WETLAND DELINEATION AND FISH AND WILDLIFE HABITAT ASSESSMENT REPORT

SOUTH HILL DATA CENTER

MAY 2018



WETLAND DELINEATION AND FISH AND WILDLIFE HABITAT ASSESSMENT REPORT

SOUTH HILL DATA CENTER

MAY 11, 2018

PROJECT LOCATION

 $1015 \text{ TO } 1025 \text{ } 39^{\text{th}}$ Avenue Southeast Puyallup, Washington 98374

PREPARED FOR

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

PREPARED BY

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



Executive Summary

Soundview Consultants LLC (SVC) has been contracted by Benaroya Capital Company (Applicant) to provide a Wetland Delineation and Fish and Wildlife Habitat Assessment Report to assist with planning for a proposed binding site plan of an 86.71-acre site located at 1015 to 1025 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 0419034031, 0419034032, and 0419034034).

SVC investigated the subject property for the presence of potentially-regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority species 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 a binding site plan application that will increase the number of lots onsite from three to nine. No improvements are proposed at this time; as such, the lot division will not impact any critical areas.

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	Regulated Under RCW 90.48	Regulated Under Section 404 of the Clean Water Act
Wetland A	34,089	III	Yes	Likely	Likely
Wetland B	19,762	III	Yes	Likely	Likely
Wetland C	2,949	IV	Not Likely	Likely	Not Likely
Wetland D	1,016	IV	Not Likely	Likely	Potentially
Wetland E	608	IV	Not Likely	Likely	Potentially
Wetland F	3,175	IV	Not Likely	Likely	Potentially

Notes:

 $1. \hspace{0.5cm} \hbox{Current Washington Department of Ecology (WSDOE) and PMC wetland definitions}.$

Site Map

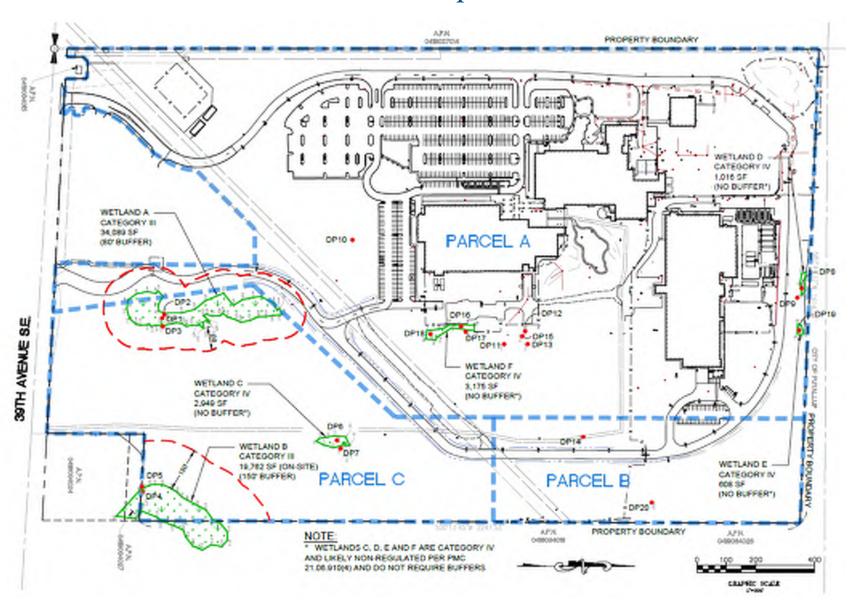


Table of Contents

Chapter 1. Introduction	
Chapter 2. Proposed Project	
2.1 Project Location	
2.2 Project Description	
Chapter 3. Methods	
Chapter 4. Existing Conditions	
4.1 Landscape Setting	
4.2 Soils	
4.3 Vegetation	
4.4 Wetland and Stream Inventories	
4.5 Priority Habitats and Species	
4.6 Precipitation	
Chapter 5. Results	
5.1 Wetlands	
5.1.1 Overview	
5.1.2 Wetland Buffers	
5.1.3 Wetland Functions	
5.2 Offsite Features	
Chapter 6. Regulatory Considerations	
6.1 Local Considerations	
6.2 State and Federal Considerations	
Chapter 7. Closure	
Chapter 8. References	۷ ــــــــــــــــــــــــــــــــــــ
Figures	
Figure 1. Vicinity Map.	
Figure 2. Aerial Image of Subject Property.	4
Amel 1 1	
Tables	
Table 1. Precipitation Summary ¹	6
Table 2. Wetland Summary	
Table 3. Wetland A Summary.	
Table 4. Wetland B Summary.	
Table 5. Wetland C Summary.	
Table 6. Wetland D Summary.	
Table 7. Wetland E Summary.	
Table 8. Wetland F Summary.	
Table 9. Wetland Functions and Values.	
Table 7 Camia i alleaville mid , macellinininininininininininininininininini	

Appendices

Appendix A — Methods and Tools

Appendix B — Background Information

Appendix C — Site Plans

Appendix D — Data Forms

Appendix E — Wetland Rating Forms

Appendix F — Wetland Rating Maps

Appendix G — Qualifications

Chapter 1. Introduction

Soundview Consultants LLC (SVC) has been contracted by Benaroya Capital Company (Applicant) to provide a Wetland Delineation and Fish and Wildlife Habitat Assessment Report to assist with planning for a proposed binding site plan of an 86.71-acre site located at 1015 to 1025 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 0419034031, 0419034032, and 0419034034).

The purpose of this assessment is to identify the presence of potentially-regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority species on or near the subject site and to assess potential impacts upon any such critical areas from the proposed project.

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 hydrologic features;
- Identification and assessment of potentially-regulated fish and wildlife habitat;
- Existing site map detailing identified critical areas and associated buffers;
- Site plan detailing the proposed lot division; and
- Supplemental information necessary for local regulatory review.

Chapter 2. Proposed Project

2.1 Project Location

The subject property consists of an 86.71-acre site located at 1015 to 1025 39th Avenue Southeast in the City of Puyallup, Washington (Figure 1). 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 0419034031, 0419034032, and 0419034034).

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.

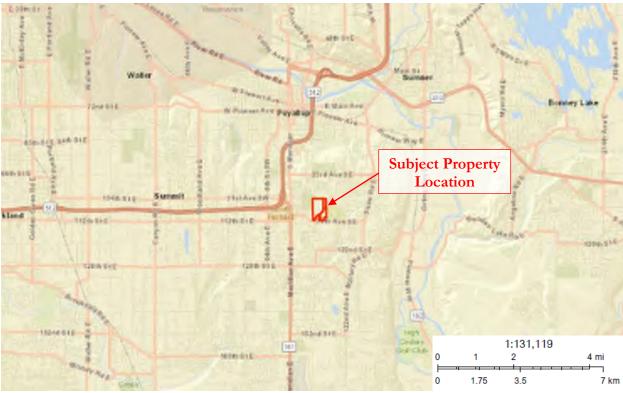


Figure 1. Vicinity Map.

2.2 Project Description

The proposed project includes a binding site plan application that will increase the number of lots onsite from three to nine (Lots 1 through 9). The proposed lot layout is illustrated on site plan in Appendix C. No improvements are proposed at this time; as such, the lot division will not impact any critical areas.

Chapter 3. Methods

SVC investigated, delineated, and assessed 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 B5.

Everett gravelly sandy loam, 0 to 6 percent slopes (13B)

According to the survey, Everett gravelly sandy loam, 0 to 6 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, 2001).

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 (NRCS, 2001).

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

According to the survey, Kapowsin gravelly 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 loam, 0 to 6 percent slopes is listed as non-hydric on the Pierce County Hydric Soils List (NRCS, 2001).

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

According to the survey, Kapowsin gravelly 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 loam 6 to 15 percent slopes is listed as non-hydric on the Pierce County Hydric Soils List (NRCS, 2001).

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 B2) and Pierce County wetland inventory (Appendix B3) 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 to the east of the site, which the City of Puyallup wetland inventory (Appendix B8) 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 B4) 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 B6) 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 B7) 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 were 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 investigations; such conditions were considered in making professional wetland boundary determinations.

^{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.

Chapter 5. Results

5.1 Wetlands

5.1.1 Overview

The site investigation identified six potentially-regulated 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, fish and wildlife habitat, or priority species 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 onsite wetlands identified onsite during the site investigations.

Table 2. Wetland Summary

	Predominant Wetland Classification / Rating				Wetland Size Standard		
Wetland	Cowardin ¹	HGM ²	WSDOE ³	City of Puyallup ⁴	Onsite (SF)	Buffer Width (feet)	
A	PFOCD	Depressional	III	III	34,089	805	
В	PFOCD	Depressional	III	III	19,762	1505	
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/A6	
F	PFOB	Slope	IV	IV	3,175	N/A ⁶	

Notes:

- 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 A

Wetland A is 34,089 square feet (0.78 acre) in size and located on the south-central portion of the subject property, straddling the common boundary between proposed Lots 7 and 9. 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.

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 on proposed Lot 7, 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 on proposed Lot 7. 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 on proposed Lot 2. 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 on proposed Lot 2. 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 on Proposed Lot 4. 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.

Table 3. Wetland	WETLAND A – INFORM	MATION SUMMARY			
	Located on the south-central portion		straddling the common		
Location:	boundary between proposed Lots 7	, , ,	tradaming the common		
		Local Jurisdiction	City of Puyallup		
The state of the	[1] [1] [1] [1] [1] [1] [1] [1] [1] [1]	WRIA	10 – Puyallup/White		
2017年1月1日	人名英格兰 医	WSDOE Rating	•		
The Part of the Pa	人 國際語言。第25章建立	(Hruby, 2014)	III		
100		City of Puyallup Rating	III		
		City of Puyallup Buffer	80 feet		
经验的	4	Width			
		Wetland Size	34,089 SF		
4	6 1 0 Co	Cowardin Classification	PFOCD		
	BIT MAC AND S	HGM Classification	Depressional		
		Wetland Data Sheet(s)	DP-1, DP-2		
	H 144 18	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	berry.			
Soils	Hydric soil indicator F3 (Depleted M	Matrix) was observed.			
TT 1 1	Hydrology for Wetland A is provided by stormwater discharge, surface sheet flow, direct				
Hydrology	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	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.				
9	Wetland Function	ons Summary			
	Wetland A has a moderate ability to	retain sediments and polluta			
	due to the direct stormwater input; the				
Water Quality	in greater than 95 percent of the a	rea; and since greater than h	alf of the wetland area		
	exhibits seasonal ponding. Wetland	A's score for Water Quality F	unctions using the 2014		
	method is moderate (6).	-1			
Undrologia	Wetland A provides moderate hydro				
Hydrologic	land development that generates su score for Hydrologic Functions usin				
	Habitat functions provided by Wetla				
	interspersion of habitats, or accessib				
Habitat	land uses. However, Wetland A do		,		
	logs which provide some level of				
	Wetland A's score for Habitat Func	tions using the 2014 method	is low (4).		
Buffer					

Table 4. Wetland B Summary.

Table 4. Wetland	WETLAND B – INFORM	MATIONICHMMADV			
	Located on the southeastern corner		posed Lot 7 extending		
Location:	offsite to the east.	of the subject property on pre	pposed Lot 7, exteriding		
	orisite to the east.	Local Jurisdiction	City of Puyallup		
和数型制度		WRIA	10 – Puyallup/White		
	第一次 在 50 0 0 0 0	WSDOE Rating	•		
	100	(Hruby, 2014)	III		
2000年出		City of Puyallup Rating	III		
	A CONTRACTOR OF THE PARTY OF TH	City of Puyallup Buffer	150 feet		
海水區 個計		Width			
经通 多斯丁	RANGE CONTRACTOR	Wetland Size	19,762 SF (onsite)		
	HOHA A FIZE	Cowardin Classification	PFOCD		
7		HGM Classification	Depressional		
1		Wetland Data Sheet(s)	DP-4		
		Upland Data Sheet (s)	DP-5		
110		Boundary Flag color	Orange		
Dominant	Wetland vegetation is dominated by	a canopy of western red ced	ar and red alder with an		
Vegetation	understory of hardhack and skunk c	abbage.			
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				
Delineation	hydrophytic plant community.	, , , , , , , , , , , , , , , , , , , ,			
Rationale for Local Rating	Local rating is based upon WSDOE	2's current rating system per I	PMC 21.06.910.		
	Wetland Function	*			
Water Quality	Wetland B has a moderate ability to due to the proximity to 39th Ave ungrazed vegetation in greater than wetland area ponding seasonally. We the 2014 method is moderate (6).	enue Southeast; the wetland half of the area; and greater Wetland B's score for Water O	containing persistent, than one quarter of the Quality Functions using		
Hydrologic	Wetland B provides moderate hydrologic functions due to its proximity to high-intensity				
Habitat	Habitat functions provided by Wetl and accessible habitat as the wetlan Wetland B does contain special I hydroperiods, and low invasive sp complexity for birds and small man the 2014 method is moderate (5).	d is adjacent to high-intensit habitat features such as sna secies cover which provides	y land uses. However, ags and logs, multiple some level of habitat		
Buffer	The buffer surrounding Wetland B	is disturbed by 39th Avenue S	outheast, a water utility		
Condition	facility, and undeveloped forested ar				

Table 5. Wetland C Summary.

Table 5. Wetland	WETLAND C - INFORM	MATION SUMMARY			
Location:	Located on the southeastern portion	n of the subject property on p	proposed Lot 7		
Mark to the second		Local Jurisdiction	City of Puyallup		
	CONTRACTOR OF	WRIA	10 – Puyallup/White		
	阿尔斯人 27年12万	WSDOE Rating	IV		
7-17		(Hruby, 2014)	IV		
	The state of the s	City of Puyallup Rating City of Puyallup Buffer	N/A – Likely Non-		
The state of the s		Width	Regulated		
	2000年11日	Wetland Size	2,949 SF		
	A STATE OF THE STA	Cowardin Classification	PFO/EMC		
	一种	HGM Classification	Depressional		
		Wetland Data Sheet(s)	DP-6		
1	1. 1. 1.	Upland Data Sheet (s)	DP-7		
g sid		Boundary Flag color	Orange		
Dominant	Metland 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 observed.				
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's current rating system per PMC 21.06.910.				
Ö	Wetland Function	ons Summary			
	Wetland C has a moderate ability to	retain sediments and polluta	nts from surface runoff		
	due to the wetland containing persis				
Water Quality	of the area, and greater than one	*	1 0		
	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).				
	Wetland C provides moderate hydr		` /		
Hydrologic	capacity and lacks a surface water of				
	using the 2014 method is moderate		1 11,01010810 1 011000113		
	Habitat functions provided by Wetla		ck of plant richness and		
	presence of invasive species. Howe		-		
Habitat	such as snags and logs and minimal	*	•		
	habitat complexity for birds and		C's score for Habitat		
D 00	Functions using the 2014 method is		<u> </u>		
Buffer	The area surrounding Wetland C is	,	torested areas that are		
Condition	degraded due to the presence of inv	asive species.			

Table 6. Wetland D Summary.

	WETLAND D - INFORM	MATION SUMMARY	
Location:	Located on the north-central portion	n of the subject property on 1	proposed Lot 2.
- 2000 C	宣言 /范广台及《宋文》《 第	Local Jurisdiction	City of Puyallup
to The sale	一等1 交 用高级数点流	WRIA	10 – Puyallup/White
	2、生人生产发展的现代。	WSDOE Rating	IV
		(Hruby, 2014)	1 V
		City of Puyallup Rating	IV
		City of Puyallup Buffer	N/A – Likely Non-
		Width	Regulated
		Wetland Size	1,016 SF
	-1. F.	Cowardin Classification	PFOAD
		HGM Classification	Depressional
	A 25 %	Wetland Data Sheet(s)	DP-8
A. A.	1	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 ob	served.
Hydrology	Hydrology for Wetland D is provid seasonally-high groundwater table. I (Algal Mat or Crust) were observed.	Primary hydrologic indicators	
Rationale for	Wetland boundaries were determine		and a transition to a
Delineation	hydrophytic plant community.		
Rationale for Local Rating	Local rating is based upon WSDOE	essent rating system per I	PMC 21.06.910.
	Wetland Function	ons Summary	
Water Quality	Wetland D has some ability to retain to the presence of persistent, ungrated However, this function is limited by seasonal ponding. Wetland D's score is moderate (5).	nzed plants in greater than he y the relatively small size of the e for Water Quality Functions	alf the area of the unit. the wetland and lack of s using the 2014 method
Hydrologic	Wetland D provides limited hydrological flowing ditch to facilitate reductions score for Hydrologic Functions using	s of surface flows during stor ag the 2014 method is low (4)	m events. Wetland D's
Habitat	Habitat functions provided by Wetla and interspersion of habitats. Howe unit which provides some habitat co using the 2014 method is low (4).	ever, downed woody debris is omplexity. Wetland D's scor	s present in the wetland e for Habitat Functions
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.

Tuble 7. Wettaile	I E Summary. WETLAND E – INFORM	MATION SUMMARY	
Location:	Located on the north-central portion		proposed Lot 2.
CAN IVERS		Local Jurisdiction	City of Puyallup
		WRIA	10 – Puyallup/White
		WSDOE Rating (Hruby, 2014)	IV
		City of Puyallup Rating	IV
		City of Puyallup Buffer	N/A – Likely Non-
- TENERS		Width	Regulated
	TO SEE SEE SEE SEE SEE SEE SEE SEE SEE SE	Wetland Size	608 SF
		Cowardin Classification	PFOD
		HGM Classification	Slope
X 3/17		Wetland Data Sheet(s)	DP-19
第一个个时		Upland Data Sheet (s)	DP-9
		Boundary Flag color	Orange
Dominant	Wetland vegetation is dominated by	y a canopy of red alder with	an understory of skunk
Vegetation	cabbage.		
Soils	Hydric soil indicator A11 (Depleted	Below Dark Surface) was ob	served.
Hydrology	Hydrology for Wetland E is provid seasonally-high groundwater table p indicators A2 (High Water Table) ar	provided through hillside see	ps. Primary hydrologic
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		PMC 21.06.910.
	Wetland Function	· · · · · · · · · · · · · · · · · · ·	
Water Quality	Wetland E has some potential to covering greater than half of the limited by its size and slope char Functions using the 2014 method is	wetland area, though such f racteristics. Wetland E's so	functions are extremely
Hydrologic	Wetland E provides minimal hyd landscape, slope characteristics, and Wetland E's score for Hydrologic F	drologic functions due to it lack of known flooding issues unctions using the 2014 meth	s lower in the sub-basin. nod is low (4).
Habitat	Habitat functions provided by Wet richness and interspersion of habitat wetland unit which provides some Functions using the 2014 method is	ts. However, downed woody habitat complexity. Wetland low (4).	debris is present in the d E's score for Habitat
Buffer Condition	The area surrounding Wetland E coare degraded due to the presence of an access road to the south.		

Table 8. Wetland F Summary.

	I F Summary. WETLAND F – INFORM	MATION SUMMARY		
Location:	Located on the central of the subject		4.	
		Local Jurisdiction	City of Puyallup	
		WRIA	10 – Puyallup/White	
(人)是		WSDOE Rating (Hruby, 2014)	IV	
		City of Puyallup Rating	IV	
		City of Puyallup Buffer	N/A – Likely Non-	
		Width	Regulated	
		Wetland Size	3,175 SF	
		Cowardin Classification	PFOB	
		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	* *	•	
Vegetation	non-native invasive Himalayan black	sberry, soft rush, and colonia	l bentgrass.	
Soils	Hydric soil indicator S5 (Sandy Redox) was observed.			
Hydrology	Hydrology for Wetland F is provided seasonally-high groundwater table prindicator A3 (Saturation) was observed.	provided through hillside see		
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 I	PMC 21.06.910.	
	Wetland Function	ons Summary		
Water Quality	Wetland F has a moderate ability to covering greater than half of the we within 150 feet upslope in land uses to Quality Functions using the 2014 me	etland area, and greater than that generate pollutants. Wet	10 percent of the area	
Hydrologic	Wetland F provides minimal hydrolo slope characteristics, and no known score for Hydrologic Functions usin	gic functions due to its location flooding issues lower in the general that the second	sub-basin. Wetland F's	
Habitat	Habitat functions provided by Wet richness and interspersion of habitat wetland unit which provides some Functions using the 2014 method is	es. However, downed woody habitat complexity. Wetland low (4).	debris is present in the	
Buffer Condition	The area surrounding Wetland F condegraded due to the presence of invaccess road to the west.			

5.1.2 Wetland Buffers

Wetland A is a Category III wetland with a low habitat score which requires a standard 80-foot buffer according to PMC 21.06.930 based on the surrounding high land use intensity. Wetland B is a Category III 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's critical area regulations pursuant to PMC 21.06.910(4) as the wetlands are less than 10,000 square feet in size.

5.1.3 Wetland Functions

Using the rapid assessment method (Null et al., 2000), the wetlands on the subject property may provide some water quality, hydrologic, and/or habitat functions (Table 9). However, these functions are limited by habitat diversity, wetland size, and the position of the wetlands within the landscape.

Wetlands A, B, D, E, and F generally provide a moderate degree of function for improving water quality including sediment removal and nutrient and toxicant removal due to the proximity to pollutant-generating impervious surfaces (i.e., roadways and parking areas), the presence of dense, uncut vegetation, and/or seasonal ponding characteristics. However, such functions are limited for Wetlands C, D, E, and F due to their small sizes.

Hydrologic functions provided by Wetlands A, B, and C are moderate due to the presence of dense vegetation to slow peak flows, the large sizes of Wetlands A and B which provide ample storage capacity, the depressional nature of these wetlands, and the lack of outlet for Wetland C. Wetlands D, E, and F provide minimal hydrologic functions due to their relatively small sizes, lack of significant storage areas, and sloped nature of Wetlands E and F. None of the onsite wetlands provide erosion control or shoreline stabilization functions, nor do they provide flood flow alternation functions above a de minimis level due to the lack of known downgradient flooding problems in the sub-basin.

With the exception of Wetland C which is small and does not contain an outlet, the identified wetlands onsite provide some habitat functions related to production and export of organic matter due to the presence of dense, intact vegetation communities and several of the wetland units containing multiple strata. Wetlands A, B, and C provide additional functions such as habitat for aquatic invertebrates and amphibians as they contain snags and logs and areas of seasonal ponding that are essential for greater habitat suitability. Wetland B exhibits some native plant richness due to the wetland's size, forest structure, and relative predominance of native plant species. Wetlands D, E, and F provide limited habitat functions due to the lack of special habitat features, and Wetlands E and F are further limited by their sloped nature.

The onsite wetlands likely do not provide any function of educational value, uniqueness, or heritage to the best of our professional judgement.

Table 9. Wetland Functions and Values.

E water / Wil at			Wet	land		
Function / Value ¹	A	В	С	D	E	F
Water Quality Functions						
Sediment Removal	X	X	-	X	X	X
Nutrient and Toxicant Removal	X	X	-	X	X	X
Hydrologic Functions						
Flood Flow Alteration	-	-	-	-	-	-
Erosion Control & Shoreline Stabilization	-	-	-	-	-	-
Habitat Functions						
Production & Export of Organic Matter	X	X	-	X	X	X
General Habitat Suitability	-	-	-	-	-	-
Habitat for Aquatic Invertebrates	X	X	X	-	-	-
Habitat for Amphibians	X	X	X	-	-	-
Habitat for Wetland-Associated Mammals	-	-	-	-	-	-
Habitat for Wetland-Associated Birds	-	-	-	-	-	-
General Fish Habitat	-	-	-	-	-	-
Native Plant Richness	-	X	-	-	-	-
Special Characteristics		•	•		•	
Educational or Scientific Value	-	-	-	-	-	-
Uniqueness and Heritage	-	-	-	-	-	-

^{1. &}quot;-" means that the function is not present; "x" means that the function is present and is of lower quality; and "+" means the function is present and is of higher quality.

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

6.1 Local Considerations

Wetland A is a Category III wetland with a low habitat score which requires a standard 80-foot buffer according to PMC 21.06.930 based on the surrounding high land use intensity. Wetland B is a Category III 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's critical area regulations pursuant to PMC 21.06.910(4) as the wetlands are all less than 10,000 square feet in size.

6.2 State and Federal Considerations

In a December 2, 2008, memorandum from the Environmental Protection Agency (EPA) and USACE, joint guidance is provided that describes waters that are to be regulated under Section 404 of the Clean Water Act (CWA) (USACE, 2010). This memorandum was amended on February 2, 2012 where the EPA and USACE issued a final guidance letter on waters protected by the CWA.

The 2012 guidance describes the following waters where jurisdiction would be asserted: 1) traditional navigable waters, 2) interstate waters, 3) wetlands adjacent to traditional navigable waters, 4) non-navigable tributaries of traditional navigable waters that are relatively permanent meaning they contain water at least seasonally (e.g. typically three months and does not include ephemeral waters), and 5) wetlands that directly abut permanent waters. The regulated waters are those associated with naturally occurring waters and water courses and not artificial waters (i.e. stormwater pond outfalls). The 2012 memorandum further goes on to describe waters where jurisdiction would likely require further analysis: 1) Tributaries to traditional navigable waters or interstate waters, 2) Wetlands adjacent to jurisdictional tributaries to traditional navigable waters or interstate waters, and 3) Waters that fall under the "other waters" category of the regulations.

In addition, the 2012 guidance identifies thirteen waters or areas where jurisdiction will not be asserted:

1) Wet areas that are not tributaries or open waters and do not meet the agencies regulatory definition of "wetlands," 2) Waters excluded from coverage under the CWA by existing regulations, 3) Waters that lack a "significant nexus: where one is required for a water to be jurisdictional, 4) Artificially irrigated areas that would revert to upland if the irrigation ceased, 5) Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing, 6) Artificial reflecting pools or swimming pools excavated in uplands, 7) Small ornamental waters created by excavating and/or diking dry land to retain water for primarily aesthetic reasons, and puddles, 8) Water-filled depressions created incidental to construction activity, 9) Groundwater, including groundwater drained through subsurface drainage systems, 10) Erosional features (gullies and rills), 11) Non-wetland swales, 12) Ditches that are excavated wholly in uplands, drain only uplands or non-jurisdictional waters, and have no more than ephemeral flow, and 13) Ditches that do not contribute flow, either directly or through other waterbodies, to a traditional navigable water, interstate water, or territorial sea.

The onsite Wetlands A through F have potential surface and/or subsurface connections to waters of the United States and therefore are potentially regulated under Section 404 of the CWA. However, as no direct impacts to the wetlands are proposed, permitting under USACE is not required at this time. The WSDOE also regulates wetlands and natural surface waters under RCW 90.48. If potential

future development actions can avoid direct impacts to the onsite wetlands, such future actions would
future development actions can avoid direct impacts to the onsite wetlands, such future actions would not likely require permitting with the USACE and WSDOE.

