# WETLAND DELINEATION REPORT

### **EAST TOWN CROSSING**

# PARCELS 0420351026, 0420351029, 0420351030, 0420264021, 0420264053, 0420264054, and 0420351066

### CITY OF PUYALLUP #P-21-0034 2902 East Pioneer City of Puyallup, Pierce County, Washington

prepared for

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prepared by

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### OCTOBER 14, 2021

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A VETERAN OWNED SMALL BUSINESS COOPERATIVE

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### INTRODUCTION

This document details the culmination of activities and onsite evaluations undertaken to complete an assessment and characterization of potential onsite wetland areas as an element of the planning for future proposed development actions and the required repair of existing stormwater detention facilities located within the southeastern corner associated with the proposed **East Town Crossing Multi-Family Residential Community** (City of Puyallup #P-21-0034). The project site consisted of seven (7) existing parcels of record (Parcels 0420351026, 0420351029, 0420351030, 0420264021, 0420264053, 0420264054, and 0420351066) located at the southeastern corner of the intersection of Pioneer Way East and Shaw Road East within the City of Puyallup, Pierce County, Washington (Figure 1). The goal of this assessment and characterization approach is to ensure that planned site development does not result in adverse environmental impacts to potential wetlands areas or their associated protective buffers.

This document is designed to accompany an associated assessment and characterization of specific critical areas (drainage corridors/ natural waters, critical fish and wildlife habitat areas) within and immediately adjacent to the project site presented within *CRITICAL AREAS ASSESSMENT* - *Surface Water Drainages and Fish and Wildlife Habitat Conservation Areas* – dated July 13, 2021.

The onsite assessment and evaluation of wetland areas within and immediately adjacent to the project site was completed following the methods and procedures defined in the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010); the Washington State *Wetland Rating System for Western Washington: 2014 Update* Publication #14-06-029 (Hruby, 2014), the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030), and the City of Puyallup Chapter 21.06 - *Critical Areas*. Please note that this assessment did not include an analysis of steep slopes, septic suitability, erosion hazard areas, or stormwater considerations.

### **PROJECT SITE DESCRIPTION**

The project site was approximately 11-acres in size and irregular in shape. The project site had undergone prior permitted land use actions generally associated with future proposed site development actions. These prior permitted land use actions included the development of stormwater detention facilities, the removal of existing old homesites and outbuildings, clearing and grading, and the placement of imported fill materials to facilitate future proposed site development actions.

The project site was located within a quickly, more intensely developing area along the Shaw Road and Pioneer Way Corridors generally changing from prior single-family homesites on moderately sized parcels into commercial developments to meet the growing needs of the City of Puyallup and other local communities.

**Directions to Project Site:** From the City of Puyallup City Hall turn north onto 2<sup>nd</sup> Street SE and continue to East Pioneer. Turn east onto East Pioneer and continue generally easterly to Shaw Road East. The project site is located at the southeastern corner of the intersection of Pioneer Way East and Shaw Road East.

### **BACKGROUND INFORMATION**

### NATIONAL WETLAND INVENTORY

The *National Wetland Inventory (NWI) Mapping* completed by the U.S. Fish and Wildlife Service was reviewed as a part of this assessment (Figure 2). This mapping resource did not identify any wetlands or surface water drainages within or immediately adjacent to the project site.

### STATE OF WASHINGTON PRIORITY HABITATS AND SPECIES

The State of Washington *Priority Habitats and Species (PHS) Mapping* was reviewed as a part of this assessment (Figure 3). This mapping resource did not identify any priority habitats or species within the project site. This mapping resource did identify a wetland and a biodiversity area/corridor offsite to the southeast of the project site. This biodiversity area/corridor was generally associated with an offsite forested hillside.

### STATE OF WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

The State of Washington Department of Fish and Wildlife (WDFW) *SalmonScape Mapping* was reviewed as a part of this assessment (Figure 4). This mapping resource did not identify any wetlands or surface water drainages within or immediately adjacent to the project site.

### STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

The State of Washington Department of Natural Resources (WDNR) *Water Type Mapping* was reviewed as a part of this assessment (Figure 5). This mapping resource did not identify any surface water drainages or wetlands within or immediately adjacent to the project site. This mapping resource did identify a surface water drainage and a wetland area well offsite to the southwest of the project site. downslope to the north of the eastern boundary of the project site.

### CITY OF PUYALLUP MAPPING

The City of Puyallup *Mapping Inventory* was reviewed as a part of this assessment (Figure 6). This mapping resource identified two (2) verified and one (1) unverified wetlands within the project site. This mapping resource also identified a stream entering a stormwater pond facility at the very southeastern corner of the project site.

### SOILS MAPPING

The *Soil Mapping Inventory* completed by the Natural Resource Conservation Service was reviewed as a part of this assessment (Figure 7). This mapping resource identified the soils throughout the northern portion of the project site as Briscot loam (6A). This soil series is defined as poorly drained, as formed in alluvium, and as "hydric" in character.

This mapping resource identified the soil within the southern portion of the project site as Puyallup fine sandy loam (31A). This soil series is defined as well drained, as formed in sandy mixed alluvium, and as not "hydric" in character.

### PRIOR ASSESSMENTS

A series of prior wetland assessments have been completed and documented by John Comis Associates, Inc. for this project site. These assessments identified that the entire project site exhibited upland characteristics and did not contain areas that met all three of the established wetland criteria (John Comis Associates 2020 and 2021). A similar assessment completed in 2008 also identified that the project site did not contain areas that met all three of the established wetland criteria (John Comis Associates 2020). The 2008 assessment did identify a wetland offsite to the south of the project site.

A previous assessment of wetland characteristics was completed throughout the project site in 2000 by Herrera Environmental Consultants (Herrera Environmental Consultants 2001). This wetland assessment did not identify any areas meeting the wetland criteria within the project site. This wetland assessment did identify a City of Puyallup Category III Wetland directly to the south of the project site.

### **AERIAL PHOTOS**

A series of historical aerial photos was reviewed as a part of this assessment. These photos showed that through 2002 the majority of the central and northern portions of the project site were managed for the production annual agricultural crops and that single-family homesites were located at the northeastern corner of the project site, near the northwestern corner of the project site, and within the southern portion of the project site (Figure 8). During the 2002-2005 period the majority of the northern, central, and southeastern portions of the project site were filled. During these filling actions

stormwater detention facilities associated with development offsite to the south were created within the southeastern portion of the project site (Figure 8a).

As depicted in Figure 8b the project site had continued to be managed for future development. With the exception of one of the original homesites all of the previously present homesites had been removed. This last original homesite was subsequently removed in the late spring of 2021.

### ONSITE ANALYSIS

### CRITERIA FOR WETLAND IDENTIFICATION

This assessment focuses on the assessment and characterization of potential specific wetland areas which may be located within the project site. This document is designed to accompany an associated assessment and characterization of specific critical areas (drainage corridors/ natural waters, critical fish and wildlife habitat areas) within and immediately adjacent to the project site presented within *CRITICAL AREAS ASSESSMENT* - *Surface Water Drainages and Fish and Wildlife Habitat Conservation Areas* – dated July 13, 2021.

Wetlands are transitional areas between aquatic and upland habitats. In general terms, wetlands are lands where the extent and duration of saturation with water is the primary factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface (Cowardin, et al., 1979). Wetlands are generally defined within land use regulations as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (United States Army Corps of Engineers, 1987).

Wetlands exhibit three essential characteristics, all of which must be present for an area to meet the established criteria (United States Army Corps of Engineers, 1987 and United States Army Corps of Engineers, 2010). These essential characteristics are:

- 1. Hydrophytic Vegetation: The assemblage of macrophytes that occurs in areas where inundation or soil saturation is either permanent or of sufficient frequency and duration to influence plant occurrence. Hydrophytic vegetation is present when the plant community is dominated by species that require or can tolerate prolonged inundation or soil saturation during the growing season.
- 2. Hydric Soil: A soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper parts. Most hydric soils exhibit characteristic morphologies that result from recent periods of saturation or inundation. These processes result in distinctive characteristics that persist in the soil during both wet and dry periods.

**3. Wetland Hydrology:** Permanent or periodic inundation, or surface soil saturation, at least seasonally. Wetland hydrology indicators are used in combination with indicators of hydric soil and hydrophytic vegetation to define the area. Wetland hydrology indications provide evidence that the site has a continuing wetland hydrology regime. Where hydrology has not been altered vegetation and soils provide strong evidence that wetland hydrology is present.

**WETLAND:** A "wetland" is defined by the City of Puyallup as those areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. However, wetlands include those artificial wetlands to mitigate wetland impacts.

### STUDY METHODS

Habitat Technologies completed a series of onsite assessments from March through mid-October 2021. In addition, Habitat Technologies has completed similar assessments for adjacent parcels over the past few decades. The project site was generally flat and had been modified since 2005 by clearing, grading, and the placement of clean gravelly fill. This site modification actions had been undertaken as a part of site preparation for future development consistent with City of Puyallup permitting.

Onsite activities were completed in accordance with criteria and procedures established in the Corps of Engineers Wetland Delineation Manual (1987 Manual) with the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (2010 Supplement); the Washington State Wetlands Rating System (WDOE 2014 version); the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030); and the City of Puyallup Critical Areas Ordinance.

### FIELD OBSERVATION

The project site was accessed via an existing driveway connection to Shaw Road East along the western boundary of the project site and by an existing driveway connection to Pioneer Way East along the northern boundary of the project site. The entire project site has been previously graded and leveled for proposed future site development planning. As a part of prior City of Puyallup permitted actions a stormwater detention pond had been created in the southeastern corner of the project site. This stormwater detention pond presently services the developed areas to the south-southwest and the outlet for this stormwater detention pond is confined within a buried pipe to outlet into a previously created ditch system associated with Pioneer Way East. Representative sample plots are shown on Figure 9 and field data worksheets are provided within Appendix A.

### • Soils

The soil characteristics throughout the project site had been altered by prior permitted land use actions. These permitted actions were completed consistent with City of Puyallup permitting approvals and generally focused on the removal of existing homesites and the placement of imported clean gravelly loam fill materials obtained from an approved surface mine area. The location and amount imported clean gravelly loam fill materials utilized onsite was designed to facilitate future site planning and development actions. As a result of these actions the surface soil throughout the project site often to a depth greater than 48-inches was dominated by clean gravelly loam, was often well compacted, appeared to drain moderately well, and did not exhibit "hydric" soil characteristics.

One area was identified onsite to exhibit characteristics more typical of native soil that had not been impacted by fill placement. This area was best defined as a remanent property line swale between prior parcels with the area to the north having been filled between 2002-2005 with several feet of imported clean gravelly loam and a once managed prior homesite within the west central portion of the project site. The soil within this remanent property line swale exhibited characteristics typically associated with the Puyallup fine sandy loam soil series. As defined by **SP4** located within this swale the soil did not exhibit prominent redoximorphic features typically associated with "hydric" soil characteristics.

Created stormwater detention facilities were present within the southeastern portion of the project site. The surface soil layer within the bottom of these facilities was dominated by fine alluvium and organic materials (leaves, roots, grasses/herbs) typical of these types of facilities. The surface soil layer was underlain with imported gravelly loam fill materials.

### • Hydrology

As noted above, the project site had been somewhat recently modified by the placement of clean imported gravelly loam fill materials consistent with City of Puyallup permitting approvals as a part of future site development planning and completion. No portion of the project site was identified to exhibit characteristics typically associated with wetland hydrology or the concentrated movement of seasonal surface water runoff.

Created stormwater detention facilities were present within the southeastern portion of the project site. These facilities were created in association with the development of the parcel directly to the south and surface water from these facilities is conveyed via a buried system to the ditch associated with Pioneer Way East along the northern boundary of the project site.

The assessment and characterization of hydrology patterns immediately adjacent to the project site are provided within *CRITICAL AREAS ASSESSMENT - Surface Water Drainages and Fish and Wildlife Habitat Conservation Areas* – dated July 13, 2021.

### • Vegetation

The plant community throughout the project stie has been altered by prior permitted clearing, grading, homesite removals, and the placement of clean imported gravelly loam fill materials. Observed species onsite included sapling red alder (Alnus rubra), sapling black cottonwood (Populus trichocarpa), evergreen blackberry (Rubus laciniatus), Himalayan blackberry (Rubus armeniacus), trailing blackberry (Rubus ursinus), Scots broom (Cytisus scoparius), rose (Rosa spp.), snowberry (Symphoricarpus albus), rye (Lolium spp.), bluegrass (Poa spp.), bentgrass (Agrostis tenuis), orchardgrass (Dactylis glomerata), quackgrass (Agropyron repens), fescue (Festuca spp.), sweet vernal grass (Anthoxanthum odoratum), velvet grass (Holcus lanatus), reed canarygrass (Phalaris arundinacea), bracken fern (Pteridium aquilium), buttercup (Ranunculus repens), catsear (Hypochaeris radicata and Hypochaeris lanatum), clover (Trifolium spp.), daisy (Bellis spp.), mustard (Brassica campestris), plantain (Plantago major), Queen Annes lace (Daucus carota), dandelion (Taraxacum officinale), geranium (Geranium spp.), curled dock (Rumex crispus), sheep sorrel (Rumex acetosella), ivy (Hedera spp.), tansy (Tanacetum vulgare), morning glory (*Impomaea purpurea*), bull thistle (*Cirsium vulgare*), and Canadian thistle (Cirsium arvensis). A number of ornamental plants were also present within the areas of the prior homesites particularly within the southwestern portion of the project site.

The plant community associated with the created stormwater detention facilities within the southeastern corner of the project site was dominated by young deciduous trees and shrubs. Observed species included black cottonwood, red alder, Pacific willow (*Salix lasiandra*), Sitka willow (*Salix sitchensis*), Douglas spiraea (*Spiraea douglasii*), blackberries, and reed canarygrass.

