × 6-11 = M 0-5 = L Record the rating on the	Jirst page
D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	1
Total for D 5 Add the points in the boxes above	1
Rating of Landscape Potential If score is: 3 = H X 1 or 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. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0 There are no problems with flooding downstream of the wetland.	0
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	0
Yes = 2 No = 0 Total for D 6 Add the points in the boxes above	0

Rating of Value If score is: $_2$ -4 = H $_1$ = M $_2$ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 _x_Emergent 1 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 × Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 × Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 0 Saturated only 1 type present: points = 0 ___Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1 points = 0 < 5 species H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Moderate = 2 points Low = 1 point All three diagrams in this row are **HIGH** = 3points

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
_ x _Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m)	
over a stream (or ditch) in, or contiguous with the wetland, for at least 3.3 ft (1 m)	1
	•
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 ¼ ac 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)	
Total for H 1 Add the points in the boxes above	4
Rating of Site Potential If score is:15-18 = H7-14 = MX_0-6 = L	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate: 2.97 % undisturbed habitat + [(% moderate and low intensity land uses)/2] $\frac{0}{0}$ = $\frac{2.97}{0}$ %	
If total accessible habitat is:	
4	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	0
20-33% of 1 km Polygon points = 2	
10-19% of 1 km Polygon points = 1	
< 10% of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate: % undisturbed habitat $\frac{7.16}{}$ + [(% moderate and low intensity land uses)/2] $\frac{9.87}{}$ = $\frac{17.03}{}$ %	
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10-50% and in 1-3 patches points = 2	1
Undisturbed habitat 10-50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	0
> 50% of 1 km Polygon is high intensity land use points = (-2)	-2
≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	-1
Rating of Landscape Potential If score is: 4-6 = H 1-3 = M X < 1 = L Record the rating on the	ne 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? <i>Choose only the highest score</i>	
that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	
·	
— It has 3 or more priority habitats within 100 m (see next page)	
— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)	4
It is mapped as a location for an individual WDFW priority species	1
 — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources 	
 It has been categorized as an important habitat site in a local or regional comprehensive plan, in a 	
Shoreline Master Plan, or in a watershed plan × Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1	

Site does not meet any of the criteria above

Rating of Value If score is: ___2 = H ___X_1 = M ____0 = L

points = 0

Record the rating on the first page

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: *NOTE:* This question is independent of the land use between the wetland unit and the priority habitat.

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests: Old-growth west of Cascade crest Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
Does the wetland meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
Vegetated, and	
☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to SC 1.1 ☑ No= Not an estuarine wetland	
SC 1.1. 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 ☐No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
\square The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less	
than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)	
At least ¾ of the landward edge of the wetland has a 100 ft 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 ☐No = Category II	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value?	
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
☐Yes = Category I ☑No = Not a WHCV	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
☐ Yes – Contact WNHP/WDNR and go to SC 2.4 図No = Not a WHCV	
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website? ☐Yes = Category I ☑No = Not a WHCV	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or	
more of the first 32 in of the soil profile?	
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 a lake or	
pond? \square Yes – Go to SC 3.3 \square No = Is not a bog	
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	
cover of plant species listed in Table 4? \square Yes = Is a Category I bog \square No – Go to SC 3.4	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by	
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the	
plant species in Table 4 are present, the wetland is a bog.	
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	
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	
☐Yes = Is a Category I bog ☐No = Is not a bog	

Wetland name or number \underline{C} -

SC 4.0. Forested Wetlands	
Does the wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions. — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).	
☐ Yes = Category I ☑No = Not a forested wetland for this section	
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, less frequently, rocks — The lagoon 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 lagoon (needs to be measured near the bottom) ☐ Yes − Go to SC 5.1 ☑ No = Not a wetland in a coastal lagoon SC 5.1. 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 on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than ¹/₁₀ ac (4350 ft²) ☐ Yes = Category I ☐ No = Category II	
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 — Yes − Go to SC 6.1 ☑No = not an interdunal wetland for rating SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = Category I ☐No − Go to SC 6.2 SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = Category II ☐No − Go to SC 6.3 SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = Category III ☐No − Category IV	
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number C -

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RATING SUMMARY – Western Washington

Name of wetland (or ID #): D - SHDC	Date of site visit: 9/1416
Rated by Richard Peel	_ Trained by Ecology? <u>✓</u> YesNo Date of training 9/29/16
HGM Class used for rating Depressional	Wetland has multiple HGM classes?Y <u>✓</u> N
NOTE: Form is not complete witho Source of base aerial photo/map	out the figures requested (figures can be combined). Esri Arc GIS
OVERALL WETLAND CATEGORY	IV (based on functions <u>✓</u> or special characteristics)

1. Category of wetland based on FUNCTIONS

Category I – Total score = 23 - 27

Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

X Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the ap	propriate ratings	
Site Potential	L	L	L	
Landscape Potential	М	М	L	
Value	М	L	М	TOTAL
Score Based on Ratings	5	4	4	13

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M 6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value		I
Bog	I	
Mature Forest	I	
Old Growth Forest		I
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above	N/A	

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	

Riverine Wetlands

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

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the e	entire unit usually controll	ed by tides except during floods?	
Σ	NO – go to 2	☐ YES – the we	etland class is Tidal Fringe – go to 1.1	
1	.1 Is the salinity of the water	during periods of annual	low flow below 0.5 ppt (parts per thousand)?	
ſ	,	sified as a Freshwater Tide t is an Estuarine wetland o	YES - Freshwater Tidal Fringe all Fringe use the forms for Riverine wetlands. If it and is not scored. This method cannot be used to	t
2.	The entire wetland unit is fland surface water runoff are		only source (>90%) of water to it. Groundwater the unit.	ſ
X]NO – go to 3 <i>If your wetland can be classi</i> j	fied as a Flats wetland, use	☐ YES – The wetland class is Flats ethe form for Depressional wetlands.	
3.	•	wetland is on the shores ny time of the year) at lea	of a body of permanent open water (without any st 20 ac (8 ha) in size;	r
X]NO – go to 4	☐ YES – The wetland cla	ss is Lake Fringe (Lacustrine Fringe)	
4.	_	e (<i>slope can be very gradu</i> n the wetland in one direct arface, as sheetflow, or in a	al), tion (unidirectional) and usually comes from a swale without distinct banks,	
X]NO – go to 5		☐ YES – The wetland class is Slope	
		2	vetlands except occasionally in very small and ns are usually <3 ft diameter and less than 1 ft	
5.	Does the entire wetland uni The unit is in a valley, or stream or river, The overbank flooding of	stream channel, where it	gets inundated by overbank flooding from that	
	9	•		