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

- Brinson, M. M. 1993. A hydrogeomorphic classification for wetlands, Technical Report WRP-DE-4. U.S. Army Engineer Waterways Experiment Station. Vicksburg, Mississippi.
- Cowardin, L.M. V. Carter, F. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* U.S. Fish and Wildlife Service. Washington D.C.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87 1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- Hitchcock, C.L. and A. Cronquist. 1973. Flora of the Pacific Northwest. University of Washington Press. Seattle, Washington.
- Hruby, T. 2014. Washington State Wetland Rating System for Western Washington: 2014 Update. (Publication #14-06-029). Olympia, WA: Washington Department of Ecology.
- 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
- Munsell® Color. 2000. Munsell® soil color charts. New Windsor, New York.
- Natural Resources Conservation Service (NRCS). 2001. *Hydric Soils List: Pierce County, Washington*. U.S. Department of Agriculture. Washington D.C.
- Null, W., G. Skinner, and W. Leonard. 2000. Wetland Functions Characterization Tool for Linear Projects. Washington State Department of Transportation.
- Soundview Consultants LLC. 2017. Wetland Delineation, Habitat Assessment, and Final Mitigation Plan Wesley Homes Puyallup Senior Living. [August 8, 2017]
- USACE. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Ver2.0), ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-3. Vicksburg, MSS: U.S. Army Engineer Research and Development Center.
- Zulauf, A.S. 1979. Soil Survey of Pierce County Area, Washington. Natural Resource Conservation Service. Washington D.C

Appendix A — Methods and Tools

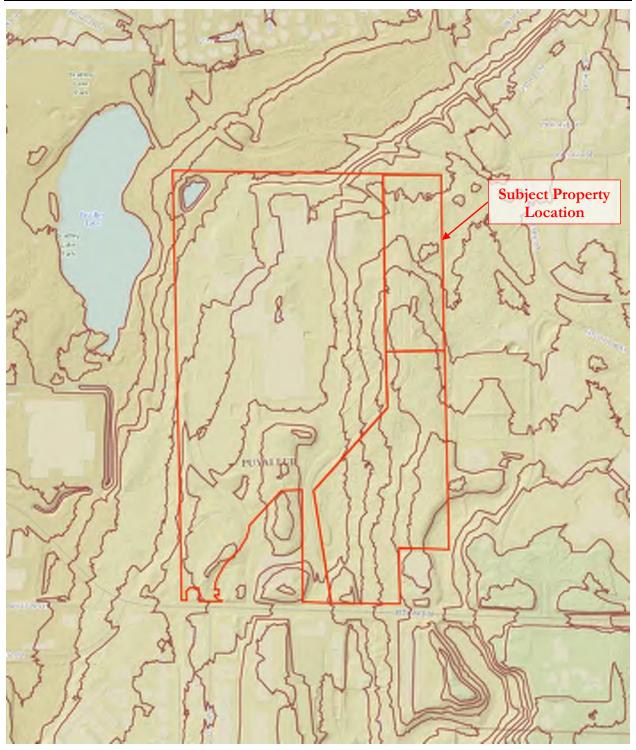
Table A-1. Methods and tools used to prepare the report.

Parameter	Method or Tool	Website	Reference		
Wetland Delineation	USACE 1987 Wetland Delineation Manual	http://el.erdc.usace.army.mil /elpubs/pdf/wlman87.pdf	nvironmental Laboratory. 1987. Corps of Engineers Wetlands relineation Manual. Technical Report Y-87-1, US Army Engineer Vaterways 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.		
	Puyallup Municipal Code	http://www.codepublishing.c om/WA/Puyallup/	Uses current WSDOE Rating System under PMC 21.06.910		
Wetland Indicator Status	2016 National Wetland Plant List	https://www.fws.gov/wetlan ds/documents/National- Wetland-Plant-List-2016- Wetland-Ratings.pdf	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	http://wdfw.wa.gov/hab/ph spage.htm	WDFW PHS Program (Data produced 11/22/17). Map of priority habitats and species in project vicinity.		
	USFWS species lists by County	http://www.fws.gov/wafwo /speciesmap.html	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/mapping/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); USFWS NWI Map (B2); Pierce County Wetland and Stream Inventory (B3); DNR Stream Typing Map (B4); NRCS Soil Survey Map (B5); WDFW PHS Map (B6); WDFW SalmonScape Map (B7), and City of Puyallup Wetland Inventory (B8).

Appendix B1 — Pierce County Topographic Map



Appendix B2 — USFWS NWI Map



Appendix B3 — Pierce County Wetland and Stream Inventory



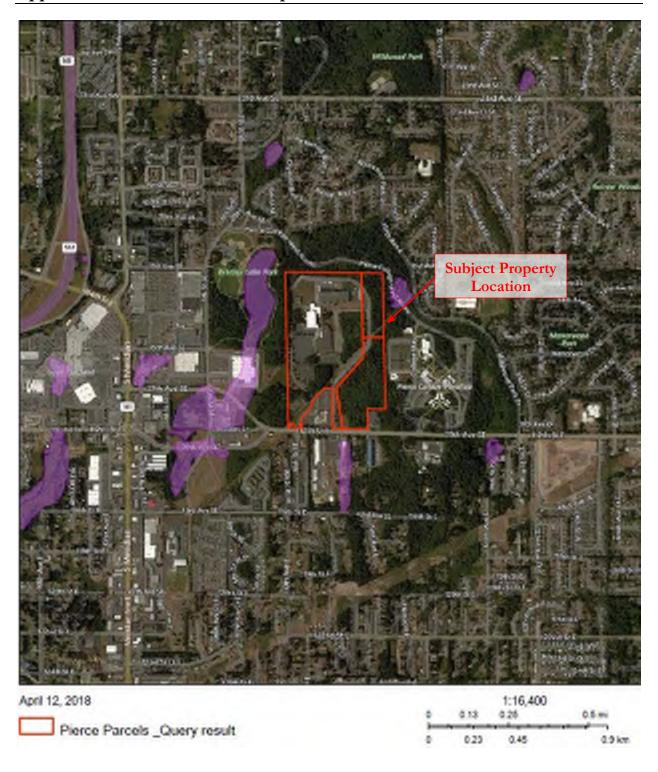
Appendix B4 — DNR Stream Typing Map

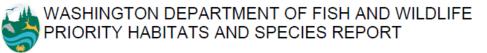


Appendix B5 — NRCS Soil Survey Map



Appendix B6 — WDFW PHS Map





SOURCE DATASET: PHSPlusPublic Query ID: P180412141234

REPORT DATE: 04/12/2018 2.13

Common Name Scientific Name Notes	Site Name Source Dataset Source Record Source Date	Priority Area Occurrence Type More Information (URL) Mgmt Recommendations	Accuracy	Federal Status State Status PHS Listing Status	Sensitive Data Resolution	Source Entity Geometry Type
Freshwater Forested/Shrub	N/A	Aquatic Habitat	NA	N/A	N	US Fish and Wildlife Service
	NWIWetlands	Aquatic habitat		N/A	AS MAPPED	Polygons
		http://www.ecy.wa.		PHS Listed		
Waterfowl Concentrations	PIERCE COUNTY - NON	Regular Concentration	1/4 mile (Quarter	N/A	N	WA Dept. of Fish and Wildlife
	PHSREGION 902564	Regular concentration		N/A	AS MAPPED	Polygons
	302304	http://wdfw.wa.gov/publications/pub.php?		PHS LISTED		
Wetlands	SOUTH PUYALLUP	Aquatic Habitat	1/4 mile (Quarter	N/A	N	WA Dept. of Fish and Wildlife
	PHSREGION 902560	N/A		N/A	AS MAPPED	Polygons
		http://www.ecy.wa.		PHS LISTED		

Appendix B7 — WDFW SalmonScape Map

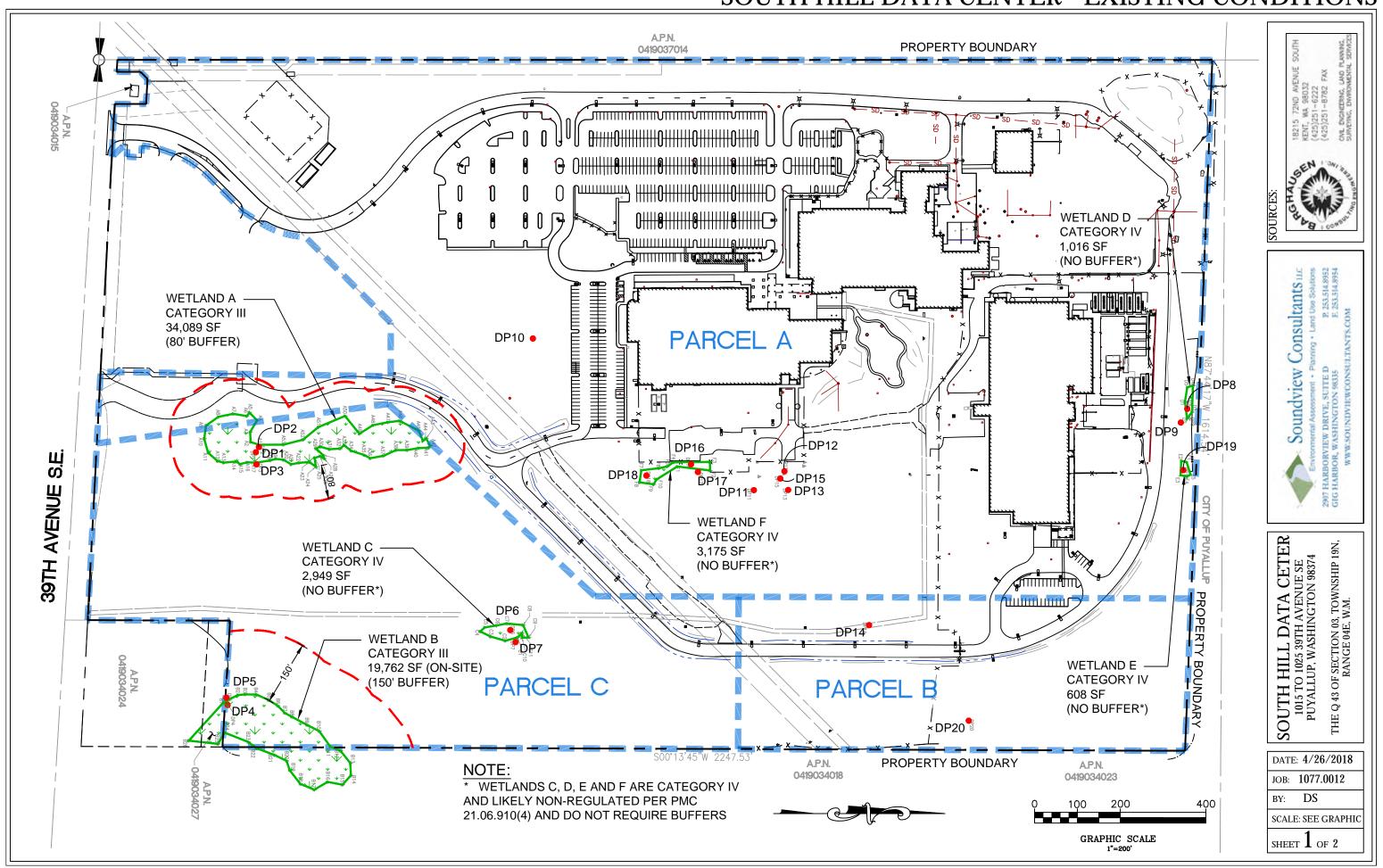


Appendix B8 — City of Puyallup Wetland Inventory

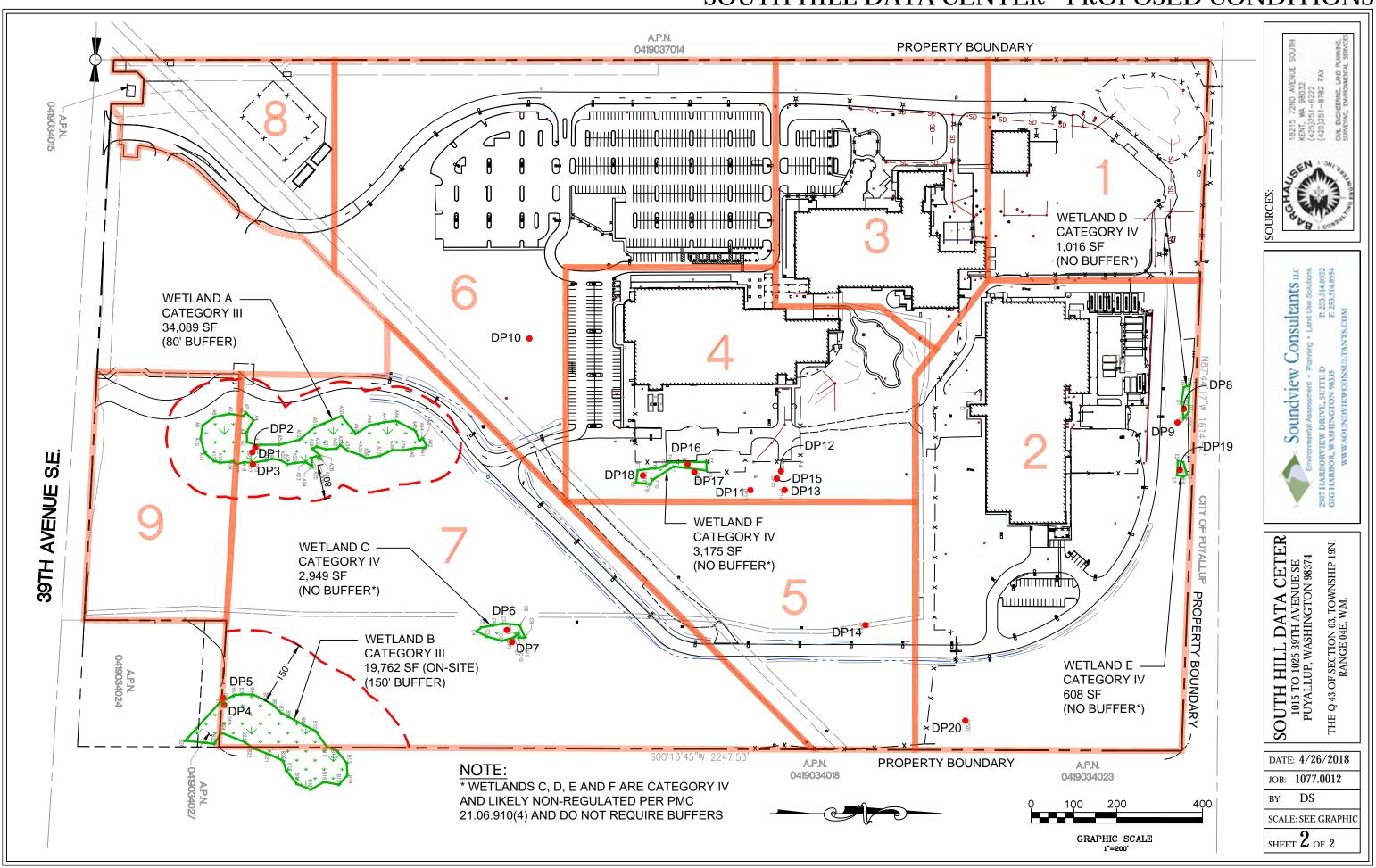


Appendix C — Site Plans

SOUTH HILL DATA CENTER - EXISTING CONDITIONS



SOUTH HILL DATA CENTER - PROPOSED CONDITIONS



Appendix D — Data Forms

Project/Site: 1077.0012 - South Hill Data Center		City/Co	ounty:	Puyallu	ıp/Pierce	Sampling Da	ate: 9/13/16	6
Applicant/Owner: Benaroya Capital Company					State: WA	Sampling Po	oint: DP-1	
Investigator(s): Richard Peel, Emily Swaim								
•					, convex, none): Concav		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	ed, explain any answers in	Remarks.)		
SUMMARY OF FINDINGS - Attach site map	showing	samp	oling	g point le	ocations, transects,	important	features	, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐								
Hydric Soil Present? Yes ☒ No ☐				Sampled				
Wetland Hydrology Present? Yes ☒ No ☐			withii	n a Wetlar	nd? Yes ເເ N	э <u>П</u>		
Remarks: Data collected near center of Wet	land A	•						
VEGETATION – Use scientific names of plant	ts.							
Total Ottal var. (Plat size 90.6)	Absolute			Indicator	Dominance Test works	heet:		
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	<u>% Cover</u> 50	Yes		FAC	Number of Dominant Sp That Are OBL, FACW, o		((A)
2. Populus balsamifera	40	Yes		FAC	That Are OBL, I ACW, 0	11AC. <u>+</u>	'	(A)
3.					Total Number of Domina Species Across All Strat	4	((B)
4	90				Percent of Dominant Sp		00/	
Sapling/Shrub Stratum (Plot size: 15 ft)		= Tot	ai Cu	vei	That Are OBL, FACW, o	r FAC: 100	<u>0%</u> ((A/B)
1. Rubus spectabilis	30	Yes	<u> </u>	FAC	Prevalence Index work	sheet:		
2. Spiraea douglasii	30	Yes	<u> </u>	FACW	Total % Cover of:	<u>Mu</u>	Itiply by:	
3						x 1 = <u>(</u>		•
4					FACW species 30	x 2 = <u></u>	<u>30</u>	
5						x 3 = <u>\$</u>		
Harb Chrotum (Plot circ. 5 ft)	60	= Tot	al Co	over	FACU species 0			_
Herb Stratum (Plot size: 5 ft)						x 5 = <u>(</u>		
1					Column Totals: 150	(A) <u>_</u>	420	_ (B)
3					Prevalence Index	= B/A = 2.8		
4					Hydrophytic Vegetation	n Indicators:		
5					☐ Rapid Test for Hydro	phytic Veget	ation	
6					■ Dominance Test is >	·50%		
7					▼ Prevalence Index is	≤3.0 ¹		
8					☐ Morphological Adapt			ng
9					data in Remarks	•	ate sheet)	
10					☐ Wetland Non-Vascul☐ Problematic Hydroph		on1 (Evaloin	.\
11					☐ Problematic Hydropl Indicators of hydric soil			•
Woody Vine Stratum (Plot size: 30 ft)	0	= Tot	al Co	over	be present, unless distu			<u> </u>
1		-			Hydrophytic			
2	^				Vegetation			
% Bare Ground in Herb Stratum 100	0	= Tot	al Co	over	Present? Yes	No □		
Remarks: FAC-FACW vegetation observed.					l .			
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 Hydronical	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 Mari 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) 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 Mart 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 Mart 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 High Water Saturation Water Marl Sediment I Drift Depos Algal Mat of Iron Depos Surface So 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 I depetated Concave ations:	: 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 □ Fre	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: or Present?	: 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 □ Fre	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	(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 □ Fre	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 /es /es /es /n gauge,	(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) is and Hyd if availab	□ W: □ Dr □ Dr □ Sa □ Ge □ Sh □ FA □ Fre	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 Wetland Observator Surface Water Table Pasaturation Precincludes capill Describe Recomposed Surface 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 /es /es /es /n gauge,	(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) is and Hyd if availab	□ W: □ Dr □ Dr □ Sa □ Ge □ Sh □ FA □ Fre	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 ,

Project/Site: 1077.0012 - South Hill Data Center		City/Count	_{y:} Puyallu	ıp/Pierce	Sampli	ing Date: 9/13	3/16
Applicant/Owner: Benaroya Capital Company		-	-	State: WA	Sampli	ing Point: DP	-2
				ownship, Range: 03,			
3 (,				, convex, none): Con		Slope (%	6); O
Subregion (LRR): A2		- '					
Soil Map Unit Name: Indianola Loamy Sand				NWI class			
Are climatic / hydrologic conditions on the site typical for t							
Are Vegetation, Soil, or Hydrology si	•		,	ormal Circumstances"	,	′es ⊠ No 🗌]
Are Vegetation, Soil, or Hydrology na			(If need	ed, explain any answe	ers in Remar	ks.)	
SUMMARY OF FINDINGS – Attach site map							es, etc.
- Variation Processing No. 17				<u> </u>			
Hydrophytic Vegetation Present? Yes ⊠ No ☐ Hydric Soil Present? Yes ⊠ No ☐		Is th	ne Sampled	l Area			
Wetland Hydrology Present? Yes ☒ No ☐	_	with	nin a Wetlar	nd? Yes 🗵	No □		
Remarks:	<u> </u>						
Data collected near central-wes	tern borde	er of We	tland A				
VEGETATION . Her activitie manner of rela							
VEGETATION – Use scientific names of pla	Absolute	Dominant	t Indicator	Dominance Test w	orkshoot:		
Tree Stratum (Plot size: 30 ft)		Species?		Number of Dominar			
1. Alnus rubra	45	Yes	FAC	That Are OBL, FAC		5	(A)
2. Populus balsamifera	45	Yes	FAC	Total Number of Do	minant		
3				Species Across All		5	(B)
4				Percent of Dominan	nt Species		
Capling/Charle Charters (District 45 th)	90	= Total C	Cover	That Are OBL, FAC		100%	_ (A/B)
Sapling/Shrub Stratum (Plot size: 15 ft) 1. Spiraea douglasii	35	Yes	FACW	Prevalence Index v	vorkshoot:		
2. Rubus spectabilis	30	Yes	FAC	Total % Cover		Multiply by:	
3. Pseudotsuga menziesii	- 55	No	FACU	· · · · · · · · · · · · · · · · · · ·	X		
4.				FACW species 55			
5.						3 = 360	
	70	= Total C	Cover	FACU species 5			
Herb Stratum (Plot size: 5 ft)						5 = 0	
1. Phalaris arundinacea			FACW	Column Totals: 18	<u>30 (</u>	A) <u>490</u>	(B)
2				Prevalence In	dev - R/A -	2.72	
3				Hydrophytic Veget			•
4				☐ Rapid Test for H			
5 6				■ Dominance Tes ■ Dominance Tes		9	
7.				➤ Prevalence Inde	ex is ≤3.0¹		
8				☐ Morphological A		(Provide supposeparate shee	
9				☐ Wetland Non-Va		•	,,
10		·		☐ Problematic Hyd			lain)
11		· ——		¹ Indicators of hydric	' '	` '	,
Woody Vine Stratum (Plot size: 30 ft)	20	= Total C	Cover	be present, unless of			,
1				Hydrophytic			
2				Vegetation	_	_	
% Bare Ground in Herb Stratum 80	0	= Total C	Cover	Present?	Yes ⊠ N	o 🗌	
Remarks:							
FACU-FACW vegetation observed. F	Pseudotsug	a menzi	esii growii	ng on upland berr	n.		

