Wetland Report



Prepared For: Port of Chehalis

Site Address: 123 Habein Road, Chehalis

Tax Parcel Number: 017539006000

Date: November 17, 2020

Prepared By: Environmental Design, LLC.

Septic Design • Wetlands • Mapping 901 L Street, Centralia, WA 98531 (360) 219-3343

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Introduction:

Environmental Design, LLC conducted a Wetland Study on November 13, 2020 to determine if wetland habitat is present on the property located 123 Habein Road in Chehalis. The site is currently used as industrial land and will remain being used as industrial land.

In order to conduct a thorough review of the site to determine if wetlands are present on the site several resources were reviewed. The project started by pulling research and reviewing the research from several sources. After review of the research it was noted that wetlands were mapped on the site. A site visit was then conducted in order to test in areas for wetland habitat. Since the site has been primarily used and maintained as residential use, test sites were completed in areas where vegetation, elevation or other characteristics changed that indicated a possible presence of wetland habitat.

Site Description:

The site is located at 123 Habein Road in Chehalis, Washington. The site is identified by Lewis County by the parcel number 01739006000. The site is located in Section 04 of Township 13 North, Range 02 West. The property is about 6.43 acres in size and is relatively flat. The site is currently and will remained being used as industrial property. According to the research pulled wetlands are mapped on the site and in the surrounding areas.

The area around the site is primarily industrial area with mapped wetlands and hydric soils located throughout the sites.

Methodology:

A site visit was conducted on November 17, 2020 where Environmental Design walked the property and tested in various areas where vegetation seemed to have changed or where wetland habitat could be present. The site is consistent with the hydrology, vegetation, and soils at each test plot location.

Environmental Design, LLC completed the wetland study of this site by using the <u>Routine Determination Method</u> according to the <u>1987 U.S. Army Corp of</u> <u>Engineers Wetland Delineation Manual</u> and the 2010 <u>Regional Supplement to</u> <u>the Corps of Engineers Wetland Delineation Manual</u>: Western Mountains, <u>Valleys, and Coast Region.</u>

In order to complete this method first research was conducted by pulling information and maps from the National Wetland Inventory website, the Lewis County Website, the NRCS website to find out what the soils were and also further information was pulled from the Department of Natural Resources website. After reviewing the research a site visit was conducted and areas were tested where vegetation, elevation, or the soil may have changed.

When using the <u>Routine Approach</u>, a wetland area must meet three specific parameters. These three parameters are hydrology, vegetation and hydric soils. Hydrology can be difficult to assess because it may or may not be present, depending on the time of year. Vegetation and soils are important to assess if there has been hydrology present in the past. If the site meets the hydrology, vegetative and hydric soil parameters then the site is considered a wetland. If one parameter is not met then the area is not considered a wetland.

Observations:

Vegetation:

Wetland Vegetation has been classified into indicator statuses of how likely the plant is to be found in a wetland habitat. The indicator status of each plant species can be found on the data forms. The different indicator statuses are listed below:

- Obligate Wetland (OBL) highly likely to be in a natural wetland environment
- Facultative Wetland (FACW) –most likely to be present in a natural wetland environment
- Facultative (FAC) can be present in both a natural wetland and nonwetland environment
- Facultative Upland (FACU) –may be present in a natural wetland, but most likely to be seen in non-wetland conditions
- Obligate Upland (UPL) most likely to occur in non-wetland conditions
- No Indicator the plant does not have enough data to determine the indicator status yet

The site is primarily vegetated with field grass varieties, Oxeye Daisies, Cats Ear and Canadian Thistle.

The surrounding areas are similar in vegetation.

Soils:

The site is mapped as Lacamas Silt Loam and Prather Silty Clay Loam according to the U.S.D.A Natural Resources Conservation Service *Soil Survey of Lewis County, Washington (1980)*. The Lacamas series is listed on the hydric soils list produced by the U.S.D.A Natural Resources Conservation. The areas where test plots were conducted, the soil appeared to be consistent with the profile of the Newberg Fine Sandy Loam series.

The NRCS describes the Lacamas Silt Loam series as a very deep, poorly drained soil located on broad plains, terraces and bottom lands. In a typical profile, the upper portion of the surface layer extends to a depth of about 7

inches and is very dark grayish brown silt loam. The lower portion of the surface layer is mottled, dark grayish brown and grayish brown silt loam extending to a depth of about 10 inches. The subsoil is mottled, olive gray silty clay for the upper 19 inches and the lower portion is mottled, olive gray clay extending to a depth of 60 inches or more.

The NRCS describes the Prather Silty Clay Loam series is described as a very deep moderately drained soil that can be found on broad till plains and terraces. In a representative profile, the surface is generally covered with a mat of partially decomposed organic litter about 2 inches thick. The upper part of the surface layer is very dark brown silty clay loam that extends about 7 inches. The lower portion of the surface layer about 7 inches thick and is a dark brown silty clay loam. The following 12 inches of the subsoil is dark brown silty clay and the next 25 inches is mottled, dark brown silty clay and yellowish brown clay. The substratum of the profile extends to a depth of 60 inches or more and is mottled, dark reddish brown, gray and brown clay.

The soil appeared to be well drained in the upland areas and not so well drained in the lower test plot locations. The soil was evaluated to a depth of about 16-20 inches at each test plot location. See Appendix C for the Test Plot Data Form.

Hydrology:

The site appears to be well drained; however, evidence of hydrology was present in the lower area. See Appendix C for the Test Plot Data Form.

Wildlife:

The area is shown not to have species listed on the Priority Habitat Species Map produced by Fish and Wildlife. The vegetation surrounding the agricultural fields does provide great habitat for amphibians, birds and other mammals, as well as a sound barrier from surrounding activities.

Topography:

The topography at the site is relatively flat with slopes measuring between 0 to 3%.

Surrounding Wetlands and Impacts:

The National Wetlands Inventory (NWI) map and other maps do depict mapped wetlands within the area. It needs to be noted that the NWI maps and GeoData Center needs to be used cautiously as they compile general wetland data.

Environmental Design did not find wetland habitat located on the site within 300 feet of the parcel. Environmental Design conducted a further site investigation by site visit and by the use of mapping resources to determine if any wetland buffers or habitats would impact the client's project.

Conclusions:

Environmental Design, LLC concludes that wetland habitat is not present on the site or within 300 feet of the parcel.

