

Wetland Investigation and Delineation Report

Boat Haven Infrastructure and Maintenance Projects

Port of Port Townsend
Jefferson County, Washington



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ACRONYMS AND ABBREVIATIONS

ACIS	Applied Climate Information System
CARA	Critical Aquifer Recharge Area
CFR	Code of Federal Regulations
DAHP	Department of Archaeology and Historic Preservation
DNR	Washington State Department of Natural Resources
EA	Environmental Assessment
Ecology	Washington State Department of Ecology
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
JCC	Jefferson County Code
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NRCS	National Resources Conservation Service
NWI	National Wetland Inventory
PHS	Priority Habitats and Species
POPT	Port of Port Townsend
RCCs	NOAA Regional Climate Centers
SEPA	State Environmental Policy Act
SHPO	State Historic Preservation Office
SIPZ	Seawater Intrusion Protection Zone
UGA	Urban Growth Area
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife
WSDOT	Washington State Department of Transportation
WSS	NRCS Web Soil Survey
WUI	Wildland Urban Interface

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1. EXECUTIVE SUMMARY

The Port of Port Townsend (Port) proposes a Stormwater Improvement project to install a new 4-stage biofiltration Central Boatyard Stormwater Treatment System to manage all Boatyard stormwater on-site, including the proposed Western Boatyard Expansion and Sims Way Gateway and Boatyard Expansion projects. The Port retained Widener & Associates to investigate potential wetlands to the south-west of the Boat Haven Boatyard and delineate and rate any identified wetlands.

The wetland investigation and delineation were conducted on May 23, 2024, within the study area to determine the presence and extent of wetlands. The study area encompasses approximately 6.95 acres of existing wetlands, uplands, and stormwater facilities constrained by roads on the northwest, west, and south; the Larry Scott Memorial Trail to the southeast; and the existing Boatyard to the northeast. The project area is entirely within Section 10 Township 30N Range 1W.

The investigation resulted in the identification of one coastal lagoon wetland, Wetland A, and one artificial wetland, Port Stormwater Facility. Wetland A was rated as a Category II Coastal Lagoon. The Port Stormwater Facility was determined to be an artificial wetland resulting from intentionally created stormwater drainage and detention facilities which is not a designated wetland subject to regulation under PTMC 19.05.110.

In accordance with PTMC 19.05.020 (1) and WAC 365-195-905 (4), the investigation and delineation were performed by Jordan Widener, qualified wetland consultant, B.S. Environmental Science, with 5 years of experience delineating wetlands using the federal manuals and supplements, preparing wetlands reports, conducting function assessments, and developing and implementing mitigation plans. This report documents the investigation, best professional judgment, and conclusions of the qualified wetland consultant.

2. INTRODUCTION

2.1 Authorizing agency and reason for the investigation

The Port of Port Townsend (Port) proposes a Stormwater Improvement project to install a new 4-stage biofiltration Central Boatyard Stormwater Treatment System to manage all Boatyard stormwater on-site, including the proposed Western Boatyard Expansion and Sims Way Gateway and Boatyard Expansion projects. This Wetland Investigation and Delineation Report was prepared by Widener & Associates, on behalf of the Port of Port Townsend (Port), to delineate the location and extent of wetlands, within the study area to inform the Port of any project design limitations. The primary objective of the delineation was to identify and delineate any wetlands within the project boundaries consistent with the 1987 *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (USACE, 2010). In accordance with PTMC 19.05.020 (1) and WAC 365-195-905 (4), the investigation and delineation were performed by Jordan Widener, qualified wetland consultant, B.S. Environmental Science, with 5 years of experience delineating wetlands using the federal manuals and supplements, preparing wetlands reports, conducting function assessments, and developing and implementing mitigation plans.

2.2 Site location

The study area is located at the Port of Port Townsend Boat Haven Boatyard property at 2740 Jefferson Street, Port Townsend, Jefferson County, Washington. It lies within Section 1 of Township 30N, Range 1W at (48.103709, -122.784033). The study area encompasses approximately 6.95 acres of existing wetlands, uplands, and stormwater facilities constrained by roads on the northwest, west, and south; the Larry Scott Memorial Trail to the southeast; and the existing Boatyard to the northeast (Figure 1, Figure 2). The proposed projects are adjacent to Port Townsend Bay, within Water Resource inventory Area (WRIA) 17 Quilcene-Snow watershed in the Marrowstone Island – Frontal Port Townsend (HUC12 171100190803) sub-watershed.

Figure 1. Vicinity Map



Figure 2. Study Area



2.3 Project description

2.3.1 Existing Conditions

The study area encompasses approximately 6.95 acres of existing wetlands, uplands, and stormwater facilities constrained by roads on the northwest, west, and south; the Larry Scott Memorial Trail to the southeast; and the existing Boatyard to the northeast (Photo 1). The roads and trails bordering the study area are regularly mowed and maintained by the Port of Port Townsend and volunteers from the Peninsula Trails Coalition.

Photo 1. Aerial view of the Study Area, facing north. The Study Area is confined by 8th Street (left), the Boatyard (center back), and the Larry Scott Trail (right). Port Townsend Bay can be seen in the background.



Historically, the study area was part of Kah Tai Lagoon, a tidally flushed estuary. In 1889, a railway was constructed that separated the study area from Puget Sound (Caldbick, 2015). In 1930, the construction of SR-20/Sims Way across the mouth of the Lagoon cut off Kah Tai from Puget Sound and separated the study area from the Lagoon. In 1963, the USACE disposed of approximately 231,000 yards of dredge spoils from the Boat Haven expansion into Kah Tai Lagoon on both sides of SR-20/Sims

Way (City of Port Townsend, n.d.). This fill created the majority of the of the Port land adjacent to the Boat Haven Marina. While the old railway was decommissioned in the 1980s, the constraining embankment remains as the multi-use Larry Scott Memorial Trail (Photo 2).

Photo 2. The old railway embankment (center right), now the Larry Scott Memorial Trail, confines the study area. Port Townsend Bay can be seen on the left.



The project area is within the Coastal Zone Management Area and is currently zoned for Marine related uses (M-II(A)). Previous development within the study area includes an existing engineered Port stormwater facility (Photo 3, Appendix A), an access road (Photo 4, Photo 5) and an inoperable City stormwater drainpipe bisecting Wetland A which previously discharged at an outfall below the HTL of Port Townsend Bay (Photo 6). The presence of old waste and debris, including creosote piles and rusted steel I-beams, were also observed during field visits.

Photo 3. The existing Port Stormwater Facility (center) is located at the northern margin of the study area, adjacent to the Boatyard. Stormwater from the facility discharges to the depression (far right) for detention and infiltration, as evidenced by the green vegetation. The wetland buffer ends at the southern edge of development as the Boatyard and Port Stormwater Facility effectively preclude the function and value typically derived from wetland buffers.