	Matrix				dox Feature			_			
(inches)	Color (moist)	<u>%</u>		or (moist)	%	Type ¹	Loc ²	<u>Texture</u>		Remarks	
0-12	10YR 4/2	97	10`	YR 3/6	3	<u>C</u>	M/PL	GrSaL	_0	Gravelly Sandy Lo	oam
	-										
								-			
	-										
¹ Type: C=C	oncentration, D=D	epletion,	RM=Red	luced Matrix, C	CS=Covere	ed or Coat	ed Sand G	rains.	² Loca	tion: PL=Pore Lining, I	M=Matrix.
Hydric Soil	Indicators: (App	licable to	all LRR	s, unless oth	erwise no	ted.)		Ind	dicators	for Problematic Hyd	ric Soils³:
☐ Histosol	(A1)			Sandy Redox	(S5)				2 cm N	/luck (A10)	
☐ Histic Ep	oipedon (A2)			Stripped Matri	x (S6)				Red P	arent Material (TF2)	
☐ Black His	stic (A3)			Loamy Mucky	Mineral (F	1) (excep	t MLRA 1)		Very S	hallow Dark Surface (ΓF12)
	en Sulfide (A4)			Loamy Gleyed		2)			Other	(Explain in Remarks)	
•	d Below Dark Surfa	ace (A11)		Depleted Matr		_					
	ark Surface (A12)			Redox Dark S	•	•				of hydrophytic vegeta	
•	Mucky Mineral (S1)			Depleted Dark						hydrology must be pro	
	Bleyed Matrix (S4)			Redox Depres	sions (F8)				unless	disturbed or problemat	IC.
Type: Gr	Layer (if present)	:									
	ches): 12			-						_	_
Depth (in	iches)			-				Hydric	Soil P	resent? Yes 🗵 N	lo 🗌
Remarks:											
	OGY drology Indicator	rs:									
Wetland Hy			uired; ch	eck all that ap	ply)			<u>s</u>	Second	ary Indicators (2 or mo	re required)
Wetland Hy	drology Indicator		uired; ch	eck all that app		/es (B9) (є	except MLF			ary Indicators (2 or mo er-Stained Leaves (B9	<u>.</u>
Wetland Hy Primary India	drology Indicator		uired; ch	➤ Water-Sta			except MLF		× Wat		
Wetland Hy Primary India	rdrology Indicator cators (minimum o Water (A1) ater Table (A2)		uired; ch	➤ Water-Sta	ained Leav		except MLF		⋉ Wat	er-Stained Leaves (B9	
Wetland Hy Primary India Surface High Wa	cators (minimum o Water (A1) ater Table (A2) on (A3)		uired; ch	X Water-Sta 1, 2, 4	ained Leav	3)	except MLF	RA [▼ Wat	er-Stained Leaves (B9 4A, and 4B)) (MLRA 1, 2,
Wetland Hy Primary India □ Surface □ High Wa □ Saturatio ☑ Water M	cators (minimum o Water (A1) ater Table (A2) on (A3)		uired; ch	➤ Water-Sta 1, 2, 4	ained Leav 4A, and 4E at (B11) nvertebrate	3) es (B13)	except MLF	RA [Wat □ Drai □ Dry-	er-Stained Leaves (B9 4 A, and 4B) nage Patterns (B10)	(MLRA 1, 2, C2)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer	cators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1)		uired; ch	Water-Standard National Nation	ained Leaven AA, and 4E (B11) nivertebrate Sulfide C	es (B13) odor (C1)	except MLF	A [Wat Drai Dry Satu	er-Stained Leaves (B9 4A, and 4B) nage Patterns (B10) Season Water Table ((MLRA 1, 2, C2)
Wetland Hy Primary India ☐ Surface ☐ High Wa ☐ Saturatio ☑ Water M ☐ Sedimer ☑ Drift Dep	cators (minimum of water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2)		uired; ch	Water-Standard Nation 1, 2, 4 Salt Crus Aquatic In Hydroger Oxidized	ained Leaven AA, and 4E (B11) nivertebrate Sulfide C	es (B13) odor (C1) eres along	Living Roo	RA [[[ots (C3) [Wat Drai Dry Satu	er-Stained Leaves (B9 4A, and 4B) nage Patterns (B10) Season Water Table (uration Visible on Aeria	(MLRA 1, 2, C2)
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-Standard Nation 1, 2, 4 Salt Crus Aquatic In Hydroger Oxidized	ained Leaver AA, and 4E at (B11) envertebrate on Sulfide Control Rhizosphere of Reduce	es (B13) odor (C1) eres along ed Iron (C	Living Roo 4)	RA [[[[ots (C3) [Wate Drain Dry- Satu Geo	er-Stained Leaves (B9 4A, and 4B) nage Patterns (B10) Season Water Table (uration Visible on Aeria emorphic Position (D2)	(MLRA 1, 2, C2)
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-Sta 1, 2, 4 I, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Leaver 4A, and 4E at (B11) Invertebrate on Sulfide Control Rhizospher of Reduction Reduction Reduction	es (B13) odor (C1) eres along ed Iron (C- ion in Tille	Living Roo 4)	RA [Wate Drain Dry- Satu Geo Sha	er-Stained Leaves (B9 4A, and 4B) nage Patterns (B10) Season Water Table (uration Visible on Aeria emorphic Position (D2) Ilow Aquitard (D3)	(C2) (Imagery (C9)
Wetland Hy Primary India □ Surface □ High Wa □ Saturatio 図 Water M □ Sedimer ☑ Drift Dep □ Algal Ma □ Iron Dep □ Surface	cators (minimum of water (A1) ater Table (A2) on (A3) alarks (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5)	f one requ		Water-Standard Water-	ained Leaver 4A, and 4E at (B11) Invertebrate on Sulfide Control Rhizospher of Reduction Reduction Reduction	es (B13) odor (C1) eres along ed Iron (C- ion in Tille d Plants (D	Living Roo 4) d Soils (C6	RA [Water	er-Stained Leaves (B9 4A, and 4B) nage Patterns (B10) Season Water Table (uration Visible on Aeria morphic Position (D2) llow Aquitard (D3) C-Neutral Test (D5)	(C2) (MLRA 1, 2, C2) (C9)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Algal Ma Iron Dep Surface Inundatio	cators (minimum of water (A1) ater Table (A2) on (A3) aters (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6)	one requ	(B7)	Water-Standard Water-	ained Leaver 4A, and 4B	es (B13) odor (C1) eres along ed Iron (C- ion in Tille d Plants (D	Living Roo 4) d Soils (C6	RA [Water	er-Stained Leaves (B9 4A, and 4B) Inage Patterns (B10) Season Water Table (Juration Visible on Aeria Demorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) Sed Ant Mounds (D6) (I	C2) (MLRA 1, 2, C2) (C9)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Algal Ma Iron Dep Surface Inundatio	cators (minimum of water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aeria	one requ	(B7)	Water-Standard Water-	ained Leaver 4A, and 4B	es (B13) odor (C1) eres along ed Iron (C- ion in Tille d Plants (D	Living Roo 4) d Soils (C6	RA [Water	er-Stained Leaves (B9 4A, and 4B) Inage Patterns (B10) Season Water Table (Juration Visible on Aeria Demorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) Sed Ant Mounds (D6) (I	C2) (MLRA 1, 2, C2) (C9)
Wetland Hy Primary India □ Surface □ High Wa □ Saturatio 図 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) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar creations:	one requ	(B7)	Water-Standard Water-	ained Leav 4A, and 4E at (B11) nvertebrate a Sulfide C Rhizosphe e of Reduct on Reduct or Stressec cplain in Re	es (B13) addor (C1) ares along ed Iron (Ca) ion in Tille d Plants (Demarks)	Living Roo 4) d Soils (C6	RA [Water	er-Stained Leaves (B9 4A, and 4B) Inage Patterns (B10) Season Water Table (Juration Visible on Aeria Demorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) Sed Ant Mounds (D6) (I	C2) (MLRA 1, 2, C2) (C9)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely	cators (minimum of water (A1) ater 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 Concar creations:	Il Imagery	(B7) be (B8)	Water-Start, 2, 4 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Leaver And Alex (B11) Invertebrate an Sulfide Or Rhizosphere of Reduction Reduction Stressed explain in Reduction Stressed explain Stressed explain in Reduction Stressed explain Stresse	es (B13) ador (C1) ares along ed Iron (C- ion in Tille d Plants (D emarks)	Living Roo 4) d Soils (C6	RA [Water	er-Stained Leaves (B9 4A, and 4B) Inage Patterns (B10) Season Water Table (Juration Visible on Aeria Demorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) Sed Ant Mounds (D6) (I	C2) (MLRA 1, 2, C2) (C9)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water Table	cators (minimum of cators (minimum of cators (minimum of water (A1)) ater Table (A2) on (A3) larks (B1) on Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar or vations: ter Present?	I Imagery ave Surface Yes Yes	(B7) te (B8) No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leaver 4A, and 4E	es (B13) codor (C1) eres along ed Iron (C- ion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 11) (LRR A)	RA [Wat Dra Dry Satu Gec Sha FAC Rais	er-Stained Leaves (B9 4A, and 4B) nage Patterns (B10) Season Water Table (uration Visible on Aeria morphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (I st-Heave Hummocks (I	(MLRA 1, 2, C2) Il Imagery (C9) LRR A) D7)
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) ater Table (A2) on (A3) darks (B1) on Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria v Vegetated Concarvations: ter Present? Present? Present? Present?	al Imagery ve Surface Yes Yes Yes Yes Yes Yes Yes	(B7) ce (B8) No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted co Other (Ex	ained Leav 4A, and 4E it (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct on Reduct or Stressed xplain in Re es): es): es):	es (B13) bdor (C1) eres along ed Iron (C- ion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 01) (LRR A)	RA [Wat □ Drai □ Dryy □ Satu □ Gec □ Sha □ FAC □ Rais □ Fros	er-Stained Leaves (B9 4A, and 4B) nage Patterns (B10) Season Water Table (uration Visible on Aeria morphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (I st-Heave Hummocks (I	C2) (MLRA 1, 2, C2) (C9)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water Table Saturation P (includes cal	cators (minimum of cators (minimum of cators (minimum of water (A1)) ater Table (A2) on (A3) larks (B1) on Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concators ter Present? Present?	al Imagery ve Surface Yes Yes Yes Yes Yes Yes Yes	(B7) ce (B8) No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted co Other (Ex	ained Leav 4A, and 4E it (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct on Reduct or Stressed xplain in Re es): es): es):	es (B13) bdor (C1) eres along ed Iron (C- ion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 01) (LRR A)	RA [Wat □ Drai □ Dryy □ Satu □ Gec □ Sha □ FAC □ Rais □ Fros	er-Stained Leaves (B9 4A, and 4B) nage Patterns (B10) Season Water Table (uration Visible on Aeria morphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (I st-Heave Hummocks (I	(C2) (MLRA 1, 2, C2) (C9) (C9) (C9) (C9) (C9) (C9) (C9) (C9
Wetland Hy Primary India Surface High Wa Saturatio Sedimer Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) darks (B1) on Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria v Vegetated Concarvations: ter Present? Present? Present? Present?	al Imagery ve Surface Yes Yes Yes Yes Yes Yes Yes	(B7) ce (B8) No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted co Other (Ex	ained Leav 4A, and 4E it (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct on Reduct or Stressed xplain in Re es): es): es):	es (B13) bdor (C1) eres along ed Iron (C- ion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 01) (LRR A)	RA [Wat □ Drai □ Dryy □ Satu □ Gec □ Sha □ FAC □ Rais □ Fros	er-Stained Leaves (B9 4A, and 4B) nage Patterns (B10) Season Water Table (uration Visible on Aeria morphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (I st-Heave Hummocks (I	C2) (MLRA 1, 2, C2) Il Imagery (C9)
Wetland Hy Primary India Surface High Wa Saturatio Sedimer Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) darks (B1) on Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria v Vegetated Concarvations: ter Present? Present? Present? Present?	al Imagery ve Surface Yes Yes Yes Yes Yes Yes Yes	(B7) ce (B8) No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted co Other (Ex	ained Leav 4A, and 4E it (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct on Reduct or Stressed xplain in Re es): es): es):	es (B13) bdor (C1) eres along ed Iron (C- ion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 01) (LRR A)	RA [Wat □ Drai □ Dryy □ Satu □ Gec □ Sha □ FAC □ Rais □ Fros	er-Stained Leaves (B9 4A, and 4B) nage Patterns (B10) Season Water Table (uration Visible on Aeria morphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (I st-Heave Hummocks (I	C2) (MLRA 1, 2, C2) Il Imagery (C9)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer 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) ater Table (A2) on (A3) darks (B1) on Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria v Vegetated Concarvations: ter Present? Present? Present? Present?	Il Imagery ve Surfac Yes Yes Yes Arm gauge	No 🗵 No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leav 4A, and 4E it (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct on Reduct or Stressed xplain in Re es): es): es):	es (B13) bdor (C1) eres along ed Iron (C- ion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 01) (LRR A)	RA [Wat □ Drai □ Dryy □ Satu □ Gec □ Sha □ FAC □ Rais □ Fros	er-Stained Leaves (B9 4A, and 4B) nage Patterns (B10) Season Water Table (uration Visible on Aeria morphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (I st-Heave Hummocks (I	(MLRA 1, 2, C2) Il Imagery (C9) LRR A) D7)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water Table Saturation P (includes cal Describe Re	cators (minimum of cators (minimum of cators (minimum of water (A1)) ater Table (A2) on (A3) darks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concators ter Present? Present? pillary fringe) corded Data (streat	Il Imagery ve Surfac Yes Yes Yes Arm gauge	No 🗵 No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leav 4A, and 4E it (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct on Reduct or Stressed xplain in Re es): es): es):	es (B13) bdor (C1) eres along ed Iron (C- ion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 01) (LRR A)	RA [Wat □ Drai □ Dryy □ Satu □ Gec □ Sha □ FAC □ Rais □ Fros	er-Stained Leaves (B9 4A, and 4B) nage Patterns (B10) Season Water Table (uration Visible on Aeria morphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (I st-Heave Hummocks (I	(MLRA 1, 2, C2) Il Imagery (C9) LRR A) D7)

Project/Site: 1077.0012 - South Hill Data Center	(City/Count	_{ty:} 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 reli	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	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	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	hin a Wetlar	nd? Yes □ N	o 🔀
Remarks:					
Data point collected east of Wetla	ind A bo	undary	'.		
VEGETATION – Use scientific names of plant	is.				
	Absolute		t Indicator	Dominance Test works	sheet:
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	<u>% Cover</u> 80	Species?	Status FAC	Number of Dominant Sp	
2				That Are OBL, FACW, o	
3				Total Number of Domina Species Across All Strat	_
4				Percent of Dominant Sp	` ` '
Capling/Charle Charles are (District 45.4)	80	= Total C	Cover	That Are OBL, FACW, o	
Sapling/Shrub Stratum (Plot size: 15 ft) 1. Vaccinium ovatum	30	Yes	FACU	Prevalence Index work	
2. Rubus spectabilis	30	Yes	FAC	Total % Cover of:	
3.					x 1 = 0
4.					x 2 = 0
5.				FAC species 110	x 3 = <u>330</u>
	60	= Total C	Cover	FACU species 70	x 4 = <u>280</u>
Herb Stratum (Plot size: 5 ft)	00		E4 011	UPL species 0	x 5 = 0
1. Polystichum munitum	30		FACU	Column Totals: 180	(A) <u>610</u> (B)
2. Pteridium aquilinum	10	Yes	FACU	Prevalence Index	= B/A = 3.39
3				Hydrophytic Vegetation	
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					hytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 30 ft)	40	= Total 0	Cover	be present, unless distu	and wetland hydrology must rbed or problematic.
1					
2			. <u></u>	Hydrophytic Vegetation	
	0	= Total C	Cover		i □ No ⊠
% Bare Ground in Herb Stratum 60					
FACU-FAC vegetation observed.					

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		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) on the cators (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 of the cators (minimum of the cators (minimu	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 of the cators (minimum of the cators (minimu	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 of the cators (minimum of the cators (minimu	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	drology Indicators of the cators (minimum of	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 cators (minimum of water (A1) on (A3) arks (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concarvations: The Present? Present?	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)	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 of 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 Aeria of Vegetated Concarvations: ter Present? Present? present?	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 of 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 Aeria of Vegetated Concarvations: ter Present? Present? present?	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)

Project/Site: 1077.0012 - South Hill Data Center	(City/Count	_{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: 47.	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				
Are Vegetation, Soil, or Hydrology sign	nificantly dist	turbed?	Are "No	ormal Circumstances" pres	sent? 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	samplin	g point lo	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:		l .			
Data collected in Wetland B.					
VEGETATION – Use scientific names of plant	ts.				
Total Ottal var. (Plat size 90.6)			Indicator	Dominance Test works	sheet:
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	% Cover 80	Yes	FAC	Number of Dominant Sp That Are OBL, FACW, o	
2				Total Number of Domina	ant
3				Species Across All Strat	a: <u>5</u> (B)
4	80	= Total C	Cover	Percent of Dominant Sports That Are OBL, FACW, o	
Sapling/Shrub Stratum (Plot size: 15 ft)	40	V	EA (C) A (、 ,
1. Salix sitchensis	10	Yes	FACW FAC	Prevalence Index work	
2. Rubus spectabilis	10	Yes		Total % Cover of:	
3				OBL species 80 10	x 1 = <u>80</u>
4					x = 20 x = 270
5	20	= Total C	201/05	· ·	$x = \frac{270}{0}$ $x = \frac{0}{0}$
Herb Stratum (Plot size: 5 ft)	20	= rotar C	over	· ·	x = 0 $x = 0$
1. Lysichiton americanus	50	Yes	OBL	Column Totals: 180	(A) <u>370</u> (B)
2. Oenanthe sarmentosa	30	Yes	OBL		
3				Prevalence Index	= B/A = 2.06
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				_	hytic Vegetation¹ (Explain)
11					and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)	80	= Total C	Cover	be present, unless distur	
1				Hydrophytic	
2	0			Vegetation	. ☑ No □
% Bare Ground in Herb Stratum 80	0	= Total C	Cover	Present? Yes	s⊠ No □
Remarks: FAC-OBL vegetation observed.				1	
1 AO-ODE Vegetation observed.					

Profile Desc	cription: (Describe	e to the c	lepth ne	eded to docu	ment the	indicator	or confirm	n the ab	sence o	of indicators.)	
Depth	Matrix			Red	ox Feature	es.					
(inches)	Color (moist)	%	Colo	or (moist)	%	Type ¹	Loc ²	Textu	re	Remarks	
0-16	5YR 2.5/1	100			-	-		Muck	k	Organic peat/muck	_
						-		-			-
					_						-
											_
		_									-
					_						-
											-
											_
¹ Type: C=C	oncentration, D=De	pletion. F	RM=Red	uced Matrix. C	S=Covere	d or Coat	ed Sand Gi	rains.	² Loca	ation: PL=Pore Lining, M=Matrix.	
	Indicators: (Appli									rs for Problematic Hydric Soils ³ :	
× Histosol	(A1)		П	Sandy Redox (S5)	-		Г	7 2 cm	Muck (A10)	
	ipedon (A2)			Stripped Matrix						Parent Material (TF2)	
☐ Black Hi				Loamy Mucky	, ,	1) (except	MLRA 1)			Shallow Dark Surface (TF12)	
	n Sulfide (A4)			Loamy Gleyed			,] Other	(Explain in Remarks)	
☐ Depleted	Below Dark Surface	ce (A11)		Depleted Matri							
☐ Thick Da	rk Surface (A12)			Redox Dark Su	ırface (F6)			3	ndicator	s of hydrophytic vegetation and	
☐ Sandy M	lucky Mineral (S1)			Depleted Dark	Surface (F	7)			wetlan	nd hydrology must be present,	
	leyed Matrix (S4)			Redox Depress	sions (F8)				unless	disturbed or problematic.	
	Layer (if present):										
Type:				-							
Depth (in	ches):							Hydr	ic Soil F	Present? Yes 🗵 No 🗌	
Remarks:											
Hydric soil	indicator F3 ob	served									
',											
HYDROLO	GY										
Wetland Hy	drology Indicators	s:									
Primary Indi	cators (minimum of	one requ	ired; che	eck all that app	oly)				Second	dary Indicators (2 or more required)	
☐ Surface	Water (A1)			☐ Water-Sta	ined Leav	es (B9) (e	xcept MLF	RA	× Wa	ater-Stained Leaves (B9) (MLRA 1, 2,	
★ High Wa	ter Table (A2)			1, 2, 4	A, and 4B	3)				4A, and 4B)	
■ Saturation	on (A3)			☐ Salt Crust	(B11)				☐ Dra	ainage Patterns (B10)	
■ Water M	arks (B1)			☐ Aquatic In	vertebrate	s (B13)			☐ Dry	/-Season Water Table (C2)	
☐ Sedimer	t Deposits (B2)				Sulfide O	dor (C1)			☐ Sat	turation Visible on Aerial Imagery (C9))
☐ Drift Dep	osits (B3)			☐ Oxidized I	Rhizosphe	res along	Living Roo	ts (C3)	☐ Ge	omorphic Position (D2)	
☐ Algal Ma	t or Crust (B4)			☐ Presence		_	_			allow Aquitard (D3)	
	osits (B5)						d Soils (C6	i)	☐ FA	C-Neutral Test (D5)	
	Soil Cracks (B6)						1) (LRR A)	•		ised Ant Mounds (D6) (LRR A)	
	on Visible on Aerial	Imagery	(B7)	Other (Ex			, , ,			ost-Heave Hummocks (D7)	
	Vegetated Concav			_		,			_	,	
Field Obser			,								
Surface Wat	er Present?	Yes 🗌	No 🗷	Depth (inche	es):						
Water Table			No 🗆	Depth (inche	_						
Saturation P			No 🗆	Depth (inche			Wot	and Uv	drology	Brocont? Voc V No 🗆	
	oillary fringe)	res 🔼	МО	Deptii (inche	:S). <u> </u>		well	ани пус	urology	Present? Yes ⊠ No □	
	corded Data (stream	m gauge,	monitor	ing well, aerial	photos, p	revious in:	spections),	if availa	able:		
Remarks:											
Hydrologic	indicators A2,	A3. B1.	and C	1 observed							
,		-,,									
i											

Project/Site: 1077.0012 - South Hill Data Center	(City/Cour	_{nty:} Puyallu	ıp/Pierce	Sampling Date: 9/13/16
Applicant/Owner: Benaroya Capital Company				State: WA	Sampling Point: DP-5
				ownship, Range: <u>03, 19,</u>	
Landform (hillslope, terrace, etc.): Slope		Local re	lief (concave,	convex, none): Concav	<u>e</u> Slope (%): 20
Subregion (LRR): A2	_ _{Lat:} <u>47.</u> ′	15550		Long: -122.27639	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	nificantly dist	turbed?	Are "No	ormal Circumstances" pres	sent? 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	sampli	ng point le	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐					
Hydric Soil Present? Yes ☐ No 🗵			the Sampled		
Wetland Hydrology Present? Yes ☐ No 🗵		Wit	thin a Wetlar	nd? Yes □ N	o 🔀
Remarks:					
Data point collected east of Wetla	ind B bo	undar	y.		
VEGETATION – Use scientific names of plant	 ts.				
	Absolute	Dominar	nt Indicator	Dominance Test works	sheet:
Tree Stratum (Plot size: <u>30 ft</u>)	% Cover			Number of Dominant Sp	
1. Alnus rubra	60	Yes	FAC	That Are OBL, FACW, o	or FAC: <u>4</u> (A)
2. Thuja plicata	20	Yes	<u>FAC</u>	Total Number of Domina	
3				Species Across All Strat	a: <u>6</u> (B)
4	90			Percent of Dominant Sp	
Sapling/Shrub Stratum (Plot size: 15 ft)	80	= Total	Cover	That Are OBL, FACW, o	or FAC: <u>67%</u> (A/B)
1. Rubus spectabilis	30	Yes	FAC	Prevalence Index work	 ksheet:
2. Rubus armeniacus	10	Yes	FAC	Total % Cover of:	Multiply by:
3				OBL species 0	x 1 = 0
4				FACW species 0	x 2 = 0
5.				FAC species 120	x 3 = <u>360</u>
	40	= Total	Cover	FACU species 20	x 4 = <u>80</u>
Herb Stratum (Plot size: 5 ft)	4.0		E4011	UPL species 0	x 5 = 0
1. Polystichum munitum	10		FACU	Column Totals: 140	(A) <u>440</u> (B)
2. Rubus ursinus	10	Yes	<u>FACU</u>	Prevalence Index	- R/Δ - 314
3				Hydrophytic Vegetatio	
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)
				☐ Wetland Non-Vascu	lar Plants ¹
10				☐ Problematic Hydropl	hytic Vegetation ¹ (Explain)
11	20	= Total	Cover		and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)		- 10101	20.01	be present, unless distu	rbea or problematic.
1				Hydrophytia	
2				Hydrophytic Vegetation	
0. Page 0. and 12 H + 0 80	0	= Total	Cover		s⊠ No □
% Bare Ground in Herb Stratum 80					
Remarks: FACU-FAC vegetation observed.					

Profile Descri Depth	Matrix		-		lox Featur					or maneators.
	Color (moist)	%	Colo	or (moist)	%	Type ¹	Loc ²	Textur	e	Remarks
	10YR 3/3	99		YR 3/6	1	CS	M	LoSa		Loamy Sand
		_								
								-		
¹ Type: C=Con	ncentration, D=De	pletion,	RM=Red	duced Matrix, C	CS=Cover	ed or Coat	ed Sand G	rains.	² Loc	ation: PL=Pore Lining, M=Matrix.
	dicators: (Appli									s for Problematic Hydric Soils ³ :
☐ Histosol (A	\1)			Sandy Redox	(S5)] 2 cm	Muck (A10)
☐ Histic Epip	pedon (A2)			Stripped Matrix					Red F	Parent Material (TF2)
☐ Black Histi				Loamy Mucky	Mineral (F	1) (excep	t MLRA 1)] Very	Shallow Dark Surface (TF12)
	Sulfide (A4)			Loamy Gleyed		2)] Other	(Explain in Remarks)
-	Below Dark Surfac	ce (A11)		Depleted Matri				2.		
	Surface (A12)			Redox Dark Si	•	•		³Ir		rs of hydrophytic vegetation and
	cky Mineral (S1) eyed Matrix (S4)			Depleted Dark Redox Depres		,				nd hydrology must be present, s disturbed or problematic.
	ayer (if present):			Redux Deples	SIONS (FO)	1			uniess	s disturbed of problematic.
Type: Roo										
Depth (inch				_				Llvdri	io Soil I	Bracont? Voc.□ No.▽
, ,				-				пуагі	C 3011	Present? Yes No 🗵
Remarks:										
No hydric so	oil indicators of	bserve	d.							
HYDROLOG	SY									
HYDROLOG Wetland Hydr	GY rology Indicators	::								
Wetland Hydr			uired; ch	eck all that app	ply)				Secon	dary Indicators (2 or more required)
Wetland Hydr	rology Indicators ators (minimum of		uired; ch	eck all that app		ves (B9) (•	except MLF	RA		dary Indicators (2 or more required) ater-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydro	rology Indicators ators (minimum of		uired; ch	☐ Water-Sta			except MLI	RA		<u> </u>
Wetland Hydro	rology Indicators ators (minimum of atter (A1) or Table (A2)		uired; ch	☐ Water-Sta	ained Lea 4 A, and 4		except MLF	RA	☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydromann Indicated With Surface With High Water	rology Indicators ators (minimum of dater (A1) or Table (A2) (A3)		uired; ch	☐ Water-Sta	ained Lea 4A, and 4 t (B11)	В)	except MLF		☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydroman Primary Indicated Surface William High Water Saturation Water Mark	rology Indicators ators (minimum of dater (A1) or Table (A2) (A3)		uired; ch	☐ Water-Sta 1, 2, 4 ☐ Salt Crus	ained Lea 4A, and 4 t (B11) nvertebrat	B) es (B13)	except MLI		☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10)
Wetland Hydroman Primary Indicated Surface William High Water Saturation Water Mark	rology Indicators ators (minimum of vater (A1) er Table (A2) (A3) rks (B1) Deposits (B2)		uired; ch	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger	ained Lea 4A, and 4 t (B11) nvertebrat n Sulfide C	es (B13) Odor (C1)	except MLI		☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2)
Wetland Hydroman Primary Indicated Surface Working High Water Saturation Water Marl Sediment In Drift Deposit	rology Indicators ators (minimum of vater (A1) er Table (A2) (A3) rks (B1) Deposits (B2)		uired; ch	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger	ained Lea 4A, and 4 t (B11) nvertebrat n Sulfide C Rhizosph	es (B13) Odor (C1) eres along	Living Roc		☐ Wa	atter-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9)
Wetland Hydroman Primary Indicated Surface Working High Water Saturation Water Marl Sediment In Drift Deposit	rology Indicators stors (minimum of rater (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4)		uired; ch	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence	ained Lea 4A, and 4 t (B11) nvertebrat n Sulfide C Rhizospho e of Reduc	es (B13) Odor (C1) eres along red Iron (C	Living Roc	ots (C3)	☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) comorphic Position (D2)
Wetland Hydroman Primary Indicated Surface William High Water Saturation Water Mark Sediment In Drift Deposed Iron Deposed	rology Indicators stors (minimum of rater (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4)		uired; ch	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Lead 4A, and 4B t (B11) Envertebrate a Sulfide C Rhizosphe of Reduct on Reduct	es (B13) Odor (C1) eres along red Iron (C	Living Roc 4)	ots (C3)	Dra Dra Sa Ge	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) ecomorphic Position (D2) allow Aquitard (D3)
Wetland Hydroman Primary Indicated Surface William Saturation Water Mark Sediment In Drift Deposed Inon Deposed Surface Scott	rology Indicators stors (minimum of dater (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	one requ		Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Lea 4A, and 4 t (B11) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (E	Living Roc 4) ed Soils (C6	ots (C3)	Dra Dry Sa Ge Sh Ra	Atter-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5)
Wetland Hydromary Indicated Surface William Saturation Water Marle Sediment In Drift Deposed Iron Deposed Inundation	rology Indicators stors (minimum of dater (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6)	one requ	(B7)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Lea 4A, and 4 t (B11) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (E	Living Roc 4) ed Soils (C6	ots (C3)	Dra Dry Sa Ge Sh Ra	atter-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A)
Wetland Hydromary Indicated Surface William Saturation Water Marle Sediment In Drift Deposed Iron Deposed Inundation	rology Indicators stors (minimum of rater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) a Visible on Aerial regetated Concav	one requ	(B7)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Lea 4A, and 4 t (B11) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (E	Living Roc 4) ed Soils (C6	ots (C3)	Dra Dry Sa Ge Sh Ra	atter-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A)
Wetland Hydroman Primary Indicators Surface With High Water Saturation Water Mark Sediment Drift Depos Algal Mat or Iron Depos Surface So Inundation Sparsely With Primary Sparsely With Primary Surface So Inundation Sparsely With Surface Wetland Sparsely With Primary Surface Surface	rology Indicators stors (minimum of later (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) a Visible on Aerial legetated Concav lations:	one requ	(B7)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Lea 4A, and 4 t (B11) nvertebrat n Sulfide C Rhizospho e of Reduct on Reduct or Stressed xplain in R	es (B13) Ddor (C1) eres along ed Iron (C tion in Tille d Plants (E emarks)	Living Roc 4) ed Soils (C6	ots (C3)	Dra Dry Sa Ge Sh Ra	atter-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A)
Wetland Hydroman Primary Indicators Surface William Saturation Water Mark Sediment In Drift Deposor Inundation Sparsely Vision Sparsely Vision Primary Indicators Sparsely Vision Primary Indicators Sparsely Vision Primary Indicators Indicators Sparsely Vision Primary Indicators Indicato	rology Indicators stors (minimum of dater (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) a Visible on Aerial degetated Concavations: r Present?	Imagery e Surfac	(B7) be (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) nvertebrat n Sulfide C Rhizospho e of Reduct on Reduct or Stressed xplain in R	es (B13) Ddor (C1) eres along ed Iron (C tion in Tille d Plants (E emarks)	Living Roc 4) ed Soils (C6	ots (C3)	Dra Dry Sa Ge Sh Ra	atter-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A)
Wetland Hydromary Indicators Surface Water Mart Sediment Deposes Inundation Sparsely Verieur Surface Water Water Table Programmer Surface Water Table Programmer Surface Programmer Surface Water Table Programmer Surface Water S	rology Indicators ators (minimum of later (A1) er Table (A2) (A3) erks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) a Visible on Aerial legetated Concavations: er Present?	Imagery e Surface Yes Yes	(B7) te (B8) 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) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse xplain in R es): es):	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (E emarks)	Living Roo 4) d Soils (C6 01) (LRR A	ots (C3) (5)	☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)
Wetland Hydromary Indicated Surface Water Mark Drift Deposed Inundation Sparsely V Field Observal Surface Water Table Posaturation President Control of the	rology Indicators stors (minimum of later (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) a Visible on Aerial legetated Concav ations: r Present? eresent? elary fringe)	Imagery e Surface Yes Yes Yes Yes Yes Yes	(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) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse xplain in R es): es): es):	es (B13) Ddor (C1) eres along ed Iron (C tion in Tille d Plants (E emarks)	Living Roc 4) ed Soils (C6 01) (LRR A	ots (C3) S))	☐ Wa ☐ Dra ☐ Dny ☐ Sa ☐ Ge ☐ Sh ☐ FA ☐ Fro	atter-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A)
Wetland Hydromary Indicated Surface Water Mark Drift Deposed Inundation Sparsely V Field Observal Surface Water Table Posaturation President Control of the	rology Indicators stors (minimum of later (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) a Visible on Aerial legetated Concav ations: er Present? ersent?	Imagery e Surface Yes Yes Yes Yes Yes Yes	(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) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse xplain in R es): es): es):	es (B13) Ddor (C1) eres along ed Iron (C tion in Tille d Plants (E emarks)	Living Roc 4) ed Soils (C6 01) (LRR A	ots (C3) S))	☐ Wa ☐ Dra ☐ Dny ☐ Sa ☐ Ge ☐ Sh ☐ FA ☐ Fro	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)
Wetland Hydromary Indicated Surface Water Mark Drift Deposed Inundation Sparsely V Field Observal Surface Water Table Posaturation President Control of the	rology Indicators stors (minimum of later (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) a Visible on Aerial legetated Concav ations: r Present? eresent? elary fringe)	Imagery e Surface Yes Yes Yes Yes Yes Yes	(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) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse xplain in R es): es): es):	es (B13) Ddor (C1) eres along ed Iron (C tion in Tille d Plants (E emarks)	Living Roc 4) ed Soils (C6 01) (LRR A	ots (C3) S))	☐ Wa ☐ Dra ☐ Dny ☐ Sa ☐ Ge ☐ Sh ☐ FA ☐ Fro	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)
Wetland Hydromary Indicated Surface Water Mark Sediment Deposement Surface Solution Sparsely View Surface Water Table Posaturation Precincludes capill Describe Recombed Surface Solution Sparsely View Surface Water Table Posaturation Precincludes capill Describe Recombed Surface Solution Sparsely View Surface Water Table Posaturation Precincludes capill Describe Recombed Surface Solution Precincludes Capill Describe Recombed Surface Su	rology Indicators stors (minimum of later (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) a Visible on Aerial legetated Concav ations: r Present? eresent? elary fringe) orded Data (strear	Imagery e Surfac Yes Yes Yes The gauge	No 🗵 No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted co Other (Ex Depth (inche Depth (inche	ained Lea 4A, and 4 t (B11) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse xplain in R es): es): I photos, p	es (B13) Ddor (C1) eres along ed Iron (C tion in Tille d Plants (E emarks)	Living Roc 4) ed Soils (C6 01) (LRR A	ots (C3) S))	☐ Wa ☐ Dra ☐ Dny ☐ Sa ☐ Ge ☐ Sh ☐ FA ☐ Fro	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)
Wetland Hydromary Indicated Surface Water Mark Sediment Deposement Surface Solution Sparsely View Surface Water Table Posaturation Precincludes capill Describe Recombed Surface Solution Sparsely View Surface Water Table Posaturation Precincludes capill Describe Recombed Surface Solution Sparsely View Surface Water Table Posaturation Precincludes capill Describe Recombed Surface Solution Precincludes Capill Describe Recombed Surface Su	rology Indicators stors (minimum of later (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) a Visible on Aerial legetated Concav ations: r Present? eresent? elary fringe)	Imagery e Surfac Yes Yes Yes The gauge	No 🗵 No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted co Other (Ex Depth (inche Depth (inche	ained Lea 4A, and 4 t (B11) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse xplain in R es): es): I photos, p	es (B13) Ddor (C1) eres along ed Iron (C tion in Tille d Plants (E emarks)	Living Roc 4) ed Soils (C6 01) (LRR A	ots (C3) S))	☐ Wa ☐ Dra ☐ Dny ☐ Sa ☐ Ge ☐ Sh ☐ FA ☐ Fro	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)
Wetland Hydromary Indicated Surface Water Mark Sediment Deposement Surface Solution Sparsely View Surface Water Table Posaturation Precincludes capill Describe Recombed Surface Solution Sparsely View Surface Water Table Posaturation Precincludes capill Describe Recombed Surface Solution Sparsely View Surface Water Table Posaturation Precincludes capill Describe Recombed Surface Solution Precincludes Capill Describe Recombed Surface Su	rology Indicators stors (minimum of later (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) a Visible on Aerial legetated Concav ations: r Present? eresent? elary fringe) orded Data (strear	Imagery e Surfac Yes Yes Yes The gauge	No 🗵 No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted co Other (Ex Depth (inche Depth (inche	ained Lea 4A, and 4 t (B11) nvertebrat n Sulfide C Rhizosph e of Reduct on Reduct or Stresse xplain in R es): es): I photos, p	es (B13) Ddor (C1) eres along ed Iron (C tion in Tille d Plants (E emarks)	Living Roc 4) ed Soils (C6 01) (LRR A	ots (C3) S))	☐ Wa ☐ Dra ☐ Dny ☐ Sa ☐ Ge ☐ Sh ☐ FA ☐ Fro	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)