### • Fish and Wildlife

The assessment and characterization of fish and wildlife habitats within and immediately adjacent to the project site are provided within *CRITICAL AREAS ASSESSMENT* - *Surface Water Drainages and Fish and Wildlife Habitat Conservation Areas* – dated July 13, 2021.

### **CRITICAL AREAS DETERMINATION**

As documented above, no areas within the project site were identified to exhibit all three established criteria for designation as "wetland." The created stormwater detention facilities present within the southeastern portion of the project site are best defined as intentionally created features from a nonwetland sites. These facilities were also created consistent with City of Puyallup permitting approvals.

### SELECTED DEVELOPMENT ACTION

The Selected Development Action for the project site (Parcels 0420351026, 0420351029, 0420351030, 0420264021, 0420264053, 0420264054, and 0420351066) focuses on the development of a new multi-family residential community within the western portion of the project site. The development of this new multi-family residential community would be consistent with the City of Puyallup Comprehensive Plan, local zoning, the character of the neighborhood, and the provisions of the City of Puyallup Chapter 21.06. As documented above, the development of this new multi-family residential community would not require and adverse impact to identified "wetlands."

### STANDARD OF CARE

This report has been completed by Habitat Technologies for the use by **Mr. Greg Hellie.** Prior to extensive site planning the findings documented in this report should be reviewed, verified, and approved by City of Puyallup and potentially other resource and permitting agency(s) staff. Habitat Technologies has provided professional services that are in accordance with the degree of care and skill generally accepted in the nature of the work accomplished. No other warranties are expressed or implied. Habitat Technologies is not responsible for design costs incurred before this document is approved by the appropriate resource and permitting agencies.

Bryan W. Peck Bryan W. Peck

Senior Wetland Biologist

Thomas D. Deming

Thomas D. Deming, SPWS Habitat Technologies (Appendix B)

FIGURES

### Habitat Technologies

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The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose. Date: 6/7/2021 01:25 PM

## Figure 1 Site Vicinity

# Figure 2 NWI Mapping

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# Figure 3 PHS Mapping

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Feet



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# Figure 4 WDFW Salmonscape Mapping



June 7, 2021

All SalmonScape Species



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, USGS/NHD, Dale Gombert (WDFW), WDFW

### Forest Practices Water Type Map



# Figure 6 Puyallup Mapping

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# Figure 7 Soils Mapping

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### Figure 8 1998 Aerial Photo

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### Figure 8a 2005 Aerial Photo

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### Figure 8b 2020 Aerial Photo

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# **Figure 9 Site Graphic**



\_\_\_\_50 ft\_\_\_\_

**ExpertGPS** 

### **REFERENCE AND BACKGROUND LIST**

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Washington State Department of Fish and Wildlife SalmonScape Mapping System, 2016 (for fish presence): http://apps.wdfw.wa.gov/salmonscape/map.html

Washington State Department of Natural Resources FPARS Mapping System, 2016 (for stream typing): http://fortess.wa.gov/dnr/app1/fpars/viewer.htm

**APPENDIX A – Field Data** 

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

Project/Site: East Town Center	City/County: City of Puyallup	Sampling Date: <u>14 OCT 21</u>
Applicant/Owner:	State: Washington	Sampling Point: <u>SP-1</u>
Investigator(s): Habitat Technologies	Section, Township, Range: <u>S35/26</u>	6, T20N, R04E
Landform (hillslope, terrace, etc.): valley terrace	Local relief (concave, convex, none): <u>flat</u>	Slope (%):
Subregion (LRR): A La	at: Long:	Datum:
Soil Map Unit Name: Briscot	NWI classif	ication: somewhat poorly
Are climatic / hydrologic conditions on the site typical for this time	e of year? Yes 🛛 🛛 No 🗌 (If no, explain in Remark	s.)
Are Vegetation, Soil, or Hydrology significa	ntly disturbed? Are "Normal Circumstances" p	resent? Yes 🛛 No 🗌
Are Vegetation, Soil, or Hydrology naturally	problematic? (If needed, explain any answer	s in Remarks.)
SUMMARY OF FINDINGS – Attach site map sho	wing sampling point locations, transec	ts, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ⊠ Yes □ Yes □	No 🗆 No 🖾 No 🖾	Is the Sampled Area within a Wetland?	Yes 🗌 No 🛛
Remarks: Entire project site filled and lev	veled with	n several feet of imported	gravelly sandy loam imported fi	ll between 2002 and 2005

#### **VEGETATION – Use scientific names of plants.**

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>15ft radius</u> ) 1	<u>% Cover</u>	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>1</u> (B)
4				
Sapling/Shrub Stratum (Plot size: 15ft radius)		= Total C	over	That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. Rubus armeniacus	<2	no	FAC	Prevalence Index worksheet:
2. Cytisus scoparius	<2	no	UPL	Total % Cover of:Multiply by:
3. Populus trichocarpa - seedlings	<1	no	FAC	OBL species x 1 =
4				FACW species x 2 =
5.				FAC species x 3 =
	<4	= Total C	over	FACU species x 4 =
Herb Stratum (Plot size: 15ft radius)				UPL species x 5 =
1. Agrostis tenuis	85	yes	FAC	Column Totals: (A) (B)
2. Hypochaeris lanatum	trace	no	FACU	
3. <u>Plantago major</u>	trace	no	FACU	Prevalence Index = B/A =
4. Daucus carota	trace	no	FACU	Hydrophytic Vegetation Indicators:
5				Rapid Test for Hydrophytic Vegetation
6				Dominance Test is >50%
7				□ Prevalence Index is ≤3.0 <sup>1</sup>
8				Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
9				□ Wetland Non-Vascular Plants <sup>1</sup>
				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
11	05			<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 15ft radius)	80	= Total C	over	be present, unless disturbed or problematic.
1.				
2.				Hydrophytic
	0	= Total C	over	Present? Yes 🛛 No 🗌
% Bare Ground in Herb Stratum <u>0</u>	<u> </u>	i otar O		
Remarks: dominated by a typically used seeded erosion co	ontorl grass			

#### SOIL

Profile Des	cription: (Describe	to the de	epth needed to docu	ment the in	dicator	or confirm	n the absend	e of indicators.)
Depth	Matrix		Red	ox Features				
(inches)	Color (moist)		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-2	10YR 3/3	100					SL	
2-24	10YR 4/2	100						very gravelly sandy loam
	1011111/2							tory gravolly barlay loan
		·						
		·						
<sup>1</sup> Type: C=C	concentration, D=Dep	pletion, RM	M=Reduced Matrix, C	S=Covered	or Coate	ed Sand G	irains. <sup>2</sup> L	ocation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Applic	able to a	ll LRRs, unless othe	erwise noted	l.)		Indica	tors for Problematic Hydric Soils <sup>3</sup> :
🗌 Histosol	(A1)		Sandy Redox (	S5)			🗌 2 c	cm Muck (A10)
🔲 Histic Ep	pipedon (A2)		Stripped Matrix	(S6)			🗌 Re	d Parent Material (TF2)
🔲 🛛 Black Hi	istic (A3)		Loamy Mucky I	Mineral (F1)	(except	MLRA 1)	🗌 Ve	ry Shallow Dark Surface (TF12)
Hydroge	en Sulfide (A4)		Loamy Gleyed	Matrix (F2)			🗌 Otl	her (Explain in Remarks)
Deplete	d Below Dark Surfac	e (A11)	Depleted Matri	x (F3)			0	
	ark Surface (A12)		☐ Redox Dark Su	Irface (F6)			³Indica	itors of hydrophytic vegetation and
	Aucky Mineral (S1)		Depleted Dark	Surface (F7)			wet	land hydrology must be present,
				sions (F8)			unie	ess disturbed of problematic.
Type:	Layer (il present).							
Dopth (in	choc):							
Deptii (ii	iches)						Hydric So	oil Present? Yes 📋 No 🖂
Remarks: N	O prominent field inc	licators of	hydric soils. Compa	icted importe	ed fill			
IYDROLOO	GY							
Wetland Hy	drology Indicators:							
Primary Indi	icators (minimum of o	one requir	ed; check all that app	oly)			Sec	ondary Indicators (2 or more required)
Surface	Water (A1)		Water-Sta	ined Leaves	(B9) ( <b>e</b>	cept ML	RA 🗌	Water-Stained Leaves (B9) (MLRA 1, 2,
🛛 🗆 High Wa	ater Table (A2)		1, 2, 4	A, and 4B)		-		4A, and 4B)
Saturati	on (A3)		Salt Crust	, (B11)				Drainage Patterns (B10)
U Water M	larks (B1)		Aquatic In	vertebrates (	(B13)			Dry-Season Water Table (C2)
	(= - /							,

#### Н

Wetland Hydrology Indicate	ors:					
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (2 or more required)	
Surface Water (A1) Water-Stained Leaves (B9) (except M					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 Livin	ng 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 Sc	oils (C6)	FAC-Neutral Test (D5)	
Surface Soil Cracks (B6)			Stunted or Stressed Plants (D1) (	<b>_RR A</b> )	Raised Ant Mounds (D6) (LRR A)	
Inundation Visible on Aer	al Imagery	/ (B7)	Other (Explain in Remarks)		Frost-Heave Hummocks (D7)	
Sparsely Vegetated Conc	ave Surfa	ce (B8)				
Field Observations:						
Surface Water Present?	Yes 🗌	No 🖂	Depth (inches):			
Water Table Present?	Yes 🗌	No 🖂	Depth (inches):			
Saturation Present? (includes capillary fringe)	Yes 🗌	No 🖂	Depth (inches):	Wetland Hy	rdrology Present? Yes 🗌 No 🛛	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:						
Remarks: NO prominent field	indicators	of wetla	nd hydrology.			

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

Project/Site: East Town Center	City/County: City of Puyallup	Sampling Date: <u>14 OCT 21</u>
Applicant/Owner:	State: Washingtor	n Sampling Point: <u>SP-2</u>
Investigator(s): Habitat Technologies	Section, Township, Range: <u>S35/2</u>	26, T20N, R04E
Landform (hillslope, terrace, etc.): valley terrace	Local relief (concave, convex, none): <u>flat</u>	Slope (%):
Subregion (LRR): A Lat:	Long:	Datum:
Soil Map Unit Name: Briscot	NWI class	ification: somewhat poorly
Are climatic / hydrologic conditions on the site typical for this time	of year? Yes 🛛 No 🗌 (If no, explain in Remar	ks.)
Are Vegetation, Soil, or Hydrology significant	tly disturbed? Are "Normal Circumstances"	present? Yes 🛛 No 🗌
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map show	ving sampling point locations, transed	cts, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes 🗌 Yes 🗍 Yes 🗍	No 🖾 No 🖾 No 🖾	Is the Sampled Area within a Wetland?	Yes 🗌 No 🛛
Remarks: Entire project site filled and lev	eled with	n several feet of imported	gravelly sandy loam imported fi	l between 2002 and 2005

#### **VEGETATION – Use scientific names of plants.**

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>15tt radius</u> ) 1	<u>% Cover</u>	_Species?	<u>Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>0</u> (B)
4				Percent of Deminent Species
Sapling/Shrub Stratum (Plot size: 15ft radius)		= Total C	over	That Are OBL, FACW, or FAC: 0 (A/B)
1. Rubus armeniacus	trace	no	FAC	Prevalence Index worksheet:
2. Cytisus scoparius	trace	no	UPL	Total % Cover of: Multiply by:
3. Populus trichocarpa - seedlings	<1	no	FAC	OBL species x 1 =
4. Rubus laciniatus	trace	no	FACU	FACW species x 2 =
5				FAC species x 3 =
	<2	= Total C	over	FACU species x 4 =
Herb Stratum (Plot size: 15ft radius)				UPL species x 5 =
1. Agrostis tenuis	10	yes	FAC	Column Totals: (A) (B)
2. <u>Hypochaeris lanatum</u>	trace	no	FACU	
3. <u>Plantago major</u>	trace	no	FACU	Prevalence Index = B/A =
4. Daucus carota	trace	no	FACU	Hydrophytic Vegetation Indicators:
5. <u>Tanacetum vulgare</u>	90	yes	FACU	Rapid Test for Hydrophytic Vegetation
6. <u>Poa spp.</u>	trace	no	FAC	Dominance Test is >50%
7				☐ Prevalence Index is ≤3.0 <sup>1</sup>
8				Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
9			·	☐ Wetland Non-Vascular Plants <sup>1</sup>
10				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
11				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 15ft radius)	100	= Total C	over	be present, unless disturbed or problematic.
1				Hudronhutio
2				Vegetation
	0	= Total C	over	Present? Yes 🗌 No 🖂
% Bare Ground in Herb Stratum 0				
Remarks: dominated by Tansy and a typically used seeded	d erosion co	ontorl grass		