We	etland name or number D -	
$\overline{}$	☑NO – go to 6 NOTE: The Riverine unit can contain depressior flooding	☐ YES – The wetland class is Riverine as that are filled with water when the river is not
6.		ession in which water ponds, or is saturated to the ans that any outlet, if present, is higher than the interior
	☐ NO – go to 7	▼YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat a flooding? The unit does not pond surface water maintained by high groundwater in the area. Thoutlet.	<u>*</u>
X	☑NO – go to 8	☐ YES – The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

DEPRESSIONAL AND FLATS WETLANDS		
Water Quality Functions - Indicators that the site functions to improve water	r quality	
D 1.0. Does the site have the potential to improve water quality?		
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing ou	oints = 3	2
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing power wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	oints = 1 oints = 1	•
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4		0
Wetland has persistent, ungrazed, plants > $\frac{1}{10}$ of area Wetland has persistent, ungrazed plants > $\frac{1}{10}$ of area	oints = 5	3
Area seasonally ponded is > ¼ total area of wetland po	oints = 4 oints = 2 oints = 0	0
Total for D 1 Add the points in the boxe	es above	5
Rating of Site Potential If score is:12-16 = H6-11 = M \times _0-5 = L Record the rating of	on the first pag	ge
D 2.0. Does the landscape have the potential to support the water quality function of the site?		
	No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1	. No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland?	No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D Source Yes = 1	2.3? No = 0	0
Total for D 2 Add the points in the boxe	es above	1
Rating of Landscape Potential If score is:3 or 4 = HX_1 or 2 = M0 = L Record the rat	ting on the firs	st 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 a 303(d) list?	on the No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1	No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (a if there is a TMDL for the basin in which the unit is found)? Yes = 2	nnswer YES No = 0	0
Total for D 3 Add the points in the boxe	es above	1
Rating of Value If score is: $2-4 = H \times 1 = M$ $0 = L$ Record the rating on the figure 1.	irst nage	

DEPRESSIONAL AND FLATS WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation	ion
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outletpoints = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	2
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in)	3
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. 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	0
Total for D 4 Add the points in the boxes above Rating of Site Potential If score is: 12-16 = H 6-11 = M × 0-5 = L Record the rating on the	5
	Jiist page
D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	1
Total for D 5 Add the points in the boxes above	2
Rating of Landscape Potential If score is: 3 = H X 1 or 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. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. • Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0 There are no problems with flooding downstream of the wetland.	0
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	
Yes = 2 No = 0	0
Total for D 6 Add the points in the boxes above	0

Rating of Value If score is: $_2$ -4 = H $_1$ = M $_2$ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 ___Emergent 0 ___Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 × Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 × Occasionally flooded or inundated 2 types present: points = 1 1 × Saturated only 1 type present: points = 0 ___Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 0 If you counted: > 19 species points = 2 5 - 19 species points = 1 points = 0 < 5 species H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 0 None = 0 points Moderate = 2 points Low = 1 point All three diagrams in this row are **HIGH** = 3points

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
_x_Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m)	
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	1
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 $rac{1}{4}$ ac 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)	
Total for H 1 Add the points in the boxes above	2
Rating of Site Potential If score is:15-18 = H7-14 = M \times 0-6 = L Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate: 2.97 % undisturbed habitat $+$ [(% moderate and low intensity land uses)/2] $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$	
If total accessible habitat is:	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20-33% of 1 km Polygon points = 2	0
10-19% of 1 km Polygon points = 1	
< 10% of 1 km Polygon points = 0	
·	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. **Calculate: % undisturbed habitat $\frac{7.16}{}$ + [(% moderate and low intensity land uses)/2] $\frac{9.87}{}$ = $\frac{17.03}{}$ %	
Undisturbed habitat > 50% of Polygon points = 3	1
Undisturbed habitat 10-50% and in 1-3 patches points = 2	
Undisturbed habitat 10-50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	2
> 50% of 1 km Polygon is high intensity land use points = (-2)	-2
≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	-1
Rating of Landscape Potential If score is:4-6 = H1-3 = MX < 1 = L	he 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? Choose only the highest score	
that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	
It has 3 or more priority habitats within 100 m (see next page)	
It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)	1
It is mapped as a location for an individual WDFW priority species	1
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1
 It has been categorized as an important habitat site in a local or regional comprehensive plan, in a 	
Shoreline Master Plan, or in a watershed plan	
× Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1	
Site does not meet any of the criteria above	1

Rating of Value If score is: $2 = H \times 1 = M = 0 = L$

Record the rating on the first page

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: *NOTE:* This question is independent of the land use between the wetland unit and the priority habitat.

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests: Old-growth west of Cascade crest Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
Does the wetland meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to SC 1.1 ☑No= Not an estuarine wetland	
SC 1.1. 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 ☐No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
\square The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less	
than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)	
At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed 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 chambers, depressions with open water, of the following features. The wetlands at least two of the following features. The wetlands at least two of the following features.	
contiguous resirvater wetiands.	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value?	
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
☐Yes = Category I ☑No = Not a WHCV	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Tes – Contact WNHP/WDNR and go to SC 2.4 ⊠No = Not a WHCV	
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website? □Yes = Category I ☑No = Not a WHCV	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or	
more of the first 32 in of the soil profile?	
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 a lake or	
pond? \square Yes – Go to SC 3.3 \square No = Is not a bog	
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	
cover of plant species listed in Table 4?	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by	
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the	
plant species in Table 4 are present, the wetland is a bog. 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	
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	
Yes = Is a Category I bog \Box No = Is not a bog	

Wetland name or number \underline{D} -

SC 4.0. Forested Wetlands	
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i>	
 Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). 	
☐ Yes = Category I ☑No = Not a forested wetland for this section	
SC 5.0. Wetlands in 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, less frequently, rocks — The lagoon 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 lagoon (needs to be measured near the bottom) — Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon SC 5.1. 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 on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than ¹/₁0 ac (4350 ft²) — Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 — \[\textstyle \text{Yes} - \text{Go to \$C 6.1} \] \[\textstyle \text{No} = \text{not an interdunal wetland for rating} \]	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? SC 6.3. SC 6.4. SC 6.5. S	
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number $\underline{\mathsf{D}}$ -