Project/Site: 1077.0012 - South Hill Data Center	(City/Co	unty:	Puyallu	p/Pierce	Sampling Date: 9/1	4/16
Applicant/Owner: Benaroya Capital Company		-			State: WA	Sampling Point: DF	- -6
• •					ownship, Range: 03, 19,		
Landform (hillslope, terrace, etc.): Valley Floor							(%): 2
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 dist	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	point lo	ocations, transects,	important featu	ıres, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐							
Hydric Soil Present? Yes ☒ No ☐				Sampled			
Wetland Hydrology Present? Yes ☒ No ☐		V	within	a Wetlan	nd? Yes ☒ No	0 📙	
Remarks: Data point collected in interior of	Wetland	1 C					
Data point conected in interior of	vveuan	u C					
VEGETATION – Use scientific names of plan	ts.						
T. O. (D. (D.) 200 ()	Absolute			ndicator	Dominance Test works	heet:	
Tree Stratum (Plot size: 30 ft) 1. Acer macrophyllum	<u>% Cover</u> 15	Yes		Status FACU	Number of Dominant Sp		(4)
2. Frangula purshiana	5	Yes		FAC	That Are OBL, FACW, o	or FAC: <u>3</u>	(A)
3. Pseudotsuga menziesii	5	Yes		FACU	Total Number of Domina	_	(D)
4.		100		7100	Species Across All Strate	a: <u>5</u>	(B)
4.	25	= Tota	al Cov	or.	Percent of Dominant Spo	ecies	(A /D)
Sapling/Shrub Stratum (Plot size: 15 ft)		_ 100	ai Cov	Ci	That Are OBL, FACW, o	or FAC: <u>60%</u>	(A/B)
1. Alnus rubra	20	Yes	<u> </u>	FAC	Prevalence Index work	sheet:	
2					Total % Cover of:	Multiply by	<u>′:</u>
3						x 1 = <u>0</u>	
4					FACW species 100		
5						x 3 = <u>75</u>	
	20	= Tota	al Cov	er	FACU species 20		
Herb Stratum (Plot size: 5 ft) 1. Phalaris arundinacea	100	Voc		= ^ _ \	·	x 5 = <u>0</u>	
-				ACVV	Column Totals: 145	(A) <u>355</u>	(B)
2					Prevalence Index	= B/A = <u>2.45</u>	<u></u>
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					☐ Morphological Adapt	tations ¹ (Provide support on a separate she	
9					☐ Wetland Non-Vascul	•	,,,,
10					☐ Problematic Hydroph		plain)
11	100				¹ Indicators of hydric soil		
Woody Vine Stratum (Plot size: 30 ft)	100	= Tota	al Cov	er	be present, unless distur	rbed or problematic.	
1					Hydrophytic		
2					Vegetation	_	
% Bare Ground in Herb Stratum 0	0	= Tota	al Cov	er	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; ch			/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	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)	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:	of 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) ador (C1) ares 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	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 Drift Der Algal Ma Iron Der Surface Inundati Sparsely Field Obser Surface Wa Water Table Saturation F	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: 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	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)
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)
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) D7)
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)

Project/Site: 1077.0012 - South Hill Data Cente	r	City/County: Puyallup/Pierce Sampling Date: 9/1State: WA Sampling Point: DI								
Applicant/Owner: Benaroya Capital Company										
Investigator(s): Richard Peel, Matthew DeCaro				ownship, Range: 03, 19,						
Landform (hillslope, terrace, etc.): Valley Floor		Local re	elief (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										
Are Vegetation, Soil, or Hydrology s	significantly dis	turbed?	Are "No	ormal Circumstances" pres	ent? Yes ☒ No ☐					
Are Vegetation, Soil, or Hydrologyn	aturally probler	matic?	(If need	ed, explain any answers in	Remarks.)					
SUMMARY OF FINDINGS - Attach site ma	p showing	sampli	ing point le	ocations, transects,	important features, etc.					
Hydrophytic Vegetation Present? Yes ☐ No [κĪ									
Hydric Soil Present? Yes ☐ No [_		the Sampled							
Wetland Hydrology Present? Yes ☐ No [×	WI	thin a Wetlar	nd? Yes □ No) X					
Remarks: Data collected upland of Wetland	nd C	•								
VEGETATION – Use scientific names of pla	ants.									
Tree Charles (District 20 th)	Absolute		nt Indicator	Dominance Test works	heet:					
Tree Stratum (Plot size: 30 ft) 1. Acer macrophyllum	<u>% Cover</u> 50	Yes	s? Status FACU	Number of Dominant Spe That Are OBL, FACW, or						
2. Alnus rubra	25	Yes	FAC	That Are OBE, I ACW, O	17.0. <u>0</u> (A)					
3. Pseudotsuga menziesii	25	Yes	FACU	Total Number of Domina Species Across All Strata	_					
4				'						
	100	= Total	Cover	Percent of Dominant Spe That Are OBL, FACW, or						
Sapling/Shrub Stratum (Plot size: 15 ft)	30	Yes	EAC							
1. Rubus spectabilis 2. Ilex aquifolium		Yes	FAC FACU	Prevalence Index work						
3. Frangula purshiana	<u>10</u> 	Yes	FAC	Total % Cover of: OBL species 0	<u>Multiply by:</u> x 1 = <u>0</u>					
-	- 	103	170		x = 0 $x = 0$					
4		-		FAC species 70	x3 = 210					
3.	50	- Total	Cover		x = 4 = 520					
Herb Stratum (Plot size: 5 ft)					x 5 = 0					
1. Polystichum munitum			FACU	Column Totals: 200	(A) <u>730</u> (B)					
2. Pteridium aquilinum	<u>15</u>	Yes	FACU		- · · · · · · · · · · · · · · · · · · ·					
3. Rubus armeniacus		No	<u>FAC</u>	Prevalence Index						
4				Hydrophytic Vegetation						
5				☐ Rapid Test for Hydro ☐ Dominance Test is >	. ,					
6				☐ Prevalence Index is:						
7					ations ¹ (Provide supporting					
8					or on a separate sheet)					
9 10				☐ Wetland Non-Vascul	ar Plants ¹					
11		-		☐ Problematic Hydroph	nytic Vegetation1 (Explain)					
	50	= Total	Cover	¹ Indicators of hydric soil be present, unless distur	and wetland hydrology must bed or problematic.					
Woody Vine Stratum (Plot size: 30 ft) 1										
2		-		Hydrophytic Vegetation						
	^	= Total	Cover	_	□ No ⊠					
% Bare Ground in Herb Stratum 50	· <u> </u>									
Remarks: FAC-FACU vegetation observed.										

	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			· · · ·	,						

Project/Site: 1077.0012 - South Hill Data Center	City/County: Puyallup/Pierce Sampling Date: 9/1								
	State: WA Sampling Point: DP-8 Section, Township, Range: 03, 19, 04								
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	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	oling	point le	ocations, transects,	important featu	res, etc.		
Hydrophytic Vegetation Present? Yes ☒ No ☐									
Hydric Soil Present? Yes ☒ No ☐				Sampled		_			
Wetland Hydrology Present? Yes ☒ No ☐		'	withir	n a Wetlar	nd? Yes ☒ No	0 🗌			
Remarks:	1.5								
Data collected in interior of Wetla	ind D.								
VEGETATION – Use scientific names of plant	s.								
	Absolute			Indicator	Dominance Test works	sheet:			
Tree Stratum (Plot size: 30 ft)	% Cover				Number of Dominant Sp				
1. Populus balsamifera	50	Yes		FAC	That Are OBL, FACW, o	or FAC: <u>8</u>	_ (A)		
2. Alnus rubra	20	Yes		FAC	Total Number of Domina	ant			
3. Salix lucida	20	Yes	<u> </u>	<u>FACW</u>	Species Across All Strata	a: <u>8</u>	(B)		
4	00				Percent of Dominant Spe				
Sapling/Shrub Stratum (Plot size: 15 ft)	90	= Tot	al Co	ver	That Are OBL, FACW, o	or FAC: 100%	(A/B)		
1. Rubus armeniacus	25	Yes	;	FAC	Prevalence Index work	sheet:			
2. Rubus spectabilis	15	Yes		FAC	Total % Cover of:	Multiply by:	<u>.</u>		
3					OBL species 5	x 1 = 5	_		
4					FACW species 20				
5.					FAC species 120	x 3 = <u>360</u>	<u> </u>		
	40	= Tot	al Co	ver	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		OBL	Donale de la dese	D/A 2.70			
3. Ranunculus repens		Yes		FAC	Prevalence Index				
4					Hydrophytic Vegetation				
5					Rapid Test for Hydro	. ,			
6					☑ Dominance Test is >☑ Prevalence Index is :				
7					☐ Morphological Adapt		oorting		
8						or on a separate she	-		
9					☐ Wetland Non-Vascul	lar Plants1			
10					☐ Problematic Hydroph	hytic Vegetation1 (Exp	olain)		
11	15	= Tot		vor	¹ Indicators of hydric soil		yy must		
Woody Vine Stratum (Plot size: 30 ft)		= 100	ai Cu	vei	be present, unless distur	rbed or problematic.			
1					Hadaaa kada				
2					Hydrophytic Vegetation				
	^	= Tot	al Co	ver	_	S⊠ No □			
% Bare Ground in Herb Stratum 85									
Remarks: FAC-OBL vegetation observed.									

Depth (inches)	Color (moist)	%	Colo	Red	dox Featur %	<u>es</u> Type¹	Loc ²	Tevturo	Remarks
(inches) 0-4	Color (moist) 7.5YR 2.5/1	100	<u>-</u>	r (moist)	<u>%</u> -	<u>rype</u> -	- LOC-	<u>Texture</u> Silt	Silt muck
4-7	10YR 4/2	93	10	YR 4/6	7	С	M	CILo	Clay Loam
7-16	10YR 2/1	98		YR 5/8	2	_ 	M	Silt	Silt muck
7 10	1011(2/1		10	110,0			101	Ont	- Oilt Hidok
								-	
			· -					-	
1Type: C=C	Concentration, D=D	enletion P	M-Rad	uced Matrix	CS-Cover	ed or Coat	ed Sand G	trains 21	ocation: PL=Pore Lining, M=Matrix.
	Indicators: (App						eu Sanu G		ntors for Problematic Hydric Soils ³ :
☐ Histoso	I (A1)			Sandy Redox	(S5)			□ 20	cm Muck (A10)
☐ Histic E	pipedon (A2)			Stripped Matri	ix (S6)			☐ Re	ed Parent Material (TF2)
	istic (A3)		□ I	_oamy Mucky	Mineral (F	-1) (excep	t MLRA 1)	□ Ve	ery Shallow Dark Surface (TF12)
	en Sulfide (A4)			_oamy Gleyed		2)		☐ Ot	her (Explain in Remarks)
	d Below Dark Surfa	ace (A11)		Depleted Mati	. ,				
	ark Surface (A12)			Redox Dark S	•	•			ators of hydrophytic vegetation and
	Mucky Mineral (S1)			Depleted Dark					tland hydrology must be present,
	Gleyed Matrix (S4)			Redox Depres	ssions (F8))		unl	ess disturbed or problematic.
Type:	Layer (if present)								
,,	nches):							Uvdrio C	oil Present? Yes ⊠ No □
Remarks:								nyunc so	DIFFESERIC FES NO
, ,	I indicator A11								
HYDROLO	OGY								
	ydrology Indicator	s:							
Primary Ind	icators (minimum o	f one requi	red; che	eck all that ap	ply)			Sec	condary Indicators (2 or more required)
☐ Surface	Water (A1)			■ Water-St	ained Lea	ves (B9) (except ML	RA 🗵	Water-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (A2)				4A, and 4		•		4A, and 4B)
■ Saturati	` '			☐ Salt Crus	st (B11)	•			Drainage Patterns (B10)
	/larks (B1)			Aquatic I	, ,	es (B13)			Dry-Season Water Table (C2)
	nt Deposits (B2)			 ☐ Hydroge		. ,			Saturation Visible on Aerial Imagery (C9)
	posits (B3)			Oxidized			Livina Roo		Geomorphic Position (D2)
	at or Crust (B4)			Presence	•	-	•		Shallow Aquitard (D3)
☐ Iron De				☐ Recent I					FAC-Neutral Test (D5)
	Soil Cracks (B6)						01) (LRR A	, –	Raised Ant Mounds (D6) (LRR A)
	ion Visible on Aeria	l Imagery (B7)		xplain in R	•	,, (= 1117)	•	Frost-Heave Hummocks (D7)
	y Vegetated Conca				Apiani iii i	omano,			Treet Fleave Flammoske (ET)
Field Obse			(20)						
	iter Present?	Yes 🔲 🗆	No 🗷	Depth (inch	es).				
Water Table		_	No 🗵	Depth (inch					
Saturation F			No 🔲	Depth (inch			Wot	land Hydrold	ogy Present? Yes ⊠ No □
(includes ca	apillary fringe)								ogy Present? Yes ⊠ No □
Describe Re	ecorded Data (strea	am gauge, i	monitor	ing well, aeria	al photos, p	orevious in	spections)	, if available:	
Remarks:									
Primary h	ydrologic indica	tors A3.	B4, ar	nd B9 obse	rved.				
- ,	,								
-									
-									

Project/Site: 1077.0012 - South Hill Data Center	City/County: Puyallup/Pierce Sampling Date: 9/14								
					wnship, 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	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	samp	ling	point lo	ocations, transects,	important feature	es, etc.		
Hydrophytic Vegetation Present? Yes ☒ No ☐									
Hydric Soil Present? Yes ☐ No 🗵				Sampled		- 5			
Wetland Hydrology Present? Yes ☐ No 🗵		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	witnin	a Wetlan	ıd? Yes ☐ No) [X]			
Remarks: Data collected upland of Wetland	D.								
VEGETATION – Use scientific names of plan	ts.								
	Absolute			ndicator	Dominance Test works	heet:			
Tree Stratum (Plot size: 30 ft)	% Cover				Number of Dominant Spe				
1. Populus balsamifera	35 25	Yes		FAC	That Are OBL, FACW, or	r FAC: <u>5</u>	(A)		
2. Alnus rubra	5	Yes		FAC	Total Number of Domina	•			
3. Salix lucida	<u>5</u>	No		<u>FACW</u>	Species Across All Strata	a: <u>6</u>	(B)		
4	65	= Tota			Percent of Dominant Spe				
Sapling/Shrub Stratum (Plot size: 15 ft)		= 1018	ai Cov	/ei	That Are OBL, FACW, or	r FAC: <u>83%</u>	(A/B)		
1. Rubus spectabilis	25	Yes		FAC	Prevalence Index work	sheet:			
2. Rubus armeniacus	15	Yes		FAC	Total % Cover of:	Multiply by:			
3. Physocarpus capitatus	5	No		FACW	OBL species 0	x 1 = 0			
4. Salix sitchensis	5	No		FACW	FACW species 20	x 2 = 40			
5.					FAC species 130	x 3 = <u>390</u>	<u> </u>		
	50	= Tota	al Cov	ver	FACU species 50	x 4 = 200	<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		0.45			
3. Geranium robertianum	10	No		FACU	Prevalence Index				
4. Equisetum arvense	10	No		FAC	Hydrophytic Vegetation				
5. Dicentra formosa	5	No		FACW	Rapid Test for Hydro				
6					■ Dominance Test is >				
7					Prevalence Index is:				
8						ations ¹ (Provide suppo or on a separate sheet			
9					☐ Wetland Non-Vascul	•	,		
10					_	nytic Vegetation¹ (Expla	ain)		
11					¹ Indicators of hydric soil	, , , ,	,		
Woody Vine Stratum (Plot size: 30 ft)	85	= Tota	al Cov	/er	be present, unless distur				
1					Hydrophytic				
2					Vegetation	_			
% Bare Ground in Herb Stratum 15	0	= Tota	al Cov	/er	Present? Yes	⊠ No □			
					<u> </u>				
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 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)
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)
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) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria	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)
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)
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) ater Table (B1) on to Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerically Vegetated Concervations:	al Imagery ave Surface	(B7) ∋ (B8)	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ained Leav IA, and 4E I (B11) Invertebrate Sulfide O Rhizosphe of Reduct on Reduct r Stressed plain in Re	es (B13) dor (C1) eres along ed Iron (C- 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)
Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water Table	rdrology Indicatoricators (minimum of 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 Concarvations: ter Present?	al Imagery ave Surface Yes Yes	(B7) e (B8) No X No X	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Irc Stunted o Other (Ex	ained Leaven A, and 4E (B11) avertebrate Sulfide O Rhizosphe of Reduction Reduction Reduction Region in Research Stressed Splain in Research Ses):	es (B13) dor (C1) eres along ed Iron (C- on in Tille Plants (D 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)
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) ater Table (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Concarvations: ter Present? Present? 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)
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)
Wetland Hy Primary Indi Surface High Water M Sedimer Drift Dep Algal MaIron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation P (includes call	rdrology Indicatoricators (minimum of water (A1) ater Table (A2) on (A3) ater Table (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Concarvations: ter Present? Present? 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)
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 Describe Re	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 Vegetated Concarvations: ter Present? Present? pillary fringe) peorded Data (stre	al Imagery ave Surface Yes Yes Yes am gauge,	(B7) e (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	ained Leaver A, and 4E (B11) invertebrate Sulfide O Rhizosphe of Reduction Reduction Reduction Resplain in Respective Stresses:	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)
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 Describe Re	rdrology Indicatoricators (minimum of water (A1) ater Table (A2) on (A3) ater Table (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Concarvations: ter Present? Present? Present? Present?	al Imagery ave Surface Yes Yes Yes am gauge,	(B7) e (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	ained Leaver A, and 4E (B11) invertebrate Sulfide O Rhizosphe of Reduction Reduction Reduction Resplain in Respective Stresses:	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)
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 Describe Re	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 Vegetated Concarvations: ter Present? Present? pillary fringe) peorded Data (stre	al Imagery ave Surface Yes Yes Yes am gauge,	(B7) e (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	ained Leaver A, and 4E (B11) invertebrate Sulfide O Rhizosphe of Reduction Reduction Reduction Resplain in Respective Stresses:	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)

Project/Site: 1077.0012 - South Hill Data Center	(City/Count	_{y:} Puyallu	ıp/Pierce	Sampling Date: 9/15/16
Applicant/Owner: Benaroya Capital Company				State: WA	Sampling Point: DP-10
				ownship, Range: 03, 19,	
Landform (hillslope, terrace, etc.): Slope		Local reli	ef (concave,	, convex, none): Concav	e 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 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	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 ☐ No) <u>X</u>
Remarks: Data collected in uplands		•			
VEGETATION – Use scientific names of plan	łe				
VEGETATION - 03c 3cicitatio names of plan		Dominant	t Indicator	Dominance Test works	heet:
<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	% Cover	Species?	Status	Number of Dominant Spe	
1. Pseudotsuga menziesii	75	Yes	FACU	That Are OBL, FACW, or	r FAC: <u>0</u> (A)
2		-		Total Number of Domina	
3				Species Across All Strata	a: <u>3</u> (B)
4	75	= Total C	`ovor	Percent of Dominant Spe	ecies
Sapling/Shrub Stratum (Plot size: 15 ft)		= Total C		That Are OBL, FACW, or	r FAC: <u>0%</u> (A/B)
1. Oemleria cerasiformis	30	Yes	FACU	Prevalence Index work	sheet:
2. Acer macrophyllum	5	No	FACU	Total % Cover of:	
3					x 1 = 0
4					x 2 = 0
5					x = 0
Herb Stratum (Plot size: 5 ft)	35	= Total C	Cover		x 4 = <u>660</u>
1. Rubus ursinus	45	Yes	FACU	UPL species 0 Column Totals: 165	x = 0 (A) 660 (B)
2. Polystichum munitum	5	No	FACU	Column Totals: 100	(A) <u>660</u> (B)
3. Pteridium aquilinum	5	No	FACU	Prevalence Index :	= B/A = <u>4</u>
4				Hydrophytic Vegetation	n Indicators:
5				☐ Rapid Test for Hydro	phytic Vegetation
6				☐ Dominance Test is >	50%
7				☐ Prevalence Index is :	
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)	55	= Total C	Cover	be present, unless distur	
1				Hydrophytic	
2	^			Vegetation	□ Na W
% Bare Ground in Herb Stratum 45	0	= Total C	Cover	Present? Yes	□ No ⊠
Remarks: FAC-FACU vegetation observed.				1	
FAC-FACO 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	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 Sedimer 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 (Ditemarks)	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 (D- 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) Inter Table (A2) Ion (A3) Iarks (B1) Int Deposits (B2) Iosits (B3) Int or Crust (B4) Iosits (B5) Soil Cracks (B6) Ion Visible on Aeria In Vegetated Concar Ivations: Iter 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) Invertebrate In Sulfide C Rhizosph It of Reduct It on Reduct It o	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) Invertebrate In Sulfide C Rhizosph It of Reduct It on Reduct It o	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/Cour	_{nty:} Puyallu	ıp/Pierce	Sampling Date: 9/15/16
				State: WA	
				ownship, Range: 03, 19,	
Landform (hillslope, terrace, etc.): HIIIslope		Local re	- lief (concave,	convex, none): None	Slope (%): 20
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 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	sampli	ng point lo	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ☐ No 🗵					
Hydric Soil Present? Yes ☐ No 🗵			the Sampled thin a Wetlar		~ [▽]
Wetland Hydrology Present? Yes ☐ No 🗵		WIL	illili a vvetiai	iu: Tes 🗆 No	<u> </u>
Remarks: Data collected in uplands					
VEGETATION – Use scientific names of plant	ts.				
[Absolute	Dominar	nt Indicator	Dominance Test works	heet:
Tree Stratum (Plot size: 30 ft)	% Cover			Number of Dominant Sp	
1. Alnus rubra	80	Yes	FAC	That Are OBL, FACW, or	r FAC: <u>2</u> (A)
2. Pseudotsuga menziesii	5	No	FACU	Total Number of Domina	nt
3. Populus balsamifera	5	No	FAC	Species Across All Strata	a: <u>4</u> (B)
4	00			Percent of Dominant Spe	
Sapling/Shrub Stratum (Plot size: 15 ft)	90	= Total	Cover	That Are OBL, FACW, or	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:	Multiply by:
3. Corylus cornuta	5	No	FACU	OBL species 0	x 1 = 0
4				FACW species 5	x 2 = 10
5				FAC species 150	x 3 = <u>450</u>
	85	= Total	Cover		x 4 = <u>200</u>
Herb Stratum (Plot size: 5 ft)				UPL species 0	x 5 = <u>0</u>
1. Polystichum munitum			FACU	Column Totals: 205	(A) <u>660</u> (B)
2. Rubus ursinus	10	Yes	FACU	Prevalence Index	= B/A = 3.22
3				Hydrophytic Vegetation	
			-	☐ Rapid Test for Hydro	
5 6				☐ Dominance Test is >	, ,
7.				☐ Prevalence Index is :	≤3.0¹
8				☐ Morphological Adapt	ations ¹ (Provide supporting
9				data in Remarks	or on a separate sheet)
10.				☐ Wetland Non-Vascul	
11				_ , .	nytic Vegetation ¹ (Explain)
	30	= Total	Cover	¹ Indicators of hydric soil be present, unless distur	and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)	_ _			20 process, amoss distur	
1				Hydrophytic	
2	^			Vegetation	□ N- 52
% Bare Ground in Herb Stratum 70	0	= Total	Cover	Present? Yes	□ No ⊠
				l	
Remarks: FAC-FACU vegetation observed.					