#### SOIL

Sampling Point: SP-2

Depth	IVIALITX			Redo	x Features	<u>s</u>		_				
(inches)	Color (moist)	%	Colc	<u>or (moist)</u>	%	Type <sup>1</sup>	Loc <sup>2</sup>	Textur	e		Remarks	
-24	10YR 4/2	100								very gravell	y sandy loam	
						·						
						·						
						·						
						·						
						·						
Type: C=C	oncentration, D=D	epletion, R	M=Red	luced Matrix, C	S=Covered	d or Coate	ed Sand Gr	rains.	<sup>2</sup> Lo	cation: PL=P	ore Lining, M=M	atrix.
				Sandy Podoy (	25)	eu.)				m Muck $(\Lambda 10)$		0115 .
Histic Fr	oipedon (A2)			Stripped Matrix	(S6)				l Red	Parent Mate	rial (TF2)	
Black Hi	istic (A3)			Loamv Muckv N	√ineral (F1	) (except	t MLRA 1)		] Ven	v Shallow Dar	k Surface (TF12	)
 Hydroge	en Sulfide (A4)			Loamy Gleyed	Matrix (F2)	)	- /		] Oth	, er (Explain in	Remarks)	,
Deplete	d Below Dark Surfa	ace (A11)		Depleted Matrix	(F3)						-	
Thick Date	ark Surface (A12)			Redox Dark Sur	rface (F6)			<sup>3</sup> lı	ndicate	ors of hydropł	nytic vegetation	and
Sandy N	/lucky Mineral (S1)		<u> </u>	Depleted Dark \$	Surface (F	7)			wetla	and hydrology	must be presen	t,
Sandy C	Bleyed Matrix (S4)			Redox Depress	ions (F8)				unles	ss disturbed o	r problematic.	
Restrictive	Layer (if present)	:										
Type				-								
Denth (in	ches)									I Urocont'/	YASII NOIX	
Depth (in Remarks: N	nches): O prominent field i	ndicators o	f hydric	- soils. Compa	cted impor	ted fill		Hydr	ic Soi	r resent:		
Depth (in Remarks: N	nches): O prominent field i	ndicators o	f hydric	- soils. Compa	cted impor	ted fill		Hydr	ic Soi			
Depth (in Remarks: N DROLOC	nches): O prominent field in	ndicators o	f hydric	- ; soils. Compa	cted impor	ted fill		Hydr	ic Soi			
Depth (in Remarks: N DROLOC Netland Hy Primary Indi	nches): O prominent field i SY drology Indicator cators (minimum o	ndicators o	f hydric	- soils. Compa	cted impor	ted fill		Hydr	Seco	ndary Indicate	prs (2 or more re	auired)
Depth (in Remarks: N DROLOC Wetland Hy Primary Indi	The sector of th	ndicators o	f hydric	eck all that appl	cted impor	ted fill	xcent MI 6	Hydr	Seco	ndary Indicato	prs (2 or more re	quired)
Depth (in Remarks: N DROLOC Wetland Hy Primary Indi Surface High Wa	C prominent field i  O prominent field i  Y  rdrology Indicator cators (minimum o Water (A1) Iter Table (A2)	ndicators o	f hydric	eck all that appl	cted impor	ted fill es (B9) ( <b>e</b>	xcept MLR	Hydr	Seco	ndary Indicato Vater-Stained	ors (2 or more re Leaves (B9) ( <b>M</b>	<u>quired)</u> ₋RA 1,
Depth (in Remarks: N DROLOC DROLOC Vetland Hy Primary Indi Surface High Wa Saturati	Treaters (minimum o Water (A1) Inter Table (A2) Inter Table (A2)	ndicators o	f hydric	eck all that appl Water-Stai 1, 2, 4/	ly) ined Leave <b>A, and 4B</b>	ted fill es (B9) ( <b>e</b>	xcept MLR	Hydr	Seco	ndary Indicato Vater-Stained <b>4A, and 4E</b>	ors (2 or more re Leaves (B9) ( <b>M</b> ) (B)	quired) _RA 1,
Depth (in Remarks: N DROLOC DROLOC Wetland Hy Primary Indi Surface High Wa Saturatio Water M	Transformer (Market Schemer Transformer (Market Schemer Transformer (Market Schemer (Market	ndicators o	f hydric	eck all that appl Water-Stai 1, 2, 4/	cted impor	ted fill es (B9) ( <b>e</b> )	xcept MLF	Hydr	Seco	ndary Indicate Vater-Stained <b>4A, and 4E</b> Prainage Patte	ors (2 or more re Leaves (B9) ( <b>M</b> ) mrs (B10) ater Table (C2)	<u>quired)</u> _RA 1, :
Depth (in Remarks: N DROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer	C prominent field i C prominent field i GY 'drology Indicator cators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1) tt Deposits (B2)	ndicators o	f hydric	eck all that appl Water-Stai 1, 2, 4 Salt Crust Aquatic Inv Hvdrogen	ly) ined Leave <b>A, and 4B</b> (B11) /ertebrates Sulfide Od	ted fill es (B9) ( <b>e</b> ) s (B13) lor (C1)	xcept MLF	Hydr	Seco	ndary Indicato Vater-Stained <b>4A, and 4E</b> Prainage Patte Dry-Season Wa	prs (2 or more re Leaves (B9) ( <b>M</b> <b>3)</b> mrs (B10) ater Table (C2) ble on Aerial Ima	quired) _RA 1,
Depth (in Remarks: N DROLOC Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Der	The prominent field i O prominent field i GY GY Gators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)	ndicators o	f hydric	eck all that appl Water-Stai U Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized F	(B11) /ertebrates Sulfide Od	ted fill es (B9) ( <b>e</b> ) s (B13) lor (C1) es along	xcept MLR	Hydr	<u>Seco</u> <u>Seco</u> <u>D</u> <u>D</u> <u>D</u> <u>D</u> <u>D</u> <u>D</u> <u>D</u> <u>D</u>	ndary Indicato Vater-Stained <b>4A, and 4E</b> Prainage Patte Dry-Season Wa aturation Visil Geomorphic Po	prs (2 or more re Leaves (B9) ( <b>M</b> <b>3)</b> rrns (B10) ater Table (C2) ble on Aerial Ima psition (D2)	quired) _RA 1, agery (C
Depth (in Remarks: N DROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Saturatio Water M Sedimer Drift Dep Algal Ma	Content field i Content field i Conten	ndicators o	f hydric	eck all that appl Water-Stai U Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized F	IV) ined Leave A, and 4B; (B11) vertebrates Sulfide Od thizospher of Reduce	ted fill es (B9) ( <b>e</b> ) s (B13) lor (C1) res along d Iron (C4	xcept MLF	Hydr	Seco	ndary Indicato Vater-Stained <b>4A, and 4E</b> Orainage Patte Ory-Season Wa iaturation Visil Seomorphic Po	ors (2 or more re Leaves (B9) ( <b>M</b> <b>3)</b> ater Table (C2) ble on Aerial Ima osition (D2) rd (D3)	quired) _RA 1, agery (C
Depth (in Remarks: N DROLOC Vetland Hy Primary Indi Surface High Wa Saturatio Saturatio Saturatio Saturatio Drift Dep Algal Ma Iron Dep	Aches): O prominent field i C prominent field	ndicators o	f hydric	eck all that appl Water-Stai U Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro	IV) ined Leave A, and 4B (B11) vertebrates Sulfide Od thizospher of Reduce n Reductio	ted fill es (B9) ( <b>e</b> ) s (B13) lor (C1) res along d Iron (C4 on in Tille	xcept MLR	Hydr RA ts (C3)	<u>Seco</u> Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco Seco	ndary Indicate Vater-Stained <b>4A, and 4E</b> Org-Season Wa aturation Visil Geomorphic Po challow Aquita AC-Neutral To	ors (2 or more re Leaves (B9) ( <b>M</b> ) mrs (B10) ater Table (C2) ble on Aerial Ima osition (D2) rd (D3) est (D5)	quired) _RA 1,
Depth (in Remarks: N DROLOO Detland Hy Primary Indi Surface High Wa Saturatio Saturatio Saturatio Drift Dep Algal Ma Iron Dep Surface	C prominent field i C promotion ( C prom	ndicators o	f hydric	eck all that appl Water-Stai U Water-Stai 1, 2, 4 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro	IV) Ined Leave A, and 4B (B11) vertebrates Sulfide Od Thizospher of Reducer n Reductio Stressed	ted fill es (B9) ( <b>e</b> ) s (B13) lor (C1) res along d Iron (C4 on in Tille Plants (D	xcept MLR Living Roo 4) d Soils (C6 1) (LRR A)	Hydr RA ts (C3)	Seco Seco Seco S S S S S S S S S S S S S S S S S S S	ndary Indicate Vater-Stained <b>4A, and 4E</b> Orainage Patte Ory-Season W. Beomorphic Po Seaturation Visil Beomorphic Po Schallow Aquita AC-Neutral To Caised Ant Mo	ors (2 or more re Leaves (B9) ( <b>M</b> ) mrs (B10) ater Table (C2) ble on Aerial Ima osition (D2) rd (D3) est (D5) unds (D6) ( <b>LRR</b>	quired) _RA 1, agery (C
Depth (in Remarks: N DROLOC Vetland Hy Primary Indi Surface High Wa Saturatio Saturatio Saturatio Algal Ma Iron Dep Surface Surface	Aches): O prominent field i O promoticator Cators (minimum o 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	ndicators o	red; ch	eck all that app Water-Stain Water-Stain 1, 2, 4/ Salt Crust Aquatic Inv Oxidized F Presence of Recent Iro Stunted or Other (Exp	IV) ined Leave A, and 4B (B11) vertebrates Sulfide Od hizospher of Reduce n Reduction Stressed plain in Rei	ted fill es (B9) ( <b>e</b> s (B13) lor (C1) res along d Iron (C4 on in Tille Plants (D marks)	xcept MLR Living Roo 4) d Soils (C6 1) (LRR A)	Hydr RA ts (C3)	Seco Seco Seco S S S S S S S S S S S S S S S S S S S	ndary Indicato Vater-Stained <b>4A, and 4E</b> Orainage Patte Ory-Season W aturation Visil Beomorphic Po Schallow Aquita AC-Neutral To Raised Ant Mo	prs (2 or more re Leaves (B9) ( <b>M</b> ) mrs (B10) ater Table (C2) ble on Aerial Ima position (D2) rd (D3) est (D5) unds (D6) ( <b>LRR</b> ummocks (D7)	quired) _RA 1, agery (C A)
Depth (in Remarks: N DROLOC Vetland Hy Primary Indi Surface High Wa Saturatio Saturatio Sedimer Algal Ma Iron Dep Surface Inundati Sparsely	Aches): O prominent field i O prominent field i Transport (Marcial Content of 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 / Vegetated Conca	I Imagery ( ve Surface	<u>red; ch</u>	eck all that app Water-Stai 1, 2, 4 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Other (Exp	IV) ined Leave A, and 4B (B11) vertebrates Sulfide Od hizospher of Reduces n Reductio Stressed vlain in Rei	ted fill es (B9) ( <b>e</b> s (B13) lor (C1) res along d Iron (C4 on in Tille Plants (D marks)	xcept MLR Living Roo 4) d Soils (C6 1) (LRR A)	Hydr RA ts (C3)	<u>Seco</u> Seco D D D C S C S C S C S C S C S C S C S C S C S C S C S C S S C S S C S S S S S S S S S S S S S	ndary Indicato Vater-Stained <b>4A, and 4E</b> Prainage Patte Dry-Season W Baturation Visil Beomorphic Po Shallow Aquita AC-Neutral To Saised Ant Mo rost-Heave H	prs (2 or more re Leaves (B9) (Mi 3) rrns (B10) ater Table (C2) ble on Aerial Ima position (D2) rd (D3) est (D5) unds (D6) (LRR ummocks (D7)	quired) _RA 1, agery (C A)
Depth (in Remarks: N DROLOC Vetland Hy Primary Indi Surface High Wa Saturatio Saturatio Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obsei	Aches): O prominent field i O promotion ( Cators (minimum o Vater (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 / Vegetated Conca vations:	I Imagery ( ve Surface	<u>red; ch</u> B7)	eck all that app Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Other (Exp	IV) ined Leave A, and 4B; (B11) vertebrates Sulfide Od hizospher of Reduce n Reductio Stressed plain in Ref	ted fill es (B9) ( <b>e</b> ) s (B13) lor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A)	Hydr RA ts (C3)	<u>Seco</u> Seco Seco S S S S S S S S S S S S S	ndary Indicato Vater-Stained <b>4A, and 4E</b> Drainage Patte Dry-Season Wa aturation Visil Geomorphic Po challow Aquita AC-Neutral To Caised Ant Mo rost-Heave H	ors (2 or more re Leaves (B9) (M ) ater Table (C2) ble on Aerial Ima osition (D2) rd (D3) est (D5) unds (D6) (LRR ummocks (D7)	<u>quired)</u> _RA 1, agery (C A)
Depth (in Remarks: N DROLOC Vetland Hy Primary Indi Surface High Wa Saturatio Saturatio Saturatio Algal Ma Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Wa	Comprominent field i  O prominent field i  Cators (minimum o Cators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aeria / Vegetated Conca vations: ter Present?	I Imagery ( ve Surface	B7) (B8)	eck all that app Water-Stai U Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o Recent Iro Stunted or Other (Exp Depth (inches	IV) ined Leave A, and 4B (B11) vertebrates Sulfide Od (hizospher of Reduced n Reductio Stressed plain in Ref S):	ted fill es (B9) ( <b>e</b> ) s (B13) lor (C1) es along d Iron (C4 on in Tille Plants (D marks)	xcept MLR Living Roo 4) d Soils (C6 1) (LRR A)	Hydr RA (C3)	Seco Seco D D D C S C S C S C S C S C S C S C S C S C S C S C S C S C S C S C S C S C S C S C S C S C S C S C S C S S C S S C S S S S S S S S S S S S S	ndary Indicato Vater-Stained <b>4A, and 4E</b> Orainage Patte Ory-Season W. Seaturation Visil Seomorphic Po Shallow Aquita AC-Neutral To Raised Ant Mo rost-Heave H	ors (2 or more re Leaves (B9) (M b) mrs (B10) ater Table (C2) ble on Aerial Ima osition (D2) rd (D3) est (D5) unds (D6) (LRR ummocks (D7)	<u>quired)</u> _RA 1, agery (C A)
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Depth (in Remarks: N DROLOO Vetland Hy Primary Indi Surface High Wa Saturatio Saturatio Algal Ma Iron Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Saturation F	Aches): O prominent field i O promotion of the promotest O promotest (A1) Ater Table (A2) On (A3) Iarks (B1) At Deposits (B2) Doosits (B3) At or Crust (B4) Doosits (B5) Soil Cracks (B6) On Visible on Aeria / Vegetated Conca Vations: Er Present?	I Imagery ( ve Surface	B7) (B8) No ⊠ No ⊠ No ⊠	eck all that app Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Vater Stai 1, 2, 4, Salt Crust Aquatic Inv Presence of Recent Iro Stunted or Other (Exp Depth (inches Depth (inches	import       Import <td< td=""><td>ted fill es (B9) (<b>e</b> ) s (B13) lor (C1) res along d Iron (C4 on in Tille Plants (D marks)</td><td>xcept MLR Living Roo 4) d Soils (C6 1) (LRR A)</td><td>Hydr RA ts (C3)</td><td>Seco</td><td>ndary Indicato Vater-Stained <b>4A, and 4E</b> Orainage Patte Ory-Season W Saturation Visil Seomorphic Po Shallow Aquita AC-Neutral To Staised Ant Mo frost-Heave H</td><td>prs (2 or more re Leaves (B9) (M 3) rms (B10) ater Table (C2) ble on Aerial Ima bsition (D2) rd (D3) est (D5) unds (D6) (LRR ummocks (D7)</td><td>quired) _RA 1, agery (C A)</td></td<>	ted fill es (B9) ( <b>e</b> ) s (B13) lor (C1) res along d Iron (C4 on in Tille Plants (D marks)	xcept MLR Living Roo 4) d Soils (C6 1) (LRR A)	Hydr RA ts (C3)	Seco	ndary Indicato Vater-Stained <b>4A, and 4E</b> Orainage Patte Ory-Season W Saturation Visil Seomorphic Po Shallow Aquita AC-Neutral To Staised Ant Mo frost-Heave H	prs (2 or more re Leaves (B9) (M 3) rms (B10) ater Table (C2) ble on Aerial Ima bsition (D2) rd (D3) est (D5) unds (D6) (LRR ummocks (D7)	quired) _RA 1, agery (C A)
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### WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: East Town Center	City/County: City of Puya	<u>Illup</u> S	Sampling Date: <u>14 OCT 21</u>
Applicant/Owner:		_ State: <u>Washington</u> _ S	Sampling Point: <u>SP-3</u>
Investigator(s): Habitat Technologies	Section, Town	nship, Range: <u>S35/26, T2(</u>	<u>0N, R04E</u>
Landform (hillslope, terrace, etc.): valley terrace	Local relief (concave, co	onvex, none): <u>flat</u>	Slope (%):
Subregion (LRR): A	Lat:	Long:	Datum:
Soil Map Unit Name: Briscot		NWI classificatio	on: <u>somewhat poorly</u>
Are climatic / hydrologic conditions on the site typical for this tin	ne of year? Yes 🛛 🛛 No 🗌 (If n	o, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology signific	antly disturbed? Are "Norm	nal Circumstances" preser	nt? Yes 🛛 No 🗌
Are Vegetation, Soil, or Hydrology natural	y problematic? (If needed	, explain any answers in F	≀emarks.)
SUMMARY OF FINDINGS – Attach site map sh	owing sampling point loc	ations, transects, in	mportant features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ⊠ No □ Yes □ No ⊠ Yes □ No ⊠	Is the Sampled Area within a Wetland?	Yes 🗌 No 🛛
Remarks: Entire project site filled and	leveled with several feet of import	ed gravelly sandy loam importe	d fill between 2002 and 2005