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RATING SUMMARY – Western Washington

Name of wetland (or ID #): E - SHDC	Date of site visit: 4/24/18
Rated by Richard Peel	Trained by Ecology? <u>~</u> YesNo Date of training_9/29/16
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y <u>✓</u> N
-	Trained by Ecology? Ves No Date of training 9/29/16 Wetland has multiple HGM classes? Y V N NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map Esri Arc GIS
OVERALL WETLAND CATEGORY _	IV (based on functions <u>v</u> or special characteristics)

1. Category of wetland based on FUNCTIONS

Category I – Total score = 23 - 27

Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

X Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the ap	propriate ratings	
Site Potential	L	L	L	
Landscape Potential	М	М	L	
Value	М	L	М	TOTAL
Score Based on Ratings	5	4	4	13

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog		I
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above	N/A	

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	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	

Riverine Wetlands

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

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km 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)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense , rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1.	Are the water levels	in the entire unit usually cont	rolled by tides except during floods?
Σ	☑NO – go to 2	YES – the	wetland class is Tidal Fringe – go to 1.1
1	.1 Is the salinity of th	e water during periods of anni	ual low flow below 0.5 ppt (parts per thousand)?
	If your wetland can	Fringe it is an Estuarine wetlar	☐ YES - Freshwater Tidal Fringe Tidal Fringe Use the forms for Riverine wetlands. If it and and is not scored. This method cannot be used to
2.		nit is flat and precipitation is to noff are NOT sources of water	the only source (>90%) of water to it. Groundwater to the unit.
×]NO – go to 3 If your wetland can b	e classified as a Flats wetland,	☐ YES – The wetland class is Flats use the form for Depressional wetlands.
3.	The vegetated parplants on the surf	and unit meet all of the follow t of the wetland is on the shor ace at any time of the year) at e open water area is deeper th	es of a body of permanent open water (without any least 20 ac (8 ha) in size;
X]NO – go to 4	☐ YES - The wetland	class is Lake Fringe (Lacustrine Fringe)
4.	X The wetland is on X The water flows seeps. It may flow	_	dual), rection (unidirectional) and usually comes from n a swale without distinct banks,
]NO – go to 5		▼ YES - The wetland class is Slope
		-	of wetlands except occasionally in very small and sions are usually <3 ft diameter and less than 1 ft
5.	The unit is in a vastream or river,	and unit meet all of the follow alley, or stream channel, where oding occurs at least once eve	e it gets inundated by overbank flooding from that

Wetland name or number <u>E -</u>	
NO − go to 6 NOTE: The Riverine unit can contain depres flooding	☐ YES – The wetland class is Riverine ssions that are filled with water when the river is not
	epression in which water ponds, or is saturated to the means that any outlet, if present, is higher than the interior
⋈ NO − go to 7	☐ YES – The wetland class is Depressional
flooding? The unit does not pond surface w	lat area with no obvious depression and no overbank ater more than a few inches. The unit seems to be a. The wetland may be ditched, but has no obvious natural
⊠ N0 – go to 8	☐ YES – The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

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. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance) Slope is 1% or less points = 3 Slope is > 1%-2% Slope is > 2%-5% Slope is greater than 5%			
Slope is greater than 5% points = 0 S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0			
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.			
Dense, uncut, herbaceous plants > 90% of the wetland area points = 6 Dense, uncut, herbaceous plants > ½ of area points = 2 Dense, woody, plants > ½ of area points = 1 Does not meet any of the criteria above for plants points = 0	2		
Total for S 1 Add the points in the boxes above			
Rating of Site Potential If score is:12 = H6-11 = MX_0-5 = L	the first page		

S 2.0. Does the landscape have the potential to support the water quality function of the site?	·	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No =	0 1	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources Yes = 1 No = 0		
Total for S 2 Add the points in the boxes above	/e 1	

Rating of Landscape Potential If score is: \times 1-2 = M 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
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 = $1 \text{ No} = 0$	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list. Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0	0
Total for S 3 Add the points in the boxes above	1

Rating of Value If score is: $2-4 = H \times 1 = M = 0 = L$

Record the rating on the first page

SLOPE WETLANDS			
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream eros	sion		
S 4.0. Does the site have the potential to reduce flooding and stream erosion?			
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > \frac{1}{8} in), or dense enough, to remain erect during surface flows. Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions points = 0			
Rating of Site Potential If score is: 1 = M × 0 = L Record the rating on the fire			
S 5.0. Does the landscape have the potential to support the hydrologic functions 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? Yes = $1 \text{ No} = 0$			
Rating of Landscape Potential If score is: X 1 = M0 = L Record the rating on			
S 6.0. Are the hydrologic functions provided by the site valuable to society?			
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream points = 0	0		
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = $2 No = 0$	0		
Total for S 6 Add the points in the boxes above	0		

Rating of Value If score is: ___2-4 = H ____1 = M ___X_0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 ___Emergent 1 ___Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 × Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: × The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 0 × Saturated only 1 type present: points = 0 __Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 0 If you counted: > 19 species points = 2 5 - 19 species points = 1 points = 0 < 5 species H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 0 None = 0 points Moderate = 2 points Low = 1 point All three diagrams in this row are **HIGH** = 3points