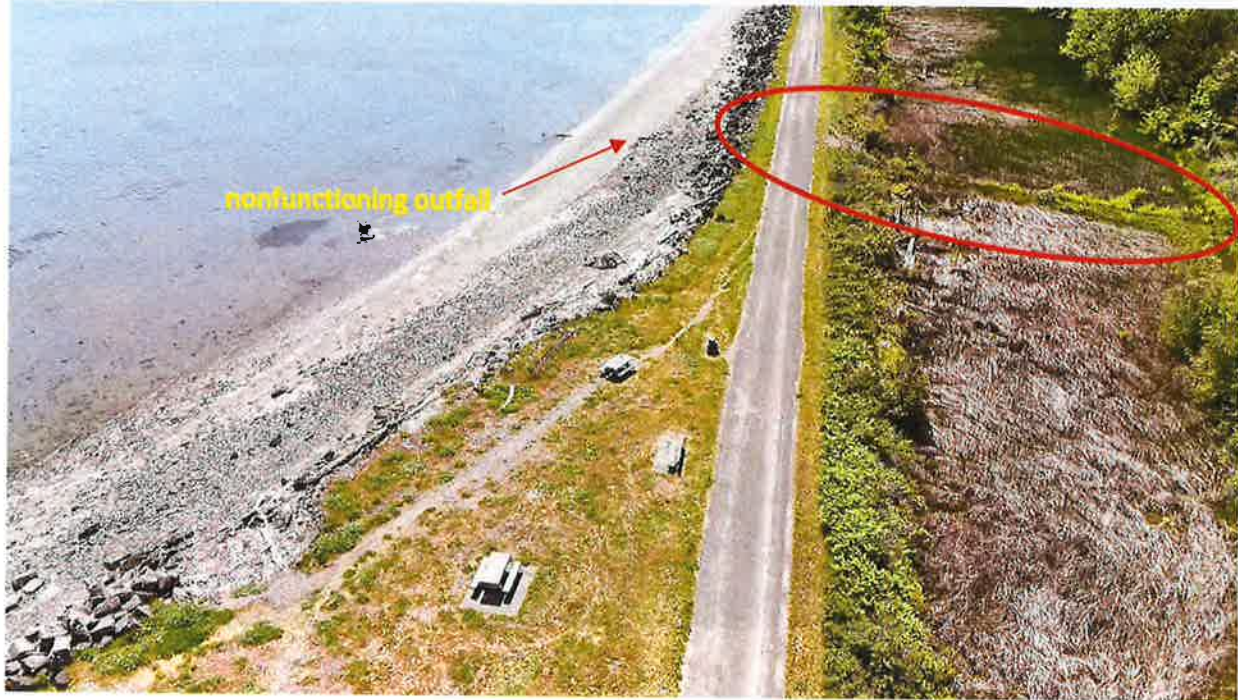
Photo 4. Study area facing north. The flow spreader embankment (circled in red) stretches from 8th Street to the Larry Scott Memorial Trail, separates Wetland A from the Boatyard. The Study Area is confined by 8th Street (left) and the Larry Scott Trail (right).



Photo 5. Study area facing north. The flow spreader embankment (circled in red) stretches from 8th Street to the Larry Scott Memorial Trail, separates Wetland A from the Boatyard. The Study Area is confined by 8th Street (left) and the Larry Scott Trail (right).



Photo 6. Facing south. Wetland A (right) is bifurcated by an inoperable City stormwater drainpipe (circled in red) which used to outfall (arrow) below the HTL of Port Townsend Bay. The inoperable City pipe prevents stormwater runoff from SR-20/Sims Way and City sub-basin 10a from discharging to Port Townsend Bay as intended. As a result, the City stormwater provides poor quality hydrologic inputs to Wetland A on Port of Port Townsend property.



2.3.2 Proposed Work

The Port proposes two projects in vicinity of the study area, the Boat Haven Stormwater Improvement project, within the existing Boatyard footprint, and the Western Boatyard Expansion, north of 8th Street. The Port intends to make significant, proactive improvements to its stormwater conveyance and treatment system to treat runoff from the entire Boatyard, including its new capital project, the Western Boatyard Expansion; and expand the Boatyard into the western portion of the existing Port property to increase the capacity of the existing facility.

3. METHODS

3.1 Wetland Delineation, Identification, and Classification

Wetlands were delineated within the study area consistent with the routine determination method outlined in the *USACE Wetlands Delineation Manual* (Environmental Laboratory, 1987), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (USACE, 2010).

In general, the wetland delineation consisted of three main tasks: (1) assessing vegetation, soil, and hydrologic characteristics to identify areas meeting the wetland technical standards, (2) evaluating constructed drainage features to determine if they would be regulated as wetlands, and (3) marking and surveying wetland boundaries. The wetland boundaries flagged by the wetland professional were then surveyed by a Port of Port Townsend surveyor. Wetland ratings were determined using the Washington Tool for Online Rating (Ecology, 2014).

Sampling points were selected at sites representative of the wetland area. Dominant plant species in each of the three strata (tree, scrub shrub, and herbaceous) were identified and quantified by visual assessment. A determination of the presence of hydrophytic vegetation was made at each observation point using the dominance test or prevalence index in accordance with the USACE guidelines (USACE, 2010).

Hydrology data was collected from field observations of direct and indirect hydrologic indicators and compared to records of historic climate data. Methodology for determination of wetland hydrology field indicators was consistent with the USACE guidelines (USACE, 2010).

Identification of the presence of hydric soils was consistent with the Western Mountains, Valleys, and Coast Regional Supplement to the Corps of Engineers Wetland Delineation Manual (USACE, 2010) and NRCS Field Indicators of Hydric Soils in the United States (USDA, NRCS, 2018). Where possible, soils were examined in test pits to a depth of approximately 20 inches, or the depth at which it could be

confirmed that positive indicators were either present or absent. Soil colors were described in data forms using the Munsell soil color chart numbering system (Munsell Color, 2009).

3.2 Pre-field Review of Information

Preliminary data gathering involved review of historic and current aerial photos and consultation of available vegetation, soils, and hydrology data for the area. The pre-field review was conducted for orientation in the field and to inform the wetland professional of current site conditions and known environmental data.

Hydrology was ascertained from thirty years of climate records for Port Townsend, WA obtained from the Applied Climate Information System (ACIS) website, maintained by the NOAA Regional Climate Centers (RCCs) (NOAA, 2024) and FEMA flood maps (FEMA, 2024). Rainfall conditions were compared to the acquired data at the time of fieldwork to determine whether conditions were drier or wetter than normal. The NRCS Web Soil Survey provided background information regarding the general characterization of the soils in the area, the parent material, as well as series, taxonomy, and subgroup information (NRCS, 2019). Existing information from the National Wetland Plant List (USACE, 2023), was reviewed prior to field investigations to identify vegetation patterns and topography within the project boundaries.