#### **VEGETATION – Use scientific names of plants.**

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>15ft radius</u> )	% Cover	Species?	<u>Status</u>	Number of Dominant Species	
1				That Are OBL, FACW, or FAC: <u>1</u>	(A)
2				Total Number of Dominant	
3				Species Across All Strata: 1	(B)
4.				·	( )
		= Total C	over	Percent of Dominant Species	(A/D)
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u> )					(АВ)
1. Rubus armeniacus	trace	no	FAC	Prevalence Index worksheet:	
2. Cytisus scoparius	trace	no	UPL	Total % Cover of: Multiply by:	
3.				OBL species x 1 =	_
4. Rubus laciniatus	trace	no	FACU	FACW species x 2 =	_
5.				FAC species x 3 =	
	<2	= Total C	over	FACU species x 4 =	
Herb Stratum (Plot size: <u>15ft radius</u> )				UPL species x 5 =	
1. Agrostis tenuis	85	yes	FAC	Column Totals: (A)	(B)
2. <u>Hypochaeris lanatum</u>	trace	no	FACU		,
3. <u>Plantago major</u>	trace	no	FACU	Prevalence Index = B/A =	
4. Daucus carota	trace	no	FACU	Hydrophytic Vegetation Indicators:	
5. <u>Tanacetum vulgare</u>	<2	no	FACU	Rapid Test for Hydrophytic Vegetation	
6. Poa spp.	<u>&lt;</u> 5	no	FAC	☑ Dominance Test is >50%	
7.				☐ Prevalence Index is ≤3.0 <sup>1</sup>	
8.				Morphological Adaptations <sup>1</sup> (Provide supporti	ing
9.		·		data in Remarks or on a separate sheet)	
10		·		☐ Wetland Non-Vascular Plants <sup>1</sup>	
11				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain	ר)
····	100	– Total C		<sup>1</sup> Indicators of hydric soil and wetland hydrology m	nust
Woody Vine Stratum (Plot size: <u>15ft radius</u> )	100	- 10tal C	000	be present, unless disturbed or problematic.	
1.					
2.		·		Hydrophytic	
	0	= Total C	over	Present? Yes 🛛 No 🗌	
% Bare Ground in Herb Stratum <u>0</u>	<u></u>	101010	0.01		
Remarks: dominated by a typically used seeded erosion c	ontorl grass			1	

#### SOIL

Sampling Point: SP-3

Depth	Matrix		_ <u></u>	<u>edox Feature</u>	<u>s</u>		_			_	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Textur	e		Remarks	
0-36	10YR 4/2	100							very grave	elly sandy loar	n
			·								
Type: C=C	Concentration, D=D	epletion, R	M=Reduced Matrix	, CS=Covere	d or Coat	ed Sand Gi	rains. In		cation: PL=	Pore Lining, N	M=Matrix.
				(95)	eu.)						
Histosol     Histic Fi	ninedon (A2)			x (33) triv (S6)				] Z Cli ] Red	Parent Mat	7) orial (TF2)	
	istic (A3)			v Mineral (E	) (excent	MIRA 1)		] Verv	Shallow Da	ark Surface (1	F12)
	en Sulfide (A4)			ed Matrix (F2	)			] Othe	er (Explain i	n Remarks)	1 12)
	d Below Dark Surfa	ace (A11)	Depleted Ma	itrix (F3)	/					in tomanto)	
Thick D	ark Surface (A12)		Redox Dark	Surface (F6)			<sup>3</sup> lr	ndicato	ors of hvdror	ohvtic vegetat	ion and
 □ Sandy N	Aucky Mineral (S1)		Depleted Da	rk Surface (F	7)			wetla	nd hydrolog	y must be pre	esent,
 □ Sandy (	Gleyed Matrix (S4)		☐ Redox Depre	essions (F8)	,			unles	s disturbed	or problemati	c.
Restrictive	Layer (if present)	:									
Type											
Type											- 57
Depth (ir Remarks: N	nches): IO prominent field ii	ndicators o	f hydric soils. Com	pacted impor	rted fill.		Hydri	ic Soil	Present?		<u>o X</u>
Depth (ir Remarks: N	nches): IO prominent field in	ndicators o	f hydric soils. Com	ipacted impo	rted fill.		Hydri	ic Soil	Present?		• 🖂
Depth (ir Remarks: N	nches): IO prominent field in GY ydrology Indicator	ndicators o	f hydric soils. Com	ipacted impo	rted fill.		Hydri	ic Soil	Present?		• 🖂
Depth (ir Remarks: N DROLOO Wetland Hy Primary Ind	nches): IO prominent field in GY /drology Indicator icators (minimum o	ndicators o	f hydric soils. Corr	pply)	rted fill.		Hydri	<u>Secor</u>	Present?	tors (2 or mol	re required)
Depth (ir Remarks: N DROLOO Wetland Hy Primary Ind	nches): IO prominent field in GY /drology Indicator icators (minimum o Water (A1)	ndicators o	f hydric soils. Corr	pply)	rted fill.	xcept MLF	Hydri	<u>Secor</u> □ W	ndary Indica	tors (2 or mon d Leaves (B9	• 🖂 re required) ) (MLRA 1, 2
Depth (ir Remarks: N DROLOO Vetland Hy Primary Ind Surface High Wa	nches): IO prominent field in GY /drology Indicator icators (minimum o Water (A1) ater Table (A2)	ndicators o	f hydric soils. Corr <u>red; check all that a</u> Water-\$ <b>1, 2</b>	pply) 3tained Leave	rted fill. es (B9) ( <b>e</b> )	xcept MLF	Hydri	Secor	ndary Indica /ater-Staine 4A, and 4	ttors (2 or mod d Leaves (B9 B)	• 🖂 re required) ) ( <b>MLRA 1,</b> 2
Depth (ir Remarks: N DROLOO Vetland Hy Primary Ind Surface High Wa Saturati	IC prominent field in IC prominent field in GY ydrology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3)	ndicators o	f hydric soils. Corr <u>red; check all that a</u> Water-S 1, 2	pply) Stained Leave , <b>4A, and 4B</b> Ist (B11)	rted fill. es (B9) ( <b>e</b> <b>)</b>	xcept MLF	Hydri	Secor	ndary Indica ndary Indica dater-Stained 4A, and 4 rainage Pati	ttors (2 or mou d Leaves (B9) HB) terns (B10)	• 🖂 re required) ) (MLRA 1, 2
Depth (ir Remarks: N DROLOO Primary Ind Surface High Wa Saturati Water M	Arches): IO prominent field in GY /drology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3) farks (B1)	ndicators o	f hydric soils. Corr red; check all that a Water-S 1, 2 Salt Cru Aquatic	pply) Stained Leave , <b>4A</b> , and <b>4B</b> Ist (B11) Invertebrate:	rted fill. es (B9) ( <b>e</b> <b>)</b> s (B13)	xcept MLF	Hydri	Secon	ndary Indica /ater-Stained 4A, and 4 rainage Patt ry-Season V	ttors (2 or mod d Leaves (B9) terns (B10) Vater Table (0	• ⊠ <u>re required)</u> ) ( <b>MLRA 1, 2</b> C2)
Depth (ir Remarks: N DROLO( Wetland Hy Primary Ind Surface High Wa Saturati Saturati Saturati Saturati Saturati	Arches): IO prominent field in GY /drology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3) /larks (B1) nt Deposits (B2)	ndicators o	f hydric soils. Corr <u>red; check all that a</u> Water-S <b>1, 2</b> Salt Cru Aquatic Hydrog	pply) Stained Leave , <b>4A, and 4B</b> Ist (B11) Invertebrate en Sulfide Oc	rted fill. es (B9) ( <b>e</b> ) s (B13) dor (C1)	xcept MLF	Hydri	<u>Secor</u> W D D S S	ndary Indica /ater-Stained 4A, and 4 rainage Patt ry-Season V aturation Vis	ttors (2 or moi d Leaves (B9 B) terns (B10) Vater Table (( sible on Aeria	• 🖂 <u>re required)</u> ) ( <b>MLRA 1, 2</b> C2) I Imagery (C
Depth (ir Comparison of the second	Arches): O prominent field in GY ydrology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)	ndicators o	f hydric soils. Corr f hydric soils. Corr <u>red; check all that a</u> Water-S <b>1, 2</b> Salt Cru Aquatic Hydrog Oxidize	pply) Stained Leave , <b>4A</b> , <b>and 4B</b> ust (B11) Invertebrate en Sulfide Oc d Rhizospher	rted fill. es (B9) ( <b>e</b> ) s (B13) dor (C1) res along	xcept MLF	Hydri RA ts (C3)	<u>Secor</u> W D D Sa G	ndary Indica dater-Stained 4A, and 4 rainage Patt ry-Season V aturation Vis eomorphic F	tors (2 or mod d Leaves (B9) B) terns (B10) Vater Table (( sible on Aeria Position (D2)	• 🖂 <u>re required)</u> ) ( <b>MLRA 1, 2</b> C2) I Imagery (C
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Depth (ir Remarks: N DROLOO DROLOO Wetland Hy Primary Ind Surface High Wa Saturati Saturati Saturati Drift De Algal Ma Iron Dep	Aches): IO prominent field in GY /drology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	ndicators o	f hydric soils. Corr f hydric soils. Corr <u>red; check all that a</u> Water-S <b>1, 2</b> Salt Cru Salt Cru Aquatic Hydrog Oxidize Present Recent	pply) 3tained Leave , <b>4A</b> , and <b>4B</b> ust (B11) Invertebrate en Sulfide Oc d Rhizospher ce of Reduce Iron Reductio	rted fill. es (B9) ( <b>e</b> ) s (B13) dor (C1) res along d Iron (C4 on in Tille	xcept MLF	Hydri RA ts (C3)	Secon           W           D           Signal           G           Signal           Fi	ndary Indica ndary Indica (ater-Stainer <b>4A, and 4</b> rainage Patt ry-Season V aturation Vis eomorphic F hallow Aquit AC-Neutral	ters (2 or mod d Leaves (B9 B) terns (B10) Vater Table (( sible on Aeria Position (D2) tard (D3) Test (D5)	• 🖂 <u>re required)</u> ) ( <b>MLRA 1, 2</b> C2) I Imagery (C
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	Aches): O prominent field in <b>GY</b> <b>/drology Indicator</b> <b>icators</b> (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) ion Visible on Aeria y Vegetated Conca <b>rvations:</b> ter Present? Present?	I Imagery ( ve Surface Yes Yes Yes Yes Yes Yes Yes Yes	f hydric soils. Corr f hydric soils. Corr red; check all that a Water-S B Salt Cru Salt Cru Salt Cru Aquatic Hydrog Oxidize Presenu Stunted B7) Other (I (B8) No Depth (inc No Depth (inc	pacted imporesting of the system of the syst	rted fill. es (B9) ( <b>e</b> ) s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	xcept MLF Living Roo 4) d Soils (C6 1) (LRR A)	ts (C3)	Second           W           D           Signature	Present? Indary Indica /ater-Stainer 4A, and 4 rainage Patt ry-Season V aturation Vis eomorphic F hallow Aquit AC-Neutral aised Ant M rost-Heave F v Present?	ters (2 or mod d Leaves (B9) HB) terns (B10) Nater Table (( sible on Aeria Position (D2) tard (D3) Test (D5) lounds (D6) (I Hummocks (E	• ⊠ <u>re required)</u> ) ( <b>MLRA 1, 2</b> C2) I Imagery (C <b>_RR A</b> ) 07)
	Arches): O prominent field in Arcology 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) ion Visible on Aeria y Vegetated Conca rvations: ter Present? Present? Present? apillary fringe)	I Imagery ( ve Surface Yes Yes Yes Yes Yes Yes	f hydric soils. Corr f hydric soils. Corr red; check all that a Water-S 1, 2 Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted B7) Other (I (B8) No Depth (inc No Depth (inc	apacted imported impo	rted fill. es (B9) ( <b>e</b> ) s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A)	Hydri RA ts (C3)	Secon	Present? Indary Indica /ater-Stained 4A, and 4 rainage Patt ry-Season V aturation Vis eomorphic F hallow Aquit AC-Neutral aised Ant M rost-Heave F y Present?	ters (2 or mou d Leaves (B9) HB) terns (B10) Vater Table (0 sible on Aeria Position (D2) tard (D3) Test (D5) lounds (D6) (I Hummocks (D Hummocks (D	• 🖂 <u>re required)</u> ) ( <b>MLRA 1,</b> 2 C2) I Imagery (C <b>_RR A</b> ) )7) Io 🖂
	Arches): O prominent field in Archology 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? Present? Present? Present? apillary fringe) accorded Data (streat	I Imagery ( ve Surface Yes Yes Yes im gauge,	f hydric soils. Corr f hydric soils. Corr red; check all that a Water-S 1, 2 Salt Crr Aquatic Hydrog Oxidize Present Recent Stunted B7) Other (I (B8) No Depth (inc No Depth (inc	pacted imporest pacted imporest pacted imporest pacted imporest stained Leave , <b>4A, and 4B</b> ust (B11) Invertebrate en Sulfide Oc d Rhizospherest to Reduce Iron Reducted or Stressed Explain in Re hes): hes): hes):	rted fill. es (B9) ( <b>e</b> ) s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks) evious ins	Living Roo 4) d Soils (C6 1) (LRR A) WetI spections),	Hydri RA ts (C3) ) ) and Hyc if availal	Secon	Present? hdary Indica /ater-Stained 4A, and 4 rainage Patt ry-Season V aturation Vis eomorphic F hallow Aquit AC-Neutral aised Ant M rost-Heave F y Present?	ttors (2 or mon d Leaves (B9) terns (B10) Water Table (1 sible on Aeria Position (D2) tard (D3) Test (D5) founds (D6) (I Hummocks (D Yes N	• ⊠ <u>re required)</u> ) ( <b>MLRA 1,</b> 2 C2) I Imagery (C _RR A) D7) Io ⊠
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### WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: East Town Center	City/County: City of Puyallup	Sampling Date: <u>14 OCT 21</u>
Applicant/Owner:	State: Washington	Sampling Point: <u>SP-4</u>
Investigator(s): Habitat Technologies	Section, Township, Range: <u>S35/26</u>	, T20N, R04E
Landform (hillslope, terrace, etc.): valley terrace	Local relief (concave, convex, none): <u>flat</u>	Slope (%):
Subregion (LRR): A Lat: _	Long:	Datum:
Soil Map Unit Name: Puyallup	NWI classifi	cation: moderately well
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🛛 No 🗌 (If no, explain in Remarks	S.)
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "Normal Circumstances" p	resent? Yes 🛛 No 🗌
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If needed, explain any answers	s in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	ng sampling point locations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Yes 🕅 No 🗌		