H 1.5. Special habitat features:				
Check the habitat features that are present in the wetland. The number of checks is the number of points.				
_x_Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).				
Standing snags (dbh > 4 in) within the wetland				
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants ex	, ,	0		
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 r		2		
Stable steep banks of fine material that might be used by beaver or muskrat for d	enning (> 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 ¼ ac 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	s (see H 1.1 for list of			
strata)				
	oints in the boxes above	3		
Rating of Site Potential If score is: 15-18 = H 7-14 = M × 0-6 = L	Record the rating on	the first page		
H 2.0. Does the landscape have the potential to support the habitat functions of the	site?			
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).				
Calculate: 2.97 % undisturbed habitat + [(% moderate and low intensity land u	ses)/2] <u>0</u> = <u>2.97</u> %			
If total accessible habitat is:				
$> \frac{1}{3}$ (33.3%) of 1 km Polygon	points = 3	0		
20-33% of 1 km Polygon	points = 2	0		
10-19% of 1 km Polygon	points = 1			
< 10% of 1 km Polygon	points = 0			
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	· · · · · · · · · · · · · · · · · · ·			
Calculate: % undisturbed habitat 7.16 + [(% moderate and low intensity land u	ises)/2] 9.87 = 17.03 %			
Undisturbed habitat > 50% of Polygon	points = 3			
Undisturbed habitat 10-50% and in 1-3 patches	points = 2	1		
Undisturbed habitat 10-50% and > 3 patches	points = 1			
Undisturbed habitat < 10% of 1 km Polygon	points = 0			
H 2.3. Land use intensity in 1 km Polygon: If	points o			
> 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2		
≤ 50% of 1 km Polygon is high intensity	points = 0	_		
, , ,	•	1		
Total for H 2 Add the portant	oints in the boxes above Record the rating on t	the first nage		
Rating of Landscape Potential in Score 134-0 = 111-3 = 1411 = 1	Record the rating on t	ine jirst 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? Choose	se only the highest score			
that applies to the wetland being rated.				
Site meets ANY of the following criteria:	points = 2			
 It has 3 or more priority habitats within 100 m (see next page) 				
— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)				
 It is mapped as a location for an individual WDFW priority species 				
 It is a Wetland of High Conservation Value as determined by the Department of N 	atural Resources			
 It has been categorized as an important habitat site in a local or regional compreh 	ensive plan, in a			
Shoreline Master Plan, or in a watershed plan				
 Site has 1 or 2 priority habitats (listed on next page) within 100 m 	points = 1			
Site does not meet any of the criteria above	points = 0			
Rating of Value If score is: 2 = H X 1 = M 0 = L	Record the rating on	the first page		

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: *NOTE:* This question is independent of the land use between the wetland unit and the priority habitat.

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests: Old-growth west of Cascade crest Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category			
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.				
SC 1.0. Estuarine wetlands				
Does the wetland meet the following criteria for Estuarine wetlands?				
☐ The dominant water regime is tidal,				
□ Vegetated, and				
☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to SC 1.1 ☒ No= Not an estuarine wetland				
SC 1.1. 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?				
\square Yes = Category I \square No - Go to SC 1.2				
SC 1.2. Is the wetland unit at least 1 ac 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. (If non-native species are Spartina, see page 25)				
At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.				
The wetland has at least two of the following features: tidal channels, depressions with open water, or				
contiguous freshwater wetlands. Yes = Category No = Category				
SC 2.0. Wetlands of High Conservation Value (WHCV)				
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High				
Conservation Value?				
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?				
☐Yes = Category I ☑No = Not a WHCV				
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf				
Yes — Contact WNHP/WDNR and go to SC 2.4 ⊠No = Not a WHCV				
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on				
their website?				
SC 3.0. Bogs				
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key</i>				
below. If you answer YES you will still need to rate the wetland based on its functions.				
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or				
more of the first 32 in of the soil profile?				
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 a lake or				
pond?				
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%				
cover of plant species listed in Table 4?				
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the				
plant species in Table 4 are present, the wetland is a bog.				
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				
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?				
□Yes = Is a Category I bog □No = Is not a bog				

Wetland name or number E -

SC 4.0. Forested Wetlands	
Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions. — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered	
canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).	
☐ Yes = Category I ☑No = Not a forested wetland for this section	
SC 5.0. Wetlands in 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, less frequently, rocks — The lagoon 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 lagoon (needs to be measured near the bottom) □ Yes − Go to SC 5.1 ☑No = Not a wetland in a coastal lagoon	
SC 5.1. 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 on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland. — The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
— The wetland is larger than 7 ₁₀ at (4550 ft) ☐Yes = Category I ☐No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? \[\textstyle=\text{Ves} = \text{Category I} \text{No} - \text{Go to SC 6.2} \]	
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? \[\subseteq Yes = \textbf{Category II} \] \[\subseteq No - Go to \textbf{SC 6.3} \]	
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
Category of wetland based on Special Characteristics	
If you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number E -

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RATING SUMMARY – Western Washington

Name of wetland (or ID #): F - SHDC	Date of site visit: 9/15/16	
Rated by Richard Peel	Trained by Ecology? <u>~</u> YesNo Date of training_9/29/16	
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y <u>✓</u> N	
NOTE: Form is not complete with Source of base aerial photo/ma	rout the figures requested (figures can be combined). ap Esri Arc GIS	
OVERALL WETLAND CATEGORY _		

1. Category of wetland based on FUNCTIONS

Category I – Total score = 23 - 27

Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

X Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	L	L	L	
Landscape Potential	М	М	L	
Value	М	L	М	TOTAL
Score Based on Ratings	5	4	4	13

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M 6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value		I
Bog		I
Mature Forest		I
Old Growth Forest		I
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above	N/A	

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	

Riverine Wetlands

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

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense , rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1.	1. Are the water levels in the e	ntire unit usually controlle	ed by tides except during floods?	
Σ	⊠N0 – go to 2	☐ YES – the wet	cland class is Tidal Fringe – go to 1.1	
1	1.1 Is the salinity of the water	during periods of annual l	ow flow below 0.5 ppt (parts per thousand)?	
ļ		sified as a Freshwater Tidal is an Estuarine wetland al	☐ YES - Freshwater Tidal Fringe I Fringe use the forms for Riverine wetlands. If it nd is not scored. This method cannot be used to	•
2.	The entire wetland unit is flat and surface water runoff are		only source (>90%) of water to it. Groundwater the unit.	
X	⊠NO – go to 3 If your wetland can be classif	fied as a Flats wetland, use	TYES – The wetland class is Flats the form for Depressional wetlands.	
3.		wetland is on the shores on time of the year) at leas	of a body of permanent open water (without any at 20 ac (8 ha) in size;	
X	⊠N0 – go to 4	YES – The wetland clas	ss is Lake Fringe (Lacustrine Fringe)	
4.	9	e (slope can be very gradua the wetland in one directi rface, as sheetflow, or in a	ol), ion (unidirectional) and usually comes from swale without distinct banks,	
	□N0 – go to 5		▼ YES - The wetland class is Slope	
			etlands except occasionally in very small and ns are usually <3 ft diameter and less than 1 ft	
5.	Does the entire wetland unitThe unit is in a valley, or stream or river,The overbank flooding or	stream channel, where it g	gets inundated by overbank flooding from that	