Depth (inches)	Matrix		Cala		lox Feature		10-2	Touters	Domestra
(inches) 0-2	Color (moist) 7.5YR 4/3	<u>%</u> 100	<u>Color</u>	(moist)	<u>%</u> -	Type ¹	Loc ²	Texture SaLo	Remarks Sandy Loam
	-		7.5\	/D 4/C	25	-			
2-12	10YR 5/4	75	7.51	/R 4/6	25	С	<u>M</u>	SaLo	Sandy Loam
			<u> </u>						
	-					_			- -
	-		-				· ——	-	_
	Concentration, D=D						ted Sand G		Location: PL=Pore Lining, M=Matrix.
-	Indicators: (App	licable to a	III LRRs	, unless oth	erwise no	ted.)		Indica	ators for Problematic Hydric Soils ³ :
Histosol	, ,			andy Redox (cm Muck (A10)
	pipedon (A2)			tripped Matrix	, ,	4) /	(MI DA 4)		ed Parent Material (TF2)
	istic (A3)			oamy Mucky			t MLRA 1)		ery Shallow Dark Surface (TF12)
	en Sulfide (A4) d Below Dark Surfa	aca (Δ11)		oamy Gleyed epleted Matri		2)		∐ Ot	ther (Explain in Remarks)
	ark Surface (A12)	100 (ATT)		edox Dark Su		1		3Indic:	ators of hydrophytic vegetation and
	Mucky Mineral (S1)			epleted Dark	, ,				tland hydrology must be present,
	Gleyed Matrix (S4)			edox Depres	,	,			less disturbed or problematic.
Restrictive	Layer (if present)	:							
Type:									
Depth (ir	nches):							Hydric S	oil Present? Yes ☐ No 🗵
Remarks:								•	
IVDDOL 6									
Wetland Hy	drology Indicator								
Wetland Hy Primary Indi	drology Indicator								condary Indicators (2 or more required)
Wetland Hy Primary Indi	ydrology Indicator icators (minimum o Water (A1)			☐ Water-Sta	ained Leav		except MLF		Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hy Primary Indi Surface High Wa	rdrology Indicator icators (minimum o Water (A1) ater Table (A2)			☐ Water-Sta 1, 2, 4	ained Leav		except MLF	RA 🗆	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hy Primary Indi Surface High Wa Saturati	rdrology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3)			☐ Water-Sta 1, 2, 4 ☐ Salt Crus	ained Leav I A, and 4E t (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 Saturati Water M	rdrology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3) farks (B1)		 	☐ Water-Sta 1, 2, 4 ☐ Salt Crus ☐ Aquatic Ir	ained Leav IA, and 4E t (B11) nvertebrate	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 Indi Surface High Wa Saturati Water M Sedimen	rdrology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2)		 	☐ Water-Sta 1, 2, 4 ☐ Salt Crus ☐ Aquatic Ir ☐ Hydrogen	ained Leav IA, and 4E t (B11) nvertebrate n 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 Saturati Water M Sedimer Drift De	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) int Deposits (B2) posits (B3)		 	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized	ained Leav 1 A, and 4E t (B11) nvertebrate n Sulfide O Rhizosphe	es (B13) dor (C1) eres 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) Geomorphic Position (D2)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimel Drift Del Algal Ma	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4)			Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized Presence	ained Leaver And 48 to (B11) invertebrate a Sulfide O Rhizosphe of Reduce	es (B13) dor (C1) eres along ed 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 Indi Surface High Wa Saturati Water M Sedimel Drift De Algal Ma	vdrology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)			Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ire	ained Leaven A.A., and 4E to (B11) Invertebrate a Sulfide O Rhizospher of Reduction Reduction	es (B13) dor (C1) eres along ed Iron (C	Living Roo 4) ed 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)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface	vidrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Vidraks (B1) ant Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	f one requi		Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	ained Leav IA, and 4E t (B11) nvertebrate a Sulfide O Rhizosphe of Reduct or Stressec	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (E	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) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift De Algal Ma Iron Dep Surface	rdrology Indicator icators (minimum o 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	f one requii	 	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ire	ained Leav IA, and 4E t (B11) nvertebrate a Sulfide O Rhizosphe of Reduct or Stressec	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (E	Living Roo 4) ed 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 Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface	wdrology Indicator icators (minimum o 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	f one requii	 	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	ained Leav IA, and 4E t (B11) nvertebrate a Sulfide O Rhizosphe of Reduct or Stressec	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (E	Living Roo 4) ed 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)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsel	wdrology Indicator icators (minimum o 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	f one requii	B7) (B8)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ained Leav 1A, and 4E t (B11) nvertebrate a Sulfide O Rhizosphe a of Reduct on Reduct or Stressed splain in Re	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	Living Roo 4) ed 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)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Surface Inundati Sparsely Field Obset	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria by Vegetated Concarvations:	f one requir	B7) (B8)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ained Leav IA, and 4E t (B11) nvertebrate a Sulfide O Rhizosphe of Reduct on Reduct or Stressed cplain in Re	es (B13) dor (C1) eres along ed Iron (C fon in Tille I Plants (D emarks)	Living Roo 4) ed 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)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Water Table	wdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria by Vegetated Concarvations: ter Present?	I Imagery (Ive Surface	B7) (B8) No 🔀	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ained Leav IA, and 4E I (B11) Invertebrate I Sulfide O Rhizosphe I Greduct I Stressed I Strese	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	Living Roo 4) ed Soils (C6 01) (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)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Surface Inundati Sparsely Field Obset Saturation F (includes ca	rdrology Indicator icators (minimum o 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 y Vegetated Conca rvations: ter Present? Present? pipillary fringe)	I Imagery (Ive Surface Yes	B7) (B8) Vo 🔀 Vo 🗷	Water-Sta 1, 2, 4	ained Leav IA, and 4E t (B11) nvertebrate n Sulfide O Rhizosphe n of Reduct on Reduct or Stressed cplain in Re es):	es (B13) dor (C1) eres along ed Iron (C don in Tille I Plants (D emarks)	Living Roo 4) ed Soils (C6 01) (LRR A)	and Hydrold	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 Saturati Water M Sedimel Drift Del Algal Ma Iron Dep Surface Inundati Sparsely Field Obset Surface Wa Water Table Saturation F (includes ca	rdrology Indicator ricators (minimum of Water (A1) ater Table (A2) on (A3) ater Table (B2) posits (B1) at or Crust (B4) posits (B5) at or Crust (B4) posits (B5) at or Visible on Aeria by Vegetated Concarvations: ter Present?	I Imagery (Ive Surface Yes	B7) (B8) Vo 🔀 Vo 🗷	Water-Sta 1, 2, 4	ained Leav IA, and 4E t (B11) nvertebrate n Sulfide O Rhizosphe n of Reduct on Reduct or Stressed cplain in Re es):	es (B13) dor (C1) eres along ed Iron (C don in Tille I Plants (D emarks)	Living Roo 4) ed Soils (C6 01) (LRR A)	and Hydrold	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 Indi Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Surface Inundati Sparsely Field Obset Saturation F (includes ca	rdrology Indicator icators (minimum o 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 y Vegetated Conca rvations: ter Present? Present? pipillary fringe)	I Imagery (Ive Surface Yes	B7) (B8) Vo 🔀 Vo 🗷	Water-Sta 1, 2, 4	ained Leav IA, and 4E t (B11) nvertebrate n Sulfide O Rhizosphe n of Reduct on Reduct or Stressed cplain in Re es):	es (B13) dor (C1) eres along ed Iron (C don in Tille I Plants (D emarks)	Living Roo 4) ed Soils (C6 01) (LRR A)	and Hydrold	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 Indi Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Iron Dep Iron Dep Surface Inundati Sparsely Field Obset Surface Wa Water Table Saturation F (includes ca	rdrology Indicator icators (minimum o 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 y Vegetated Conca rvations: ter Present? Present? pipillary fringe)	I Imagery (I ve Surface Yes	B7) (B8) No 🔀 No 🔀 monitorir	Water-Sta 1, 2, 4 \[\] Salt Crus \[\] Aquatic Ir \[\] Hydrogen \[\] Oxidized \[\] Presence \[\] Recent Ir \[\] Stunted o \[\] Other (Ex	ained Leav IA, and 4E t (B11) nvertebrate n Sulfide O Rhizosphe n of Reduct on Reduct or Stressed cplain in Re es): es):	es (B13) dor (C1) eres along ed Iron (C don in Tille I Plants (D emarks)	Living Roo 4) ed Soils (C6 01) (LRR A)	and Hydrold	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 Indi Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Iron Dep Iron Dep Surface Inundati Sparsely Field Obset Surface Wa Water Table Saturation F (includes ca Describe Re	rdrology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Conca rvations: ter Present? Present? apillary fringe) ecorded Data (streat	I Imagery (I ve Surface Yes	B7) (B8) No 🔀 No 🔀 monitorir	Water-Sta 1, 2, 4 \[\] Salt Crus \[\] Aquatic Ir \[\] Hydrogen \[\] Oxidized \[\] Presence \[\] Recent Ir \[\] Stunted o \[\] Other (Ex	ained Leav IA, and 4E t (B11) nvertebrate n Sulfide O Rhizosphe n of Reduct on Reduct or Stressed cplain in Re es): es):	es (B13) dor (C1) eres along ed Iron (C don in Tille I Plants (D emarks)	Living Roo 4) ed Soils (C6 01) (LRR A)	and Hydrold	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/C	ounty	Sampling Date: 9/15/2016		
Applicant/Owner: Benaroya Capital Company					State: WA	Sampling Point: DP-12
Investigator(s): Richard Peel, Alex Callender						
Landform (hillslope, terrace, etc.): HIIIslope		_ Loca	al relie	ef (concave,	convex, none): Concav	/e Slope (%): 10
Subregion (LRR): A2	_ _{Lat:} 47.	1593	31		Long: -122.27867	Datum: WGS84
						ation: N/A
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrology sign	nificantly dis	turbed	d?	Are "No	ormal Circumstances" pres	sent? Yes 🗵 No 🗌
Are Vegetation, Soil, or Hydrology natu	ırally probler	matic?	?	(If neede	ed, explain any answers ir	n Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	sam	plin	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 Wetlar	nd? Yes □ N	o 🛚
Remarks:	,					
All three wetland criteria not obse	erved.					
VEGETATION – Use scientific names of plan	ts.					
	Absolute			Indicator	Dominance Test work	sheet:
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	<u>% Cover</u> 90	Spe Ye		Status FAC	Number of Dominant Sp	
	-			170	That Are OBL, FACW, o	or FAC: <u>4</u> (A)
2					Total Number of Domina	
4					Species Across All Stra	ta: <u>6</u> (B)
	90	= To	otal C	over	Percent of Dominant Sp	pecies or FAC: <u>67%</u> (A/B)
Sapling/Shrub Stratum (Plot size: 15 ft)	40					
1. Rubus spectabilis					Prevalence Index work	
2					Total % Cover of:	
3						x 1 = <u>0</u>
4					FAC species 180	x = 0 x = 540
5	40		otal C			$x = \frac{0.00}{0.00}$
Herb Stratum (Plot size: 5 ft)						x = 5 = 0
1. Juncus effusus	30	Ye	S	FACW	Column Totals: 230	(A) 740 (B)
2. Rubus ursinus	30	Ye	S	FACU		,
3. Polystichum munitum	20	Ye	_	FACU	Prevalence Index	
4. Agrostis capillaris	20	Ye		FAC	Hydrophytic Vegetatio	
5					Rapid Test for Hydro	
6					Dominance Test is a	
7					☐ Prevalence Index is	tations ¹ (Provide supporting
8						or on a separate sheet)
9					☐ Wetland Non-Vascu	lar Plants ¹
10	-		—		☐ Problematic Hydrop	hytic Vegetation ¹ (Explain)
11	100		otal C	over		and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)		10	Jiai C	ovei	be present, unless distu	rbed or problematic.
1					Hydrophytic	
2					Vegetation	
% Para Cround in Harb Stratum ()	0	= To	otal C	over	Present? Yes	s⊠ No □
% Bare Ground in Herb Stratum 0						
Predominance of FAC-FACU voluntee	r, aggress	sive	spec	ies obser	rved.	

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	M	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	ıp/Pierce	Sampling Date: 9/15/16					
Applicant/Owner: Benaroya Capital Company		State: WA	Sampling Point: DP-13				
Investigator(s): Richard Peel, Alex Callender Section, Township, Range: 03, 19, 04							
Landform (hillslope, terrace, etc.): HIIIslope	Local relief (concave, convex, none): Concave Slope (%						
Subregion (LRR): A2	_ _{Lat:} <u>47.</u>	15924		Long: <u>-122.27868</u>	Datum: WGS84		
Soil Map Unit Name: Indianola				NWI classifica	tion: N/A		
Are climatic / hydrologic conditions on the site typical for this	s time of yea	r? 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	matic?	(If neede	ed, explain any answers in	Remarks.)		
SUMMARY OF FINDINGS - Attach site map	showing	sampli	ing point lo	ocations, transects,	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 □ N	0 🔀		
Remarks:							
No wetland criteria observed.							
VEGETATION – Use scientific names of plan	ts.						
	Absolute		nt Indicator	Dominance Test works	sheet:		
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	% Cover 10	Yes	s? Status FAC	Number of Dominant Sp			
2. Acer macrophyllum	10	Yes	FACU	That Are OBL, FACW, o	or FAC: <u>2</u> (A)		
3			17.00	Total Number of Domina Species Across All Strat	_		
4.	-		_	,			
	20	= Total	Cover	Percent of Dominant Spe That Are OBL, FACW, o			
Sapling/Shrub Stratum (Plot size: 15 ft) 1. Rubus spectabilis	50	Yes	FAC				
2. Sorbus scopulina	30	Yes	FACU	Prevalence Index work Total % Cover of:			
		-			x 1 = 0		
3					x = 0 $x = 0$		
4 5					x 3 = 180		
·	80	= Total	Cover	x 4 = 320			
Herb Stratum (Plot size: 5 ft)				· ·	x 5 = 0		
1. Rubus ursinus	20		FACU	Column Totals: 140	(A) <u>500</u> (B)		
2. Polystichum munitum	20	Yes	<u>FACU</u>				
3				Prevalence Index			
4				Hydrophytic Vegetation			
5				☐ Rapid Test for Hydro ☐ Dominance Test is >	· ·		
6				☐ Prevalence Index is			
7				_	tations ¹ (Provide supporting		
8 9					or on a separate sheet)		
10				☐ Wetland Non-Vascu	lar Plants ¹		
11.			<u> </u>	☐ Problematic Hydroph	hytic Vegetation ¹ (Explain)		
	40	= Total	Cover	¹ Indicators of hydric soil be present, unless distu	and wetland hydrology must		
Woody Vine Stratum (Plot size: 30 ft)				be present, unless distu	bed of problematic.		
1				Hydrophytic			
2			0	Vegetation	. □ Na ☑		
% Bare Ground in Herb Stratum 60	0	= Total	Cover	Present? Yes	s □ No ⊠		
Remarks:	oloo cha	n (o.d		l			
FAC-FACU volunteer, aggressive spec	Jes obser	vea.					

Color (moist)
3-4 10YR 5/3 50 10YR 5/6 50 CS M Sand Sand 4-18 10YR 5/2 25 10YR 5/6 75 CS M Sand Sand
4-18
¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)
☐ Histosol (A1) ☒ Sandy Redox (S5) ☐ 2 cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Very Shallow Dark Surface (TF12) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Other (Explain in Remarks) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) **Indicators of hydrophytic vegetation and wetland hydrology must be present,
☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Very Shallow Dark Surface (TF12) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Other (Explain in Remarks) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7)
□ Black Histic (A3) □ Loamy Mucky Mineral (F1) (except MLRA 1) □ Very Shallow Dark Surface (TF12) □ Hydrogen Sulfide (A4) □ Loamy Gleyed Matrix (F2) □ Other (Explain in Remarks) □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) □ Other (Explain in Remarks) □ All Depleted Dark Surface (F6) □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) Wetland hydrology must be present, Outher (Explain in Remarks) □ Other (E
☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Other (Explain in Remarks) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle (Explain in Remarks) James Angle
□ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) 3Indicators of hydrophytic vegetation and wetland hydrology must be present,
☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) wetland hydrology must be present,
☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) unless disturbed or problematic.
, , , , , , , , , , , , , , , , , , , ,
Restrictive Layer (if present):
Type:
Depth (inches): Hydric Soil Present? Yes ☐ No ⊠
Remarks:
Hydric soil indicator S5 was technically observed; however, observed soil profile is apparently representative of subsoi
that have been exposed by excavation activities. Active redox conditions were not present.
HYDROLOGY
☐ Surface Water (A1) ☐ Water-Stained Leaves (B9) (except MLRA ☐ Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2) 1, 2, 4A, and 4B) 4A, and 4B)
☐ Saturation (A3) ☐ Salt Crust (B11) ☐ Drainage Patterns (B10)
☐ Water Marks (B1) ☐ Aquatic Invertebrates (B13) ☐ Dry-Season Water Table (C2)
☐ Sediment Deposits (B2) ☐ Hydrogen Sulfide Odor (C1) ☐ Saturation Visible on Aerial Imagery (C9
☐ Drift Deposits (B3) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Geomorphic Position (D2)
☐ Algal Mat or Crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Shallow Aquitard (D3)
☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ FAC-Neutral Test (D5)
☐ Surface Soil Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Raised Ant Mounds (D6) (LRR A)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7)
☐ Sparsely Vegetated Concave Surface (B8)
Field Observations:
Surface Water Present? Yes ☐ No ☑ Depth (inches):
· · · / ————
Water Table Present? Yes □ No ☑ Depth (inches):
Water Table Present? Yes □ No ☒ Depth (inches): Saturation Present? Yes □ No ☒ Depth (inches): (includes capillary fringe) Wetland Hydrology Present? Yes □ No ☒
Water Table Present? Yes □ No ☒ Depth (inches): Saturation Present? Yes □ No ☒ Depth (inches): Wetland Hydrology Present? Yes □ No ☒
Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): Wetland Hydrology Present? Yes ☐ No ☒ Depth (inches): Prescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:
Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Weter Steined Leaves (B0) (execut MLRA) Weter Steined Leaves (B0) (MLRA1)

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	ıp/Pierce	Sampling Date: 9/15/16						
Applicant/Owner: Benaroya Capital Company		State: WA	Sampling Point: DP-14					
Investigator(s): Richard Peel, Alex Callender Section, Township, Range: 03, 19, 04								
Landform (hillslope, terrace, etc.): Terrace		Local relief (concave, convex, none): Concave Slope (%						
Subregion (LRR): A2	_ Lat: 47.	15983		Long: -122.27728	Datum: WGS84			
Soil Map Unit Name: Indianola				NWI classifica	tion: N/A			
Are climatic / hydrologic conditions on the site typical for this								
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	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 ☐ No	D 🔀			
Remarks:								
All three wetland criteria not obse	erved. Da	ata colle	ected on	road terrace.				
VEGETATION – Use scientific names of plant	ts.							
VEGETATION GOS SOIGHAID HAMES OF Plant		Dominant	Indicator	Dominance Test works	sheet:			
Tree Stratum (Plot size: 30 ft)	% Cover	Species?	Status	Number of Dominant Sp				
1. Alnus rubra	10	Yes	<u>FAC</u>	That Are OBL, FACW, o				
2				Total Number of Domina	ant			
3				Species Across All Strate	a: <u>6</u> (B)			
4	10			Percent of Dominant Spe	ecies			
Sapling/Shrub Stratum (Plot size: 15 ft)	10	= Total C	over	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		x 1 = 0			
4.					x 2 = 0			
5.				FAC species 155	x 3 = <u>465</u>			
	60	= Total C	over	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		FACW	Column Totals: 170	(A) <u>525</u> (B)			
2. Agrostis capillaris	30	Yes	FAC	Prevalence Index				
3. Ranunculus repens 4. Cirsium vulgare	30 5	Yes No	FAC FACU	Hydrophytic Vegetation				
				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)			
	100	= Total C	cover		and wetland hydrology must			
Woody Vine Stratum (Plot size: 30 ft)				be present, unless distur	bed or problematic.			
1				Hydrophytic				
2				Vegetation				
0/ Para Cround in U th Charter	0	= Total C	over		I ⊠ No □			
% Bare Ground in Herb Stratum 0								
FAC-FACU volunteer, aggressive spec	cies obser	ved. Hea	avily distu	ırbed.				

	cription: (Describe	e to the d	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
			· -		_					
					_					
								-		
					_					
¹ Type: 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	icable 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):									<u> </u>
Type:										
Depth (in	ches):							Hydric	: Soil	Present? Yes ☐ No ☒
Remarks:								,		
	soil indicators o	boorwood								
ino flydric s	soil indicators o	bserveu	•							
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)	lane '	רבי			•	1) (LRR A)	l l		aised Ant Mounds (D6) (LRR A)
	on Visible on Aerial			☐ Other (Exp	piain in Re	marks)		l	∐ Fr	ost-Heave Hummocks (D7)
	Vegetated Concav	e Surface	(RR)				1			
Field Obser		· -		D	,					
Surface Wat		_	No 🔀	Depth (inche						
Water Table	Present?		No 🗵	Depth (inche	s):					
Saturation P		Yes 🗌 🗆	No 🔀	Depth (inche	s):		Wetla	and Hydr	rology	y Present? Yes □ No ⊠
(includes ca Describe Re	corded Data (strea	m gauge. i	nonitori	ng well. aerial	photos. pr	evious ins	spections).	if availab	le:	
	2000	J 3 - 1 .		J . , , , , , , , , , , , , , , , , , ,			, , ,			
Remarks:										
	, hydrologic ind	licators o	heary	ed No hydr	ology of	neerved	on 4/24/	18 at 19	30%	precipitation for past 30 days.
i vo primar	, riyarologic iria	iodioi3 (,DGCI V	ou. INO HYUI	ciogy of	Jour VEG	JII 7/24/	10 01 10	JU /U	prodipitation for past 30 days.

Project/Site: 1077.0012 - South Hill Data Center	up/Pierce	Sampling Date: 9/15/16							
Applicant/Owner: Benaroya Capital Company			State: WA Sampling Point: D						
Investigator(s): Richard Peel, Alex Callender Section, Township, Range: 03, 19, 04									
Landform (hillslope, terrace, etc.): Hillslope		_Local r	elief (concave	, 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 "N	ormal Circumstances" pres	sent? Yes ☒ No ☐				
Are Vegetation, Soil, or Hydrology natu	rally probler	natic?	(If need	led, explain any answers ir	Remarks.)				
SUMMARY OF FINDINGS - Attach site map	showing	samp	ling point l	ocations, transects,	important features, etc.				
Lhadaanhatia Varatetiaa Drassat?									
Hydrophytic Vegetation Present? Yes ☐ No ☒ Hydric Soil Present? Yes ☐ No ☒			Is the Sampled Area						
Wetland Hydrology Present? Yes ☐ No 🗵		W	rithin a Wetla	nd? Yes □ N	o 🗵				
Remarks:									
Data collected on terrace slope.									
VEGETATION – Use scientific names of plan	ts								
	Absolute	Domina	ant Indicator	Dominance Test works	sheet:				
Tree Stratum (Plot size: 30 ft)			Status	Number of Dominant Sp					
1. Alnus rubra	80	Yes	FAC_	That Are OBL, FACW, o	or FAC: <u>2</u> (A)				
2				Total Number of Domina					
3				Species Across All Strat	a: <u>4</u> (B)				
4	80	_ Tota	al Cover	Percent of Dominant Sp					
Sapling/Shrub Stratum (Plot size: 15 ft)		= 1018	ai Covei	That Are OBL, FACW, o	or FAC: <u>50%</u> (A/B)				
1. Rubus spectabilis	70	Yes	FAC	Prevalence Index work	sheet:				
2. Crataegus douglasii	10	No	FACU	Total % Cover of:	Multiply by:				
3					x 1 = <u>0</u>				
4				FACW species 0	x 2 = 0				
5					x 3 = <u>450</u>				
Harb Stratum (Plot aiza: 5 ft)	80	= Tota	al Cover		x 4 = 400				
Herb Stratum (Plot size: 5 ft) 1. Rubus ursinus	70	Yes	FACU		x = 0				
2. Polystichum munitum	20	Yes	FACU	Column Totals: 250	(A) <u>850</u> (B)				
3.				Prevalence Index	= B/A = 3.4				
4				Hydrophytic Vegetatio					
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				data in Remarks	or on a separate sheet)				
10					nar Plants [.] hytic Vegetation ¹ (Explain)				
11					and wetland hydrology must				
Woody Vine Stratum (Plot size: 30 ft)	90	= Tota	al Cover	be present, unless distu					
1									
2				Hydrophytic Vegetation					
	^	= Tota	al Cover		s □ No ⊠				
% Bare Ground in Herb Stratum 10									
Remarks: FAC-FACU volunteer, aggressive spec	cies obsei	ved. F	Heavily distu	urbed.					