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ⊠ No □ Yes □ No ⊠ Yes □ No ⊠	Is the Sampled Area within a Wetland? Yes □ No ⊠
Remarks: Entire project site filled and lev	veled with several	feet of imported gravelly sandy loam imported fill between 2002 and 2005

#### **VEGETATION – Use scientific names of plants.**

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>15ft radius</u> ) 1	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>1</u> (B)
4				Demonst of Deminant Species
		= Total C	over	That Are OBL, FACW, or FAC: <u>100</u> (A/B)
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u> )				
1. <u>Rubus armeniacus</u>	trace	no	FAC	Prevalence Index worksheet:
2				Total % Cover of:Multiply by:
3				OBL species x 1 =
4. Rubus laciniatus	trace	no	FACU	FACW species x 2 =
5				FAC species x 3 =
	<2	= Total C	over	FACU species x 4 =
Herb Stratum (Plot size: <u>15ft radius</u> )				UPL species x 5 =
1. Phalaris arundinacea	100	yes	FACW	Column Totals: (A) (B)
2				
3				Prevalence Index = B/A =
4				Hydrophytic Vegetation Indicators:
5				Rapid Test for Hydrophytic Vegetation
6				☑ Dominance Test is >50%
7.				□ Prevalence Index is ≤3.0 <sup>1</sup>
8				Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
9				□ Wetland Non-Vascular Plants <sup>1</sup>
10				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
11		·		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 15ft radius)	<u>100</u>	= Total C	over	be present, unless disturbed or problematic.
1				
2		·		Hydrophytic
<u> </u>	0	- Total 0		Vegetation   Present? Yes ⊠ No □
% Bare Ground in Herb Stratum <u>0</u>	<u>U</u>		over	
Remarks: edge of several feet of fill to the north and a pri-	or homesite	to the south	1.	