References:

- Environmental Laboratory. 1987. <u>Corps of Engineers Wetlands Delineation</u> <u>Manual</u>. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- Lewis County. <u>Critical Areas Map.</u> Online map. <u>https://fortress.wa.gov/lewisco/home/.</u>
- Soil Conservation Service. 1995. <u>Hydric Soils for Washington</u>. Online document: <u>http://www.statlab.iastate.edy:80/soils/hydric/wa/html</u>.
- Soil Conservation Service. 1980. <u>Soil Survey of Lewis County, Washington</u>. U.S. Department of Agriculture, Washington DC.
- Soil Conservation Service. 1990. <u>Soil Survey of Thurston County, Washington</u>. U.S. Department of Agriculture, Washington DC.
- U.S Army Corps of Engineers. 2010. <u>Regional Supplement to the Corps of</u> <u>Engineers Wetland Delineation Manual: Western Mountains, Valleys and</u> <u>Coast Region (Version 2.0)</u>, ed. J. S. Wakeley, R.W. Lichvar, and C. V. Noble. ERDC / EL TR-103. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- Washington State Department of Ecology. 1997. <u>Washington State Wetlands</u> <u>Identification and Delineation Manual</u>. Publication # 96-94. Olympia, Washington.
- Washington State Department of Ecology. 2004. <u>Washington State Wetlands</u> <u>Rating System: Western Washington Revised</u>. Publ. # 04-06-025. Olympia, Washington.
- Washington Department of Fish and Wildlife. <u>Priority Habitat Species (PHS)</u> <u>Database.</u> (August 2014)

The determination of this wetland was completed by Environmental Design, LLC. The determination of this wetland is based on scientific method and our best professional judgment. Environmental Design, LLC agrees that the conclusion should agree with the local, state, and federal regulatory agencies.

Completed By:

Becky Rieger Wetland Specialist

Appendix A:

Wetland Maps



123 Habein Rd

Figure 1: Site Location Map





123 Habein Rd Chehalis, WA 98532 Directions Save Nearby Send to your phone

At this location







Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
118	Lacamas silt loam, 0 to 3 percent slopes	7.6	65.9%
247	Xerorthents, spoils	3.9	34.1%
Totals for Area of Interest		11.5	100.0%





U.S. Fish and Wildlife Service National Wetlands Inventory

Figure 4: NWI Map



November 17, 2020

Wetlands



Estuarine and Marine Deepwater

Estuarine and Marine Wetland

- Freshwater Forested/Shrub Wetland
 - Freshwater Pond

Freshwater Emergent Wetland

Lake Other Riverine This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Figure 5: Lewis County Critical Area Map



Lewis County does not guarantee the accuracy of the information shown on this map and is not responsible for any use or misuse by others regarding this material. It is provided for general informational purposes only. This map does not meet legal, engineering, or survey standards. Please practice due diligence and consult with licensed experts before making decisions.

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Priority Habitats and Species on the Web

Report Date: 11/17/2020, Parcel ID: 017539006000

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Generalized Location
Freshwater Emergent Wetland	N/A	N/A	No
Big brown bat	N/A	N/A	Yes

PHS Species/Habitats Details:

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

Big brown bat	
Scientific Name	Eptesicus fuscus
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	Ν
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

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

Appendix B:

Site Pictures

Environmental Design, LLC. Septic Design • Wetlands • Mapping

View of the Site

View of Site

View of the site

Appendix C:

Test Plot Data Forms

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

Project/Site: 123 Habein Road	City/County: Chehalis / Lewis		Sampling Date: 1	3-Nov-20
Applicant/Owner: Port of Chehalis		State: Washingt	on Sampling Point	: WTP 1
Investigator(s): Becky Rieger	Section, Township, Range	: S 04 1	R <u>02 W</u>	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, conv	ex, none):	Slope:	<u>0.0</u> % / <u>0.0</u> °
Subregion (LRR): Lat.:	Lo	ng.:	Dat	tum:
Soil Map Unit Name:		NWI clas	ssification: <u>PEMC</u>	
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes 🖲 No 🔾	(If no, explain	in Remarks.)	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	ly disturbed? Are "Norm	al Circumstances	s" present? Yes 🤆	🖻 No 🔿
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	problematic? (If needed	, explain any ans	swers in Remarks.)	

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	$_{ m Yes}$ \bigcirc	No 🖲	Is the Sampled Area	
Hydric Soil Present?	Yes 🔾	No 🖲	within a Watland?	Yes \bigcirc No \bigcirc
Wetland Hydrology Present?	$Yes \bigcirc$	No 🖲	within a wetland?	
Remarks:				