The National Wetlands Inventory (NWI) maps were consulted for any previous wetland mapping in vicinity of the study area. The review indicated that three Cowardin classes are present in Wetland A. The most abundant Cowardin class mapped by NWI is Palustrine, Emergent, Persistent, Semipermanently flooded, Diked/Impounded (PEM1Fh) (Cowardin, 1979). Two Riverine classes are mapped along the Larry Scott Memorial Trail embankment: Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded (R5UBH), and Riverine Intermittent Streambed Seasonally Flooded (R4SBC). (USFWS, 2019) (Appendix B). No wetland presence was shown in the Port Stormwater Facility location.

4. SITE CHARACTERIZATION

The project area is characterized by stormwater runoff from City residential areas to the west, SR-20/Sims Way to the east-northeast, and the Boatyard to the north, as well as seasonal flooding from high tide and wave action breaching the railroad embankment. There is also a seasonally high water table that contributes to the site hydrology. The typical growing season is between April 25 and November 5 (NOAA, 2024). The dominant vegetation on site is saline tolerant, and there is evidence that the area once supported a coastal strand community, as suggested by the presence of *Carex macrocephala* and *Cerastium arvense* on the west side, near the Port Road. Adjacent to the project area are approximately 60-ft high feeder bluffs, composed of Dick Loamy sand from glacial outwash overlain on gravelly sandy loam. The coarse materials that compose the soils in the project area contribute to rapid infiltration.

4.1 Hydrology

The study area is located in northwest Washington, on the Olympic Peninsula, at the mouth of Puget Sound, in the rain shadow of the Olympic Mountains. It lies within the Quilcene-Snow watershed (WRIA17), along the coast of Port Townsend Bay. Average annual precipitation for the WRIA ranges from 15 to 30 inches. However, the unique landform and topography of Port Townsend result in a drier local climate with an annual precipitation of only 17 to 19 inches with most rainfall occurring in the winter months.

The NRCS Climate Analysis for Wetlands Tables (WETS) defined the normal range for monthly precipitation and growing season required to assess the climatic characteristics of the Study Area. As the nearest weather stations had insufficient data to apply WETS analysis, combined data obtained from the Chimacum weather station (WA4S), Port Townsend station 0.6SE, and Port Townsend station 1.2WSW was used for the hydrologic analysis. The results of the analysis indicate that hydrological conditions for the period prior to the investigation and delineation were normal (Appendix C). The growing season in the project area is 194 days in length from April 25th to November 5th assuming 50% probability of 28°F or higher temperatures (NOAA, 2024).

In addition to the small quantity of precipitation, the Study Area receives hydrologic inputs from poor quality stormwater runoff originating in SR-20/Sims Way, City sub-basin 10a, and a City residential neighborhood on the feeder bluff to the southwest (Photo 7). Salt spray during high tides twice daily selectively influences the vegetative communities in the project area for those that can tolerate saline environments. It is also suspected that saltwater intrusion occurs through the coarse trail embankment and groundwater upwelling at high tides, however, further investigation is required to determine if this is the case.

Photo 7. Feeder bluff to the southwest of the project area, looking west. A drainage pipe on the side of the bluff conveys untreated stormwater runoff originating in a City residential neighborhood to Wetland A on Port property.



4.2 Plant Community

The study area contains young populations of vegetative communities which display salt tolerance. Some ornamentals were observed along the northern margins of the study area along the existing Boatyard stormwater facility, including common pear (*Pyrus communis*), and non-native crabapple (*Malus spp.*). See Appendix D for a list of observed plant species. The growing season in the project

area is 194 days in length from April 25th to November 5th assuming 50% probability of 28°F or higher temperatures (NOAA, 2024).

Wetland A

The southwestern-western margins of Wetland A are dominated by a small (approximately 0.12 acre) aspen stand (*Populus tremuloides*) with a Sitka willow (*Salix sitchensis*) understory mixed with Himalayan blackberry (*Rubus bifrons*) and lady fern (*Athyrium filix-femina*). The transition clockwise into the west-northwestern margin of the wetland is dominated by a dense black cottonwood, beaked hazelnut (*Corylus cornuta*), and Scouler's willow (*Salix scouleriana*) overstory intermixed with shore pine (*Pinus contorta* var. *contorta*). The understory of the west-northwestern margin is dominated by osoberry (*Oemleria cerasiformis*) and Sitka willow. The northwestern margins are dominated by a row of shore pine intermixed with sparsely spaced Scouler's willow, and a diverse patchy understory dominated by Baltic rush (*Juncus balticus*), silverweed cinquefoil (*Potentilla anserina*), common velvet-grass (*Holcus lanatus*), and Ferriss's horsetail (*Equisetum x ferrissii*). Continuing clockwise, the northern margin of the wetland is bordered by dense thickets of Nootka rose (*Rosa nutkana*) and snowberry (*Symphoricarpos albus*), broken apart by a stand of gray birch (*Betula populifolia*). The north-northeastern margin of the wetland is more of a transitional zone composed of shore pine, Nootka rose, Baltic rush, velvet-grass, and Kentucky bluegrass (*Poa pratensis*). The Larry Scott Memorial Trail slope is steep (>60°) bordering the wetland to the southeast and dominated by invasive species such as reed canarygrass (*Phalaris arundinacea*) at the base with orchardgrass (*Dactylis glomerata*), large bindweed (*Calystegia x lucana*), common vetch (*Vicia sativa*), creeping thistle (*Cirsium arvense*), and bull thistle (*Cirsium vulgare*) common along the slope. Moving towards the center of Wetland A from the margins, vegetation transitions to sedge-rush-dominated habitat. Ferriss's horsetail (*Equisetum x ferrissii*) is found dominating the inner margins where the soil is seasonally inundated and abruptly transitions to Baltic rush (*Juncus balticus*) with golden sedge (*Carex aurea*) scattered throughout. The most abundant plant observed in Wetland A was the hard-stem bulrush (*Schoenoplectus acutus*), which was observed growing in standing water approximately 2.75 feet deep.

Port Stormwater Facility

The Port Stormwater Facility covers an area of approximately 0.16 acres. It is topographically higher than Wetland A and contains significantly less diverse vegetation. The vegetation is composed

primarily of scrub-shrub (Nootka rose) and emergent (Baltic rush and hard-stem bulrush) vegetation, bordered by shore pine and Sitka willow.

4.3 Soils mapped and found

The NRCS Web Soil Survey identified the soils in the study area as composed of primarily of Cut and fill land with a small area of Coastal beaches. Hydric ratings are not assigned to either soil series (Appendix E).

Soils observed contained high concentrations of organic matter that worked its way into the soil profiles in the emergent areas where inundation is more frequent. Soils were found to be mucky-modified mineral soils composed of hemic material and sandy loam. No redoximorphic features were observed in any of the soil test pits, likely due to the low concentration of iron in the mucky sandy soils. Soils in upland plots were found to be cobbly (between 1 and 6 in diameter) gravelly sand.