We	land name or number <u>F - </u>
	NO – go to 6 OTE: The Riverine unit can contain depressions that are filled with water when the river is not looding
6.	s the entire wetland unit in a topographic depression in which water ponds, or is saturated to the curface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.
X	NO – go to 7 YES – The wetland class is Depressional
7.	s the entire wetland unit located in a very flat area with no obvious depression and no overbank looding? The unit does not pond surface water more than a few inches. The unit seems to be naintained by high groundwater in the area. The wetland may be ditched, but has no obvious naturated.
X	NO – go to 8

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

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. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance) Slope is 1% or less Slope is > 1%-2% Slope is > 2%-5% Slope is greater than 5% points = 0		
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0		
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in. Dense, uncut, herbaceous plants > 90% of the wetland area Dense, uncut, herbaceous plants > ½ of area Dense, woody, plants > ½ of area Dense, uncut, herbaceous plants > ¼ of area Dense, uncut, herbaceous plants > ¼ of area Does not meet any of the criteria above for plants		
Total for S 1 Add the points in the boxes above	3	

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources Yes = 1 No = 0	0
Total for S 2 Add the points in the boxes above	1

Rating of Landscape Potential If score is: \times 1-2 = M 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
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 = 1 No = 0	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list. Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0	0
Total for S 3 Add the points in the boxes above	1

Rating of Value If score is: $2-4 = H \times 1 = M = 0 = L$

Record the rating on the first page

SLOPE WETLANDS Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion		
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows. Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions points = 0	0	
Rating of Site Potential If score is: $1 = M$ $\times 0 = L$ 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. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	1	
Rating of Landscape Potential If score is: X 1 = M0 = L Record the rating on		
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream points = 0	0	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?		

Rating of Value If score is: 2-4 = H $1 = M \times 0 = L$

Record the rating on the first page

 $Yes = 2 \quad No = 0$

Add the points in the boxes above

0

0

NOTES and FIELD OBSERVATIONS:

Total for S 6

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 ___Emergent 0 ___Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 × Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 0 × Saturated only 1 type present: points = 0 ___Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1 points = 0 < 5 species H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 0 None = 0 points Moderate = 2 points Low = 1 point All three diagrams in this row are **HIGH** = 3points

# 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of points. ***Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). **Standing snags (dsh > 4 in) within the wetland (> 4 in diameter and 6 ft long). **Standing snags (dsh > 4 in) within the wetland (> 4 in diameter and 6 ft long). **Standing snags (dsh > 4 in) within the wetland (> 4 in diameter and 6 ft long). **Standing snags (dsh > 4 in) within the wetland (> 4 in diameter and 6 ft long). **Standing snags (dsh > 4 in) within the wetland (> 4 in diameter and 6 ft long). **Standing snags (dsh > 4 in) within the wetland (> 4 in diameter and 6 ft long). **Standing snags (dsh > 4 in) within the wetland (> 4 in diameter and 6 ft long). **Standing snags (dsh > 4 in) within the wetland (> 4 in diameter and 6 ft long). **Standing snags (dsh > 4 in) within the wetland (> 4 in diameter and 6 ft long). **Standing snags (dsh > 4 in) within the wetland (> 4 in diameter and 6 ft long). **Standing snags (dsh > 4 in) within the wetland (> 4 in diameter and 6 ft long). **All snags (dsh > 4 in) within the wetland (snags (sna		
**Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland (> 1 minus (dbh) and /or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) over a stream (or ditch) in the boxes above of store of the wetland area in every stratum of plants (see the 1.1 for list of strote) Total for H 1	H 1.5. Special habitat features:	
**Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland (> 1 minus (dbh) and /or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) over a stream (or ditch) in the boxes above of store of the wetland area in every stratum of plants (see the 1.1 for list of strote) Total for H 1	Check the habitat features that are present in the wetland. The number of checks is the number of points.	
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) GR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed) At least % as of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibitions) Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strato) Total for H 1 Add the points in the boxes above 2 Rating of Sike Potential If score is:15-18 = H7-14 = MX 0-6 = L		
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slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed) _At least % a co ft hin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg -laying by amphibitions)		
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Total for H 1 Add the points in the boxes above 2 Rating of Site Potential If score is:15-18 = H7-14 = MX 0-6 = L Record the rating on the first page H 2.0. Does the landscape have the potential to support the habitat functions of the site? H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: 2.97 % undisturbed habitat + {[(% moderate and low intensity land uses)/2] 0 _ = 2.97 _ % [f total accessible habitat is:		
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H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: 2.97 % undisturbed habitat + [(% moderate and low intensity land uses)/2] 0 = 2.97 % If total accessible habitat is: > \frac{1}{2}\square \text{33.3%}\) of 1 km Polygon points = 3 20.33% of 1 km Polygon points = 1 210.19% of 1 km Polygon points = 0 H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat in 2.50% of Polygon Undisturbed habitat 10-50% and in 1-3 patches Undisturbed habitat 10-50% and > 3 patches Undisturbed habitat 10-50% and in 1-3 patches Points = 1 Undisturbed habitat 10-50% and > 3 patches Undisturbed habitat 10-50% and in 1-3 patches Points = 0 1 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = 0 Total for H 2 Add the points in the boxes above 1-1 Rating of Landscape Potential If score is: 4-6 = H 1-3 = M \(\times < 1 = L \) 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? Choose only the highest score that applies to the wetland being rated. Site meets ANY of the following criteria: points = 2 It has 3 or more priority habitats within 100 m (see next page) It is is a Wetland of High Conservation Value as determined by the Department of Natural Resources It is a saped as a location for an individual WDFW priority species It is a wetland of High Conservation Value as determined by the Department of Natural Resources The short is a wetland of High Conservation Value as determined by the Department of Natural Resources The short is a wetland of High Conservation Value as determined by the Departm	Rating of Site Potential If score is: 15-18 = H 7-14 = M \times 0-6 = L Record the rating on	the first page
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Calculate: 2.97 % undisturbed habitat	H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit)	
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Calculate: % undisturbed habitat 7.16 + [(% moderate and low intensity land uses)/2] 9.87 = 17.03 % points = 3 Undisturbed habitat > 50% of Polygon Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0 H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (-2) < 50% of 1 km Polygon is high intensity land use points = 0 Total for H 2 Add the points in the boxes above opints = 0 Rating of Landscape Potential: If score is: 4-6 = H 1-3 = M 1-3	< 10% of 1 km Polygon points = 0	
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H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated. Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan × Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1	Rating of Landscape Potential If score is:4-6 = H1-3 = MX < 1 = L	he first page
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Shoreline Master Plan, or in a watershed plan × Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1		
× Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1		
	Site does not meet any of the criteria above points = 0	

Rating of Value If score is: $2 = H \times 1 = M = 0 = L$

Record the rating on the first page

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: *NOTE:* This question is independent of the land use between the wetland unit and the priority habitat.