Site does not meet criteria

1 0 0.0% That are OBL, FACW, or FAC: 2 (A) 3 0 0.0% That are OBL, FACW, or FAC: 2 (A) 4 0 0.0% That are OBL, FACW, or FAC: 50.0% (A) 9 = Total Cover Total Number of Dominant Species That are OBL, FACW, or FAC: 50.0% (A) 1 Leucanthernum vulgare 20 ✓ 22.2% FACU Prevalence Index worksheet: Total % Cover of: Multiply by: 0 3. Poa annua 30 ✓ 33.3% FAC FAC wespecies 0 x 2 = 0 FAC wespecies 70 x 3 = 210 Herb Stratum (Plot size:) 90 = Total Cover FAC wespecies 0 x 5 = 0 210 FAC wespecies 0 x 5 = 0 20 22.2% FAC wespecies 0 x 5 = 0 210 FAC wespecies 0 x 5 = 0 210 FAC wespecies 0 x 5 = 0 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 <th>Tree Stratum (Plot size:)</th> <th>Absolute % Cover</th> <th>Rel.Strat. Cover</th> <th>Indicator Status</th> <th>Dominance Test worksheet:</th>	Tree Stratum (Plot size:)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
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6. 0 0.0% 1 - Kaple Test for Hydrologic Vegetation 7. 0 0.0% 2 - Dominance Test is > 50% 8. 0 0.0% 3 - Prevalence Index is ≤ 3.0 1 9. 0 0.0% 3 - Prevalence Index is ≤ 3.0 1 0 0.0% - - 1. 0 0.0% - 1. 0 0.0% - 1. 0 0.0% - 1. 0 0.0% - 1. 0 0.0% - 1. 0 0.0% - 1. 0 0.0% - 1. 0 0.0% - 1. 0 0.0% - 2. 0 0.0% - 0 0.0% - - 0 0.0% - - 0 0.0% - - 0 0.0% - - 0 0.0% - - 0 0.0% - -	5	0	0.0%		1 Panid Tast for Hydrologic Vegetation
7. 0 0.0% 3. Pervalence Index is $> 30\%$ 8. 0 0.0% 3. Prevalence Index is $\leq 3.0\%$ 9. 0 0.0% 4. Morphological Adaptations 1 (Provide supportidata in Remarks or on a separate sheet) 0. 0.0% 5. Wetland Non-Vascular Plants 1 0. 0.0% 9. 9. 1. 0 0.0% 9. 1. 0 0.0% 9. 1. 0 0.0% 9. 1. 0 0.0% 9. 1. 0 0.0% 9. 2. 0 0.0% 9. 2. 0 0.0% 9. 0 0.0% 9. 9. 2. 0 0.0% 9. 0 0.0% 9. 9. 0 0.0% 9. 9. 0 0.0% 9. 9. 0 0.0% 9. 9. 0 0.0% 9. 9. 0 0.0% 9.	6	0	0.0%		\square 2. Dominance Test is $> 50\%$
8. 0 0.0% 9. 0 0.0% 0. 0.0% 4 - Morphological Adaptations ¹ (Provide supportidata in Remarks or on a separate sheet) 0. 0.0% 5 - Wetland Non-Vascular Plants ¹ 1. 0 0.0% 30 = Total Cover 1. 0 0.0% 1. 0 0.0% 2. 0 0.0% 0 0.0% 1 Indicators of hydric soil and wetland hydrology mustor problematic. 1 0 0.0% 2. 0 0.0% 0 0.0% 1 Indicators of hydric soil and wetland hydrology mustor problematic. 1 No © Yes No ©	7	0	0.0%		$\square 2 - Dominance rest is > 50 \%$
9. 0 0.0% 0. 0 0.0% 1. 0 0.0% 30 = Total Cover 1. 0 0.0% 30 = Total Cover 1. 0 0.0% 1. 0 0.0% 30 = Total Cover 1. 0 0.0% 2. 0 0.0% 0 0.0% 1 0 0.0% 1 0 0.0% 1 1. 0 0.0% 2. 0 0.0% 0 0.0% 1 0 0.0% 1 0 0.0% 1 0 0.0% 1 0 0.0% 1 0 0.0% 1 0 0.0% 1 0 0.0% 1 0 0.0% 1 0 0.0% 1 0 0.0% 1 0 0.0% 1	8	0	0.0%		
0. 0 0.0% 1. 0 0.0% 30 = Total Cover 1. 0 0.0% 1. 0 0.0% 1. 0 0.0% 2. 0 0.0% 0 0.0% 1 0 0.0% 1 1. 0 0.0% 0 0.0% 1 1. 0 0.0% 0 0.0% 1 1. 0 0.0% 0 0.0% 1 1. Vegetation 1 0 0.0% 1 0 0.0% 1 0 0.0% 1 0 0.0% 1 0 0.0% 1 Vegetation Yes No 0 0.0%	9	0	0.0%		4 - Morphological Adaptations - (Provide supporting data in Remarks or on a separate sheet)
1. 0 0.0% 30 = Total Cover 1. 0 0.0% 1. 0 0.0% 2. 0 0.0% 0 0.0% Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. % Bare Ground in Herb Stratum: 0 0 0.0%	0	0			5 - Wetland Non-Vascular Plants
30 = Total Cover 30 = Total Cover 30 = Total Cover 1 0 0.0% 2. 0 0.0% 0 0.0% 0 0 0.0% 0 0 0.0% 0 0 = Total Cover Hydrophytic % Bare Ground in Herb Stratum: 0 0	1	0			$\square Problematic Hydrophytic Vegetation1 (Explain)$
Voody Vine Stratum (Plot size:) 1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 2. Hydrophytic 0		30		er	
2 0 □ 0.0% Hydrophytic 0 = Total Cover Present? Yes No ●	1(Plot size:)	0	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
0 = Total Cover Vegetation Present? Yes ○ No ●	2.	0	0.0%		Hydrophytic
% Bare Ground in Herb Stratum: O		0	= Total Cov	er	Vegetation Present? Yes O No •
U					

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Depth Matrix	Redox Feat	tures		_	
inches) Color (moist) %	Color (moist) %	Type ¹	Loc ²	Texture	Remark
0-21 10YR 4/3				Clay Loam	
				·	
ype: C=Concentration. D=Depletion. RM=Re	duced Matrix, CS=Covered or Co	ated Sand Grai	ns ² Loo	cation: PL=Pore Lining. M=Mat	rix
ydric Soil Indicators: (Applicable to all	LRRs, unless otherwise note	d.)		Indicators for Problema	tic Hydric Soils ³
L Histosol (A1)	Sandy Redox (S5)			2 cm Muck (A10)	
I Histic Epipedon (A2)	Stripped Matrix (S6)	(F1) (avaant in		Red Parent Material (TF2)
Hvdrogen Sulfide (A4)		(F1) (except iii (F2)	WILKA I)	Other (Explain in Rem	narks)
\square Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	(12)			
Thick Dark Surface (A12)	Redox Dark Surface (I	-6)		³ Indicators of hydrophytics	agatation and
Sandy Muck Mineral (S1)	Depleted Dark Surface	e (F7)		wetland hydrology must	be present,
Sandy Gleved Matrix (S4)	Redox depressions (F8	3)		unless disturbed or prob	lematic.
estrictive Laver (if present):					
Type:					
Depth (inches):				Hydric Soil Present?	res 🔾 🛛 No 🖲
ernarks.					

Hydrology

Primary Indicators (minimum of one required: check all that apply) Secondary Indicators (minimum of two re-	
Thinking indicators (minimali of one required, eneck an that apply)	uired)
Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2,	
High Water Table (A2) 1, 2, 4A, and 4B) 4A, and 4B)	
Saturation (A3) Salt Crust (B11) Drainage Patterns (B10)	
Water Marks (B1) Aquatic Invertebrates (B13) Dry Season Water Table (C2)	
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9)	
Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2)	
Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3)	
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5)	
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7)	
Sparsely Vegetated Concave Surface (B8)	
Field Observations:	
Surface Water Present? Yes No No Depth (inches):	
Water Table Present? Yes No 💿 Depth (inches):	
Saturation Present? Yes O No O Depth (inches): Wetland Hydrology Present? Yes O No O	
Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:	
Aerial Photos / Previous Inspections	
Remarks:	
Hydrology does not appear to be present	

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

Project/Site: 123 Habein Road	City/County: Chehalis / Lewis		Sampling Date: <u>13</u>	Nov-20
Applicant/Owner: Port of Chehalis		State: Washington	Sampling Point:	WTP 2
Investigator(s): Becky Rieger	Section, Township, Range:	S _04 T _13	3 N R _02 W	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, conve	k, none):	Slope:	<u>0.0</u> % / <u>0.0</u> °
Subregion (LRR): Lat.:	Lon	g.:	Datu	.m:
Soil Map Unit Name:		NWI classif	ication: PEMC	
Are climatic/hydrologic conditions on the site typical for this time of year Are Vegetation , Soil , or Hydrology significantle Are Vegetation , Soil , or Hydrology naturally p	ar? Yes • No · ly disturbed? Are "Normal roblematic? (If needed,	(If no, explain in Circumstances" p explain any answe	Remarks.) resent? Yes • rs in Remarks.)	No O