#### SOIL

Sampling Point: SP-4

Depth <u>Ma</u>	trix		Redo	x Features	5						
(inches) Color (moist)	%	Color	· (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture			Remarks	
10YR 2/2	100							de	nse roots	and fine sa	ndy loam
4-30 10YR 3/2	100							loa	amv fine	sand	
		-									
					·						
					·	·					
					·						
					·						
								<u> </u>			
lype: C=Concentration, D	Depletion, RN	/I=Redu	iced Matrix, C	S=Covered	d or Coate	ed Sand G	rains. Ind	Locatio	on: PL=P	ore Lining, I	M=Matrix.
			andy Roday (	25)	50.)			2 om Mi		ematic riyu	
☐ Histic Eninedon (A2)			stripped Matrix	(S6)				Red Par	ent Mater	rial (TF2)	
Black Histic (A3)			oamv Muckv N	(00) /lineral (F1	) (except	MLRA 1)		Verv Sh	allow Dar	rk Surface (1	(F12)
Hydrogen Sulfide (A4)			oamy Gleyed	Matrix (F2)	)			Other (E	xplain in	Remarks)	,
Depleted Below Dark S	urface (A11)	D	epleted Matrix	(F3)						,	
Thick Dark Surface (A1	2)	🗌 R	ledox Dark Su	rface (F6)			<sup>3</sup> Inc	licators o	of hydroph	nytic vegeta	tion and
Sandy Mucky Mineral (	S1)		epleted Dark	Surface (F	7)		,	wetland I	nydrology	must be pro	esent,
Sandy Gleyed Matrix (S	54)		ledox Depress	ions (F8)			-	unless di	sturbed o	or problemat	ic.
lestrictive Layer (if prese	ent):										
<b>T</b>											
Type:										_	_
Type: Depth (inches): Remarks: NO prominent fie	ld indicators of	hydrics	soils.				Hydric	Soil Pre	esent?	Yes 🗌 N	0 🛛
Type: Depth (inches): Remarks: NO prominent fie	Id indicators of	hydric :	soils.				Hydric	Soil Pre	esent?	Yes 🗌 N	0
Type: Depth (inches): Remarks: NO prominent fie	Id indicators of	hydric :	soils.				Hydric	Soil Pre	esent?	Yes 🗌 N	•
Type: Depth (inches): Remarks: NO prominent fie DROLOGY Netland Hydrology Indica	Id indicators of	hydric :	soils.				Hydric	Soil Pre	esent?	Yes 🗌 N	0
Type: Depth (inches): Remarks: NO prominent fie DROLOGY Vetland Hydrology Indica Primary Indicators (minimur	Id indicators of Itors: m of one require	hydric : <u>ad; che</u>	soils. <u>ck all that app</u>	y)			Hydric	Soil Pre	esent?	Yes N	re required)
Type: Depth (inches): Remarks: NO prominent fie DROLOGY Vetland Hydrology Indica Primary Indicators (minimur Surface Water (A1)	Id indicators of Id indicators of Itors: m of one require	hydric :	soils. 	ly)	es (B9) ( <b>e</b>	xcept MLF	Hydric RA [	Soil Pre	esent?	Yes N	<u>re required)</u> ) (MLRA 1,
Type: Depth (inches): Remarks: NO prominent fie DROLOGY Vetland Hydrology Indica Primary Indicators (minimur Surface Water (A1) High Water Table (A2)	Id indicators of Id indicators of Itors: m of one require	hydric : ed; che	soils. <u>ck all that app</u> ☐ Water-Sta 1, 2, 4,	ly) ined Leave	es (B9) ( <b>e</b> :	xcept MLI	Hydric Hydric	Secondar Wate	ry Indicato r-Stained <b>4</b> , and 4E	Yes N N Drs (2 or mo Leaves (B9 3)	re required)
Type: Depth (inches): Remarks: NO prominent fie DROLOGY Vetland Hydrology Indica Primary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3)	Id indicators of Itors: m of one require	hydric :	soils. <u>ck all that app</u> ☐ Water-Sta <b>1, 2, 4</b> ☐ Salt Crust	y) ined Leave <b>A, and 4B</b> (B11)	es (B9) ( <b>e</b> :	xcept MLF	Hydric RA [	Soil Pre	ry Indicato r-Stained A, and 4E age Patte	Yes N N N N N N N N N N N N N N	<u>re required)</u> ) ( <b>MLRA 1</b> ,
Type: Depth (inches): Remarks: NO prominent fie DROLOGY Vetland Hydrology Indica Primary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Id indicators of Itors: m of one require	hydric :	soils. <u>ck all that app</u> ☐ Water-Sta <b>1, 2, 4</b> , ☐ Salt Crust ☐ Aquatic Im	y) ined Leave <b>A, and 4B</b> (B11) vertebrates	es (B9) ( <b>e</b> :	xcept MLI	Hydric RA [	Soil Pre Secondar Wate 4/ Drain Dry-S	ry Indicato r-Stained A, and 4E age Patte eason W	Yes N N N N N N N N N N N N N N	<u>re required)</u> ) ( <b>MLRA 1,</b> C2)
Type: Depth (inches): Remarks: NO prominent fie DROLOGY Vetland Hydrology Indica Primary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Id indicators of Itors: m of one require	ed; che	ck all that app Water-Sta 1, 2, 4, Salt Crust Aquatic In Hydrogen	ly) ined Leave <b>A, and 4B</b> (B11) vertebrates Sulfide Od	es (B9) (e: ) s (B13) or (C1)	xcept MLF	Hydric RA [ [	Secondar Wate Drain Dry-S Satur	ry Indicato r-Stained <b>A, and 4E</b> age Patte eason Wa ation Visil	Yes N N N N N N N N N N N N N N	re required) ) ( <b>MLRA 1,</b> C2) I Imagery (C
Type: Depth (inches): Remarks: NO prominent fie DROLOGY Vetland Hydrology Indica Primary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Id indicators of Itors: m of one require	ed; che	soils.          ck all that app         Water-Sta         1, 2, 4,         Salt Crust         Aquatic Im         Hydrogen         Oxidized F	ly) ined Leave <b>A, and 4B</b> (B11) vertebrates Sulfide Od Rhizospher	es (B9) (e s (B13) or (C1) es along	xcept MLF	Hydric RA [ ots (C3) [	Soil Pre Gecondar Wate 4/ Drain Dry-S Satur Satur	esent? ry Indicato r-Stained A, and 4E age Patte teason Wa ation Visil horphic Po	Yes N N N N N N N N N N N N N N	Io ⊠ <u>re required)</u> ) ( <b>MLRA 1,</b> C2) I Imagery (C
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Type: Depth (inches): Remarks: NO prominent fie <b>DROLOGY</b> <b>Vetland Hydrology Indica</b> Primary Indicators (minimur 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)	Id indicators of Itors: m of one require	ed; che	ck all that app Ck all that app Water-Sta 1, 2, 4, Salt Crust Aquatic Int Aquatic Int Oxidized F Presence Recent Iro Stunted or	y) ined Leave <b>A, and 4B</b> (B11) vertebrates Sulfide Od Rhizospher of Reduce n Reductio Stressed	es (B9) (e: 6 (B13) or (C1) es along d Iron (C4 on in Tilleo Plants (D	xcept MLI	Hydric Hydric Sts (C3) [ (5) [	Secondar Gecondar Wate 4/ Drain Dry-S Satur Geon Shalld FAC- Raise	esent? Ty Indicate r-Stained A, and 4E age Patte age Patte basin Visil horphic Pe basin Visil horphic Pe basin Visil horphic Pe basin Aquita Neutral Te d Ant Mo	Yes N N N N N N N N N N N N N N	re required) ) (MLRA 1, C2) I Imagery (C
Type: Depth (inches): Remarks: NO prominent fie <b>DROLOGY</b> <b>Vetland Hydrology Indica</b> Primary Indicators (minimur 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 Ac	Id indicators of Itors: m of one require ) ) erial Imagery (E	ed; che	ck all that app Water-Sta 1, 2, 4, Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ly) ined Leave <b>A, and 4B</b> (B11) vertebrates Sulfide Od Rhizospher of Reducer n Reductio Stressed olain in Rei	es (B9) (e: ) s (B13) or (C1) es along d Iron (C4 on in Tilled Plants (D marks)	xcept MLF	Hydric Hydric SRA [ [ [ [ [ [ [ [ ] ] ] ] ] [ ] ] ] [ ] ] ] [ ] ] ] [ ] ] ] ] [ ] ] ] ] ] ] ] ] ] ] ] ] ] ] ] ] ] ] ] ]	Secondar Wate Drain Dry-S Satur Geon Shalld FAC- Raise Frost	ry Indicato r-Stained <b>A, and 4E</b> age Patte eason Wa ation Visil norphic Po bow Aquita Neutral To d Ant Mo Heave H	Yes N N N N N N N N N N N N N N	Io ⊠ <u>re required)</u> ) (MLRA 1, C2) I Imagery (C LRR A) D7)
Type: Depth (inches): Remarks: NO prominent fie DROLOGY Vetland Hydrology Indica Primary Indicators (minimur 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) Surface Soil Cracks (B6) Inundation Visible on Ae Sparsely Vegetated Con	Id indicators of Itors: m of one require ) ) erial Imagery (E ncave Surface	hydric : ed; che 37) (B8)	soils.          ck all that app         Water-Sta         1, 2, 4,         Salt Crust         Aquatic Im         Hydrogen         Oxidized F         Presence         Recent Iro         Stunted or         Other (Exp	ly) ined Leave <b>A, and 4B</b> (B11) vertebrates Sulfide Od Rhizospher of Reduce n Reductio Stressed olain in Ref	es (B9) (e s (B13) or (C1) es along d Iron (C4 on in Tilleo Plants (D marks)	xcept MLF	Hydric Hydric SRA [ [ [ [ [ [ [ [ [ [ [ [ [ [	Secondar Wate Drain Dry-S Satur Geon Shalld FAC- Raise Frost	esent? Ty Indicato r-Stained A, and 4E age Patte teason Wa ation Visil horphic Po bow Aquita Neutral To bow Aquita Neutral To bo Ant Mo Heave H	Yes N N N N N N N N N N N N N N	Io ⊠ <u>re required)</u> ) (MLRA 1, C2) I Imagery (C LRR A) D7)
Type: Depth (inches): Remarks: NO prominent fie <b>DROLOGY</b> Vetland Hydrology Indica Primary Indicators (minimur 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) Surface Soil Cracks (B6) Inundation Visible on A6 Sparsely Vegetated Coo	Id indicators of Itors: m of one require ) erial Imagery (E ncave Surface	hydric : ed; che 37) (B8)	soils.           ck all that app         Water-Sta         1, 2, 4,         Salt Crust         Aquatic Im         Hydrogen         Oxidized F         Presence         Recent Iro         Stunted or         Other (Exp	ly) ined Leave <b>A, and 4B</b> (B11) vertebrates Sulfide Od Rhizospher of Reduced n Reductio Stressed blain in Ref	es (B9) (e: 6 (B13) for (C1) es along d Iron (C4 on in Tilled Plants (D marks)	Living Roc ) d Soils (C6 1) (LRR A	Hydric 	Secondar Gecondar Wate 4/ Drain Dry-S Satur Geon Shalld FAC- Raise Frost-	esent? Ty Indicato r-Stained A, and 4E age Patte reason Wa ation Visil norphic Po bow Aquita Neutral To red Ant Mo Heave He	Yes N N N N N N N N N N N N N N	re required) ) (MLRA 1, C2) I Imagery (C LRR A) D7)
Type: Depth (inches): Remarks: NO prominent fie DROLOGY Vetland Hydrology Indica Primary Indicators (minimur 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) Surface Soil Cracks (B6) Inundation Visible on A6 Sparsely Vegetated Con Field Observations: Surface Water Present?	Id indicators of Itors: m of one require ) ) erial Imagery (E ncave Surface Yes \[ N	ed; che 37) (B8) Io ⊠	soils. ck all that app Water-Sta 1, 2, 4, Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp Depth (inchese	y) ined Leave <b>A, and 4B</b> (B11) vertebrates Sulfide Od Rhizospher of Reduce n Reductio Stressed olain in Rel s):	es (B9) (e: s (B13) for (C1) es along d Iron (C4 on in Tilleo Plants (D marks)	xcept MLI	Hydric Hydric S Hydric S Hydric S S Hydric S S S S S S S S S S S S S	Secondar Secondar Wate 4/ Drain Dry-S Satur Geon Shallo FAC- Raise Frost	esent? Ty Indicate r-Stained A, and 4E age Patte beason Wa ation Visil horphic Po bow Aquita Neutral To bod Ant Mo Heave Hi	Yes N N N N N N N N N N N N N N	re required) ) ( <b>MLRA 1,</b> ) ( <b>MLRA 1,</b> (C2) I Imagery (C LRR A) (D7)
Type: Depth (inches): Remarks: NO prominent fie <b>DROLOGY</b> <b>Vetland Hydrology Indica</b> Primary Indicators (minimur 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 Ac Sparsely Vegetated Coo Field Observations: Surface Water Present? Water Table Present?	Id indicators of Itors: m of one require b) erial Imagery (E ncave Surface Yes [] N Yes [] N	ed; che 37) (B8) Io ⊠ Io ⊠	soils.  ck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp Depth (inchese Depth (inchese	(y) ined Leave <b>A, and 4B</b> (B11) vertebrates Sulfide Od Rhizospher of Reducer n Reductio Stressed olain in Ref s): s):	es (B9) (e: s (B13) or (C1) es along d Iron (C4 on in Tilleo Plants (D marks)	xcept MLF	Hydric Hydric SRA [ [ [ [ [ [ [ [ [ [ [ [ [ [	Secondar Secondar Wate 4/ Drain Dry-S Satur Geon Shalld FAC- Raise Frost	esent? Ty Indicato T-Stained A, and 4E age Patte eason Wa ation Visil horphic Po bw Aquita Neutral To d Ant Mo Heave He	Yes N N N N N N N N N N N N N N	re required) ) (MLRA 1, C2) I Imagery (C LRR A) D7)
Type: Depth (inches): Remarks: NO prominent fie <b>DROLOGY</b> Vetland Hydrology Indica Primary Indicators (minimur 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) Surface Soil Cracks (B6) Inundation Visible on Ad Sparsely Vegetated Cool field Observations: Surface Water Present? Vater Table Present?	Id indicators of Itors: m of one require ) ) erial Imagery (E ncave Surface Yes [] N Yes [] N Yes [] N	hydric : ed; che 37) (B8) lo ⊠ lo ⊠ lo ⊠	soils. ck all that app U Water-Sta 1, 2, 4 Salt Crust Aquatic In Oxidized F Presence Recent Iro Stunted or Other (Exp Depth (inches) Depth (inches)	ly) ined Leave <b>A, and 4B</b> ; (B11) vertebrates Sulfide Od Rhizospher of Reducer n Reductio Stressed blain in Ref s): s): s):	es (B9) (e: s (B13) or (C1) es along d Iron (C4 on in Tilleo Plants (D marks)	xcept MLF	Hydric Hydric RA [ [ ots (C3) [ ] ) [ ] land Hydr	Secondar Secondar Wate 4/ Drain Dry-S Satur Satur Satur Satur FAC- Raise Frost	esent? Ty Indicato r-Stained A, and 4E age Patte reason Wa ation Visil norphic Po box Aquita Neutral To d Ant Mo -Heave Ho -Heave H	Yes N N N N N N N N N N N N N N	Io ⊠ <u>re required)</u> ) (MLRA 1, C2) I Imagery (C LRR A) D7) No ⊠

Remarks: NO prominent field indicators of wetland hydrology.

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

Project/Site: East Town Center	City/County: City of Puyallup	Sampling Date: <u>14 OCT 21</u>
Applicant/Owner:	State: Washington	Sampling Point: <u>SP-5</u>
Investigator(s): Habitat Technologies	Section, Township, Range: <u>S35/2</u>	6, T20N, R04E
Landform (hillslope, terrace, etc.): valley terrace	Local relief (concave, convex, none): <u>flat</u>	Slope (%):
Subregion (LRR): A Lat	:: Long:	Datum:
Soil Map Unit Name: Puyallup	NWI classi	fication: moderately well
Are climatic / hydrologic conditions on the site typical for this time	of year? Yes 🛛 No 🗌 (If no, explain in Remark	(S.)
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Are "Normal Circumstances" p	present? Yes 🛛 No 🗌
Are Vegetation, Soil, or Hydrology naturally p	problematic? (If needed, explain any answer	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map show	ving sampling point locations, transec	ts, important features, etc.
Lludranhutia Vagatatian Brasant2 Vag M. Na		

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ⊠ Yes □ Yes □	No 🗆 No 🖾 No 🖾	Is the Sampled Area within a Wetland?	Yes 🗌 No 🛛
Remarks: Entire project site filled and le	veled with	n several feet of imported	gravelly sandy loam imported f	Il between 2002 and 2005

#### **VEGETATION – Use scientific names of plants.**

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>15ft radius</u> )	<u>% Cover</u>	Species?	Status	Number of Dominant Species
1. Populus trichocarpa - young	95	yes	FAC	That Are OBL, FACW, or FAC: <u>3</u> (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>4</u> (B)
4				Percent of Deminant Species
	<u>95</u>	= Total C	over	That Are OBL, FACW, or FAC: 75 (A/B)
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u> )				
1. <u>Rubus armeniacus</u>	25	yes	FAC	Prevalence Index worksheet:
2. Cytisus scoparius	<2	no	UPL	Total % Cover of:Multiply by:
3				OBL species x 1 =
4. Rubus laciniatus	<10	no	FACU	FACW species x 2 =
5				FAC species x 3 =
	<40	= Total C	over	FACU species x 4 =
Herb Stratum (Plot size: <u>15ft radius</u> )				UPL species x 5 =
1. Agrostis tenuis	20	yes	FAC	Column Totals: (A) (B)
2. <u>Hypochaeris lanatum</u>	<10	no	FACU	
3. <u>Plantago major</u>	<10	no	FACU	Prevalence Index = B/A =
4. <u>Daucus carota</u>	trace	no	FACU	Hydrophytic Vegetation Indicators:
5. <u>Tanacetum vulgare</u>	<10	no	FACU	Rapid Test for Hydrophytic Vegetation
6. Poa spp.	<10	no	FAC	Dominance Test is >50%
7. Dactylis glomerata	20	ves	FACU	□ Prevalence Index is ≤3.0 <sup>1</sup>
8.				Morphological Adaptations <sup>1</sup> (Provide supporting
9				data in Remarks or on a separate sheet)
10				Wetland Non-Vascular Plants <sup>1</sup>
11				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
····	<70	– Total C	over	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 15ft radius)	<u>&lt;10</u>	- 10(a) 0	000	be present, unless disturbed or problematic.
1.				
2.				Hydrophytic Vogetation
	0	= Total C	over	Present? Yes 🛛 No 🗌
% Bare Ground in Herb Stratum <u>0</u>	<u> </u>	i otar O		
Remarks: grove of even aged (10-12 year old) black cottor	wood grov	е		