5. RESULTS

Based on the data collected, one wetland and one stormwater facility exist within the study area. Wetland A is subject to regulation at the state and local levels. The Port Stormwater Facility is not a designated wetland subject to regulation under PTMC 19.05-110

DELINEATION

Wetland A

Wetland A is in a depression between 8th Street, an access road, and the embankment of the Larry Scott Memorial Trail. Water drains into the northwestern part of the wetland through stormwater discharge, and surface water runoff and flows southeast, pooling at the lowest topographic location along the toe of the Larry Scott Memorial Trail embankment. There are no surface water outlets associated with Wetland A. Wetland A is an elongated- ovate shape, which tapers off on both ends due to the surrounding constraints. The area of the wetland is approximately 3.63 acres. Forested, Scrub-shrub, and emergent vegetation are present in the wetland area.

Vegetation: Vegetative species observed in Wetland A included *Alnus rubra*, *Calystegia lucana*, *Cirsium arvense*, *Equisetum x ferrissii*, *Hedera helix*, *Holcus lanatus*, *Ilex aquifolium*, *Juncus balticus*, *Malus Spp.*, *Pinus contorta var. contorta*, *Poa pratensis*, *Polystichum munitum*, *Potentilla anserina*, *Pteridium aquilinum*, *Pyrus communis*, *Rosa gymnocarpa*, *R. nutkana*, *Rubus bifrons*, *Salix scouleriana*, *S. sitchensis*, *Schoenoplectus acutus*, *Symphoricarpos albus*, *Vicia sativa*. The wetland met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: Much of the wetland was inundated during the site visit, along the Larry Scott Memorial Trail embankment, and throughout the center. Indicators of wetland hydrology observed within Wetland A included Surface water presence (A1), a high water table (A2), and saturation (A3).

Soil: The top soil layer was black and contained fibric mucky modified mineral soil. The second horizon observed was lighter and greyer sand. Soils observed at sample points within Wetland A met requirements for hydric soil indicator Histic Epipedon (A2).

Conclusion: Wetland A satisfies the vegetation, hydrology, and hydric soil indicators thereby meeting the regulatory technical standards to be classified as a wetland (Appendix F).

Port Stormwater Facility

The Port Stormwater Facility is located northeast of Wetland A. The location was engineered by the Port to manage stormwater from the Boatyard. The hydrologic inputs to the depression have allowed the emergence of wetland vegetation. However, according to PTMC 19.05.110, artificial wetlands intentionally created from non-wetland sites, such as stormwater drainage and detention facilities, are not designated wetlands subject to regulation.

WETLAND RATINGS

The investigation resulted in the identification of one wetland, Wetland A. Wetland A was determined to be a largely emergent depressional wetland meeting the requirements for a Category II Coastal Lagoon rating based on functions and special characteristics (Ecology, 2024) (Appendix G). Buffer widths for Category II Coastal Lagoons are prescribed by Port Townsend Municipal Code 19.05.110(G)(2)(a) based on the proposed land use of the development; for low-impact land use intensity, a buffer width of 75 feet is required; for moderate land use intensity, a buffer width of 110 feet is required; for high land use intensity, a buffer with of 150 feet is required. As Boatyard activities typically have a high-impact land use intensity, a 150-foot buffer is assumed to be required. However, substantial development precludes the function and value typically derived from wetland buffers. As a result, the buffer is truncated at the boundaries of 8th Street, the existing Boatyard, the Port Stormwater Facility, and the Larry Scott Trail (Figure 3).

Figure 3. Wetland A buffer (yellow). The 150-foot Category II, high-intensity land use wetland buffer (orange) is truncated at the boundary of substantial development that precludes the functions and values typically provided by wetland buffers.



6. CONCLUSION

The investigation revealed the presence of one wetland, Wetland A, in the Study Area. Wetland A was determined to be a largely emergent depressional wetland meeting the requirements for a Category II Coastal Lagoon rating based on functions and special characteristics (Washington State Department of Ecology, 2024); Wetland A is subject to state, and local regulation. The Port Stormwater Facility was determined to be an artificial wetland resulting from intentionally created stormwater drainage and detention facilities which is not a designated wetland subject to regulation under PTMC 19.05.110.