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	$_{ m Yes}$ \bigcirc	No 🖲	Is the Sampled Area	
Hydric Soil Present?	Yes 🖲	No O	within a Watland?	Yes \bigcirc No \bigcirc
Wetland Hydrology Present?	$Yes \bigcirc$	No 🖲	within a wetland?	
Remarks:				

Site does not meet criteria

Tree Stratum (Plot size:)	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
1	0		otatas	Number of Dominant Species
2	0	0.0%		
2	0			Total Number of Dominant
<i>A</i>		0.0%		Species Across All Strata: (B)
4				Percent of dominant Species
apling/Shrub Stratum (Plot size:)	0	= Total Cov	er	That Are OBL, FACW, or FAC:(A/B)
1. Leucanthemum vulgare	20	22.2%	FACU	Prevalence Index worksheet:
2. Holcus lanatus	40	✔ 44.4%	FAC	Total % Cover of: Multiply by:
3. Poa annua	30	33.3%	FAC	OBL species 0 x 1 = 0
4	0	0.0%		FACW species 0 x 2 = 0
5	0	0.0%		EAC speciles $70 \times 3 = 210$
	90	= Total Cov	er	$\mathbf{FACH} = \frac{50}{200} \times \mathbf{A} = \frac{200}{200}$
erb Stratum (Plot size:)				$\frac{1}{1} \frac{1}{1} \frac{1}$
1. Hypochaeris radicata		✔ 100.0%	FACU	$\begin{array}{c} \text{UPL spectres} & \underline{\qquad} & x \text{ 5} = \underline{\qquad} \\ 100 & x \text{ 1} & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} & x \text{ 1} \\ 100 & x \text{ 1} \\ 100$
2	0	0.0%		Column Totals: 120 (A) 410 (B)
3	0	0.0%		Prevalence Index = $B/A = 3.417$
4	0	0.0%		Hydrophytic Vegetation Indicators
5	0	0.0%		
6	0	0.0%		
7	0	0.0%		\square 2 - Dominance Test is > 50%
8	0	0.0%		\square 3 - Prevalence Index is ≤ 3.0
9	0	0.0%		4 - Morphological Adaptations ¹ (Provide supporting
0	0	0.0%		
1	0	0.0%		
	30	= Total Cov	er	Problematic Hydrophytic Vegetation ⁺ (Explain)
Voody Vine Stratum (Plot size:)	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1 2	0			Hydrophytic
<u> </u>	0	= Total Cov	er	Vegetation Present? Yes No •
% Bare Ground in Herb Stratum: $_{igcap}$				
<u>u</u>				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Depth		Matrix			Redox Feat	ures			
(inches)	Color (moist)	%	Color (mo	ist) <u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-18	10YR	6/1	80	10YR	6/6 20	С	М	Clay Loam	
				. <u> </u>					
							-		
		,	, DM Dod			tod Cond C			
Type: C=CON									tic Hydric Soils ³ :
	A1)	(Applicat		Sandy	Peday (S5)	.)		$\square 2 \text{ cm Muck (A10)}$	tie fryurie Solis".
	bedon (A2)			Strippe	d Matrix (S6)			Ped Parent Material (1	-E-2)
Black Hist	ic (A3)				Mucky Mineral (F1) (except	in MLRA 1)	Other (Explain in Rem	arks)
Hydrogen	Sulfide (A4)			Loamy	Gleyed Matrix (F2)			
Depleted	Below Dark S	Surface (A1	11)	✓ Deplete	ed Matrix (F3)				
Thick Dar	k Surface (A	12)	,	Redox	Dark Surface (F	6)		³ Indicators of hydrophytic y	agetation and
Sandy Mu	ick Mineral (S	S1)		Deplete	ed Dark Surface	(F7)		wetland hydrology must	be present,
Sandy Gle	eyed Matrix (S4)		Redox	depressions (F8)		unless disturbed or probl	ematic.
estrictive L	ayer (if pre	sent):							
Туре:									~ ~
Depth (inc	hes):							Hydric Soil Present? Y	'es $ullet$ No $igcup$
Remarks:									
oil does ann	ear to be h	vdric							
5 0005 upp		5							

Hydrology

Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA High Water Table (A2) 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Drift deposits (B2) Hydrogen Sulfide Odor (C1) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes	Wetland Hydrology Indicators:		
Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) High Water Table (A2) 1, 2, 4A, and 4B) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): Depth (inches):	Primary Indicators (minimum of one required; ch	neck all that apply)	Secondary Indicators (minimum of two required)
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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches):	Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,
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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches):	High Water Table (A2)	1, 2, 4A, and 4B)	4A, and 4B)
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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches):	Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches):	Water Marks (B1)	Aquatic Invertebrates (B13)	Dry Season Water Table (C2)
Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): Depth (inches):	Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches):	Drift deposits (B3)	Oxidized Rhizospheres on Living Roots (C3)	Geomorphic Position (D2)
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): Depth (inches): Water Table Precent? Yes No Depth (inches):	Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): Depth (inches): Water Table Present? Yes No Depth (inches):	Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)	FAC-neutral Test (D5)
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)
Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Unit (inches):	Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Frost Heave Hummocks (D7)
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches):	Sparsely Vegetated Concave Surface (B8)		
Surface Water Present? Yes No O Depth (inches):	Field Observations:		
Water Table Procent? Ves No 🔍 Durith (inclusion)	Surface Water Present? Yes O No 🔍	Depth (inches):	
	Water Table Present? Yes O No 🖲	Depth (inches):	
Saturation Present? Yes No Popth (inches): Wetland Hydrology Present? Yes No No	Saturation Present? Yes O No •	Depth (inches): Wetland Hyd	drology Present? Yes 🔾 NO 🖲
Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:	Describe Recorded Data (stream gauge, monitor	well, aerial photos, previous inspections), if availa	ble:
Aerial Photos / Previous Inspections	Aerial Photos / Previous Inspections		
Remarks:	Remarks:		
Hydrology does not appear to be present	Hydrology does not appear to be present		

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

Project/Site: 123 Habein Road	City/County: Chehalis / Lewis	\$	Sampling Date: <u>13</u> -	Nov-20
Applicant/Owner: Port of Chehalis	S	tate: Washington	Sampling Point:	WTP 3
Investigator(s): Becky Rieger	Section, Township, Range:	S _04 T _13	<u>8 N</u> R 02 W	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex	, none):	Slope:	<u>0.0</u> % / <u>0.0</u> °
Subregion (LRR): Lat.:	Long	g.:	Datu	m:
Soil Map Unit Name:		NWI classifi	cation: PEMC	
Are climatic/hydrologic conditions on the site typical for this time of year Are Vegetation , Soil , or Hydrology significantle Are Vegetation , Soil , or Hydrology naturally p	ar? Yes No ly disturbed? Are "Normal roblematic? (If needed, e	(If no, explain in F Circumstances" pr explain any answer	Remarks.) resent? Yes 🖲 rs in Remarks.)	No ()