Depth Ma				ox Feature			_			_	
(inches) Color (moist)	%		r (moist)	%	Type ¹	Loc ²	Textu		0 1	Remarks	
0-4 10YR 6/1	100						Sand	<u> </u>	Sand		
4-18 10YR 5/4	100				-		Sand	<u></u>	Sand		
Type: C=Concentration, D	=Depletion,	 RM=Red	uced Matrix, C	S=Covere	d or Coate	ed Sand G	rains.	 ² Loca	ation: PL=	Pore Lining	g, M=Matrix.
Hydric Soil Indicators: (A											ydric Soils³:
☐ Histosol (A1)			Sandy Redox (S5)] 2 cm	Muck (A10	0)	
☐ Histic Epipedon (A2)			Stripped Matrix	. ,						erial (TF2)	
☐ Black Histic (A3)			_oamy Mucky N			MLRA 1)		-		ark Surface	
Hydrogen Sulfide (A4)			_oamy Gleyed I)			Other	(Explain i	n Remarks)
Depleted Below Dark St	, ,		Depleted Matrix	` '			2.				
Thick Dark Surface (A12	,		Redox Dark Su	, ,	· - /		ા			phytic vege	
☐ Sandy Mucky Mineral (S☐ Sandy Gleyed Matrix (S			Depleted Dark S Redox Depress	•	7)					gy must be or problem	•
Restrictive Layer (if prese	-		Redux Depress	ions (Fo)				uriless	usturbed	or problem	ialic.
Type:	-										
Depth (inches):							I Is colon	.:- C-:!!	D+0	V □	Na 🖾
Remarks:							Hyar	10 5011	Present?	res 🗆	No ⊠
lo hydric soil indicator	s observe	eu.									
lo hydric soil indicator YDROLOGY	s observe	eu.									
YDROLOGY Wetland Hydrology Indica	tors:								dan ladia		
YDROLOGY Wetland Hydrology Indica Primary Indicators (minimun	tors:				(0.0)						nore required)
YDROLOGY Wetland Hydrology Indica Primary Indicators (minimun Surface Water (A1)	tors:		☐ Water-Stai	ined Leave		xcept MLF	RA.		ater-Staine	d Leaves (I	nore required) 39) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indica Primary Indicators (minimun Surface Water (A1) High Water Table (A2)	tors:		☐ Water-Stai	ined Leave A, and 4B		xcept MLF	RA	☐ Wa	ater-Staine	d Leaves (I	39) (MLRA 1, 2,
YDROLOGY Vetland Hydrology Indica Primary Indicators (minimun Surface Water (A1) High Water Table (A2) Saturation (A3)	tors:		☐ Water-Stain 1, 2, 4,	ined Leave A, and 4B (B11))	xcept MLF	RA	☐ Wa	ater-Staine 4A, and ainage Pat	d Leaves (I IB) terns (B10)	39) (MLRA 1, 2,
YDROLOGY Vetland Hydrology Indica Primary Indicators (minimun Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	tors: n of one req		☐ Water-Stai 1, 2, 4 ☐ Salt Crust ☐ Aquatic Inv	ined Leave A, and 4B (B11) vertebrate) s (B13)	xcept MLF	RA	☐ Wa	ater-Staine 4A, and 4 ainage Pate y-Season V	d Leaves (I IB) terns (B10) Vater Table	B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators (minimum of the control of	tors: n of one req		Water-Stai 1, 2, 4 Salt Crust Aquatic Inv	ined Leave A, and 4B (B11) vertebrate Sulfide Oc) s (B13) dor (C1)			☐ Wa	ater-Staine 4A, and 4 ainage Pate y-Season Vituration Vi	d Leaves (I IB) terns (B10) Water Table sible on Ae	B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	tors: n of one req		Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F	ined Leave A, and 4B (B11) vertebrate Sulfide Oc) s (B13) dor (C1) res along	Living Roc		☐ Wa	ater-Staine 4A, and 4 ainage Pate y-Season Victoriation Victoriation	d Leaves (I IB) terns (B10) Water Table sible on Ae Position (D	B9) (MLRA 1, 2,
YDROLOGY Vetland Hydrology Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	tors: n of one req		Water-Stai 1, 2, 4 Salt Crust Aquatic Inc Hydrogen Oxidized F Presence	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizospher of Reduce	s (B13) dor (C1) res along d Iron (C4	Living Roo 1)	ots (C3)	☐ Wa	ater-Staine 4A, and 4 ainage Pate y-Season Vituration Vite comorphic allow Aqui	d Leaves (I IB) terns (B10) Water Table sible on Ae Position (D: tard (D3)	B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	tors: n of one req		Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce n Reduction	s (B13) dor (C1) res along d Iron (C4 on in Tille	Living Roo 1) d Soils (C6	ots (C3)	☐ Wa	ater-Staine 4A, and 4 ainage Pat y-Season Vituration Viteomorphic allow Aqui C-Neutral	d Leaves (IIB) terns (B10) Water Table sible on Ae Position (Di tard (D3) Test (D5)	B9) (MLRA 1, 2, e (C2) rial Imagery (C9)
YDROLOGY Wetland Hydrology Indica Primary Indicators (minimun Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	tors: n of one req	uired; che	Water-Stain 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce in Reduction	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D	Living Roo 1) d Soils (C6	ots (C3)	☐ Wa ☐ Dra ☐ Dra ☐ Dry ☐ Sa ☐ Ge ☐ Sh ☐ FA	Ater-Staine 4A, and 4 ainage Pater y-Season Vectoration Viscomorphic allow Aqui C-Neutral ised Ant M	d Leaves (IIB) terns (B10) Water Table sible on Ae Position (D3) tard (D3) Test (D5) lounds (D6)	B9) (MLRA 1, 2, e (C2) rial Imagery (C9) 2)
YDROLOGY Vetland Hydrology Indicators (minimum) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on A6	tors: n of one req	uired; che	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce in Reduction	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D	Living Roo 1) d Soils (C6	ots (C3)	☐ Wa ☐ Dra ☐ Dra ☐ Dry ☐ Sa ☐ Ge ☐ Sh ☐ FA	Ater-Staine 4A, and 4 ainage Pater y-Season Vectoration Viscomorphic allow Aqui C-Neutral ised Ant M	d Leaves (IIB) terns (B10) Water Table sible on Ae Position (Di tard (D3) Test (D5)	39) (MLRA 1, 2, e (C2) rial Imagery (C9) 2)
YDROLOGY Wetland Hydrology Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on A6	tors: n of one req	uired; che	Water-Stain 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce in Reduction	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D	Living Roo 1) d Soils (C6	ots (C3)	☐ Wa ☐ Dra ☐ Dra ☐ Dry ☐ Sa ☐ Ge ☐ Sh ☐ FA	Ater-Staine 4A, and 4 ainage Pater y-Season Vectoration Viscomorphic allow Aqui C-Neutral ised Ant M	d Leaves (IIB) terns (B10) Water Table sible on Ae Position (D3) tard (D3) Test (D5) lounds (D6)	B9) (MLRA 1, 2, e (C2) rial Imagery (C9) 2)
YDROLOGY Wetland Hydrology Indicators (minimum) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on A6 Sparsely Vegetated Cor	tors: n of one req orial Imagery ncave Surface	uired; che	Water-Stai 1, 2, 4, 4 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined 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 1) d Soils (C6	ots (C3)	☐ Wa ☐ Dra ☐ Dra ☐ Dry ☐ Sa ☐ Ge ☐ Sh ☐ FA	Ater-Staine 4A, and 4 ainage Pater y-Season Vectoration Viscomorphic allow Aqui C-Neutral ised Ant M	d Leaves (IIB) terns (B10) Water Table sible on Ae Position (D3) tard (D3) Test (D5) lounds (D6)	B9) (MLRA 1, 2, e (C2) rial Imagery (C9) 2)
YDROLOGY Wetland Hydrology Indica Primary Indicators (minimun Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6 Inundation Visible on Ae Sparsely Vegetated Cor Field Observations: Surface Water Present?	tors: n of one req erial Imagery ncave Surfac	uired; che y (B7) ce (B8)	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence C Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizospher of Reduce on Reduction Stressed blain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 1) d Soils (C6	ots (C3)	☐ Wa ☐ Dra ☐ Dra ☐ Dry ☐ Sa ☐ Ge ☐ Sh ☐ FA	Ater-Staine 4A, and 4 ainage Pater y-Season Vectoration Viscomorphic allow Aqui C-Neutral ised Ant M	d Leaves (IIB) terns (B10) Water Table sible on Ae Position (D3) tard (D3) Test (D5) lounds (D6)	B9) (MLRA 1, 2, e (C2) rial Imagery (C9) 2)
YDROLOGY Wetland Hydrology Indica Primary Indicators (minimun Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Ae Sparsely Vegetated Cor Field Observations: Surface Water Present?	tors: n of one req erial Imagery ncave Surface Yes Yes Yes	y (B7) ce (B8) No 🗵	Water-Stai 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reduction Stressed blain in Re s):s;	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo I) d Soils (C6 1) (LRR A)	ots (C3)	☐ Wa ☐ Dra ☐ Dry ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Staine 4A, and 4 ainage Pater y-Season Vectoration Vietomorphic allow Aquietor C-Neutral ised Ant Most-Heave	d Leaves (I IB) terns (B10) Vater Table sible on Ae Position (D: tard (D3) Test (D5) lounds (D6) Hummocks	39) (MLRA 1, 2, e (C2) rial Imagery (C9) 2)) (LRR A) (D7)
YDROLOGY Wetland Hydrology Indica Primary Indicators (minimun Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Ae Sparsely Vegetated Cor Field Observations: Surface Water Present? Water Table Present?	tors: n of one req erial Imagery ncave Surfac	uired; che y (B7) ce (B8)	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence C Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reduction Stressed blain in Re s):s;	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo I) d Soils (C6 1) (LRR A)	ots (C3)	☐ Wa ☐ Dra ☐ Dry ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Staine 4A, and 4 ainage Pater y-Season Vectoration Vietomorphic allow Aquietor C-Neutral ised Ant Most-Heave	d Leaves (IIB) terns (B10) Water Table sible on Ae Position (D3) tard (D3) Test (D5) lounds (D6)	39) (MLRA 1, 2, e (C2) rial Imagery (C9) 2)) (LRR A) (D7)
YDROLOGY Wetland Hydrology Indica Primary Indicators (minimun Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Ae Sparsely Vegetated Cor Field Observations: Surface Water Present?	tors: n of one req erial Imagery ncave Surface Yes Yes Yes Yes Yes Yes Yes Yes	v (B7) ce (B8) No 🔀 No 🔀	Water-Stain 1, 2, 4, 4, 5, 4, 4, 5, 4, 4, 5, 4, 5, 4, 5, 4, 5, 4, 5, 4, 5, 4, 5, 4, 5, 5, 5, 5, 6, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7,	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce in Reduction Stressed blain in Re s):s):s):s):	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo d Soils (C6 1) (LRR A	ots (C3)	☐ Wa ☐ Dra ☐ Dny ☐ Sa ☐ Ge ☐ Sh ☐ FA ☐ Ra ☐ Fro	ater-Staine 4A, and 4 ainage Pater y-Season Vectoration Vietomorphic allow Aquietor C-Neutral ised Ant Most-Heave	d Leaves (I IB) terns (B10) Vater Table sible on Ae Position (D: tard (D3) Test (D5) lounds (D6) Hummocks	39) (MLRA 1, 2, e (C2) rial Imagery (C9) 2)) (LRR A) (D7)
YDROLOGY Wetland Hydrology Indicators (minimum) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Action Sparsely Vegetated Corfield Observations: Surface Water Present? Water Table Present? Saturation Present? includes capillary fringe) Describe Recorded Data (st	tors: n of one req erial Imagery ncave Surface Yes Yes Yes Yes Yes Yes Yes Yes	v (B7) ce (B8) No 🔀 No 🔀	Water-Stain 1, 2, 4, 4, 5, 4, 4, 5, 4, 4, 5, 4, 5, 4, 5, 4, 5, 4, 5, 4, 5, 4, 5, 4, 5, 5, 5, 5, 6, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7,	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce in Reduction Stressed blain in Re s):s):s):s):	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo d Soils (C6 1) (LRR A	ots (C3)	☐ Wa ☐ Dra ☐ Dny ☐ Sa ☐ Ge ☐ Sh ☐ FA ☐ Ra ☐ Fro	ater-Staine 4A, and 4 ainage Pater y-Season Vectoration Vietomorphic allow Aquietor C-Neutral ised Ant Most-Heave	d Leaves (I IB) terns (B10) Vater Table sible on Ae Position (D: tard (D3) Test (D5) lounds (D6) Hummocks	39) (MLRA 1, 2, e (C2) rial Imagery (C9) 2)) (LRR A) (D7)
YDROLOGY Wetland Hydrology Indica Primary Indicators (minimun Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Ae Sparsely Vegetated Cor Field Observations: Surface Water Present? Water Table Present? Saturation Present? Sincludes capillary fringe)	tors: n of one requirements Yes \(\text{Yes} \(\text{Yes} \(\text{Yes} \(\text{Team gauge} \)	v (B7) ce (B8) No 🗵 No 🗵 o, monitor	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence G Recent Iro Stunted or Other (Exp Depth (inchest Depth (inchest ing well, aerial	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce in Reduction 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 I) d Soils (C6 1) (LRR A) Wetl	ots (C3) i) and Hydiravaila	☐ Wa ☐ Dra ☐ Dra ☐ Ge ☐ Sh ☐ FA ☐ Fro ☐ drology	Ater-Staine 4A, and 4 ainage Pat y-Season V turation Vi bomorphic allow Aqui C-Neutral ised Ant M ost-Heave	d Leaves (IBB) terns (B10) Water Table sible on Ae Position (Di tard (D3) Test (D5) lounds (D6) Hummocks	39) (MLRA 1, 2, 2) (C2) rial Imagery (C9 2) (LRR A) (D7)

Project/Site: 1077.0012 - South Hill Data Center	ıp/Pierce	Sampling Date: 9/15/16							
Applicant/Owner: Benaroya Capital Company		State: WA	Sampling Point: DP-16						
Investigator(s): Richard Peel, Alex Callender Section, Township, Range: 03, 19, 04									
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): Concave Slope (
Subregion (LRR): A2	_ Lat: <u>47.</u>	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	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 ☐		Is the Sampled Area							
Wetland Hydrology Present? Yes ☒ No ☐		with	in a Wetlar	nd? Yes ເເ No	o 📙				
Remarks:		l .							
Data collected in Wetland F.									
VEGETATION – Use scientific names of plant	ts.								
			Indicator	Dominance Test works	heet:				
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.				Total Number of Domina					
3				Species Across All Strate	_				
4	40	= Total C		Percent of Dominant Spo					
Sapling/Shrub Stratum (Plot size: 15 ft)		= 10tai C	,0vci	That Are OBL, FACW, or FAC: 80%					
1. Crataegus douglasii		Yes	FACU	Prevalence Index work					
2				Total % Cover of:					
3					x 1 = 0				
4					x = 50				
5					x = 345 x = 4 = 20				
Herb Stratum (Plot size: 5 ft)	5	= Total C	Cover	· ·					
1. Holcus lanatus	55	Yes	FAC	Column Totals: 145	x = 0 (A) 415 (B)				
2. Juncus effusus	25	Yes	FACW	Column Totals. 110	(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					
6				Dominance Test is >					
7				➤ Prevalence Index is	≤3.0 ¹				
8					tations 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)	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	Present? Yes	i⊠ No □				
Remarks:	, dicturba	٧		1					
FAC-FACW species observed. Heavily	นเจเนเมย(J.							

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 RA 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)GY									
		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)	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) Shallow Aquitard (D3)	1, 2,
Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	cators (minimum of water (A1) ater Table (A2) on (A3) alarks (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5)	of one req		Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Iro	ained Leav A, and 4E t (B11) overtebrate Sulfide O Rhizosphe of Reduct on Reduct r Stressec	es (B13) dor (C1) eres along ed Iron (Conton in Tille I Plants (D	Living Roo 4) d Soils (C6	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) Shallow Aquitard (D3) FAC-Neutral Test (D5)	1, 2,
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	cators (minimum of water (A1) ater Table (A2) on (A3) aters (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6)	of one req	v (B7)	Water-Star 1, 2, 4 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	ained Leav A, and 4E t (B11) overtebrate Sulfide O Rhizosphe of Reduct on Reduct r Stressec	es (B13) dor (C1) eres along ed Iron (Conton in Tille I Plants (D	Living Roo 4) d Soils (C6	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)	1, 2,
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	cators (minimum of water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar	of one req	v (B7)	Water-Star 1, 2, 4 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	ained Leav A, and 4E t (B11) overtebrate Sulfide O Rhizosphe of Reduct on Reduct r Stressec	es (B13) dor (C1) eres along ed Iron (Conton in Tille I Plants (D	Living Roo 4) d Soils (C6	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)	1, 2,
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) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar creations:	of one req	v (B7)	Water-Star 1, 2, 4 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	ained Leav IA, and 4E I (B11) Invertebrate I Sulfide O Rhizosphe of Reduct on Reduct r Stressed plain in Re	es (B13) dor (C1) eres along ed Iron (Co ion in Tille I Plants (Demarks)	Living Roo 4) d Soils (C6	(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) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)	1, 2,
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely	cators (minimum of water (A1) ater 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 Concar creations:	of one req	v (B7) ce (B8)	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ained Leav IA, and 4E I (B11) Invertebrate I Sulfide O Rhizosphe I of Reduct I on Reduct I stressed I plain in Reduct	es (B13) dor (C1) eres along ed Iron (C- ion in Tille I Plants (Demarks)	Living Roo 4) d Soils (C6	(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) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)	1, 2,
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser	cators (minimum of cators (minimum of cators (minimum of water (A1)) ater Table (A2) on (A3) larks (B1) on Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar or vations: ter Present?	al Imagery ave Surfac	v (B7) ce (B8) No ⊠ No ⊠	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ained Leav IA, and 4E I (B11) Invertebrate I Sulfide O Rhizosphe I of Reduct I on Reduct I or Stressed I plain in Reduct I or Stressed I or Stres	es (B13) dor (C1) eres along ed Iron (C- ion in Tille I Plants (Demarks)	Living Roo 4) d Soils (C6 11) (LRR A)	ts (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) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)	1, 2,
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	cators (minimum of cators (minimum of cators (minimum of water (A1)) ater Table (A2) on (A3) atrice (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar contractions: ater Present? a Present? aresent? aresent? aresent?	al Imagery ave Surfac Yes Yes Yes X	v (B7) ce (B8) No ⊠ No ⊠ No □	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	Ained Leaver And AE (B11) Invertebrate Sulfide Of Reduction Reductor Stressed plain in Research Stresses: [28]:	es (B13) dor (C1) eres along ed Iron (C- ion in Tille I Plants (Demarks)	Living Roo 4) d Soils (C6 01) (LRR A)	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)	1, 2,
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	cators (minimum of cators (minimum of cators (minimum of water (A1)) ater Table (A2) on (A3) larks (B1) on Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concators ter Present? Present?	al Imagery ave Surfac Yes Yes Yes X	v (B7) ce (B8) No ⊠ No ⊠ No □	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	Ained Leaver And AE (B11) Invertebrate Sulfide Of Reduction Reductor Stressed plain in Research Stresses: [28]:	es (B13) dor (C1) eres along ed Iron (C- ion in Tille I Plants (Demarks)	Living Roo 4) d Soils (C6 01) (LRR A)	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)	1, 2,
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	cators (minimum of cators (minimum of cators (minimum of water (A1)) ater Table (A2) on (A3) atrice (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar contractions: ater Present? a Present? aresent? aresent? aresent?	al Imagery ave Surfac Yes Yes Yes X	v (B7) ce (B8) No ⊠ No ⊠ No □	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	Ained Leaver And AE (B11) Invertebrate Sulfide Of Reduction Reductor Stressed plain in Research Stresses: [28]:	es (B13) dor (C1) eres along ed Iron (C- ion in Tille I Plants (Demarks)	Living Roo 4) d Soils (C6 01) (LRR A)	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)	1, 2,
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 Describe Re	cators (minimum of cators (minimum of 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 Concar contractions: ater Present? Present? pillary fringe) acorded Data (streat	al Imagery ave Surfac Yes Yes Yes X am gauge	v (B7) ce (B8) No 🗵 No 🖸 s, monitor	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex Depth (inche Depth (inche	ained Leav A, and 4E (B11) Invertebrate Sulfide O Rhizosphe of Reduct on Reduct or Stressed plain in Re es): es): photos, p	es (B13) dor (C1) eres along ed Iron (C- fon in Tille I Plants (Demarks) revious in	Living Roo 4) d Soils (C6 01) (LRR A) Wetl spections),	ts (C3) [ts (C3) [] and Hydr if availabl	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) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)	(C9)
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 cal Describe Re	cators (minimum of cators (minimum of 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 Concar contractions: ater Present? Present? pillary fringe) acorded Data (streat	al Imagery ave Surfac Yes Yes Yes X am gauge	v (B7) ce (B8) No 🗵 No 🖸 s, monitor	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex Depth (inche Depth (inche	ained Leav A, and 4E (B11) Invertebrate Sulfide O Rhizosphe of Reduct on Reduct or Stressed plain in Re es): es): photos, p	es (B13) dor (C1) eres along ed Iron (C- fon in Tille I Plants (Demarks) revious in	Living Roo 4) d Soils (C6 01) (LRR A) Wetl spections),	ts (C3) [ts (C3) [] and Hydr if availabl	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) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)	(C9)
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 Describe Re	cators (minimum of cators (minimum of 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 Concar contractions: ater Present? Present? pillary fringe) acorded Data (streat	al Imagery ave Surfac Yes Yes Yes X am gauge	v (B7) ce (B8) No 🗵 No 🖸 s, monitor	Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex Depth (inche Depth (inche	ained Leav A, and 4E (B11) Invertebrate Sulfide O Rhizosphe of Reduct on Reduct or Stressed plain in Re es): es): photos, p	es (B13) dor (C1) eres along ed Iron (C- fon in Tille I Plants (Demarks) revious in	Living Roo 4) d Soils (C6 01) (LRR A) Wetl spections),	ts (C3) [ts (C3) [] and Hydr if availabl	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) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)	(C9)

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): Conca			
Subregion (LRR): A2	_ Lat: 47.	1586	57		Long: -122.27869		Datum: W	GS84
Soil Map Unit Name: Indianola					NWI classifica	ation: N/	Α	
Are climatic / hydrologic conditions on the site typical for this								
Are Vegetation, Soil, or Hydrology sign	ificantly dist	turbec	1?	Are "No	rmal Circumstances" pres	sent? Ye	es 🗵 No 🗌	
Are Vegetation, Soil, or Hydrology natu	rally probler	natic?		(If neede	d, explain any answers ir	ı 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 X		
Remarks:								
Data collected north of Wetland I	' in upla	nds.	•					
VEGETATION – Use scientific names of plant	s.							
	Absolute	Dom	inant Ir	ndicator	Dominance Test works	sheet:		
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	% Cover 90	Spec Ye:		Status FAC	Number of Dominant Sp That Are OBL, FACW, of		1	(A)
2					Total Number of Domina Species Across All Strat		2	(B)
4.					Percent of Dominant Sp	ecies		. ,
Sapling/Shrub Stratum (Plot size: 15 ft)	90	= To	otal Cov	er	That Are OBL, FACW, o		50%	(A/B)
1					Prevalence Index work		N Acatalan Inc. Inc. or	
2					Total % Cover of:		$\frac{\text{Multiply by:}}{1 = 0}$	
3					OBL species 0 FACW species 0			
4							$3 = \frac{0}{270}$	
5	0		tal Cov		FACU species 60			
Herb Stratum (Plot size: 5 ft)	<u> </u>	= 10	ilai Cov	ы			$5 = \frac{0}{0}$	
1. Rubus ursinus	60	Ye	<u>s F</u>	FACU	Column Totals: 150	(A)		(B)
2								` ,
3					Prevalence Index Hydrophytic Vegetation			
4					Rapid Test for Hydro			
5					☐ Dominance Test is:		egetation	
6					☐ Prevalence Index is			
7 8					☐ Morphological Adap		Provide suppo	rting
9.				-	data in Remarks		•	t)
10.					☐ Wetland Non-Vascu			
11					☐ Problematic Hydrop	, ,	` '	,
Woody Vine Stratum (Plot size: 30 ft)	60	= To	otal Cov	er	¹ Indicators of hydric soil be present, unless distu			must
1					Hydrophytic			
2					Vegetation	_	_	
% Bare Ground in Herb Stratum 40	0	= To	otal Cov	er	Present? Yes	s 🗌 No	×	
Remarks:	dioturb = =							
FAC-FACU species observed. Heavily	uisturbec	1.						