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests: Old-growth west of Cascade crest Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number F -

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
Does the wetland meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to SC 1.1 ☒ No= Not an estuarine wetland	
SC 1.1. 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?	
\square Yes = Category I \square No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac 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. (If non-native species are Spartina, see page 25)	
At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.	
The wetland has at least two of the following features: tidal channels, depressions with open water, or	
contiguous freshwater wetlands. Yes = Category No = Category	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value?	
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
☐Yes = Category I ☑No = Not a WHCV	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes — Contact WNHP/WDNR and go to SC 2.4 ⊠No = Not a WHCV	
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website?	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key</i>	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or	
more of the first 32 in of the soil profile?	
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 a lake or	
pond?	
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	
cover of plant species listed in Table 4?	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the	
plant species in Table 4 are present, the wetland is a bog.	
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	
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	
☐Yes = Is a Category I bog ☐No = Is not a bog	

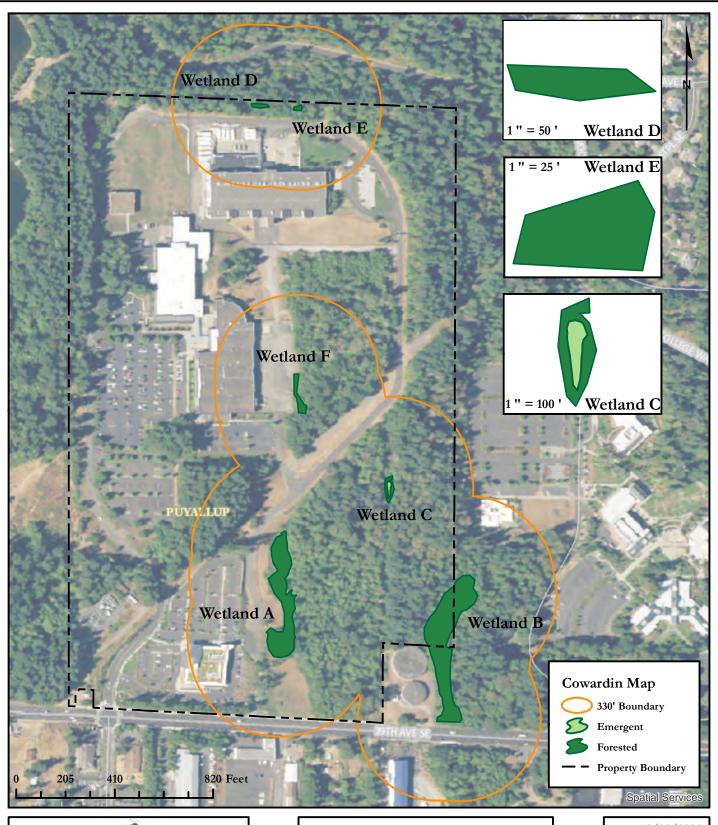
Wetland name or number F -

SC 4.0. Forested Wetlands		
Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions. — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered		
canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).		
☐ Yes = Category I ☑No = Not a forested wetland for this section		
SC 5.0. Wetlands in 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, less frequently, rocks — The lagoon 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 lagoon (needs to be measured near the bottom) □ Yes − Go to SC 5.1 ☑No = Not a wetland in a coastal lagoon		
 SC 5.1. 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 on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. 		
— The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)		
Yes = Category I □No = Category II		
SC 6.0. Interdunal Wetlands		
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109		
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? $\square \text{Yes} = \text{Category I} \square \text{No} - \text{Go to SC 6.2}$		
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? \[\subseteq Yes = \textbf{Category II} \] \[\subseteq No - Go to \textbf{SC 6.3} \]		
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?		
Category of wetland based on Special Characteristics		
If you answered No for all types, enter "Not Applicable" on Summary Form		

Wetland name or number F -

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Appendix F — Wetland Rating Maps





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SOUTH HILL DATA CENTER

1015, 1019-1021, & 1023 39TH AVENUE SE PUYALLUP, WA 98374

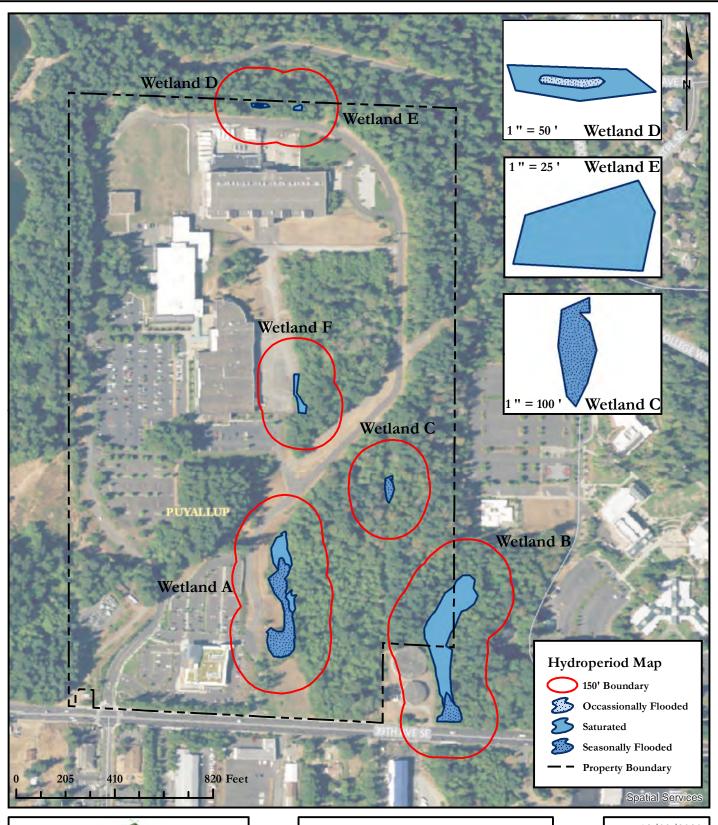
PIERCE COUNTY PARCEL NUMBERS: 0419034036, 0419034037, & 0419034038