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	$_{ m Yes}$ \bigcirc	No 🖲	Is the Sampled Area	
Hydric Soil Present?	Yes 🖲	No O	within a Watland?	Yes \bigcirc No \bigcirc
Wetland Hydrology Present?	$Yes \bigcirc$	No 🖲	within a wetland?	
Remarks:				

Site does not meet criteria

President (Not size:	(Plot size:		-Species? Rel.Strat.	Indicator	Dominance Test worksheet:
1 0 0.00% Total are OBL, FACW, OF FAC: 2 (A) 3 0 0.00% Total Number of Dominant Species That Are OBL, FACW, OF FAC: 2 (B) apling/Shrub Stratum 0 0.00% Total Number of Dominant Species That Are OBL, FACW, OF FAC: 5.00% (A/B) 1. Leucanthemum vulgare 20 ✓ 22.2% FACU Prevalence Index worksheet: Total % Cover of: Multiply by: 3. Poa annua 30 ✓ 33.3% FAC OBL species 0 2.0 4. 0 0.00% FACW Species Across All Strata: 4 0 5. 0 0.00% FACU Prevalence Index worksheet: 0 0 1. Hypochaeris radicata 30 ✓ 33.3% FAC OBL species 0 x 4 = 200 2. 90 = Total Cover FACW species 0 x 5 = 0 10 1. Hypochaeris radicata 30 ✓ 100.0% FACU Prevalence Index = B/A = .417 4. 0 0.00% 1 Reducations: 1 1 1	ree Stratum (FIOUSIZE)	% Cover		Status	Number of Dominant Species
2	1				That are OBL, FACW, or FAC: (A)
3	2				Total Number of Dominant
4 0 □ 0.0% Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B) 1. Leucanthemum vulgare 20 ✓ 22.2% FACU Prevalence Index worksheet: 2. Holcus tanatus 40 ✓ 44.4% FAC OBL species 0 x 1 = 0 3. Poa annua 0 0.0% FACW species 0 x 1 = 0 4. 0 0.0% FACW species 0 x 2 = 0 5. 0 0.0% FACW species 0 x 2 = 0 5. 0 0.0% FACU species 0 x 4 = 200 1. Hypochaeris radicata 0 0.0% FACU species 0 x 5 = 0 2. 0 0.0% Prevalence Index = B/A = 3.417 4. 0 0.0% Prevalence Index is 5.0% 3. 0 0.0% 1. Rapid Test for Hydrologic Vegetation 1ndicators: 1. 0 0.0% 3. Prevalence Index is 3.0.1 4. 0 0.0% 3. Prevalence Index is 5.0% 5. 0 0.0% 3. Prevalence Index is 5.0% 6. 0 0.0% 3. Prevalence Index is 5.0% 1. 0 0.0% 3. Prevalence Index is 5.01 4. 0 </td <td>3</td> <td>0</td> <td></td> <td></td> <td>Species Across All Strata:4(B)</td>	3	0			Species Across All Strata:4(B)
appling/Shrub Stratum_(Plot size:) 0 = Total Cover Total % Cover of: 50.0% (A/B) 1. Leucanthemum vulgare 20 ✓ 22.2% FACU Prevalence Index worksheet: Total % Cover of: Multiply by: 0	4	0	0.0%		Percent of dominant Species
1. Leucanthemum vulgare 20 ✓ 22.2% FACU 2. Holcus lanatus 40 ✓ 44.4% FAC 3. Poa annua 30 ✓ 33.3% FAC 4. 0 0.0% FAC 5. 0 0.0% FAC 90 = Total Cover FACW species 0 x 4 = 200 Prevalence index worksheet: 0 0.0% FACW Species 0 x 4 = 0 90 = Total Cover 90 = Total Cover UPL species 0 x 4 = 200 1. Hypochaeris radicata 30 ✓ 100.0% FACU FACU species 0 x 5 = 0 2. 0 0.0% 0 0.0% Col umn Total s: 120 (A) 410 (B) 7. 0 0.0% 0 1 Rapid Test for Hydrologic Vegetation 2 2 0 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	apling/Shrub Stratum (Plot size:)	0	= Total Cov	er	That Are OBL, FACW, or FAC: (A/B)
2. Holcus Ianatus 40 ✓ 44.4% FAC Total % Cover of: Multiply by: 3. Poa annua 30 ✓ 33.3% FAC OBL speciles 0 x 1 = 0 4. 0 0.0% FAC FAC FAC OBL speciles 0 x 1 = 0 5. 0 0.0% FAC FAC FAC FAC FAC FAC Secolar 0 x 3 = 210 erb Stratum (Plot size:) 90 = Total Cover IVL speciles 0 x 4 = 200 1 Hypochaeris radicata 30 ✓ 100.0% FACU FACU speciles 0 x 5 = 0 2 0 0.0% 0 0.0% Prevalence Index = B/A 3.417 4 0 0.0% 0 0.0% 1 1 Rapid Test for Hydrologic Vegetation 5 0 0.0% 0 0.0% 3 3 Prevalence Index is >3.0 1 1 4 0 0.0% 3 3 Prevalence Index is >3.0 1 </td <td>1. Leucanthemum vulgare</td> <td>20</td> <td>22.2%</td> <td>FACU</td> <td>Prevalence Index worksheet:</td>	1. Leucanthemum vulgare	20	22.2%	FACU	Prevalence Index worksheet:
3. Poa annua 30 ✓ 33.3% FAC 4. 0 0.0% FAC 5. 0 0.0% FACW species 0 x 1 = 0 1erb Stratum 90 = Total Cover FACW species 0 x 3 = 210 1. Hypochaeris radicata 30 ✓ 100.0% FACU FACU species 0 x 4 = 200 2. 0 0.0% FACU FACU species 0 x 5 = 0 1. Hypochaeris radicata 30 ✓ 100.0% FACU Col unn Total s: 120 (A) 410 (B) 2. 0 0.0% 0 0.0% Col unn Total s: 120 (A) 410 (B) 3. 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0 0 0 0 0 0 0 0 0 0 0 0 0 </td <td>2. Holcus lanatus</td> <td>40</td> <td>✔ 44.4%</td> <td>FAC</td> <td>Total % Cover of: Multiply by:</td>	2. Holcus lanatus	40	✔ 44.4%	FAC	Total % Cover of: Multiply by:
4. 0 0.0% FACW species 0 x 2 = 0 5. 0 0.0% FACW species 0 x 3 = 210 90 = Total Cover 90 = Total Cover FAC species 0 x 3 = 210 1. Hypochaeris radicata 30 100.0% FACU Species 0 x 5 = 0 2. 0 0.0% 0 0.0% Prevalence Index = B/A = 3.417 4. 0 0.0% 0 0.0% Prevalence Index = B/A = 3.417 4. 0 0.0% 0 0.0% 1 Prevalence Index = B/A = 3.417 4. 0 0.0% 0 0.0% 1 Prevalence Index = B/A = 3.417 4. 0 0.0% 0 0.0% 3 Prevalence Index is <3.0 1	3. Poa annua	30	33.3%	FAC	OBL species $0 \times 1 = 0$
5. 0 0.0% FAC 0 0 FAC FAC FAC FAC FAC FAC Species 70 x 3 = 210 FAC Species 0 x 4 = 200 UPL Species 0 x 5 = 0 1. 0 0.0% 0 0.0% FACU Col umn Total s: 120 (A) 410 (B) 2. 0 0.0% 0 0.0% FACU Col umn Total s: 120 (A) 410 (B) 3. 0 0.0% 0 0.0% FACU Species 0 x 5 = 0 4. 0 0.0% 0 0.0% FACU Species 0 x 5 = 0 5. 0 0.0% 0 0.0% 1 Hydrophytic Vegetation Indicators: 1 1 Rapid Test for Hydrologic Vegetation 1 1 1 Rapid Test for Hydrologic Vegetation 2 2 0 0.0% 3 3 Prevalence Index is <3.0	4.	0	0.0%		FACW species $0 \times 2 = 0$
90 = Total Cover 1. Hypochaeris radicata 30 100.0% FACU 2. 30 0 0.0% UPL species 0 x 5 = 0 3. 0 0.0% 0 0.0% Col umn Total s: 120 (A) 410 (B) 4. 0 0.0% 0 0.0% Prevalence Index = B/A = 3.417 4. 0 0.0% 0 0.0% 1 Rapid Test for Hydrologic Vegetation 6. 0 0.0% 0 0.0% 2 Dominance Test is > 50% 8. 0 0.0% 0 0.0% 3 Prevalence Index is \$3.01 9. 0 0.0% 0 0.0% 3 Prevalence Index is \$3.01 9. 0 0.0% 0 0.0% 0 5 Wetland Non-Vascular Plants 1 1 0 0.0% 0 0.0% 0 1 1. 0 0.0% 0 0 0 0 2. 0 0.0% 0 0 0 <td< td=""><td>5.</td><td>0</td><td>0.0%</td><td></td><td>$\mathbf{FAC} \text{ specilies} \qquad 70 \qquad \mathbf{x} = 210$</td></td<>	5.	0	0.0%		$\mathbf{FAC} \text{ specilies} \qquad 70 \qquad \mathbf{x} = 210$
erb Stratum (Plot size:) 30 Image: local correction of the stratum 30 Image: local correction of the stratum 30 Image: local correction of the stratum 100.0% FACU 9 0 0.0% 0			= Total Cov	er	$\frac{1}{50} \times 5 = \frac{200}{200}$
1. Hypochaeris radicata 30 I 100.0% FACU 2 0 0.0% Col umn Total s: 120 (A) 410 (B) 3. 0 0.0% Prevalence Index = B/A = 3.417 4. 0 0.0% I 1. Rapid Test for Hydrologic Vegetation 5. 0 0.0% I 1. Rapid Test for Hydrologic Vegetation 6. 0 0.0% I 1. Rapid Test for Hydrologic Vegetation 7. 0 0.0% I 1. Rapid Test for Hydrologic Vegetation 9. 0 0.0% I 2. Dominance Test is > 50% 1. 0 0.0% I 4. Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet) 0. 0.0% I 5. Wetland Non-Vascular Plants 1 1. 0 0.0% 1. 0 0.0% 1. 0 0.0% 1. 0 0.0% 1. 0 0.0% 1. 0 0.0% 2. 0 0.0% 2. 0 0.0% 2. 0 0.0%	erb Stratum (Plot size:)			•	$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array} \\ \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \begin{array}{c} \end{array} \\ \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} $
200.0%Col umn Total s: 120(A) 410(B)300.0%Prevalence Index = $B/A = 3.417$ 400.0%Hydrophytic Vegetation Indicators:500.0%1 - Rapid Test for Hydrologic Vegetation600.0%2 - Dominance Test is > 50%700.0%3 - Prevalence Index is $\leq 3.0^{-1}$ 900.0%3 - Prevalence Index is $\leq 3.0^{-1}$ 900.0%4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)100.0%130= Total Cover% Bare Ground in Herb Stratum: 000.0%	1. Hypochaeris radicata	30	✔ 100.0%	FACU	UPL species $$
3 0 0.0% Prevalence Index = B/A =3.417_ 4. 0 0.0% Hydrophytic Vegetation Indicators: 5. 0 0.0% 1 - Rapid Test for Hydrologic Vegetation 6. 0 0.0% 2 - Dominance Test is > 50% 7. 0 0.0% 3 - Prevalence Index is ≤ 3.0 1 8. 0 0.0% 3 - Prevalence Index is ≤ 3.0 1 9. 0 0.0% 3 - Prevalence Index is ≤ 3.0 1 0 0.0% 0 0.0% 1. 0 0.0% 5 - Wetland Non-Vascular Plants 1 0 0.0% 1 - Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 1. 0 0.0% 2. 0 0.0% 0 0.0% 1 - Mathing the present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes 0 0.0% 9 1 0 0.0% 2 0 0.0% 0 0.0% 9 1 Problematic Hydrophytic Vegetation 1 (Explain) 1 </td <td>2.</td> <td>0</td> <td>0.0%</td> <td></td> <td>Column Totals: <u>120</u> (A) <u>410</u> (B)</td>	2.	0	0.0%		Column Totals: <u>120</u> (A) <u>410</u> (B)
4	3	0	0.0%		Prevalence Index = B/A =3.417