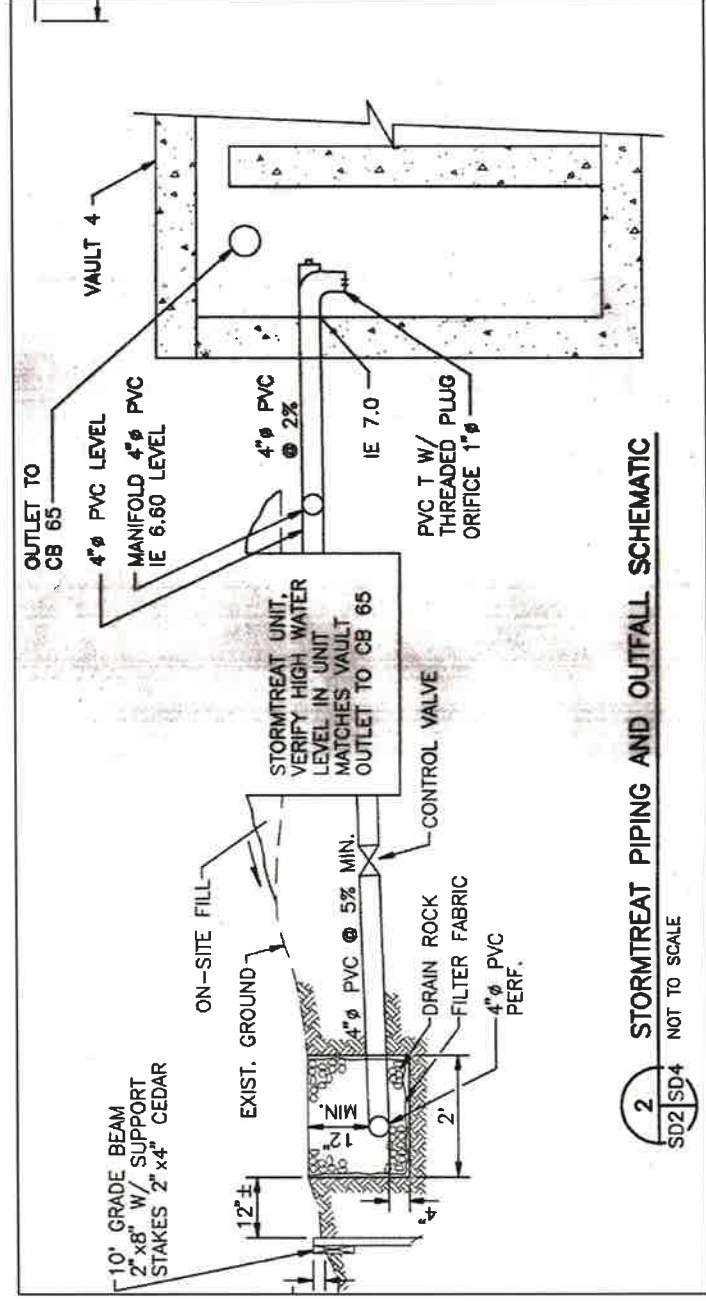
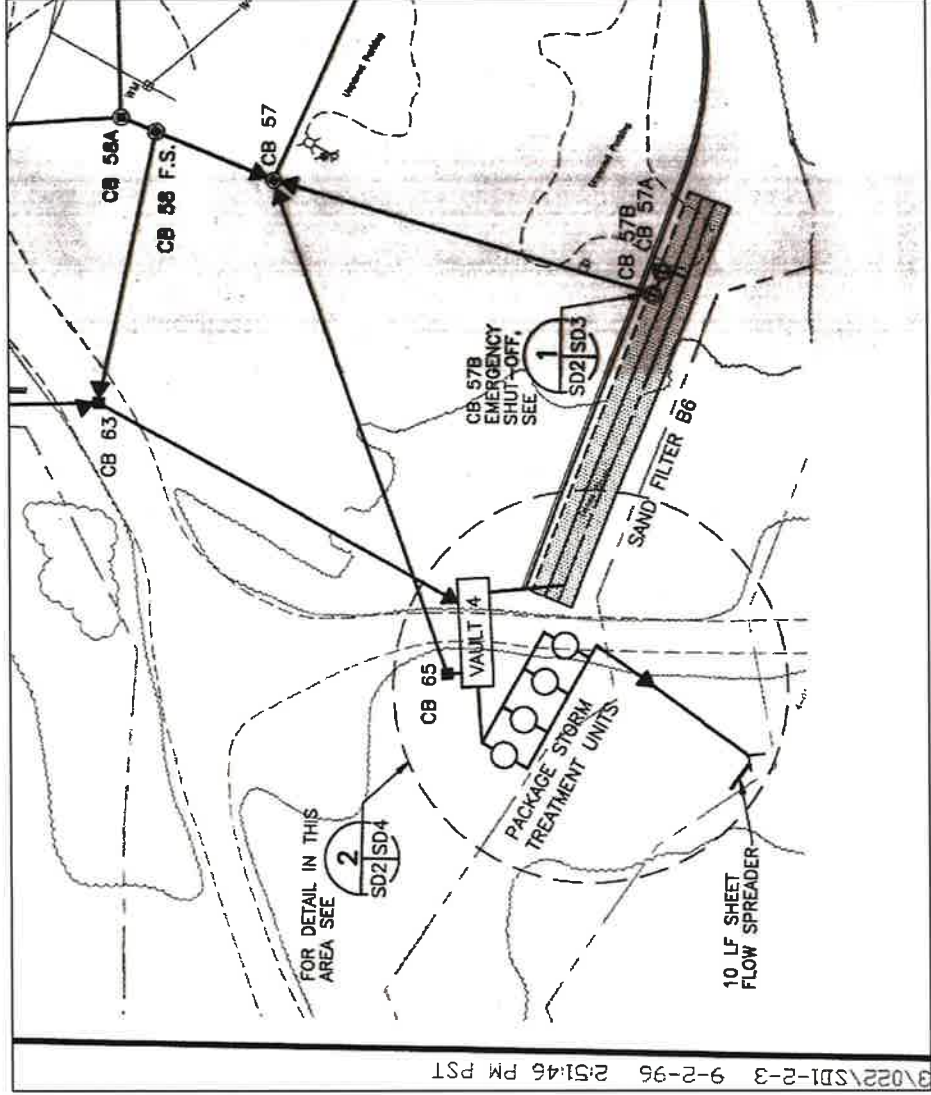
This report documents the investigation, best professional judgment and conclusions of the qualified wetland consultant meeting the requirements of PTMC 19.05.020 (1) and WAC 365-195-905 (4).

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APPENDIX A – PORT STORMWATER FACILITY PLANS



APPENDIX B – NATIONAL WETLANDS INVENTORY



May 13, 2024

Wetlands

- | | | |
|--|---|---|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland |  Lake |
|  Estuarine and Marine Wetland |  Freshwater Forested/Shrub Wetland |  Other |
| |  Freshwater Pond |  Riverine |

The map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or completeness 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.

National Wetlands Inventory (NWI)
This page was processed by the NWI Mapper

APPENDIX B – HYDROLOGIC DATA

WETS Tables. Station data was gathered from Chimacum weather station for greater than and less than 30% chances, but data for the previous three months were unavailable, therefore they were replaced with data from Port Townsend 0.6SE (CoCoRaHS), and compared with the same data combined with station data from 1.2WSW (CoCoRaHS) to see if results were comparable based on the datasets. Growing season dates were gathered from data recorded in Sequim, in nearby Clallam County.

NRCS method - Rainfall Documentation Worksheet Hydrology Tools for Wetland Determination			
NRCS Engineering Field Handbook Chapter 19			
Date	1994 - 2024	Landowner/Project	POPT
Weather Station %)	+ PT 0.6 SE(CoCoRaHS)	State	WA
County	Clallam	Growing Season	4/25 to 11/5
Photo/obs Date	5/20/2024	Soil Name	Sequim very gravelly sandy loam

shaded cells are locked or calculated	Long-term rainfall statistics (from WETS table or State Climatology Office)								
	Month	30% chance <	30% chance >	Precip	Condition Dry, Wet, Normal	Condition Value	Month Weight Value	Product of Previous 2 Columns	
	1st Prior Month*	April	1.61	2.57	2.53	N	2	3	6
	2nd Prior Month*	March	2.08	3.83	1.16	D	1	2	2
	3rd Prior Month*	February	1.62	3.13	3.16	W	3	1	3
							Sum	11	

*compared to photo observation date

Note: If sum is	
6 - 9	prior period has been drier than normal
10 - 14	prior period has been normal
15 - 18	prior period has been wetter than normal

Condition value:
Dry =1
Normal =2
Wet =3

Conclusions: prior period has been normal

**NRCS method - Rainfall Documentation Worksheet Hydrology Tools for Wetland Determination
NRCS Engineering Field Handbook Chapter 19**

Date	1994 - 2024	Landowner/Project	POPT
Weather Station +	PT 1.2 WSW(CoCoRaHS)	State	WA
County	Clallam	Growing Season	4/25 to 11/5
Photo/obs Date	5/20/2024	Soil Name	Sequim very gravelly sandy loam

shaded cells are locked or calculated

Long-term rainfall statistics
(from WETS table or State Climatology Office)

	30% chance <	30% chance >	Precip	Condition Dry, Wet, Normal	Condition Value	Month Weight Value	Product of Previous 2 Columns	
1st Prior Month*	April	1.61	2.57	1.97	N	2	3	6
2nd Prior Month*	March	2.08	3.83	0.87	D	1	2	2
3rd Prior Month*	February	1.62	3.13	2.62	N	2	1	2
						Sum		10

*compared to photo/observation date

Note: If sum is	
6 - 9	prior period has been drier than normal
10 - 14	prior period has been normal
15 - 18	prior period has been wetter than normal

Condition value:
Dry = 1
Normal = 2
Wet = 3

Conclusions: prior period has been normal

APPENDIX C – OBSERVED PLANTS

Plant list POPT WBY Wetlands

May 23, 2024 Revised list based on Fred Weinmann's 2010 list of observed species.