#### SOIL

Sampling Point: SP-5

				,
Depth <u>Mat</u>	rix Co	Redox Features	oc <sup>2</sup> Toxt	ura Pomarka
	<u>76</u> 0			
<u>0-4</u> <u>10YR 3/2</u>	100			gravely loam fill
<u>4-24 10YR 4/2</u>	100			very gravelly sandy loam fill
<sup>1</sup> Type: C=Concentration D=		educed Matrix, CS=Covered or Coated S	Sand Grains	<sup>2</sup> l ocation: PI =Pore Lining M=Matrix
Hydric Soil Indicators: (Ap	oplicable to all LR	Rs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
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 MI	LRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Other (Explain in Remarks)
Depleted Below Dark Su	ırface (A11)	Depleted Matrix (F3)		
Thick Dark Surface (A12	2) 🗆	Redox Dark Surface (F6)	:	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S	51) 🗌	Depleted Dark Surface (F7)		wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	4)	Redox Depressions (F8)		unless disturbed or problematic.
Restrictive Layer (if preser	nt):			
Туре:				
Depth (inches):		_	Hyc	tric Soil Present? 🛛 Yes 🗌 No 🖂
<b>/DROLOGY</b>				
YDROLOGY Wetland Hydrology Indicat	tors:			
<b>(DROLOGY</b> Wetland Hydrology Indicat Primary Indicators (minimur	t <b>ors:</b> n of one required; c	heck all that apply)		Secondary Indicators (2 or more required)
YDROLOGY Wetland Hydrology Indicat Primary Indicators (minimum ☐ Surface Water (A1)	t <b>ors:</b> n of one required; c	heck all that apply) □ Water-Stained Leaves (B9) ( <b>exce</b>	ept MLRA	Secondary Indicators (2 or more required) U Water-Stained Leaves (B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicat Primary Indicators (minimum ☐ Surface Water (A1) ☐ High Water Table (A2)	t <b>ors:</b> n of one required; c	heck all that apply) ☐ Water-Stained Leaves (B9) (exce 1, 2, 4A, and 4B)	ept MLRA	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<b>/DROLOGY</b> Wetland Hydrology Indicat Primary Indicators (minimum □ Surface Water (A1) □ High Water Table (A2) □ Saturation (A3)	tors: n of one required; c	heck all that apply) ☐ Water-Stained Leaves (B9) ( <b>exce</b> <b>1, 2, 4A, and 4B)</b> ☐ Salt Crust (B11)	ept MLRA	Secondary Indicators (2 or more required) ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Patterns (B10)
<b>/DROLOGY</b> Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	tors: n of one required; c	heck all that apply) Water-Stained Leaves (B9) ( <b>exce</b> <b>1, 2, 4A, and 4B)</b> Salt Crust (B11) Aquatic Invertebrates (B13)	ept MLRA	Secondary Indicators (2 or more required) U Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOGY         Wetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)	tors: n of one required; c	heck all that apply) U Water-Stained Leaves (B9) (exce 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	ept MLRA	Secondary Indicators (2 or more required) U Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) U Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Arr Content of Conten	tors: n of one required; c	heck all that apply) U Water-Stained Leaves (B9) (exce 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv	pt MLRA	Secondary Indicators (2 or more required) Uater-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)
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YDROLOGY         Wetland Hydrology Indicat         Primary 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 required; c	heck all that apply) U Water-Stained Leaves (B9) (exce 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi Presence of Reduced Iron (C4)	opt MLRA	Secondary Indicators (2 or more required) Uater-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) EAC-Neutral Test (D5)
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VDROLOGY  Wetland Hydrology Indicat Primary 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 Ae	tors: a of one required; c b) rial Imageny (B7)	heck all that apply) User-Stained Leaves (B9) (excerning a state of the state of th	pt MLRA	Secondary Indicators (2 or more required) U Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Urainage Patterns (B10) Ury-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 Hummorks (D7)
	tors: <u>a of one required; c</u> <u>)</u> rial Imagery (B7) cours Surface (B8)	heck all that apply) UNATER-Stained Leaves (B9) (excellent (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S Stunted or Stressed Plants (D1) ( Other (Explain in Remarks)	ept MLRA	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 (C9)         Geomorphic Position (D2)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)         Raised Ant Mounds (D6) (LRR A)         Frost-Heave Hummocks (D7)
YDROLOGY         Wetland Hydrology Indicat         Primary 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 Ae         Sparsely Vegetated Con	t <b>ors:</b> <u>a of one required; c</u> <u>)</u> rial Imagery (B7) cave Surface (B8)	heck all that apply) URENT Water-Stained Leaves (B9) (excellent (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Live Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S Stunted or Stressed Plants (D1) ( Other (Explain in Remarks)	oils (C6) LRR A	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 (C9)         Geomorphic Position (D2)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)         Raised Ant Mounds (D6) (LRR A)         Frost-Heave Hummocks (D7)
VDROLOGY  Wetland Hydrology Indicat Primary 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 Ae Sparsely Vegetated Con Field Observations: Surface Water Present2	tors: n of one required; c ) rial Imagery (B7) cave Surface (B8)	heck all that apply) UWater-Stained Leaves (B9) (excerning to the second state of the	ept MLRA	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 (C9)         Geomorphic Position (D2)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)         Raised Ant Mounds (D6) (LRR A)         Frost-Heave Hummocks (D7)
YDROLOGY         Wetland Hydrology Indicat         Primary 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 Ae         Sparsely Vegetated Con         Field Observations:         Surface Water Present?	tors: <u>a of one required; c</u> <u>a of one required; c of</u>	heck all that apply)  Water-Stained Leaves (B9) (excellent 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S Stunted or Stressed Plants (D1) ( Other (Explain in Remarks)	ept MLRA	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 (C9)         Geomorphic Position (D2)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)         Raised Ant Mounds (D6) (LRR A)         Frost-Heave Hummocks (D7)
YDROLOGY         Wetland Hydrology Indicat         Primary 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 Ae         Sparsely Vegetated Con         Field Observations:         Surface Water Present?         Water Table Present?	tors: <u>n of one required; c</u> ) rial Imagery (B7) cave Surface (B8) Yes □ No ⊠ Yes □ No ⊠	heck all that apply)  Water-Stained Leaves (B9) (excellent 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S Stunted or Stressed Plants (D1) ( Other (Explain in Remarks) Depth (inches): Depth (inches):	ept MLRA	Secondary Indicators (2 or more required) U Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) U 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)
YDROLOGY         Wetland Hydrology Indicat         Primary 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 Ae         Sparsely Vegetated Con         Field Observations:         Surface Water Present?         Water Table Present?         Saturation Present?	tors: a of one required; c ) rial Imagery (B7) cave Surface (B8) Yes □ No ⊠ Yes □ No ⊠ Yes □ No ⊠	heck all that apply)         Water-Stained Leaves (B9) (excellant         1, 2, 4A, and 4B)         Salt Crust (B11)         Aquatic Invertebrates (B13)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres along Livi         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled S         Stunted or Stressed Plants (D1) (         Other (Explain in Remarks)         Depth (inches):         Depth (inches):         Depth (inches):	ept MLRA	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 (C9)         ○       Geomorphic Position (D2)         □       Shallow Aquitard (D3)         □       FAC-Neutral Test (D5)         □       Raised Ant Mounds (D6) (LRR A)         □       Frost-Heave Hummocks (D7)
YDROLOGY         Wetland Hydrology Indicat         Primary 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 Ae         Sparsely Vegetated Con         Field Observations:         Surface Water Present?         Water Table Present?         Saturation Present?         Saturation Present?         Concludes capillary fringe)         Describe Recorded Data (str	) rial Imagery (B7) cave Surface (B8) Yes □ No ⊠ Yes □ No ⊠ Yes □ No ⊠	heck all that apply)         Water-Stained Leaves (B9) (excerning the state of	ept MLRA ing Roots (C3) oils (C6) LRR A) Wetland H	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 (C9)         ○       Geomorphic Position (D2)         □       Shallow Aquitard (D3)         □       FAC-Neutral Test (D5)         □       Raised Ant Mounds (D6) (LRR A)         □       Frost-Heave Hummocks (D7)
YDROLOGY         Wetland Hydrology Indicat         Primary 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 Ae         Sparsely Vegetated Com         Field Observations:         Surface Water Present?         Water Table Present?         Saturation Present?         Saturation Present?         (includes capillary fringe)         Describe Recorded Data (stress)	iors: n of one required; c ) rial Imagery (B7) cave Surface (B8) Yes \[ No \[X] Yes	heck all that apply)         Water-Stained Leaves (B9) (excellant in the state of the state	ept MLRA	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 (C9)         Geomorphic Position (D2)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)         Raised Ant Mounds (D6) (LRR A)         Frost-Heave Hummocks (D7)
YDROLOGY         Wetland Hydrology Indicat         Primary 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 Ae         Sparsely Vegetated Con         Field Observations:         Surface Water Present?         Water Table Present?         Water Table Present?         Baturation Present?         Remarks: NO prominent field	tors: a of one required; c b) rial Imagery (B7) cave Surface (B8) Yes \[ No \[X] Yes \[ No \[X] Yes \[ No \[X] Yes \[ No \[X] ream gauge, monitor d indicators of wetta	heck all that apply)         Water-Stained Leaves (B9) (excellant         1, 2, 4A, and 4B)         Salt Crust (B11)         Aquatic Invertebrates (B13)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres along Livi         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled S         Stunted or Stressed Plants (D1) (         Other (Explain in Remarks)         Depth (inches):         Depth (inches):         Depth (inches):         Depth (inches):         Depth (aerial photos, previous inspectant of the stress o	ept MLRA	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 (C9)         ○       Geomorphic Position (D2)         □       Shallow Aquitard (D3)         □       FAC-Neutral Test (D5)         □       Raised Ant Mounds (D6) (LRR A)         □       Frost-Heave Hummocks (D7)
YDROLOGY         Wetland Hydrology Indicat         Primary 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 Ae         Sparsely Vegetated Con         Field Observations:         Surface Water Present?         Water Table Present?         Saturation Present?         Concludes capillary fringe)         Describe Recorded Data (stress)         Remarks: NO prominent field	tors: n of one required; c n of one requi	heck all that apply)         Water-Stained Leaves (B9) (excerning well, aerial photos, previous inspectation         1, 2, 4A, and 4B)         Salt Crust (B11)         Aquatic Invertebrates (B13)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres along Lividized Rhizospheres alo	ept MLRA ing Roots (C3) oils (C6) LRR A) Wetland H ctions), if avail	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 (C9)         ○       Geomorphic Position (D2)         □       Shallow Aquitard (D3)         □       FAC-Neutral Test (D5)         □       Raised Ant Mounds (D6) (LRR A)         □       Frost-Heave Hummocks (D7)

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

Project/Site: East Town Center	City/County: City of Puyallup	Sampling Date: <u>14 OCT 21</u>
Applicant/Owner:	State: <u>Washingto</u>	n Sampling Point: <u>SP-6</u>
Investigator(s): Habitat Technologies	Section, Township, Range: <u>S35//</u>	26, T20N, R04E
Landform (hillslope, terrace, etc.): valley terrace	Local relief (concave, convex, none): <u>flat</u>	Slope (%):
Subregion (LRR): A La	at: Long:	Datum:
Soil Map Unit Name: Briscot	NWI class	sification: somewhat poorly
Are climatic / hydrologic conditions on the site typical for this time	e of year? Yes 🛛 🛛 No 🗌 (If no, explain in Remar	rks.)
Are Vegetation, Soil, or Hydrology significa	intly disturbed? Are "Normal Circumstances"	present? Yes 🛛 No 🗌
Are Vegetation, Soil, or Hydrology naturally	problematic? (If needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sho	wing sampling point locations, transe	cts, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ⊠ Yes □ Yes □	No 🗆 No 🖾 No 🖾	Is the Sampled Area within a Wetland?	Yes 🗌 No 🛛
Remarks: Entire project site filled and le	veled with	n several feet of imported	gravelly sandy loam imported f	Il between 2002 and 2005

#### **VEGETATION – Use scientific names of plants.**

	Absolute	Dominant	Indicator	Dominance Test worksheet:				
<u>Tree Stratum</u> (Plot size: <u>15ft radius</u> )	% Cover	Species?	Status	Number of Dominant Species				
1. Populus trichocarpa - young	30	yes	FAC	That Are OBL, FACW, or FAC: 2 (A)				
2				Total Number of Dominant				
3				Species Across All Strata: <u>2</u> (B)				
4								
	30	= Total Cover		Percent of Dominant Species				
Sapling/Shrub Stratum (Plot size: 15ft radius)								
1. <u>Rubus armeniacus</u>	<10	no	FAC	Prevalence Index worksheet:				
2. Cytisus scoparius	<2	no	UPL	Total % Cover of: Multiply by:				
3				OBL species x 1 =				
4. Rubus laciniatus	<10	no	FACU	FACW species x 2 =				
5.				FAC species x 3 =				
	<20	= Total Cover		FACU species x 4 =				
Herb Stratum (Plot size: 15ft radius)				UPL species x 5 =				
1. Agrostis tenuis	50	yes	FAC	Column Totals: (A) (B)				
2. <u>Hypochaeris lanatum</u>	<10	no	FACU					
3. <u>Plantago major</u>	<u>&lt;5</u>	no	FACU	Prevalence Index = B/A =				
4. <u>Daucus carota</u>	<2	no	FACU	Hydrophytic Vegetation Indicators:				
5. <u>Tanacetum vulgare</u>	<2	no	FACU	Rapid Test for Hydrophytic Vegetation				
6. <u>Poa spp.</u>	<10	no	FAC	☑ Dominance Test is >50%				
7				☐ Prevalence Index is ≤3.0 <sup>1</sup>				
8.				Morphological Adaptations <sup>1</sup> (Provide supporting				
9.				data in Remarks or on a separate sheet)				
10.				☐ Wetland Non-Vascular Plants <sup>1</sup>				
11				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
	<70	= Total C	over	<sup>1</sup> Indicators of hydric soil and wetland hydrology must				
Woody Vine Stratum (Plot size: <u>15ft radius</u> )			0001	be present, unless disturbed or problematic.				
1.								
2.				Hydrophytic Vegetation				
	0	= Total C	over	Present? Yes 🛛 No 🗌				
% Bare Ground in Herb Stratum <u>0</u>	<u> </u>							
Remarks: dominated by a typically used seeded erosion contorl grass								