5	4	0	0.0%		Hudronbutic Vegetation Indicators
6. 0 0.0% 1 - Rapid Test for Hydrologic Vegetation 7. 0 0.0% 2 - Dominance Test is > 50% 8. 0 0.0% 3 - Prevalence Index is ≤3.0 1 9. 0 0.0% 4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet) 1. 0 0.0% 5 - Wetland Non-Vascular Plants 1 2. 0 0.0% 1 - Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. % Bare Ground in Herb Stratum: 0 0 0.0% Hydrophytic	5	0	0.0%		
7. 0 0.0% 2 - Dominance Test is > 50% 8. 0 0.0% 3 - Prevalence Index is ≤ 3.0 1 9. 0 0.0% 4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet) 0. 0.0% 5 - Wetland Non-Vascular Plants 1 30 = Total Cover Problematic Hydrophytic Vegetation 1 (Explain) 1. 0 0.0% 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Yoody Vine Stratum 0 0.0% 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 0 0.0% 0 0.0% 0 0.0% Vegetation 1 Present? Yes No	6	0	0.0%		- Rapid Test for Hydrologic Vegetation
8. 0 0.0% 9. 0 0.0% 0. 0.0% 0 1. 0 0.0% 30 = Total Cover 1. 0 0.0% 1. 0 0.0% 30 = Total Cover 1 1. 0 0.0% 1. 0 0.0% 1. 0 0.0% 2. 0 0.0% 0 0.0% 1 0 0.0% 1 0 0.0% 1 0 0.0% 1 0 0.0% 1 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 1 Hydrophytic Vegetation Yes No ●	7	0	0.0%		\square 2 - Dominance lest is > 50%
9. 0 0.0% 0. 0.0% 0 1. 0 0.0% 30 = Total Cover 1. 0 0.0% 30 = Total Cover 1. 0 0.0% 1. 0 0.0% 30 = Total Cover 1. 0 0.0% 1. 0 0.0% 2. 0 0.0% 0 0.0% 0.0% 0 0.0% 0.0% 0 0.0% 0.0% 1. 0 0.0% 2. 0 0.0% 0 0.0% 0.0% 0 0.0% 0.0% 0 0.0% 0.0% 0 0.0% 0.0% 0 0.0% 0.0% 0 0.0% 0.0% 0 0.0% 0.0% 0 0.0% 0.0% 0 0.0% 0.0% 0 0.0% 0.0% 0	8	0	0.0%		\square 3 - Prevalence Index is ≤ 3.0
0. 0 0.0% 0 0.0% 1. 0 0.0% 0 5 - Wetland Non-Vascular Plants 1 30 = Total Cover 0 0.0% 1 1. 0 0.0% 0 1 2. 0 0.0% 0 1 0 0.0% 0 0 0.0% 0 0.0% 0 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 0 0.0% 0 Hydrophytic 0 0.0% 0 Hydrophytic 0 0.0% Present? Yes No (•)	9	0	0.0%		4 - Morphological Adaptations ¹ (Provide supporting
1. 0 0.0% Image: Solution of the statum of the statu	0	0	0.0%		
30 = Total Cover Problematic Hydrophytic Vegetation ¹ (Explain) 1. 0 0.0% Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 2. 0 0.0% Hydrophytic % Bare Ground in Herb Stratum: 0 0 Total Cover Hydrophytic	1	0	0.0%		
Voody Vine Stratum (Plot size:) 0 0.0% 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 2. 0 0.0% Hydrophytic 0 0.0% Vegetation Vegetation % Bare Ground in Herb Stratum: 0 0 0 Vegetation		30	= Total Cov	er	Problematic Hydrophytic Vegetation ⁺ (Explain)
1. 0 0.0% 2. 0 0.0% 0 = Total Cover Vegetation Present? Yes No	Yoody Vine Stratum (Plot size:)	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. 0 0.00% 1000% 1000% 0 = Total Cover Vegetation % Bare Ground in Herb Stratum: 0 0 = Total Cover	2	0			Hydrophytic
% Bare Ground in Herb Stratum: O	<u> </u>	0	= Total Cov	er	Vegetation Present? Yes No •
	% Bare Ground in Herb Stratum: $_{\Omega}$				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Depth		Matrix			Redox	Features				
(inches)	Color (moist)	%	Color (m	oist)	<u>%</u> T	vpe ¹	Loc ²	Texture	Remarks
0-18	10YR	6/1	80	10YR	6/6	20	С	М	Clay Loam	
Type: C=Con	centration. D	=Depletior	n. RM=Red	uced Matrix, C	S=Covered o	r Coated S	Sand Gr	ains ² Loc	ation: PL=Pore Lining. M=Matr	ix
Hydric Soil	Indicators:	(Applicat	ble to all L	.RRs, unless o	otherwise n	oted.)			Indicators for Problema	tic Hydric Soils ³ :
Histosol (A1)			Sand	y Redox (S5)				2 cm Muck (A10)	
Histic Epi	pedon (A2)			Stripp	oed Matrix (S	6)			Red Parent Material (F2)
Black Hist	tic (A3)			Loam	y Mucky Min	eral (F1) (except	in MLRA 1)	Other (Explain in Rem	arks)
Hydroger	Sulfide (A4)			Loam	y Gleyed Ma	trix (F2)				
Depleted	Below Dark	Surface (A1	11)	🗹 Deple	eted Matrix (I	F3)				
Thick Dar	k Surface (A	12)		Redo	x Dark Surfa	ce (F6)			³ Indicators of hydrophytic y	egetation and
Sandy Mu	ick Mineral (S	S1)		Deple	eted Dark Su	rface (F7)			wetland hydrology must be present,	
Sandy Gl	eyed Matrix ((S4)		Redo	x depression	s (F8)			unless disturbed or prob	ematic.
lestrictive L	ayer (if pre	sent):								
Туре:									Undels Call Decoud2	
Depth (inc	hes):								Hydric Soll Present?	res 🔍 No 🖯
Remarks:										