DATE: 12/09/2020
JOB: 1077.0012

BY: DLS

SCALE: 1 " = 400 '

FIGURE NO. 1 of 5





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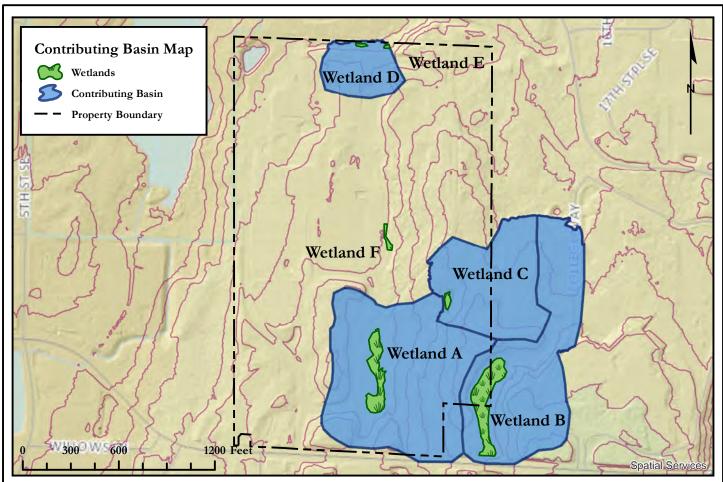
1015, 1019-1021, & 1023 39TH AVENUE SE PUYALLUP, WA 98374

PIERCE COUNTY PARCEL NUMBERS: 0419034036, 0419034037, & 0419034038

DATE: 12/09/2020
ЈОВ: 1077.0012
BY: DLS

SCALE: 1 " = 400 '

FIGURE NO. 2 of 5



D.4.0		
D.4.3		
	Area of Contributing Basin (SF)	872,950
	Area of Wetland A (SF)	34,089
	Percent of Wetland A within Contributing Basin	3.905%
	Area of Intensive Human Land Uses (SF)	387,728
	Percent of Intensive Human Land Use within Contributing Basin for Wetland A	44%
	Area of Contributing Basin (SF)	651,998
	Area of Wetland B (SF)	53,041
	Percent of Wetland B within Contributing Basin	8.135%
	Area of Intensive Human Land Uses (SF)	402,701
	Percent of Intensive Human Land Use within Contributing Basin for Wetland B	62%
	Area of Contributing Basin (SF)	412,836
	Area of Wetland C (SF)	2,949
	Percent of Wetland C within Contributing Basin	0.714%
	Area of Intensive Human Land Uses (SF)	219,894
	Percent of Intensive Human Land Use within Contributing Basin for Wetland C	53%
	Area of Contributing Basin (SF)	150,054
	Area of Wetland D (SF)	1,016
	Percent of Wetland D within Contributing Basin	0.677%
	Area of Intensive Human Land Uses (SF)	133,814
	Percent of Intensive Human Land Use within Contributing Basin for Wetland D	89%



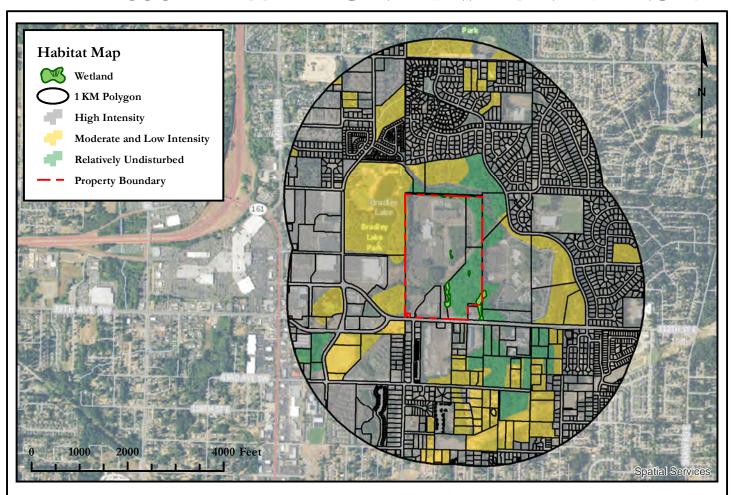
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PIERCE COUNTY PARCEL NUMBERS: 0419034036, 0419034037, & 0419034038

DATE: 12/09/2020
JOB: 1077.0012
BY: DLS
SCALE: 1 " = 600 '
FIGURE NO. 3 of 5



H.2.0 Wetlands A-F		
H.2.1		
	Abutting Undisturbed Habitat	2.97%
	Abutting Moderate & Low Intensity Land Uses	0.00%
	Accessible Habitat	2.97%
H.2.2		
	Undisturbed Habitat	7.16%
	Moderate & Low Intensity Land Uses	19.74%
	Undisturbed Habitat in 1 KM Polygon	17.03%
H.2.3		•
	High Intensity Land Use in 1 KM Polygon	73.10%



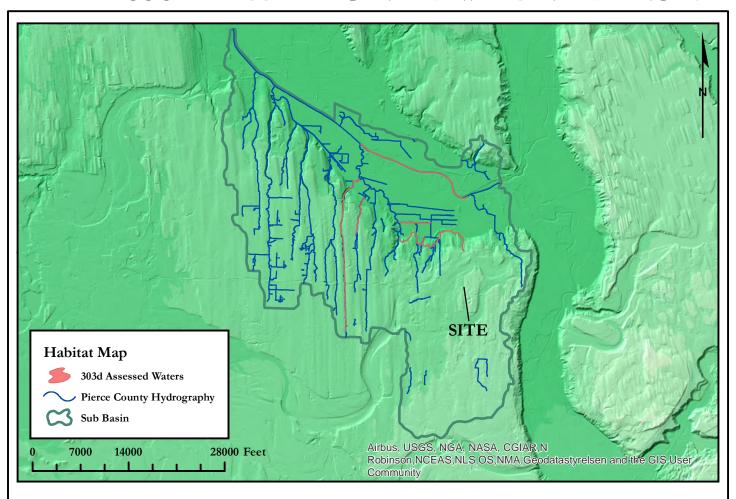
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DATE: 12/09/2020
ЈОВ: 1077.0012
BY: DLS
SCALE: 1 " = 2,000 '
FIGURE NO. 4 of 5