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			-		-	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 red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	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 Oc 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 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)		ater-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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one recomplished in the primary Indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	uired; ch	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce n Reduction	s (B13) dor (C1) res along d Iron (C4 on in Tille	Living Root	ts (C3)	N W 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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one recomplished) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)		Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence	ned Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce n Reducti Stressed	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D	Living Room 4) d Soils (C6)	ts (C3)	Di Di Si Si Si F F Ri	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eeomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5)
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) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	y (B7)	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or	ned Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce n Reducti Stressed	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D	Living Room 4) d Soils (C6)	ts (C3)	Di Di Si Si Si F F Ri	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eeomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager	y (B7)	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or	ned Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce n Reducti Stressed	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D	Living Room 4) d Soils (C6)	ts (C3)	Di Di Si Si Si F F Ri	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eeomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager	y (B7) ce (B8)	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizospher of Reduce n Reduction Stressed	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Room 4) d Soils (C6)	ts (C3)	Di Di Si Si Si F F Ri	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eeomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
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) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes	y (B7) ce (B8) No ⊠	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrate Sulfide Oo Rhizosphe of Reduce in Reducti Stressed blain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Room 4) d Soils (C6)	ts (C3)	Di Di Si Si Si F F Ri	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eeomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
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) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes	y (B7) ce (B8) No ⊠ No ⊠	Water-Sta 1, 2, 4. Salt Crust Aquatic Int Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrate 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 Root 4) d Soils (C6) 1) (LRR A)	ts (C3)		rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) returnation Visible on Aerial Imagery (C9) recomorphic Position (D2) reallow Aquitard (D3) rac-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
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) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present?	y (B7) ce (B8) No ⊠	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrate 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 Root 4) d Soils (C6) 1) (LRR A)	ts (C3)		ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eeomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
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) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes	√ (B7) ce (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce n Reducti Stressed blain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Root 4) d Soils (C6) 1) (LRR A)	ts (C3)) and Hyo	□ Di □ Si □ Si □ Fr □ Fr	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) returnation Visible on Aerial Imagery (C9) recomorphic Position (D2) reallow Aquitard (D3) rac-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
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) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	√ (B7) ce (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce n Reducti Stressed blain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Root 4) d Soils (C6) 1) (LRR A)	ts (C3)) and Hyo	□ Di □ Si □ Si □ Fr □ Fr	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) returnation Visible on Aerial Imagery (C9) recomorphic Position (D2) reallow Aquitard (D3) rac-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
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) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	√ (B7) ce (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce n Reducti Stressed blain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Root 4) d Soils (C6) 1) (LRR A)	ts (C3)) and Hyo	□ Di □ Si □ Si □ Fr □ Fr	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) returnation Visible on Aerial Imagery (C9) recomorphic Position (D2) reallow Aquitard (D3) rac-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
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) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge	y (B7) ce (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp Depth (inchest Depth (inchest Depth (inchest Depth (inchest Depth (aerial	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizospher of Reduce n Reductic Stressed plain in Re s): s): photos, pr	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Root 4) d Soils (C6) 1) (LRR A) Wetla	ts (C3)) and Hyo	□ Di □ Si □ Si □ Fr □ Fr	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) returnation Visible on Aerial Imagery (C9) recomorphic Position (D2) reallow Aquitard (D3) rac-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
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) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge	y (B7) ce (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp Depth (inchest Depth (inchest Depth (inchest Depth (inchest Depth (aerial	ined Leave A, and 4B (B11) vertebrate Sulfide Oc Rhizospher of Reduce n Reductic Stressed plain in Re s): s): photos, pr	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Root 4) d Soils (C6) 1) (LRR A) Wetla	ts (C3)) and Hyo	□ Di □ Si □ Si □ Fr □ Fr	rater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) returnation Visible on Aerial Imagery (C9) recomorphic Position (D2) reallow 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: 9/15/16
Applicant/Owner: Benaroya Capital Company				State: WA	Sampling Point: DP-18
				ownship, Range: <u>03, 19,</u>	
Landform (hillslope, terrace, etc.): Terrace		Local relie	ef (concave,	convex, none): Concav	re Slope (%): 5
Subregion (LRR): A2	_ _{Lat:} <u>47.</u>	15842		Long: -122.27851	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	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 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 Wetlar	nd? Yes ເຂັ N	ɔ ∐
Remarks:		<u> </u>			
Data collected in Wetland F.					
VEGETATION – Use scientific names of plant	ts.				
			Indicator	Dominance Test works	heet:
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	<u>% Cover</u> 90	Yes Yes	FAC	Number of Dominant Sp That Are OBL, FACW, o	
2.				Total Number of Domina	
3				Species Across All Strat	_
4	00			Percent of Dominant Sp	
Sapling/Shrub Stratum (Plot size: 15 ft)	90	= Total C	over	That Are OBL, FACW, o	r FAC: <u>100%</u> (A/B)
1. Rubus spectabilis	30	Yes	FAC	Prevalence Index work	sheet:
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					x 2 = <u>10</u>
5				FAC species 125	x 3 = <u>375</u>
	40	= Total C	over	T	x 4 = 0
Herb Stratum (Plot size: <u>5 ft</u>)				UPL species 0	x 5 = 0
1				Column Totals: 130	(A) <u>385</u> (B)
2				Prevalence Index	= B/A = 2.96
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 or on a separate sheet)
9				☐ Wetland Non-Vascul	•
10					nytic Vegetation¹ (Explain)
11					and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)	0	= Total C	over	be present, unless distu	
1				Hydrophytic	
2	0			Vegetation	. ☑ Na □
% Bare Ground in Herb Stratum 100	0	= Total C	over	Present? Yes	s⊠ No □
Remarks: FAC-FACW species observed. Heavily	/ disturbe	4		1	
17.0 17.0 tr aposios observou. Houvily	alotal bot	~ ·			

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	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) darks (B1) at 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 ed Iron (C	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 Saturation Vater 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) nivertebrate 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 Saturation Vater 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) nivertebrate 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) eres along ed Iron (Case (Cas	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 required I Imagery ve Surface	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) S) Jand Hyd	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 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: ter Present? 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) S) Jand Hyd	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 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: ter Present? 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) S) Jand Hyd	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 (E 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 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 (E 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/Coun	_{ty:} 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 ☐		Wit	hin a Wetlar	nd? Yes ☒ No) [
Remarks: Data collected in Wetland E.		_			
VEGETATION – Use scientific names of plan	ts.				
T. 0 (D	Absolute		t Indicator	Dominance Test works	heet:
Tree Stratum (Plot size: 30 ft) 1. Alnus rubra	% Cover 100	Yes	FAC	Number of Dominant Spe That Are OBL, FACW, or	
2 3				Total Number of Domina Species Across All Strata	4
4			·	Percent of Dominant Spe	ecies
Sapling/Shrub Stratum (Plot size: 15 ft)	-	= Total (Jover	That Are OBL, FACW, or	r FAC: 100% (A/B)
1. Acer circinatum	100	Yes	FAC	Prevalence Index work	sheet:
2				Total % Cover of:	
3			<u> </u>		x 1 = <u>20</u>
4			·	FACW species U	x 2 = 0
5	400				x 3 = 660
Herb Stratum (Plot size: 5 ft)	100	= Total (Cover	· -	x 4 = 0
1. Maianthemum dilatatum	20	Yes	FAC	UPL species 0 Column Totals: 240	x = 0 (A) 680 (B)
2. Lysichiton americanus	20	Yes	OBL	Column Totals. 240	(A) <u>680</u> (B)
3				Prevalence Index	
4			<u> </u>	Hydrophytic Vegetation	n Indicators:
5				Rapid Test for Hydro	phytic Vegetation
6			. <u></u>	Dominance Test is >	
7				➤ Prevalence Index is:	
8					ations ¹ (Provide supporting or on a separate sheet)
9				☐ Wetland Non-Vascul	• • • • • • • • • • • • • • • • • • • •
10.				_	nytic Vegetation ¹ (Explain)
11	40			¹ Indicators of hydric soil	and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)		= Total (Cover	be present, unless distur	bed or problematic.
1			<u> </u>	Hydrophytic	
2	^	= Total (Cover	Vegetation Present? Yes	⊠ No □
% Bare Ground in Herb Stratum 60	<u> </u>	= 10tai (Juvel	165	<u> </u>
Remarks: FAC-OBL vegetation observed.				•	
. 7.15 522 10g0tation 0550110d.					

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 apotions 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 (วบรษเป	c u.							

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-20
				ownship, Range: <u>03, 19,</u>	
Landform (hillslope, terrace, etc.): Hillslope		Local reli	ef (concave,	, convex, none): Concav	e Slope (%): <u>5</u>
Subregion (LRR): A2	_ Lat: 47.	1605308	715	Long: -122.2763065	545833 Datum: WGS84
Soil Map Unit Name: Indianola				NWI classificat	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	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 ☐ No) X
Remarks:					
Data collected in upland forested	area pre	eviously	mapped	d as potential wetla	nds.
VEGETATION – Use scientific names of plan	ts.				
			Indicator	Dominance Test works	heet:
Tree Stratum (Plot size: 30 ft) 1. Acer macrophyllum	<u>% Cover</u> 60	Species?	Status FACU	Number of Dominant Sp	
2. Pseudotsuga menziesii	40	Yes	FACU	That Are OBL, FACW, o	r FAC: <u>2</u> (A)
3		163	1700	Total Number of Domina Species Across All Strate	
4				,	、,
	100	= Total C	Cover	Percent of Dominant Spe That Are OBL, FACW, o	
Sapling/Shrub Stratum (Plot size: 15 ft)	20	Voc	ΕΛC		
1. Rubus spectabilis	30	Yes	FAC	Prevalence Index work	sneet: Multiply by:
2					x 1 = 0
3					x = 0 $x = 0$
4 5.					x = 120
3.	30	= Total C	`over		x = 400
Herb Stratum (Plot size: 5 ft)				-	x 5 = 0
1. Urtica dioica	10	Yes	FAC	Column Totals: 140	(A) <u>520</u> (B)
2					
3				Prevalence Index	
4				Hydrophytic Vegetation Rapid Test for Hydro	
5				☐ Dominance Test is >	
6				☐ Prevalence Index is:	
7				—	ations ¹ (Provide supporting
8. 9.					or on a separate sheet)
10				☐ Wetland Non-Vascul	ar Plants ¹
11.				☐ Problematic Hydroph	nytic Vegetation1 (Explain)
	10	= Total C	Cover	¹ Indicators of hydric soil be present, unless distur	and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)		. ota. c		be present, unless distur	bed or problematic.
1				Hydrophytic	
2				Vegetation	□ Na W
% Bare Ground in Herb Stratum 90	0	= Total C	Cover	Present? Yes	□ No ⊠
Remarks:				1	
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 [[[[[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 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 [[[[[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)
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	ained 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) e (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 [[tts (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-Start, 2, 4 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-Start, 2, 4 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-Start, 2, 4 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 ram 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)
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 ram 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)

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/map	tut the figures requested (figures can be combined). Esri Arc GIS
OVERALL WETLAND CATEGORY	(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	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.
Σ	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.
\boxtimes	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 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 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. Wet	DEPRESSIONAL AND FLATS WETLANDS		
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 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 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. Wet	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. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing dutch. 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 ditch. Do 1.1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 9% of area Wetland has persistent, ungrazed plants > 9% of area Wetland has persistent, ungrazed plants > 1/2,0 of area Wetland has persistent, ungrazed plants > 1/2,0 of area Wetland has persistent, ungrazed plants > 1/2,0 of area Wetland has persistent, ungrazed plants > 1/2,0 of area Wetland has persistent, ungrazed plants > 1/2,0 of area Do 1.4. Characteristics of seasonal ponding or inundation: This is the orea 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 Do 2.0. Does the landscape have the potential to support the water quality function of the site? Do 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0 Do 2.2. Is > 10% of the area within 150 ft of the wetland? Yes = 1 No = 0 Do 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0 Do 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions Do 2.1. Do 2.3? Yes = 1 No = 0 Do 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions Do 2.1. Do 2.3? Yes = 1 No = 0	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. 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 glitch. D1.2. 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, for of area Wetland has persistent, ungrazed plants > ½, for of area Wetland has persistent, ungrazed plants > ½, for of area Wetland has persistent, ungrazed plants > ½, for of area Wetland has persistent is points = 1 Wetland has persistent, ungrazed plants > ½, for of area Wetland has persistent, ungrazed plants > ½, for of area Wetland has persistent is points = 0 D1.4. 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 wetl	D 1.1. Characteristics of surface water outflows from the wetland:		
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 > 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, 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, 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, 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, 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, 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, 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, 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, ungra	Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing out po Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing po	oints = 3 tlet. 2 oints = 2 oints = 1	
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 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 = 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 = 0 D 1.4. Characteristics of seasonal ponding or inundation: This is the 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 seasonal		İ	
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 Area seasonally ponded is < ½ total area of wetland Points = 0 Total for D 1 Add the points in the boxes above 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? Yes = 1 No = 0 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? Source Yes = 1 No = 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? 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	D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardi Wetland has persistent, ungrazed, plants > 95% of area po Wetland has persistent, ungrazed, plants > ½ of area po Wetland has persistent, ungrazed plants > 1/10 of area po	in classes): bints = 5 bints = 3 bints = 1	
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	
2.0. Does the landscape have the potential to support the water quality function of the site? 2.1. Does the wetland unit receive stormwater discharges? 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? 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	Total for D 1 Add the points in the boxes	s above 11	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 1 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 1 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0 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 Add the points in the boxes above 2 Rating of Landscape Potential If score is:3 or 4 = H	Rating of Site Potential If score is:12-16 = HX_6-11 = M0-5 = L Record the rating of	n the first page	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 1 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 1 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0 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 Add the points in the boxes above 2 Rating of Landscape Potential If score is:3 or 4 = H	D 2.0. Does the landscape have the potential to support the water quality function of the site?		
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. <u>Contribution of the wetland to storage in the watershed</u> : <i>Estimate the ratio of the area of upstream basin</i>	
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 $_2$ 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 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		
* 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 (> 4 in) diameter and 6 ft long). * Stable steep 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 muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut structures for egg-laying by amphibions) * At least X ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibions) * Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strotal) * Total for H 1 * Add the points in the boxes above * Rating of Site Potential if score is:15-18 = H7-14 = MX-0.6 = L	H 1.5. Special habitat features:	
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 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 Xa cd thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibions) [Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strotal) Total for H 1 Add the points in the boxes above 8 Rating of Site Potential if score is:15-18 = H7-14 = M	Check the habitat features that are present in the wetland. The number of checks is the number of points	S.
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 (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 3.3 ft (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 3.3 ft (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 3.3 ft (10 m) over a stream (or ditch) in the boxes above of the wetland area in every stratum of plants (see H 1.1 for list of strotta). **Example of Site Potential If score is:15-18=H7-14=MX 0-6=L	_x_Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
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 maskrat 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 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) Stable steep banks of fine material that might be used by beaver or maskrat 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)	Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 f	t (1 m)
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 % a cof thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)		3
slope) OR signs of recent beaver activity are present (reut shrubs or trees that have not yet weathered where wood is exposed) ** At least % a co 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 5 Rating of Site Potential If score is:15-18 = H7-14 = MX 0-6 = L		ee
### At least % 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		
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	where wood is exposed)	
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	At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are	
Total for H 1 Add the points in the boxes above 5 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 % If total accessible habitat is:	permanently or seasonally inundated (structures for egg-laying by amphibians)	
Total for H 1 Add the points in the boxes above 5	Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list	of
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] = 2.97 % If total accessible habitat is:	strata)	
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] = 2.97 %	Total for H 1 Add the points in the boxes a	bove 5
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 %	Rating of Site Potential If score is:15-18 = H7-14 = MX_0-6 = L Record the re-	ating on the first page
Calculate: 2.97 % undisturbed habitat	H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
Calculate: 2.97 % undisturbed habitat		
If total accessible habitat is: > ½ (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 0 + 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat >50% of Polygon Undisturbed habitat 10-50% and in 1-3 patches Undisturbed habitat 10-50% and > 3 points = 2 Undisturbed habitat 10-50% and > 3 patches Undisturbed habitat 10		%
> 1/3 (33.3%) of 1 km Polygon 20-33% of 1 km Polygon 10-19% of 1 km Polygon 20-33% of 1 km Polygon 20-30% of 2 km Polygon 20-30% of 3 km Polygon 20-30% of 3 km Polygon 20-30% of 3 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon is high intensity land use 20-30% of 1 km Polygon land use land uses)/21-8-8-8-8-8-8-8-8-8-8-8-8-8-8-8-8-8-8-8		/0
20-33% of 1 km Polygon 10-19% of 1 km Polygon 20-30% of 1 km Polygon around the wetland. 20-30% of 1 km Polygon around the wetland. 20-30% of 1 km Polygon around the wetland. 20-30% of 1 km Polygon is high intensity land use 2-50% of 1 km Polygon is high intensity land use 2-50% of 1 km Polygon is high intensity 20-30% of 1 km Polygon is high intensity land use 2-50% of 1 km Polygon is high intensity land use 2-50% of 1 km Polygon is high intensity land use 2-50% of 1 km Polygon is high lintensity land use 2-50% of 1 km Polygon is high lintensity land use 2-50% of 1 km Polygon is high lintensity land use 2-50% of 1 km Polygon is high lintensity land use 2-50% of 1 km Polygon is high lintensity land use 2-50% of 1 km Polygon is high lintensity land use 2-50% of 1 km Polygon is high lintensity land use 2-50% of 1 km Polygon is high lintensity land use 2-50% of 1 km Polygon is high lintensity land use 2-50% of 1 km Polygon is high lintensity land use 2-50% of 1 km Polygon is high lintensity land u		tc = 3
10-19% of 1 km Polygon 4 10% of 1 km Polygon 4 10% of 1 km Polygon 4 10% of 1 km Polygon 4 10% of 1 km Polygon 5 1 10% of 1 km Polygon 6 1 km Polygon 6 1 km Polygon 7 2 10misturbed habitat in 1 km Polygon around the wetland. 6 2 1 10misturbed habitat in 1 km Polygon around the wetland. 7 2 1 10misturbed habitat 10 50% of Polygon 9 2 1 1 1 2 1 2 2 3 2 3 3 3 3 3 3 3 3 3 3		
A contract Contra	· ·	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat 1.16 + [(% moderate and low intensity land uses)/2] 9.87 = 17.03 % Undisturbed habitat > 50% of Polygon		
Calculate: % undisturbed habitat 7.16 + [(% moderate and low intensity land uses)/2] 9.87 = 17.03 % points = 3 Undisturbed habitat > 50% of Polygon points = 3 points = 2 Undisturbed habitat 10.50% and in 1.3 patches points = 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 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 1 Rating of Landscape Potential If score is: 4-6 = H 1-3 = M ≤ 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? Chaose 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 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 Site does not meet any of the criteria above		15 - 0
Undisturbed habitat 10-50% and in 1-3 patches Undisturbed habitat 10-50% and in 1-3 patches Undisturbed habitat 10-50% and > 3 points = 0 1	1-	3 0/
Undisturbed habitat 10-50% and in 1-3 patches Undisturbed habitat 10-50% and > 3 patches Undisturbed habitat 10-50% and > 3 patches Undisturbed habitat 10-50% and > 3 patches Undisturbed habitat 2 10% of 1 km Polygon H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity Total for H 2 Rating of Landscape Potential If score is:4-6 = H1-3 = M		
Undisturbed habitat 10-50% and > 3 patches Undisturbed habitat < 10% of 1 km Polygon H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity Total for H 2 Rating of Landscape Potential If score is:4-6 = H1-3 = M _ X < 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: 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 Site does not meet any of the criteria above Points = 0 -2 -2 -2 -2 -2 -2 -3 -4 -3 -4 -4 -4 -4 -4 -4 -4	· ·	
Undisturbed habitat < 10% of 1 km Polygon H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity Total for H 2 Rating of Landscape Potential If score is:4-6 = H1-3 = MX < 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 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 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 Site does not meet any of the criteria above Site does not meet any of the criteria above	·	
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity Total for H 2 Rating of Landscape Potential If score is:4-6 = H1-3 = M	· · · · · · · · · · · · · · · · · · ·	
> 50% of 1 km Polygon is high intensity land use		ts = 0
Total for H 2 Rating of Landscape Potential If score is:4-6 = H1-3 = MX < 1 = L		(5) 2
Total for H 2 Rating of Landscape Potential If score is:4-6 = H1-3 = MX < 1 = L		` '
Rating of Landscape Potential If score is:4-6 = H1-3 = MX < 1 = L		
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	·	bove -1
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 Landscape Potential If score is:4-6 = H1-3 = M \times < 1 = L Record the rate	ting on the first page
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	H 3.0. Is the habitat provided by the site valuable to society?	,
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	H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Chaose only the highest	score
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		30070
 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 		ts = 2
 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 	- · · · · · · · · · · · · · · · · · · ·	-
 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 		l lists)
 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 Site does not meet any of the criteria above 		-
 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 		[]
Shoreline Master Plan, or in a watershed plan × Site has 1 or 2 priority habitats (listed on next page) within 100 m Site does not meet any of the criteria above points = 0		
 Site has 1 or 2 priority habitats (listed on next page) within 100 m Site does not meet any of the criteria above points = 0		
Site does not meet any of the criteria above points = 0		ts = 1
		ts = 0

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 wate	
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? ☐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 \(\subseteq \text{In ot a bog} \)	

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)? 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 -

This page left blank intentionally

RATING SUMMARY – Western Washington

Name of wetland (or ID #): B - SHDC	Date of site visit: $\frac{9/13/16}{1}$
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 ap	propriate 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

<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	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.
Σ	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	1	
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 (QUESTION 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 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 Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed plants > ½ no farea Wetland has persistent, ungrazed plants > ½ no farea Wetland has persistent, ungrazed plants > ½ no farea Wetland has persistent, ungrazed plants > ½ no farea Wetland has persistent is points = 1 Wetland has persistent is 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 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	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 Total for D 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 = H X 1 or 2 = M 0 = 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 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	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

	Т
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	
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)	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)	
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)	
_x 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 = HX_7-14 = M0-6 = L	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 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:	
$> \frac{1}{3}$ (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	
> 50% of 1 km Polygon is high intensity land use points = (-2)	-2
\leq 50% of 1 km Polygon is high intensity points = 0	_
	-1
Total for H 2 Add the points in the boxes above	
Rating of Landscape Potential If score is: 4-6 = H 1-3 = M X < 1 = L Record the rating on t	ne Jirst page
H 3.0. Is the habitat provided by the site valuable to society?	<u>_</u>
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	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 points = 0	

Site does not meet any of the criteria above

Rating of Value If score is: ___2 = H __X_1 = M ___0 = L

points = U

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

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 Pes –Go to SC 1.1 No = Not an estuarine wetland
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 Shoe 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? 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 % 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 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes = Go to SC 2.2 No - Go to SC 2.3 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?
The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt
The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt
Vegetated, and With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 ⊠No= Not an estuarine wetland
With a salinity greater than 0.5 ppt
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
Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category 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 <i>Spartina</i> , 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? □ Yes = Go to SC 2.2 ☑ No = Go to SC 2.3 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? □ 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? □ Yes = Category I ☑ No = Not a WHCV
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 % 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. 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? 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 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
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 <i>Spartina</i> , 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. 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? 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 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
than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) At least % 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. 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? Wes – Go to SC 2.2 No – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Wes = 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 Wes – 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? Wes = Category I No = Not a WHCV
□ At least % 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 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? □ Yes = Go to SC 2.2 ☑ No = Go to SC 2.3 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? □ Yes = Category I ☑ No = Not a WHCV SC 3.0. Bogs
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? □Yes − Go to SC 2.2 ☑No − Go to SC 2.3 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? □Yes = Category I ☑No = Not a WHCV SC 3.0. Bogs
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? Yes - Go to SC 2.2 No - Go to SC 2.3
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? 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 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
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? \[\textstyle \textstyl
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? Yes = Category I No = Not a 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? Yes = Category I No = Not a WHCV
Conservation Value? SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I Yes = Category I MNo = 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 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 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and WHCV SC 3.0. Bogs
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category
Yes = Category
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 <a href="mailto:specific style=" mailto:specific="" s<="" specific="" style="mailto:specific style: specific style=" style:="" td="">
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? ☐ Yes = Category I ☑ No = Not a WHCV SC 3.0. Bogs
Tyes – 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
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
their website?
SC 3.0. Bogs
Does the wetland for any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i>
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? \square Yes – Go to SC 3.3 \square No – Go to SC 3.2
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep
over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of 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

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)?	
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 $\underline{\mathsf{B}}$ -

This page left blank intentionally

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	INICTIONS

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	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 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		

• • •		
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, 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,	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). Ves = 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. Source Yes = 1 No = 0 D 3.0. Is	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?			
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 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 Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed plants > 1/1,00 of area Wetland has persistent, ungrazed plants > 1/1,00 of area Wetland has persistent, ungrazed plants > 1/1,00 of area Wetland has persistent, ungrazed plants > 1/1,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of area Wetland has persistent, ungrazed plants > 1/2,00 of	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.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 > 1/10 of area points = 1 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants > 1/10 of area points = 0 D.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 points = 2 Area seasonally ponded is > ½ total area of wetland points = 0 Total for D.1 Add the points in the boxes above 10 Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first page D.2.0. Does the landscape have the potential to support the water quality function of the site? D.2.1. Does the wetland unit receive stormwater discharges? Yes = 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? 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.2.3. Is the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	3		
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 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? 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				
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 ½ 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 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 <	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		
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 = 0 Total for D 1 Add the points in the boxes above 10 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 > $\frac{1}{2}$ 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 > 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 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 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 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	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) points = 0	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?			
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 ___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 _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

	Γ			
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				
Standing shags (dbh > 4 m) 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)				
· · · · · · · · · · · · · · · · · · ·				
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] $_{-}^{0}$ = $_{-}^{2.97}$ %				
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				
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				
> 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?	<u> </u>			
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: $2 = H \times 1 = M = 0 = L$

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)	
\square At least $rac{\pi}{4}$ 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 -

This page left blank intentionally

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 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		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 ___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 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?	
\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?	
\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? ☐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 \(\subseteq \text{In ot a bog} \)	

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	
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 $\underline{\mathsf{D}}$ -

This page left blank intentionally

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
NOTE: Form is not complete with Source of base aerial photo/ma	ap 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

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 unit usually contro	lled by tides except during floods?
Σ	☑NO – go to 2	YES – the w	vetland class is Tidal Fringe – go to 1.1
1	1.1 Is the salinity of the wate	er during periods of annua	al low flow below 0.5 ppt (parts per thousand)?
		assified as a Freshwater Tid it is an Estuarine wetland	☐ YES - Freshwater Tidal Fringe dal Fringe use the forms for Riverine wetlands. If it and is not scored. This method cannot be used to
2.	The entire wetland unit is and surface water runoff a		ne only source (>90%) of water to it. Groundwater to the unit.
×	NO – go to 3 If your wetland can be class	sified as a Flats wetland, u	TYES – The wetland class is Flats se the form for Depressional wetlands.
3.		e wetland is on the shore any time of the year) at le	s of a body of permanent open water (without any east 20 ac (8 ha) in size;
×	NO – go to 4	YES – The wetland c	ass is Lake Fringe (Lacustrine Fringe)
4.		pe (slope can be very grad gh the wetland in one dire surface, as sheetflow, or in	ual), ction (unidirectional) and usually comes from a swale without distinct banks,
]NO – go to 5		▼YES – The wetland class is Slope
			wetlands except occasionally in very small and ions are usually <3 ft diameter and less than 1 ft
5.	Does the entire wetland up. The unit is in a valley, of stream or river, The overbank flooding	or stream channel, where	it gets inundated by overbank flooding from that

Wε	cland name or number <u>E -</u>
X	NO – go to 6 NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding
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? This means that any outlet, if present, is higher than the interioof the wetland.
X	NO – go to 7
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 natura 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.