Species

Acer macrophyllum
Achillea millefolium
Agrostis capillaris
Aira caryophylla
Alnus rubra
Ambrosia chamissonis
Anthriscus caucalis
Aphyllon californica
Arbutus menziesii
Artemesia campestris
Asparagus officinalis
Atriplex prostrata
Berberis aquifolium
Berberis nervosa
Brassica nigra
Bromus diandrus
Bromus mollis
Cakile edentula
Cakile maritima
Calystegia silvatica
Carex aurea
Carex macrocephala
Cerastium arvense
Cerastium fontanum

Cirsium arvense
Cirsium canadensis
Cirsium vulgare
Claytonia perfoliata
Conium maculatum
Convolvulus arvensis
Dactylus glomerata
Elymus repens
Erodium cicutarium
Eschscholzia californica
Equisetum x ferrissii
Festuca arundinacea
Festuca rubra v. littoralis
Festuca rubra v. rubra
Foeniculum vulgare
Geranium molle
Grindelia integrifolia
Hedera helix
Holcus lanatus
Holodiscus discolor
Hordeum murinum
Hypochaeris radicata
Ilex aquifolium
Juncus balticus
Lamium purpureum
Lathyrus japonicus
Lathyrus latifolius
Leucanthemum vulgare

Leymus mollis
Linaria dalmatica
Lupinus arboreus
Malus sp.
Malva sylvestris
Medicago sativa
Melilotus alba
Pinus contorta var contorta
Plantago lanceolata
Poa bulbosa
Poa pratensis
Polystichum munitum
Potentilla anserina
Pseudotsuga menziesii
Pteridium aquilinum
Pyrus communis
Rosa nutkana
Rosa gymnocarpa
Rubus bifrons
Rumex acetocella
Rumex crispus
Salix scouleriana
Salix sitchensis
Sambucus racemose
Schoenoplectus acutus
Sedum acre
Silene gallica
Sisymbrium officinale

Solidago canadensis

Sonchus asper

Sonchus oleraceus

Stellaria media

Symphoricarpos albus

Taraxacum officinale

Tragopogon dubium

Trifolium campestre

Trifolium dubium

Trifolium repens

Vicia hirsuta

Vicia nigricans

Vicia pannonica

Vicia sativa

Vicia villosa

APPENDIX D – NRCS WEB SOIL SURVEY

Custom Soil Resource Report
Soil Map (POPT WBY Wetland)



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Soils		Stony Spot
	Soil Map Unit Polygons		Very Stony Spot
	Soil Map Unit Lines		Wet Spot
	Soil Map Unit Points		Other
	Special Point Features		Special Line Features
	Blowout		Water Features
	Borrow Pit		Streams and Canals
	Clay Spot		Transportation
	Closed Depression		Rails
	Gravel Pit		Interstate Highways
	Gravelly Spot		US Routes
	Landfill		Major Roads
	Lava Flow		Local Roads
	Marsh or swamp		Background
	Mine or Quarry		Aerial Photography
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

Cu—Cut and fill land

Map Unit Setting

National map unit symbol: 2gqs
Elevation: 0 to 300 feet
Mean annual precipitation: 30 to 60 inches
Mean annual air temperature: 39 to 50 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Cut and fill land and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cut And Fill Land

Typical profile

H1 - 0 to 60 inches: variable

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Depth to water table: About 24 inches
Frequency of flooding: None
Frequency of ponding: None

15

Custom Soil Resource Report

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydric soil rating: No

APPENDIX E – WETLAND DATA SHEET

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

Project/Site: POPT WBY Expansion City/County: _____ Port of Port Townsend _____ Sampling Date: 5/23
 Applicant/Owner: _____ State: WA Sampling Point: SP3
 Investigator(s): Bradley A. Schlottman & Jordan Widener Section, Township, Range: S10T30NR1W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): A MLRA 2 Lat: _____ Long: _____ Datum: WGS84
 Soil Map Unit Name: Cut and fill land NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil x, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Worksheet
Tree Stratum (Plot size: 30' radius)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	10	Y	Sai	
2. _____	10	Y	Sai	
3. _____				
4. _____				
	20 = Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: 15' rad)				
1. _____	5	Y		
2. _____	1	N		
3. _____				
4. <u>SJ</u>				
5. <u>?</u>				
	= Total Cover			Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: 10 foot rad)				
1. _____				
2. _____ <u>→ x Lyana</u>				
3. _____				
4. _____				
5. <u>J</u>				
6. _____				
7. _____				
8. <u>SP = 55%</u>				
9. _____				
10. _____				
11. _____				
	= Total Cover			
Woody Vine Stratum (Plot size: 30 foot rad)				
1. _____				
2. _____				
	= Total Cover			
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0--	5YR 2-5/1	100	---			Sandy loam	800' dense
1-16	10YR 3/1	100				Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	
Saturation Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	
(includes capillary fringe)			

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

Remarks: _____

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

Project/Site: POPT WBY Expansion City/County: _____ Port of Port Townsend Sampling Date: 8/2/2011
 Applicant/Owner: _____ State: WA Sampling Point: SP 11
 Investigator(s): Bradley A. Schlottman & Jordan Widener Section, Township, Range: S10T30NR1W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): A MLRA 2 Lat: _____ Long: _____ Datum: WGS84
 Soil Map Unit Name: Cut and fill land NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil x, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Hydrophytic vegetation present. Co. wetland hydrology not present. Soil is hydric. Soil is <u>hulticus</u>.</u>	

VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
1. _____				Total Number of Dominant Species Across All Strata: _____ (B)
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
3. _____				
4. _____				
	= Total Cover			
Sapling/Shrub Stratum (Plot size: 15' rad)				Prevalence Index worksheet:
1. <u>120%</u>	<u>15</u>			Total % Cover of: _____ Multiply by:
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
	= Total Cover			UPL species _____ x 5 = _____
Herb Stratum (Plot size: 10 foot rad)				Column Totals: _____ (A) _____ (B)
1. <u>100% b</u>	<u>30</u>	<u>Y</u>	<u>SH</u>	Prevalence Index = B/A = _____
2. <u>50% x</u>	<u>50</u>	<u>Y</u>	<u>SH</u>	
3. <u>10%</u>	<u>10</u>	<u>N</u>	<u>DB</u>	
4. <u>4%</u>	<u>5</u>	<u>N</u>	<u>EA</u>	
5. _____				
6. _____				
7. _____				
8. <u>50% - 57%</u>				
9. <u>20% 23</u>				
10. _____				
11. _____				
	<u>115</u> = Total Cover			
Woody Vine Stratum (Plot size: 30 foot rad)				
1. _____				
2. _____				
	= Total Cover			
% Bare Ground in Herb Stratum _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: _____

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-6	7.5YR 2.5/1	100					moist loamy sand	very friable
6-16	2.5YR 7/1	100					Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	

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

Remarks: _____

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

Project/Site: POPT WBY Expansion City/County: _____ Part of Port Townsend _____ Sampling Date: 8/23/11
 Applicant/Owner: _____ State: WA Sampling Point: 190
 Investigator(s): Bradley A. Schlottman & Jordan Widener Section, Township, Range: S10T30NR1W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): A MLRA 2 Lat: 48 10 21 N Long: 122 45 31 W Datum: WGS84
 Soil Map Unit Name: Cut and fill land NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil x, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. <u>Alnus incana</u>	50	Y	N	Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)																
2. <u>A. crispa</u>	35	Y	N																	
3. <u>Salix glauca</u>	15	Y	N																	
4. <u>Salix glauca</u>	25	Y	N																	
_____ = Total Cover																				
Sapling/Shrub Stratum (Plot size: 15' rad)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:																
1. <u>Salix glauca</u>	30	Y	N	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____ (A)	_____ (B)	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: _____ (A)	_____ (B)																			
Prevalence Index = B/A = _____																				
2. <u>Salix glauca</u>	10	Y	N																	
3. <u>Ulex europaeus</u>	15	N	F/U																	
4. <u>Rosa nutkana</u>	5	N	F																	
5. <u>Pteridium aquilinum</u>	15	N	FA																	
_____ = Total Cover																				
Herb Stratum (Plot size: 10 foot rad)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Urtica dioica</u>	15	Y	N	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0' <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Urtica dioica</u>	15	Y	N																	
3. <u>Urtica dioica</u>	5	N	N																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
_____ = Total Cover																				
Woody Vine Stratum (Plot size: 30 foot rad)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/>																
2. _____																				
_____ = Total Cover																				

% Bare Ground in Herb Stratum _____
 Remarks: _____

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5.5	7.5YR 7.5/1	100					loam	dense roots
5.5-12	2.5Y 8/2	100					loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	
Restrictive Layer (if present): Type: _____ Depth (inches): _____		
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Remarks: *no hydric soil present*

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			

Remarks: *no hydrology present*

Wetland A

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

Project/Site: POPT WBY Expansion City/County: _____ Part of Port Townsend: _____ Sampling Date: 5/20/11
 Applicant/Owner: _____ State: WA Sampling Point: SP6
 Investigator(s): Bradley A. Schlottman & Jordan Widener Section, Township, Range: S10T30NR1W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): A MLRA 2 Lat: _____ Long: _____ Datum: WGS84
 Soil Map Unit Name: Cut and fill land NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil x, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' radius</u>)				Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
1. _____	<u>80</u>	<u>Y</u>		Total Number of Dominant Species Across All Strata: _____ (B)
2. _____	<u>1</u>	<u>N</u>		Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
3. _____				
4. _____				
	<u>81</u> = Total Cover			
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' rad</u>)				Prevalence Index worksheet:
1. _____	<u>90</u>	<u>Y</u>		Total % Cover of: _____ Multiply by:
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
	<u>80</u> = Total Cover			UPL species _____ x 5 = _____
<u>Herb Stratum</u> (Plot size: <u>10 foot rad</u>)				Column Totals: _____ (A) _____ (B)
1. <u>Juncus</u>	<u>40</u>	<u>Y</u>		Prevalence Index = B/A = _____
2. <u>Eriogonum</u>	<u>50</u>	<u>Y</u>		
3. <u>Chenopodium</u>	<u>30</u>	<u>Y</u>		
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	<u>100</u> = Total Cover			
<u>Woody Vine Stratum</u> (Plot size: <u>30 foot rad</u>)				
1. _____				
2. _____				
% Bare Ground in Herb Stratum _____				

Hydrophytic Vegetation Indicators:
 Rapid Test for Hydrophytic Vegetation
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	7.5YR 2.5/2	100						
8-16	7.5YR 2.5/2	100						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	

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

Remarks:

APPENDIX G – WETLAND RATING SHEET

Wetland name or number: Wetland A

RATING SUMMARY - Western Washington

Name of wetland (or ID#): Wetland A Date of site visit: 05/23/2024

Rated By: Bradley A. Schlottman & Jordan Widener Trained by Ecology? Yes No Date of Training: N/A

HGM Class used for rating: Depressional

Wetland has multiple HGM classes? Yes No

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map:

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

1. Category of wetland based on FUNCTIONS

Category I - Total score = 23 - 27

Category II - Total score = 20 - 22

Category III - Total score = 16 - 19

Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	H	M	
Landscape Potential	H	H	M	
Value	L	H	H	Total
Score Based on Ratings	6	9	7	22

Score for each function based on three ratings

(order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number: Wetland A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Wetland name or number: Wetland A

DEPRESSIONAL AND FLATS WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water quality

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

Rating of Site Potential

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

Record the rating on the first page

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

Wetland name or number: Wetland A

D 2.5 What are the other sources of pollutants coming into the wetland?
 The trails and area surrounding the wetlands area heavily used by walkers, bikers and dog walkers, which contributes fecal coliform to the wetland. Additionally, there are many old tires, tar-treated poles that were dumped into the site, and trash throughout the wetland from a houseless encampment w

Total for D 2: 4

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

D 3.0 Is the water quality improvement provided by the site valuable to society?

D 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?

Yes	points = 1	
No	points = 0	Score: 0

D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?

Yes	points = 1	
No	points = 0	Score: 0

D 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?

Yes	points = 2	
No	points = 0	Score: 0

Total for D 3: 0

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

DEPRESSIONAL AND FLATS WETLANDS

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

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

D 4.1 What are the characteristics of surface water outflows from the wetland?

Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 4

D 4.2 What is the depth of storage during the wet periods?

Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 5

Wetland name or number: Wetland A**D 4.3** What is the contribution of the wetland to storage in the watershed?

The area of the basin is less than 10 times the area of the unit	points = 5	
The area of the basin is 10 to 100 times the area of the unit	points = 3	
The area of the basin is more than 100 times the area of the unit	points = 0	
Entire wetland is in the Flats class	points = 5	Score: 5

Total for D 4: **14****Rating of Site Potential** 12-16 = H 6-11 = M 0-5 = L*Record the rating on the first page***D 5.0** Does the landscape have the potential to support hydrologic functions of the site?**D 5.1** Does the wetland unit receive stormwater discharges?