Hydrology

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Hiph Water Table (A2) 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) State Soil Cracks (B6)	 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)
Field Observations: Ves No Depth (inches): Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No No Depth (inches): Wetland Hyd	Irology Present? Yes 🔾 No 🖲
Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if availab	ble:
Aerial Photos / Previous Inspections	
Remarks:	
Hydrology does not appear to be present	

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

Project/Site: 123 Habein Road	City/County: Chehalis / Lewis		Sampling Date: <u>13</u>	-Nov-20
Applicant/Owner: Port of Chehalis		State: Washington	Sampling Point:	WTP 4
Investigator(s): Becky Rieger	Section, Township, Range	S _04 T _	13 N R _02 W	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, conve	ex, none):	Slope:	<u>0.0</u> % / <u>0.0</u> °
Subregion (LRR): Lat.:	Lo	ng.:	Datu	ım:
Soil Map Unit Name:		NWI class	ification: <u>PEMC</u>	
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes 🖲 No 🔿	(If no, explain ir	n Remarks.)	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	ly disturbed? Are "Norma	al Circumstances"	present? Yes 🖲	No \bigcirc
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	problematic? (If needed	, explain any answ	ers in Remarks.)	

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	$_{ m Yes}$ \bigcirc	No 🖲	Is the Sampled Area	
Hydric Soil Present?	Yes O	No 🖲	within a Watland?	Yes \bigcirc No \bigcirc
Wetland Hydrology Present?	$Yes \bigcirc$	No 🖲	within a wetiand?	
Remarks:				

Site does not meet criteria

Tree Stratum (Plot size:)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1.	0	0.0%		That are OBL, FACW, or FAC: 2 (A)
2.	0	0.0%		
3.	0	0.0%		Total Number of Dominant Species Across All Strata:
4.	0	0.0%		
apling/Shrub Stratum (Plot size:)	0	= Total Cov	er	Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
1. Leucanthemum vulgare	20	✓ 22.2%	FACU	Prevalence Index worksheet:
2. Holcus lanatus	40	✔ 44.4%	FAC	Total % Cover of: Multiply by:
3. Poa annua	30	✔ 33.3%	FAC	OBL species _ 0 _ x 1 = _ 0
4	0	0.0%		FACW species $0 \times 2 = 0$
5	0	0.0%		FAC speciles $70 \times 3 = 210$
	90	= Total Cov	er	FACIL species $50 \times 4 = 200$
erb Stratum (Plot size:)				$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $
1. Hypochaeris radicata	30	✔ 100.0%	FACU	$\frac{1}{10}$
2	0	0.0%		$\begin{bmatrix} column lotals: 120 (A) 410 (B) \\ \end{bmatrix}$
3	0	0.0%		Prevalence Index = B/A =3.417
4	0	0.0%		Hydrophytic Vegetation Indicators:
5	0	0.0%		1 - Rapid Test for Hydrologic Vegetation
6	0	0.0%		2 - Dominance Test is > 50%
7				
8				\square 4 Morphological Adaptations ¹ (Provide supportion
9				data in Remarks or on a separate sheet)
0				5 - Wetland Non-Vascular Plants ¹
1		= Total Cov	er	Problematic Hydrophytic Vegetation ¹ (Explain)
Voody Vine Stratum (Plot size:)		_		¹ Indicators of hydric soil and wetland hydrology must
1,	0	0.0%		be present, unless disturbed or problematic.
2	0	0.0%		Hydrophytic
	0	= Total Cov	er	Present? Yes No 🖲
% Bare Ground in Herb Stratum: _0				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Depth (inches)	Matrix		Redox Features				_			
	<u> </u>	moist)	%	Color (moist)	<u>% Typ</u>	Type ¹	¹ <u>Loc²</u>	Texture	Remarks	
0-22	10YR	4/3	100					Clay Loam		
		,			8					
								·		
Type: C=Con		-Depletior	n. RM=Redu	iced Matrix, CS=Covere	d or Coa	ted Sand Gr	ains ² Loc	cation: PL=Pore Lining. M=Matri	ix	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)							Indicators for Problematic Hydric Soils ³ :			
	ISOI (A1) Sandy Redox (S5)						Commuck (ATO) Red Parent Material (TF2) Other (Explain in Remarks)			
Black Histic (A3)			Loamy Mucky Mineral (F1) (except in MLRA 1)			in MLRA 1)				
Hydrogen	Sulfide (A4)			Loamy Gleyed	Matrix (F	2)	,			
 Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) 			11)	Depleted Matrix (F3)						
			Redox Dark Surface (F6)				³ Indicators of hydrophytic vegetation and			
			Depleted Dark Surface (F7)				wetland hydrology must be present,			
Sandy Gle	eyed Matrix (S4)		Redox depressions (F8)				unless disturbed or problematic.		
estrictive La	ayer (if pre	sent):								
Туре:									\sim	
Depth (incl	hes):							Hydric Soil Present? Y	ies 🔾 No 🔍	
Remarks:										
nil does not	appear to I	be hydric								
		,								

Hydrology

Wetland Hydrology Indicators:										
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)									
Surface Water (A1) Water-Stained Leaves (B9) (except MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,									
High Water Table (A2) 1, 2, 4A, and 4B)	4A, and 4B)									
Saturation (A3)	 Drainage Patterns (B10) Dry Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) 									
Water Marks (B1)										
Sediment Deposits (B2)										
Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3)	Geomorphic Position (D2)									
Algal Mat or Crust (B4)	Shallow Aquitard (D3)									
Iron Deposits (B5)	FAC-neutral Test (D5) Raised Ant Mounds (D6) (LRR A)									
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A)										
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	Frost Heave Hummocks (D7)									
Sparsely Vegetated Concave Surface (B8)										
Field Observations: Surface Water Present? Yes No Depth (inches):	Hydrology Present? Yes O No 🖲 ailable:									
Remarks:										
nyurology does not appear to be present										

Credentials

Becky Rieger

Home Address: 901 L Street Centralia, WA 98531

Phone: (360) 219-3343

Education

Associates Degree in Arts Centralia Community College Date of Graduation: June 2007	Centralia, Washington
Associates Degree in Applied Science	
Major in Geographic Information Systems	
Grays Harbor Community College	Aberdeen, Washington

Continuing Education / Awards / Organizations

Coastal Training Program

Date of Graduation: June 2002

o Certificate in Using the Revised Wetland Rating System (2014)

- Certificate in Identifying Hydric Soils (2012)
- Certificate in Using the Revised Wetland Rating System (2007)

Oregon State University (2006)

o Certificate in Soil Identification

Portland State University Wetland Program (2006)

- o Certificate in Wetland Delineation Course
- o Certificate in Advanced Hydric Soils and Hydrology Course
- Certificate in Hydrophytic Vegetation Identification Coarse

Licensed On-Site Wastewater Designer (2009-Current) License # 5100369

Olympia Master Builders

- o Lewis County Chapter Vice President
- o Olympia Master Builders Associate Vice President

Washington On-Site Sewage Association

Goode & Associates

• SW Washington Designer Rep. (2018 – Current)

Professional Experience

Licensed Designer / Wetland Specialist / Owner May 5, 2010 - Current Environmental Design, LLC

- Complete Site and Soil Evaluations, Site Consultations, Topography Field Work
- Complete Septic Designs and mapping projects using MicroSurvey
- Complete Wetland and other Critical Area Reports per regulations in multiple jurisdictions
- Perform presentations to educate people about wetlands and septic systems

Assistant Designer / Certified Wetland Specialist F

Feb. 24, 2005 – Oct. 30, 2007 Supervisor: Jeannie Yackley

- Complete designs of on-site wastewater designs for county submittal
- Communicate with county regulators, installers, and clients
- Conduct wetland determinations, delineations, mitigations and consultations
- Research projects, apply for permits, and conduct final inspections on installed septic systems
- Perform presentations to educate people about wetlands and septic systems