#### SOIL

Depth <u>Matrix</u>		Redo	x Features	_		_		
(inches) Color (moist)	<u>%</u> <u>Co</u>	lor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-6 <u>10YR 3/3</u>	100						gravely loam fill	
6-24 <u>10YR 4/2</u>	100						very gravelly sandy loam fill	
			·					
Type: C=Concentration, D=Depl ydric Soil Indicators: (Applica	letion, RM=Re able to all LR	educed Matrix, CS	S=Covered	or Coate	ed Sand Gr	ains. <sup>2</sup> Lo	cation: PL=Pore Lining, M=Matrix.	
] Histosol (A1)		Sandy Redox (S	65)	-		🗌 2 cn	n Muck (A10)	
Histic Epipedon (A2)		Stripped Matrix	(S6)			🗌 Red	Parent Material (TF2)	
Black Histic (A3)		Loamy Mucky N	, (F1)	(except	MLRA 1)	Uery	/ Shallow Dark Surface (TF12)	
Hydrogen Sulfide (A4)		Loamy Gleyed I	Matrix (F2)			☐ Othe	er (Explain in Remarks)	
Depleted Below Dark Surface	: (A11)	Depleted Matrix	(F3)					
Thick Dark Surface (A12)		Redox Dark Su	face (F6)			<sup>3</sup> Indicate	ors of hydrophytic vegetation and	
□ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7)						wetla	and hydrology must be present,	
Sandy Gleyed Matrix (S4)		Redox Depress	ions (F8)			unles	ss disturbed or problematic.	
estrictive Layer (if present):								
Туре:								
Depth (inches):						Hydric Soil Present? Yes 🔲 No 🖂		
		_				Hydric Soil	Present? Yes 🗌 No 🖂	
Remarks: NO prominent field indi	cators of hydri	– ic soils. Compa	cted importe	ed fill.		Hydric Soil	Present? Yes 🗌 No 🛛	
Remarks: NO prominent field indi	cators of hydr	— ic soils. Compa	cted imported	ed fill.		Hydric Soil	Present? Yes ☐ No ⊠	
Remarks: NO prominent field indi	cators of hydr	— ic soils. Compa	cted importe	ed fill.		Hydric Soil	Present? Yes ☐ No ⊠	
Depth (incres) Remarks: NO prominent field indi DROLOGY Vetland Hydrology Indicators:	cators of hydr	— ic soils. Compa	cted import	ed fill.		Hydric Soil	Present? Yes ☐ No ⊠	
Remarks: NO prominent field indi DROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of or	cators of hydr	 ic soils. Compar heck all that appl	cted import	ed fill.		Hydric Soil	Present? Yes ☐ No ⊠	
Remarks: NO prominent field indi         DROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of or surface Water (A1))	cators of hydr	⊢ ic soils. Compar heck all that appl	y)	ed fill.	vcont MI E	Hydric Soil	ndary Indicators (2 or more required	
Remarks: NO prominent field indi         DROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of or Surface Water (A1)         High Water Table (A2)	cators of hydr	 ic soils. Compar <u>heck all that appl</u> ☐ Water-Stai	y)	ed fill.	xcept MLR	Hydric Soil	I Present?       Yes       No       ⊠         Indary Indicators (2 or more required)         /ater-Stained Leaves (B9) (MLRA 1,	
Begin (incres)         Remarks: NO prominent field indi         DROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of or         Surface Water (A1)         High Water Table (A2)	cators of hydr	⊢ ic soils. Compar <u>heck all that appl</u> ☐ Water-Stai 1, 2, 4/	y) ned Leaves A, and 4B)	ed fill.	xcept MLF	Hydric Soil	I Present?       Yes       No       ⊠         Indary Indicators (2 or more required)         /ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B)         variance Determent (D10)	
Depth (mores)         Remarks: NO prominent field indi-         DROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of or         Surface Water (A1)         High Water Table (A2)         Saturation (A3)	cators of hydr	⊢ ic soils. Compar <u>heck all that appl</u> ☐ Water-Stai <b>1, 2, 4/</b> ☐ Salt Crust	y) ned Leaves <b>A, and 4B)</b>	ed fill.	xcept MLR	Hydric Soil	I Present?       Yes       No       ⊠         Indary Indicators (2 or more required)         /ater-Stained Leaves (B9) (MLRA 1,         4A, and 4B)         rainage Patterns (B10)         rainage Nitter Table (20)	
Depth (mones)         Remarks: NO prominent field indi-         DROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of or         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)	cators of hydr	— ic soils. Compar ic soils. Compar in that appl □ Water-Stai 1, 2, 4 □ Salt Crust □ Aquatic Inv	y) ned Leaves A, and 4B) (B11) vertebrates	ed fill. s (B9) (e: (B13)	xcept MLF	Hydric Soil	I Present?       Yes       No       ⊠         Indary Indicators (2 or more required)         /ater-Stained Leaves (B9) (MLRA 1,         4A, and 4B)         rainage Patterns (B10)         ry-Season Water Table (C2)	
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Depth (mones)         Remarks: NO prominent field individual         DROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of or         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)	ne required; c	heck all that appl beck all that appl water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Aquatic Inv Oxidized F Presence o Recent Iro	y) ned Leaves <b>A, and 4B)</b> (B11) vertebrates Sulfide Odc Rhizosphere of Reduced n Reductior	ed fill. s (B9) (e: (B13) or (C1) es along Iron (C4 n in Tilleo	xcept MLR	Hydric Soil Seco SA D D D D S S S S S S S S S S S S S	I Present?       Yes       No       ⊠         Indary Indicators (2 or more required)         /ater-Stained Leaves (B9) (MLRA 1,         4A, and 4B)         rainage Patterns (B10)         ry-Season Water Table (C2)         aturation Visible on Aerial Imagery (feomorphic Position (D2)         hallow Aquitard (D3)         AC-Neutral Test (D5)	
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CDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of or         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 In         Sparsely Vegetated Concave         Field Observations:         Surface Water Present?         Yet	cators of hydr ne required; c nagery (B7) Surface (B8) ∋s □ No ⊠ ∋s □ No ⊠	heck all that appl beck all that appl water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Aquatic Inv Aquatic Inv Presence of Recent Iro Stunted or Other (Exp Depth (inchest	y) ned Leaves <b>A, and 4B)</b> (B11) vertebrates Sulfide Odc Rhizosphere of Reduced n Reductior Stressed P dain in Rem	ed fill. (B13) (B13) (C1) es along Iron (C4 n in Tillec Plants (D narks)	xcept MLF	Hydric Soil Seco SA D D D D S S S S S S S S S S S S S	I Present?       Yes       No       ⊠         Indary Indicators (2 or more required)       Indary Indicators (2 or more required)         /ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B)       Indary Indicators (B10)         rainage Patterns (B10)       Indary Season Water Table (C2)         aturation Visible on Aerial Imagery (12 or more required)       Indary Indicators (B10)         recomorphic Position (D2)       Indary Indicator (D3)         AC-Neutral Test (D5)       Index (D6) (LRR A)         aised Ant Mounds (D6) (LRR A)       Index (D7)	

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

Remarks: NO prominent field indicators of wetland hydrology.

**APPENDIX B – Habitat Technologies Key Staff** 

# **HABITAT TECHNOLOGIES**

In a nutshell, Habitat Technologies provides an expanded scope of environmental services for a diverse realm of clients over a wide range of project types. Our clients included private citizens, private companies (large and small), public and Tribal agencies, and local citizen groups. Our projects range from the single-family homeowner, through modest to very large commercial/industrial and residential developments, into public utilities installation and public port/industrial commission economic developments. Also included within this list of projects are local parks and environmental restoration actions undertaken by volunteer citizens, and programs undertaken by community groups.

Habitat Technologies provides estuarine, wetland, and stream identification and delineation; populations and physical habitat assessments; wetland functional value analysis; limiting factor evaluations; impact mitigation, restoration, and monitoring; water quality and hydrology analysis; analysis of threatened and endangered plants and animals; environmental permitting/resource agency interactions; and expert testimony critique/presentation. Habitat Technologies has actively planned, designed, and monitored the restoration, creation, and relocation of estuarine and freshwater wetlands, and stream/riparian corridors. These projects have involved the sampling and analysis of resource information, onsite evaluation and delineation, documentation of present fish and wildlife populations, and projection of future fish and wildlife habitat benefits. Such onsite work leads to the development of project elements which ensures the avoidance, minimization, and compensation of environmental impacts.

Other projects completed target the onsite evaluation of aquatic and terrestrial species utilization and available habitats. These projects involved formal and informal fish, bird, reptile, amphibian, and mammal surveys, with special emphasis given to raptors and threatened and endangered plants, fish, and wildlife.

An essential primary component of each project is the coordination of proposed project activities with local, state, and federal permitting and resource agencies, Indian tribes, and local private interests. Habitat Technologies targets permitting activities early in the project planning process to assure that the time required to obtain required environmental permits and costs associated with potential project design modifications are held to a minimum. We continue our coordination of these permitting activities through the entire process should public hearings or further actions be required.

Habitat Technologies has initiated several wetland mitigation projects which entail the creation of freshwater and estuarine wetlands from non-wetlands or degraded wetland areas. These creation activities target the enhancement of fish and wildlife habitats, as well as, the creation of plant communities native to the local area. One of the beneficial elements of such wetland creations is the establishment of a relatively low maintenance wetland area which provides essential habitats for native plant, fish, and wildlife species. Such creations can also become a very valuable amenity to the overall project.

wetlands, streams, fisheries, wildlife – mitigation and permitting solutions P.O. Box 1088, Puyallup, Washington 98371 253-845-5119 contact@habitattechnologies.net

# **HABITAT TECHNOLOGIES**

**Office Location:** Habitat Technologies, 606 East Main, Suite C2, Puyallup, WA 98372 **Mailing Address:** Habitat Technologies, P.O. Box 1088, Puyallup, WA 98371

Contact Persons: Thomas D. Deming and Bryan W. Peck

Voice	253-845-5119
E-mail	tom@habitattechnologies.net / bryan@habitattechnologies.net

**Key Staff:** <u>Thomas D. Deming</u> obtained a Bachelor of Science Degree in Fisheries Science in 1978, a Bachelor of Science Degree in Wildlife Science from Oregon State University in 1978, and a Juris Doctor Degree from the University of Puget Sound School of Law in 1987. Mr. Deming is a Certified Professional Wetland Scientist through the Society of Wetland Scientists since the inception of the certification program in 1995. Mr. Deming is also listed as an approved "wetland specialist," approved "wildlife biologist," and approved "fishery biologist" kept by Pierce County and a number of other local permitting jurisdictions.

Mr. Deming routinely provides site-specific assessments of wetlands, streams, fish/wildlife habitats and species presence, and endangered/threatened species to address proposed project related impacts within the federal, state, tribal, and local permitting processes. These assessments include a review of impact avoidance and impact mitigation associated with proposed actions and habitat restoration.

These assessments have included formal wetland boundary delineation using the *Corps* of Engineers Wetland Delineation Manual (1987 Manual); the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (2010 Supplement); the Washington State Wetlands Rating System (2004, 2008, 2014 versions); and local critical areas ordinances. These assessments have included onsite and offsite wetland and habitat evaluations, the review of existing reports, the preparation of associated mapping, the documentation of field observations and field assessment data within appropriate data forms, and the preparation of wetland rating worksheets following the criteria established within the Washington Department of Ecology Wetland Rating System for Western Washington. Mr. Deming has also completed an analysis of pre- and post-hydrology patterns associated with project related impacts, an analysis of existing and proposed plant community characteristics, an analysis of soil characteristics, and a wide variety of seasonal hydrology monitoring programs within existing wetlands and in created mitigation wetlands.

Mr. Deming has prepared permit application submittal materials (i.e. local critical areas ordinances, SEPA, NEPA, JARPA) to meet specific projects and has prepared compensatory mitigation plans and implementation/monitoring programs to address permitting requirements at the local, state, tribal, and federal levels. Mr. Deming has also been active in the development of administrative programs and is often called upon to provide expert witness testimony within court proceedings and public hearings.

wetlands, streams, fisheries, wildlife – mitigation and permitting solutions P.O. Box 1088, Puyallup, Washington 98371 253-845-5119 contact@habitattechnologies.net Mr. Deming has both received and provided instruction in a wide variety of training in the use of the various federal and state manuals to accurately identify, define, and evaluate wetland, stream, wildlife, and estuarine/marine resources. Prior to starting Habitat Technologies Mr. Deming spent more than 10 years as an environmental biologist with the Puyallup Indian Tribe, as well as a number of prior short-term positions with the U.S. Fish and Wildlife Service, the U.S. Forest Service, the U.S. National Marine Fisheries Service, the Oregon Department of Fish and Wildlife, and as a commercial fisherman.

Mr. Deming has prepared and implemented restoration and enhancement programs to address wetlands, streams, and wildlife mitigation programs. These restoration and enhancement programs utilize native plants and natural habitat features to ensure project success and suitability to the project area. Mr. Deming has also undertaken a number of projects which focus on the development of local jurisdiction resource protection and stormwater management issues.

**Key Staff:** <u>Bryan W. Peck</u> obtained his work experience through on-the-job assessments and professional training since 1999. Mr. Peck is identified as an approved "wetland specialist" by Pierce County along with a number of other local jurisdictions, and has completed numerous site-specific assessments of wetland, stream, wildlife, and endangered/threatened species issues associated with a wide variety of proposed site development actions and habitat restoration projects. These assessments also addressed project related impact avoidance and unavoidable impact mitigation within the federal, state, and local permitting processes.

Mr. Peck has completed a variety of formal wetland boundary delineations using the *Corps of Engineers Wetland Delineation Manual* (1987 Manual); the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (2010 Supplement); the *Washington State Wetlands Rating System* (2004, 2008, 2014 versions); and local critical areas ordinances. These assessments have included onsite and offsite evaluations, the review of existing resource mapping data, the preparation of associated mapping, the documentation of field observations and field assessment data within appropriate data forms, and the preparation of wetland rating worksheets following the criteria established within the Washington Department of Ecology Wetland Rating System for Western Washington. Mr. Peck also provides an analysis of pre- and post-hydrology patterns associated with project related impacts, provides an analysis of existing and proposed plant community characteristics along with soil characteristics.

Along with the onsite defining of wetland boundaries and field data plot locations Mr. Peck has also undertaken seasonal hydrology monitoring programs to define wetland boundaries and characteristics, and completed soil monitoring to define soil profiles especially within areas of review soil modification. Mr. Peck has identified the ordinary high water mark associated with seasonal wetlands, permanently flowing and intermittent streams, and intertidal areas. Mr. Peck has prepared permit application submittal materials to meet specific projects and has prepared compensatory mitigation plans and implementation/monitoring programs to address permitting requirements at the local, state, and federal levels. PHOTOS



Generally view westerly across the northern portion of the project site.



General view of Sample Plot #2 in the northwestern portion of the project site.



View of the depth of fill in the central portion of the project site – SP#3.



General view westerly at SP#4. Edge of fill to right and prior homesite area to left.



Small grove of black cottonwood saplings in the southern portion of the project site.



General view northerly across the project site.