Yes	points = 1	
No	points = 0	Score: 1

D 5.2 Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?

Yes	points = 1	
No	points = 0	Score: 1

D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?

Yes	points = 1	
No	points = 0	Score: 1

Total for D 5: **3****Rating of Landscape Potential** 3 = H 1-2 = M 0 = L*Record the rating on the first page***D 6.0** Are the hydrologic functions provided by the site valuable to society?**D 6.1** Is the wetland in a landscape that has flooding problems?

Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
Flooding from groundwater is an issue in the basin.	points = 1	
The existing or potential outflow from the wetland is so constrained that water cannot reach areas that flood.	points = 0	
There are no problems with flooding downstream of the wetland.	points = 0	Score: 0

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

Yes	points = 2	
No	points = 0	Score: 2

Total for D 6: **2****Rating of Value** 2-4 = H 1 = M 0 = L*Record the rating on the first page*

Wetland name or number: Wetland A

HABITAT FUNCTIONS

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

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

H 1.1 What is the structure of the plant community?

- Aquatic Bed
- Emergent
- Scrub-shrub
- Forested
- Multiple strata within the Forested class (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)

4 structures or more	points = 4	
3 structures	points = 2	
2 structures	points = 1	
1 structure	points = 0	
No structures present	points = 0	Score: 4

H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?

- Permanently flooded or inundated
- Seasonally flooded or inundated
- Occasionally flooded or inundated
- Saturated only
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland
- Freshwater Tidal wetland

4 or more types present	points = 3	
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2	
2 types present	points = 1	
1 type present	points = 0	
None present	points = 0	Score: 2

H 1.3 What is the richness of the plant species in the wetland?

> 19 species	points = 2	
5-19 species	points = 1	
< 5 species	points = 0	Score: 2

Wetland name or number: Wetland A

H 1.4 <u>What is the interspersion of habitats?</u>		
High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	Score: 3
H 1.5 <u>What are the special habitat features in the wetland?</u>		
<input type="checkbox"/> Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
<input type="checkbox"/> Standing snags (dbh >4in) within the wetland		
<input type="checkbox"/> Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33ft (10m)		
<input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)		
<input checked="" type="checkbox"/> At least 0.25ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)		
<input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)		
6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	Score: 1
Total for H 1:		12

Rating of Site Potential

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

Record the rating on the first page

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

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

Wetland name or number: Wetland A

H 2.3 What is the land use intensity in the 1km polygon?

50% of the Polygon is high intensity land use
 <50% of the Polygon is high intensity land use

points = -2
 points = 0

Score: 0

Total for H 2: 1

Rating of Landscape Potential

[] 4-6 = H [X] 1-3 = M [] 0 = L

Record the rating on the first page

H 3.0 Is the habitat provided by the site valuable to society?

H 3.1 Does the site provide habitat for species valued in laws, regulations, or policies?

- Aspen Stands
- Biodiversity Areas and Corridors
- Herbaceous Balds
- Old-growth/Mature Forests
- Oregon White Oak
- Riparian
- Westside Prarie
- Fresh Deepwater
- Instream
- Nearshore (Coastal, Open Coast, Puget Sound)
- Caves
- Cliffs
- Snags and Logs
- Talus

The following criteria automatically score 2 points:

- The wetland provides habitat for Threatened or Endangered species
- The wetland is mapped as a location for an individual WDFW priority species
- The wetland is a Wetland of High Conservation Value
- The wetland has been categorized as an important habitat site in a local plan

The wetland has 3 or more WDFW priority habitats within 100m, or meets the criteria for societal value points = 2

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

The site does not meet any of the criteria for societal value points = 0 **Score: 2**

Total for H 3: 2

Rating of Value

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

Record the rating on the first page

Wetland name or number: Wetland A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?

- The dominant water regime is tidal
- The wetland is vegetated
- The water salinity is greater than 0.5 ppt

Yes - Go to SC 1.2

No - Not an Estuarine Wetland

**Result: Not an
Estuarine Wetland**

SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?

Yes - Category I Estuarine Wetland

No - Go to SC 1.3

Result:

SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions?

- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species.
- At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-grazed or un-mowed grassland
- The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.

Yes - Category I Estuarine Wetland

No - Category II Estuarine Wetland

Result:

SC 2.0 Wetlands of High Conservation Value

SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?

Yes - Category I Wetland of High Conservation Value

No - Go to SC 2.2

Result: Go to SC 2.2

SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality common plant community that may qualify the site as a WHCV?

Yes - Category I Wetland of High Conservation Value

No - Not a Wetland of High Conservation Value

**Result: Not a Wetland
of High Conservation
Value**

Wetland name or number: Wetland A

SC 3.0 Bogs

SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16in or more of the first 32in of the soil profile?

Yes - Go to SC 3.3

No - Go to SC 3.2

Result: Go to SC 3.3

SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?

Yes - Go to SC 3.3

No - Not a Bog Wetland

Result:

SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least 30% cover of plant species listed in the table provided in the instructions?

Yes - Category I Bog Wetland

No - Go to SC 3.4

Result: Go to SC 3.4

SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the species (or combinations of species) listed in the table found in the instructions provide more than 30% of the cover under the canopy?

Yes - Category I Bog Wetland

No - Not a Bog Wetland

Result: Not a Bog Wetland

SC 4.0 Forested Wetlands

SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following criteria?

Old-growth forests

Mature forests

Yes - Category I Forested Wetland

No - Not a Forested Wetland

Result: Not a Forested Wetland

Wetland name or number: Wetland A

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or rocks
- The depression in which the wetland is located contains ponded water that is saline or brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured near the bottom)
- The lagoon retains some of its surface water at low tide during spring tides

Yes - Go to SC 5.2

No - Not a Coastal Lagoon Wetland

Result: Go to SC 5.2

SC 5.2 Does the wetland meet all of the following three conditions?

- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species).
- At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- the wetland is larger than 0.10ac (4350 sqft)

Yes - Category I Coastal Lagoon

No - Category II Coastal Lagoon

Result: Category II Coastal Lagoon

SC 6.0 Interdunal Wetlands

SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership WBUO)?

Yes - Go to SC 6.2

No - Not an Interdunal Wetland

Result: Not an Interdunal Wetland

SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?

Wetland is larger than 1ac in size - Go to SC 6.3

Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland

No - Go to SC 6.4

Result:

SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?

Yes - Category I Interdunal Wetland

No - Category II Interdunal Wetland

Result:

SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac and 1ac in size?

Yes - Category III Interdunal Wetland

No - Category IV Interdunal Wetland

Result:

Wetland name or number: Wetland A

Category of wetland based on Special Characteristics

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

**Final Category:
Category II**