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 > 2%-5%	1
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	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.	2
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	3
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 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? Answer YES if there is a TMDL for the basin in which unit is found. Yes = $2 \text{ No} = 0$	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	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 = $1 \text{ No} = 0$	1
Rating of Landscape Potential If score is: X 1 = M0 = L Record the rating on	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. 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	e 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 hav	e 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
$\mbox{\rm H~2.0.}$ 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]0 = 2.97 %	
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	ľ
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 po Rating of Landscape Potential If score is: 4-6 = H 1-3 = M X < 1 = L	oints in the boxes above Record the rating on t	the first nage
Rating of Landscape Fotential in Score is4-0 = ii1-3 = iii1-1 = L	Record the rating on t	ne jiist 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 	the state or federal lists)	
 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 Na 	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 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 E -

This page left blank intentionally

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	out 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 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 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 control	lled by tides except during floods?	
Σ	☑NO – go to 2	YES – the w	etland class is Tidal Fringe – go to 1.1	
1	1.1 Is the salinity of the wate	r during periods of annua	l low flow below 0.5 ppt (parts per thousa	nd)?
ļ	, <u>, , , , , , , , , , , , , , , , , , </u>	ssified as a Freshwater Tid it is an Estuarine wetland	☐ YES – Freshwater Tidal Fringe lal Fringe use the forms for Riverine wetland and is not scored. This method cannot be use	-
2.	The entire wetland unit is fand surface water runoff an		e only source (>90%) of water to it. Ground the unit.	ndwater
X]NO – go to 3 <i>If your wetland can be class</i>	ified as a Flats wetland, us	☐ YES – The wetland class is Flats se the form for Depressional wetlands.	
3.	•	e wetland is on the shores any time of the year) at lea	of a body of permanent open water (with ast 20 ac (8 ha) in size;	out any
X	NO – go to 4	■YES - The wetland cla	ass is Lake Fringe (Lacustrine Fringe)	
4.	_	pe (slope can be very gradu th the wetland in one direc urface, as sheetflow, or in	ual), ction (unidirectional) and usually comes fr a swale without distinct banks,	rom
]NO – go to 5		▼YES - The wetland class is Slope	
			wetlands except occasionally in very smallons are usually <3 ft diameter and less tha	
5.	Does the entire wetland un ☐The unit is in a valley, o stream or river, ☐The overbank flooding	r stream channel, where i	t gets inundated by overbank flooding from	m that
	O		~	

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 points = 3 Slope is > 1%-2% points = 2 Slope is > 2%-5% points = 1 Slope is greater than 5% points = 0	1
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	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 Does not meet any of the criteria above for plants Does not meet any of the criteria above for plants	
Total for S 1 Add the points in the boxes above	3

Rating of Site Potential If score is: 12 = H 6-11 = M × 0-5 = L Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. 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	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 ero	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 Rating of Site Potential If score is:1 = MX_0 = L Record the rating of the surface flows appropriate for the description that best fits conditions 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 points = 1 All other conditions	0 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	the first page
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

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 $1 = M \times 0 = L$

natural resources (e.g., houses or salmon redds)

No flooding problems anywhere downstream

Surface flooding problems are in a sub-basin farther down-gradient

Record the rating on the first page

points = 2

points = 1

points = 0

 $Yes = 2 \quad No = 0$

Add the points in the boxes above

0

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

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.	
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 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) Add the points in the boxes above	0
Total for H 1 Add the points in the boxes above	2
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 $+[(\% \text{ moderate and low intensity land uses})/2]^0 = 2.97 %$	
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	
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	
> 50% of 1 km Polygon is high intensity land use points = (-2)	-2
	_
	4
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	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	
Site does not meet any of the criteria above points = 0	
points = 0	ı

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?	
☐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? ☐ Yes – Go to SC 3.3 ☑ 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? ☐Yes = Is a Category I bog ☐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	

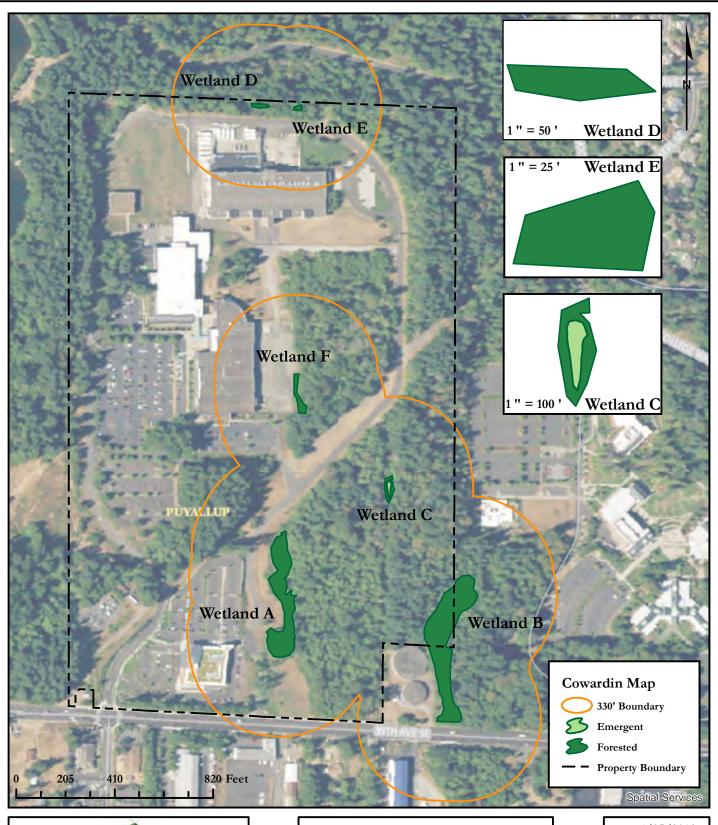
Wetland name or number F -

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 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 \texts	
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 -

This page left blank intentionally

Appendix F — Wetland Rating Maps





2907 Harborview Dr., Suite D, Gig Harbor, WA 98335 Phone: (253) 514-8952 Fax: (253) 514-8954 www.soundviewconsultants.com

SOUTH HILL DATA CENTER

1015 - 1025 39TH AVENUE SE PUYALLUP, WA 98374

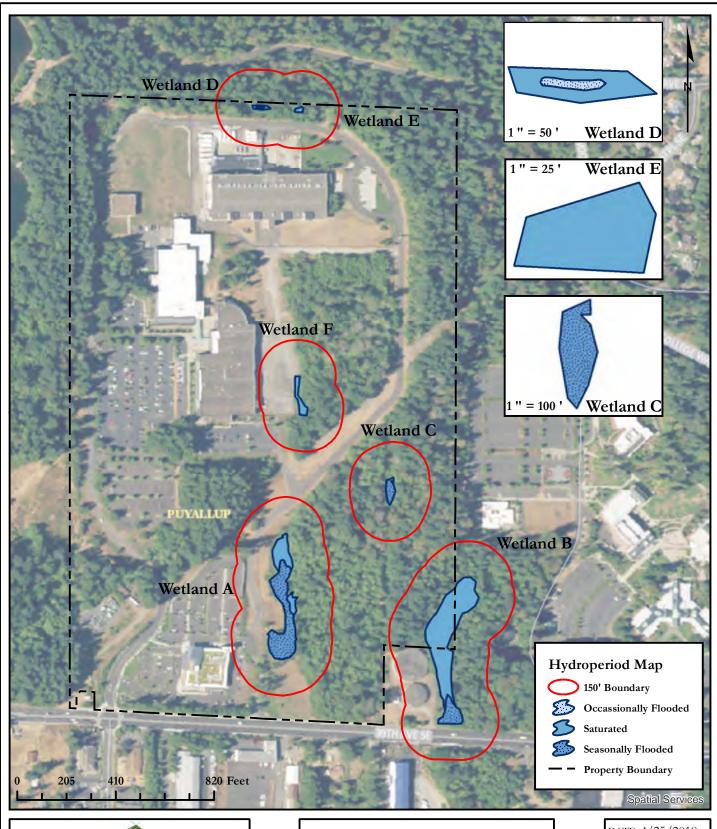
PIERCE COUNTY PARCEL NUMBER: 0419034031, 0419034032, & 0419034034

DATE: 4/25/2018 JOB: 1077.0012
ЈОВ: 1077.0012

BY: DLS

SCALE: 1 " = 400 '

FIGURE NO. 1 of 5





2907 Harborview Dr., Suite D, Gig Harbor, WA 98335 Phone: (253) 514-8952 Fax: (253) 514-8954 www.soundviewconsultants.com

SOUTH HILL DATA CENTER

1015 - 1025 39TH AVENUE SE PUYALLUP, WA 98374

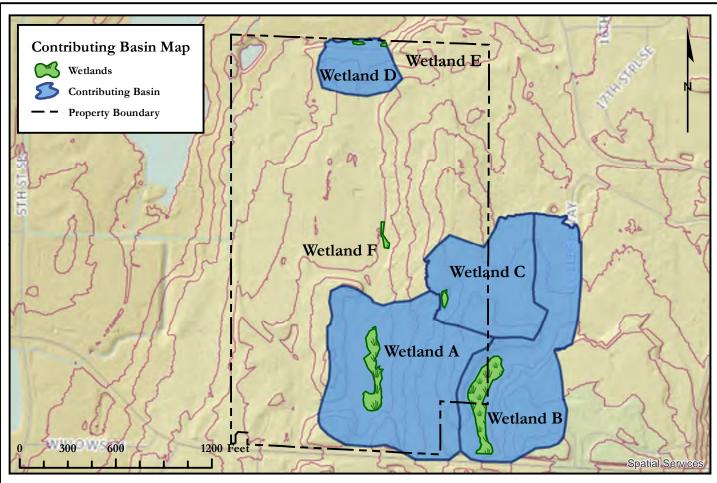
PIERCE COUNTY PARCEL NUMBER: 0419034031, 0419034032, & 0419034034

DATE: 4/25/2018 JOB: 1077.0012
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%



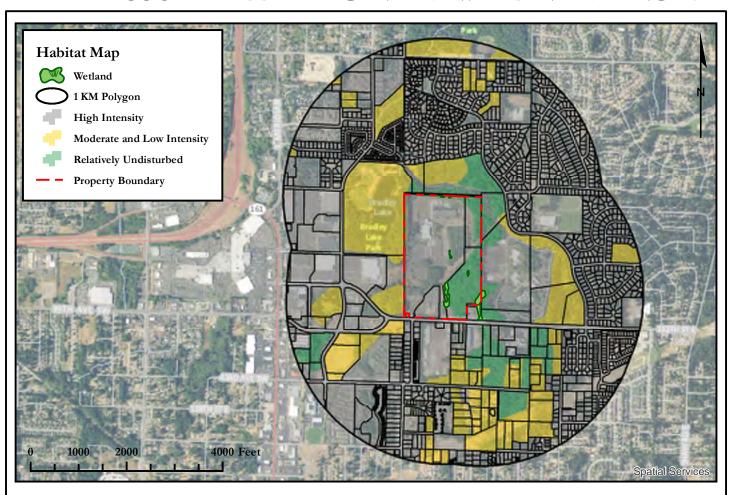
2907 Harborview Dr., Suite D, Gig Harbor, WA 98335 Phone: (253) 514-8952 Fax: (253) 514-8954 www.soundviewconsultants.com

SOUTH HILL DATA CENTER

1015 - 1025 39TH AVENUE SE PUYALLUP, WA 98374

PIERCE COUNTY PARCEL NUMBER: 0419034031, 0419034032, & 0419034034

DATE: 4/25/2018
ЈОВ: 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%



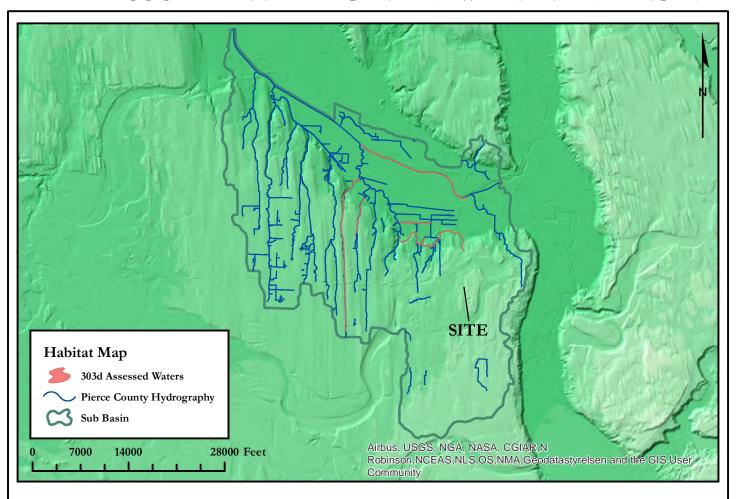
www.soundview consultants.com

SOUTH HILL DATA CENTER

1015 - 1025 39TH AVENUE SE PUYALLUP, WA 98374

PIERCE COUNTY PARCEL NUMBER: 0419034031, 0419034032, & 0419034034

DATE: 4/25/2018
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	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	рН	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



2907 Harborview Dr., Suite D, Gig Harbor, WA 98335 Phone: (253) 514-8952 Fax: (253) 514-8954 www.soundviewconsultants.com

SOUTH HILL DATA CENTER

1015 - 1025 39TH AVENUE SE PUYALLUP, WA 98374

PIERCE COUNTY PARCEL NUMBER: 0419034031, 0419034032, & 0419034034

DATE: 4/25/2018
ЈОВ: 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 Delineation 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.

Matt DeCaro

Environmental Planner / Project Manager Professional Experience: 9 years

Matt DeCaro is an Environmental Planner and Project Manager with a diverse background in stream ecology, water quality, wetland science, environmental due diligence, and site remediation. Matt currently provides permitting and regulatory compliance assistance for land use projects from their planning stages through review, approval, and construction. Matt performs wetland, stream, and shoreline delineations and fish & wildlife habitat assessments; provides land use planning assistance for residential, commercial, and industrial projects; conducts code and regulation analysis; prepares reports and permit applications for local, State, and Federal review; and provides restoration and mitigation design.

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 at Alaska Pacific University in Anchorage, Alaska. Matt has been formally trained in the use of the Washington State Wetland Rating System and Determination of Ordinary High Water Mark by the Washington State Department of Ecology, and he has attended USFWS survey protocol workshops for multiple threatened and endangered species. Matt holds 40-hour HAZWOPER certification 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 projects; noxious weed abatement; spotted owl surveys on federal and private lands; and salmonid spawning and migration surveys.

Richard Peel

Wetland Scientist

Professional Experience: 6 years

Richard Peel is a Wetland Scientist with diverse professional experience in wetland ecology, monitoring, and delineation throughout Washington and Oregon. Richard is Washington State trained in conducting wetland delineations, assessing wetland systems, mitigation planning and design, implementation of monitoring programs, mitigation monitoring and reporting. He also has extensive experience in an analytical laboratory using state-of-the-art equipment in bacteriological and chemical analysis of soil and water samples.

Richard is a graduate of The Evergreen State College, with dual degrees in Ecology and Economics. He has focused his academic career on ecology, disturbance ecology, chemistry, and the economic impacts of current environmental management. Richard has extensive training and field experience in wetland related disciplines, and has experience in wetland both east and west of The Cascades. He

has been trained by The Washington State Department of Transportation's (WSDOT) Wetland Ecology and Monitoring team in the use of the wetland delineation, mitigation, monitoring, and restoration techniques. In addition, he was directed by WSDOT's Wetland Protection and Preservation Policy to ensure wetlands are preserved and protected whenever possible. This direction ensures no net loss in the quantity or quality of wetlands in the future and minimization of impacts to wetlands in the present.

Richard is a certified Professional Wetland Scientist (#2858). He has been formally trained in the use of the Washington State Wetland Rating System, Shoreline Stabilization, Eelgrass Delineation, and several other critical area assessment and restoration projects from the Washington Department of Fish and Wildlife, and Washington State Department of Ecology. He is also a Pierce County Qualified Wetland Specialist, and he holds similar qualifications from other jurisdictions.

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

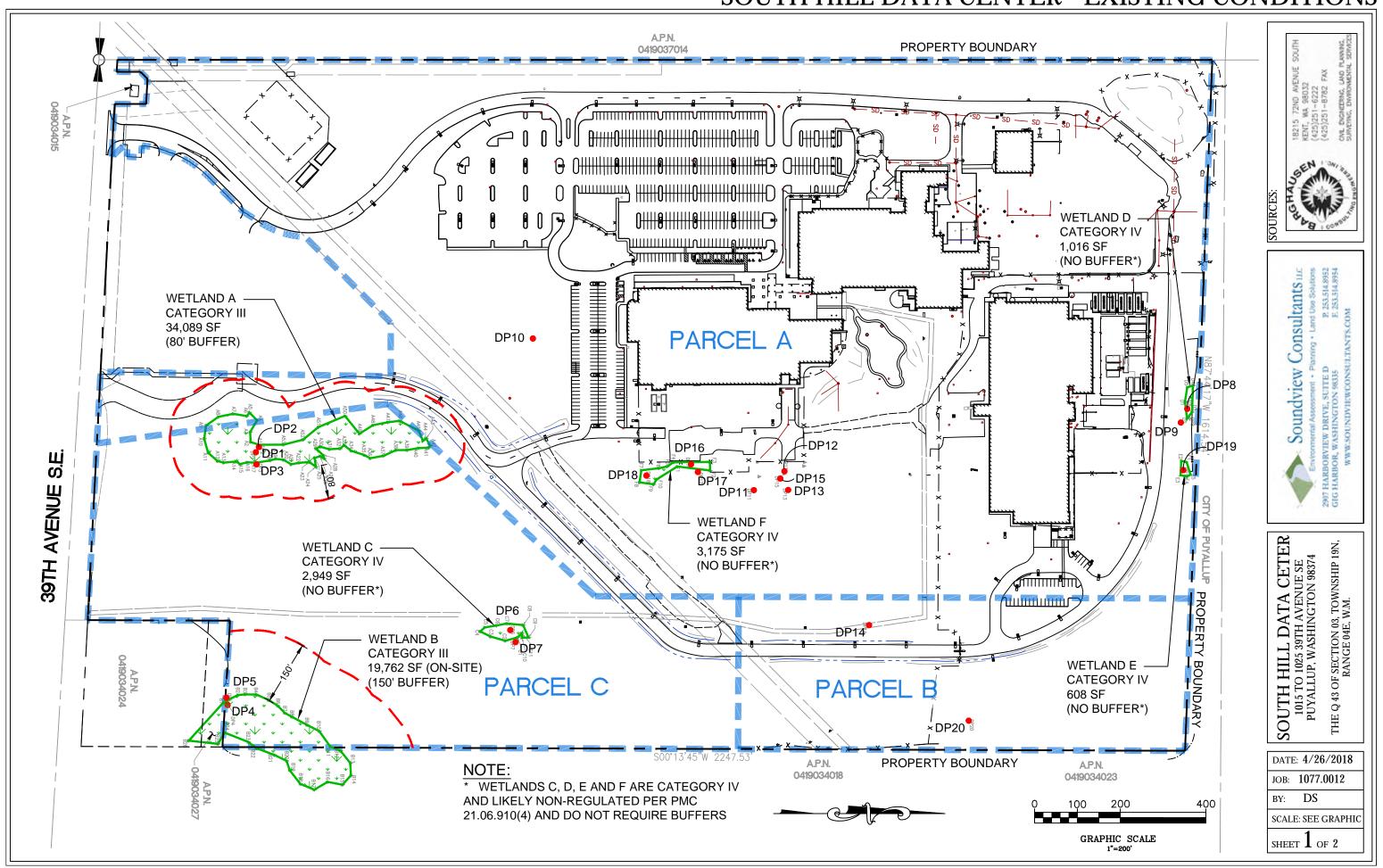
Staff Scientist

Professional Experience: 3 years

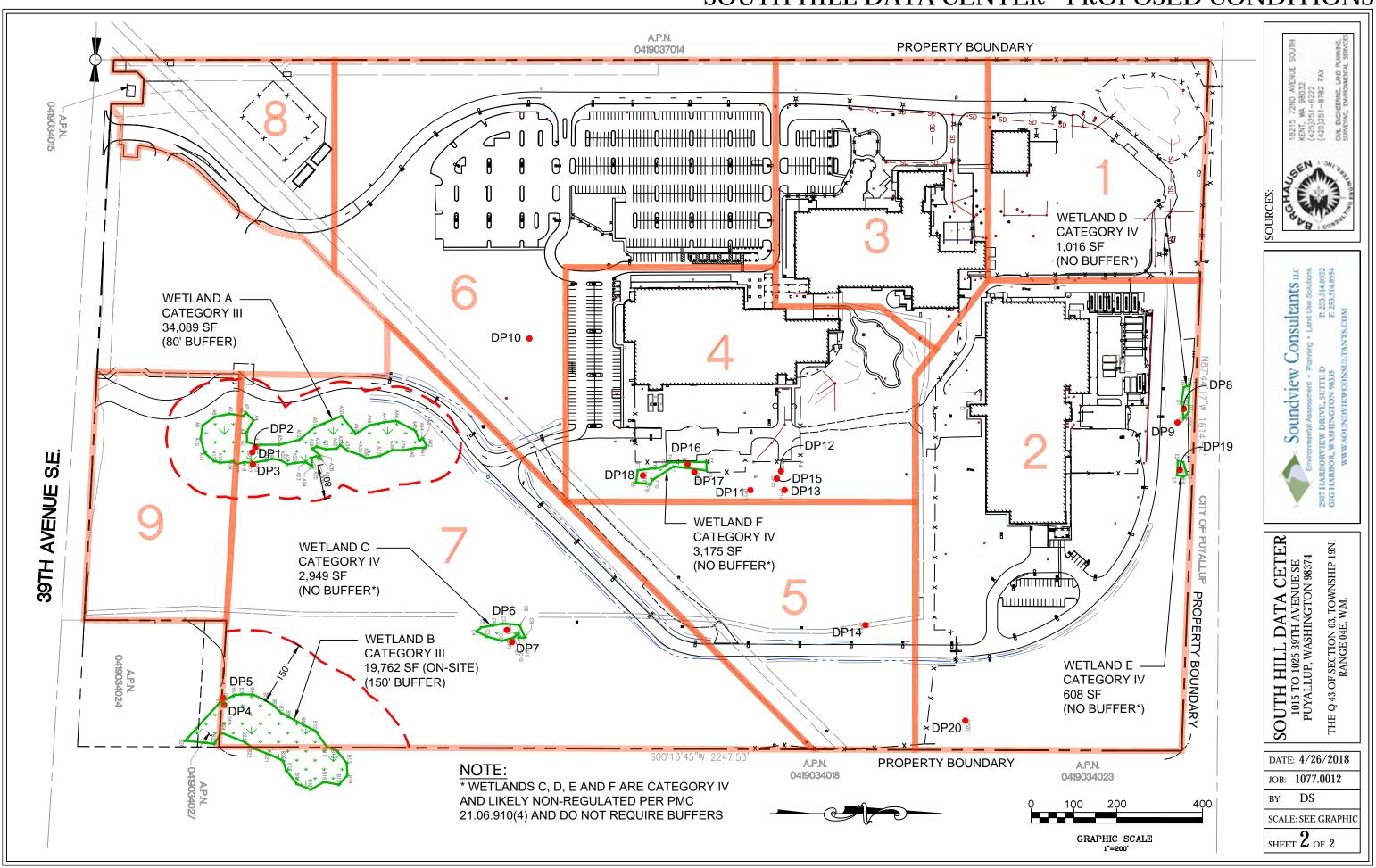
Kyla Caddey is a Staff Scientist and Pierce County Qualified Wildlife Biologist with a diverse background in riparian habitat restoration, stream and wetland ecology, wildlife ecology and conservation, and wildlife and natural resource assessments and monitoring. Kyla has advanced expertise in report 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.

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. She has received formal training through the Washington State Department of Ecology and Coastal Training Program in 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.

SOUTH HILL DATA CENTER - EXISTING CONDITIONS



SOUTH HILL DATA CENTER - PROPOSED CONDITIONS





July 16, 2021

Mr. Chris Beale, AICP Senior Planner City of Puyallup Planning Services 333 South Meridian Puyallup, Washington 98371

Re: Benaroya Capital Company – South Hill Data Center Wetland and Fish and Wildlife Habitat Assessment Report Third-Party Review

Dear Mr. Beale:

This memorandum includes the results from the third-party review of the 2020 wetland and fish and wildlife habitat conservation area assessment report prepared for Benaroya Capital Company at the South Hill Data Center property, located at 1015, 1019-1021, and 1023 39th Avenue SE, Puyallup, WA 98374 (tax parcels 0419034036, 0419034037, and 0419034038).

COMPLIANCE WITH CODE

Confluence biologists reviewed the report (Soundview Consultants 2020) and determined it was complete according to the regulations outlined in Puyallup Municipal Code (PMC) Chapter 21.06 for Critical Areas Regulations.

TECHNICAL REVIEW

Soundview Consultants delineated a total of 6 wetlands, identified as Wetlands A-F, on the property. Confluence conducted a site visit on June 16, 2021, to verify the wetland boundaries. During the site visit, Confluence located each of the wetlands and verified their proposed boundaries, using vegetation, evidence of inundation, topography, and soil probes as guidance. Note, that while many of the wetland flags placed in 2016 were missing, enough were present to determine the proposed wetland boundaries.

Confluence observed vegetation, soil, and hydrology conditions conducive to wetland area within Wetlands A-F. Clear shifts in vegetation, topography, and hydrology conditions conducive to upland areas were also observed adjacent to each of the proposed wetlands. Based on the site visit findings, Confluence agreed with the proposed wetland boundaries for Wetlands A-F.

Confluence also reviewed the 2016 wetland rating forms prepared for Wetlands A-F provided in the 2020 report (Soundview Consultants 2020). Confluence generally concurred with all of the wetland ratings, with the exception of Wetland F. However, some of the rating figures were missing required components (i.e., location of outlet and plant density for slope wetlands). Rating figures should be updated to contain all required components.



Wetland F was misclassified as a slope wetland when it should have been rated under the depressional hydrogeomorphic class. While Wetland F is located on a gradual slope, it contains depressions and water does not flow unidirectionally throughout the entire wetland unit. Per Ecology's guidance, a wetland with both slope and depressional characteristics is rated as depressional (Hruby 2014).

In addition, Confluence reviewed the wetland determination data forms. While the overall wetland determinations were accurate, Confluence observed several minor errors throughout the forms. Multiple instances were noted in which hydric soils were marked as present but a hydric soil indicator was not provided or vice versa. Additionally, for data plots 12 and 13, hydric soil indicator Sandy Redox (S5) was identified, however, hydric soils were marked as absent with the explanation that the soil profile was apparently representative of subsoils exposed by excavation activities. Given the established vegetation in the area and the absence of evidence observed during the site visit, Confluence requests additional documentation to support the proposed condition of the soils. This could be in the form of aerial imagery, site observations, etc.

In summary, we concur with the boundaries for Wetlands A-F and agree with the wetland ratings for all but Wetland F. The following actions are needed to correct issues with the report:

- Complete rating form figures.
- Re-rate Wetland F under the depressional hydrogeomorphic class. This may change the overall category and buffer.
- Fix errors in wetland determination forms.

-Mc Sthun

 Provide documentation to support the explanation for the lack of hydric soils for data plots 12 and 13.

If you have any comments or questions, please feel free to contact us.

Respectfully yours,

KERRIE McARTHUR, PWS, CERP

Senior Biologist 206.999.6201

kerrie.mcarthur@confenv.com

NATALIE WHITE, WPIT

Project Ecologist 206.388.8695

natalie.white@confenv.com

J:\SCJ_001229\001229.010 - Benaroya 3rd Party Review (Puyallup)\Deliverable

patacie wite

www.confenv.com