LISTING ID	CATEGORY	PARAMETER	MEDIA	WATERBODY	WATERBODY TYPE
78052	5	Dissolved Oxygen	Water	DIRU CREEK	Rivers/Streams
10862	5	Temperature	Water	PUYALLUP RIVER	Rivers/Streams
10874	5	Mercury	Water	PUYALLUP RIVER	Rivers/Streams
10848	5	5 Temperature	Water	WHITE RIVER	Rivers/Streams
79712	5	Fine Sediment	Habitat	UNNAMED CREEK (TRIB TO SILVER CREEK)	Rivers/Streams
78998	5	Fine Sediment	Habitat	RODY CREEK	Rivers/Streams
7511	5	5 pH	Water	MEEKER CREEK	Rivers/Streams
78999	5	Fine Sediment	Habitat	SILVER CREEK	Rivers/Streams
7509	5	Temperature	Water	MEEKER CREEK	Rivers/Streams
79714	5	Fine Sediment	Habitat	SILVER CREEK, E.F.	Rivers/Streams



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PIERCE COUNTY PARCEL NUMBERS: 0419034036, 0419034037, & 0419034038

DATE: 12/09/2020
JOB: 1077.0012
BY: DLS
SCALE: 1 " = 14,000 '
FIGURE NO. 4 of 5

Appendix G — Qualifications

All field inspections, OHW determinations, habitat assessments, and supporting documentation, including this <u>Wetland and Fish and Wildlife Habitat Assessment Report</u> prepared for the <u>South Hill Data Center</u> project were prepared by, or under the direction of, Matt DeCaro of SVC. In addition, the site investigations were performed by Richard Peel, Emily Swaim, and Matt DeCaro, and report preparation was completed by Kyla Caddey and Morgan Kentch.

Matt DeCaro

Associate Principal

Professional Experience: 10+ years

Matt DeCaro is an Associate Principal and Senior Scientist with a diverse background in environmental planning, wetland science, stream ecology, water quality, site remediation, NEPA compliance, and project management. He manages a wide range of industrial, commercial, and multifamily residential projects throughout Western Washington, providing environmental permitting and regulatory compliance assistance for land use projects from their planning stages through entitlement and construction. His local expertise, diverse professional background, and positive relationships with regulatory personnel are integral components of his successful project outcomes.

Matt earned a Bachelor of Science degree with a focus in Environmental Science from the Evergreen State College in Olympia, Washington, with additional graduate-level coursework and research in aquatic restoration and salmonid ecology. Matt has received 40-hour wetland delineation training (Western Mountains, Valleys, & Coast and Arid West Regional Supplements) and regularly performs wetland, stream, and shoreline delineations. Matt has been formally trained in the use of the 2014 Washington State Wetland Rating System and Determination of Ordinary High Water Mark by WSDOE, and he is a Pierce County Qualified Wetland Specialist and Wildlife Biologist. He has attended USFWS survey workshops for multiple threatened and endangered species, and he is a Senior Author of WSDOT Biological Assessments. Matt holds 40-hour HAZWOPER training and has managed Phase I Environmental Site Assessments, subsurface investigations, and contaminant remediation projects throughout the Pacific Northwest. His diverse experience also includes NEPA compliance for federal permitting projects; noxious weed abatement; army ant research in the Costa Rican tropical rainforest; spotted owl surveys on federal and private lands; and salmonid spawning and migration surveys.

Emily Swaim

Wetland Scientist/Field Geologist Professional Experience: 5 years

Emily Swaim is a Wetland Scientist and Field Geologist with a background in delineating and assessing wetland and aquatic systems, stormwater, floodplain, and wetland permitting, as well experience conducting Phase I, II and III Environmental Site Assessments (ESAs), underground natural gas pipeline and overhead electrical transmission line project assessment and environmental inspections, construction oversight, stormwater compliance inspections, and soil sampling. Ms. Swaim's expertise focuses on projects involving sensitive wetland and stream habitats where extensive team coordination and various regulatory challenges must be carefully and intelligently managed from project inception to completion.

Emily earned a Bachelor of Science degree in Geology from Illinois State University and Wetland Science and Management Professional Certification from the University of Washington, Seattle. She is also educated in Environmental Science from Iowa State University. Her education and experience has provided her with extensive knowledge on soils, wetland science, hydrogeology, sedimentology, environmental law, environmental geology, landscape ecology, and structural geology. Ms. Swaim has been formally trained in Hazardous Waste Operations and Emergency Response (HAZWOPER) and is Occupational Health and Safety Administration (OSHA) 30-hour Construction and 10-hour Construction certified.

She has been formally trained in the use of the Washington State Wetland Rating System, Grass, Sedge, and Rush Identification, How to Determine the Ordinary High Water Mark, Identifying Wetlands of High Conservation Value, and several other critical area assessment and restoration trainings from the Washington State Department of Ecology and Washington Department of Fish and Wildlife and. She is also a Pierce County Qualified Wetland Specialist and Wetland Professional In-Training (WPIT) through the Society of Wetland Scientists.

Kyla Caddey

Environmental Scientist & Certified Ecologist Professional Experience: 6 years

Kyla Caddey is an Environmental Scientist with a diverse background in riparian habitat restoration, stream and wetland ecology, wildlife ecology and conservation, and wildlife and natural resource assessments and monitoring. Kyla has advanced expertise in report preparation, grant writing, environmental education, data compilation and statistical analysis. Kyla has field experience performing in-depth studies in both the Pacific Northwest and Central American ecosystems. She currently performs wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the regulatory and planning process for various land use projects.

Kyla earned a Bachelor of Science degree in Environmental Science and Resource Management from the University of Washington, Seattle with a focus in Wildlife Conservation and a minor in Quantitative Science. Ms. Caddey is a Certified Ecologist through the Ecological Society of America. She has received 40-hour wetland delineation training (Western Mtns, Valleys, & Coast and Arid West Regional Supplement), is a Pierce County Qualified Wetland Specialist and Wildlife Biologist, and is a USFWS-approved Mazama pocket gopher survey biologist. Kyla has been formally trained through the Washington State Department of Ecology, Coastal Training Program, and the Washington Native Plant Society in winter twig and grass, sedge, and rush identification for Western WA; Using the Credit-Debit Method in Estimating Wetland Mitigation Needs; How to Determine the Ordinary High Water Mark; Using Field Indicators for Hydric Soils; How to Administer Development Permits in Washington Shorelines; Puget Sound Coastal Processes; and Forage Fish Survey Techniques. Additionally, she has received formal training in preparing WSDOT Biological Assessments.