CRITICAL AREAS ASSESSMENT

WESTERN PORTION OF PARCEL 0420351003 CASCADE SHAW DEVELOPMENT, LLC City of Puyallup, Pierce County, Washington

prepared for

Abbey Road Group Land Development Services Company, LLC Abbey Road Project Number B-19-1107

prepared by

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June 1, 2020

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1.0 INTRODUCTION

This document presents the culmination of activities and onsite evaluations undertaken to complete a *Critical Areas Assessment* of specific critical areas (wetlands, surface water drainage corridors, fish and wildlife critical habitats) within and immediately adjacent to the western portion of **Parcel 0420351003 (project site).** The eastern and central portions of Parcel 0420351003 had been developed pursuant to a City of Puyallup approved permit associated with the adjacent Cascade Christian Schools. The project site was located along 25th Street SE, to the south of East Pioneer Way within the eastern portion of the City of Puyallup, Pierce County, Washington (part of Section 35, Township 20 North, Range 04 East, W.M.) (Figure 1). The evaluation and characterization of onsite and adjacent critical areas is a vital element in land use planning. The goal of this approach is to ensure that present and future proposed planned site development does not result in adverse environmental impacts to identified wetland or other critical areas, their associated buffer, or local water quality.

The onsite assessment and characterization of specific critical areas was completed followed the methods and procedures defined in the *Corps of Engineers Wetland Delineation Manual* (1987 Manual) with the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (2010 Supplement); the *Washington State Wetlands Rating System* (WDOE 2014 version); the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030); and the City of Puyallup *Critical Areas Ordinance.* The overall intent of this onsite assessment focuses on the identification of potential specific critical areas within and immediately adjacent to the proposed site development. This document was designed to accommodate site planning and potential regulatory actions, and has been prepared for submittal to City of Puyallup and potentially other resource permitting agencies for critical areas verification and permitting actions.

1.1 PROJECT SITE DESCRIPTION

The project site was generally flat and had been managed for the production of annual agricultural corps for several decades. The project site was located within an area of existing and increasing urban development and bound on the south by an existing single-family homesite and the Cascade Christian School facility, on the east by remainder of Parcel 0420351003 which had been developed pursuant to a City of Puyallup permit, on the north by similarly managed agricultural production, and on the west by 25th Street SE. A ditch within the eastern portion of the right of way for 25th Street SE contained a drainage corridor (Deer Creek) that forms a tributary to the Puyallup River.

Directions to Project Site: From the City of Puyallup continue easterly on East Pioneer Way to 25th Street SE. Turn south onto 25th Street SE and continue to the project site.

2.0 BACKGROUND INFORMATION

2.1 NATIONAL WETLAND INVENTORY

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

2.2 STATE OF WASHINGTON PRIORITY HABITATS AND SPECIES

The State of Washington *Priority Habitats and Species (PHS) Mapping* was reviewed as a part of this assessment (Figure 3). This mapping resource did not identify any priority habitats or priority species within or immediately adjacent to the project site.

2.3 STATE OF WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

The State of Washington Department of Fish and Wildlife (WDFW) *SalmonScale Mapping* was reviewed as a part of this assessment (Figure 4). This mapping resource identified a drainage corridor (Deer Creek) along the southwestern corner of the project site. Deer Creek adjacent to the project site is noted as providing the documented presence of coho salmon (*Oncorhynchus kisutch*) and as providing gradient accessible habitats for Chinook salmon (*Oncorhynchus tshawytscha*), pink salmon (*Oncorhynchus gorbuscha*), steelhead/rainbow trout (*Oncorhynchus mykiss*), and cutthroat trout (*Oncorhynchus clarki*).

2.4 STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

The State of Washington Department of Natural Resources (WDNR) *Water Type Mapping* was reviewed as a part of this assessment (Figure 5). This mapping resource identified a drainage corridor along the southwestern corner of the project site. This drainage corridor was identified "unknown."

2.5 CITY OF PUYALLUP MAPPING

The City of Puyallup *Inventory Mapping* was reviewed as a part of this assessment (Figure 6). This mapping resource identified three "field-verified" wetlands to the east of the project site and a stream along the western boundary of the project site – adjacent to 25th Street SE.

2.6 SOILS MAPPING

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

3.0 ONSITE ANALYSIS

3.1 CRITERIA AREAS IDENTIFICATION

The City of Puyallup defines "Critical Areas" to include those areas established as volcanic hazard areas, wetlands, flood hazard areas, fish and wildlife habitat areas, seismic hazard areas, landslide hazard areas, erosion hazard areas, and aquifer recharge areas. For the purpose of the assessment the critical areas reviewed included potential wetlands, surface water drainage corridors (streams), and fish and wildlife habitats which may be located within or immediately adjacent to the project site. This assessment did <u>not</u> include an assessment of potential seismic hazard areas, landslide hazard areas, or aquifer recharge areas.

Wetlands: Within the City of Puyallup "wetlands" are defined to mean those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created set the conversion of wetlands. Wetlands shall be rated according to the Washington State Department of Ecology wetland rating system (Washington State Wetland Rating System for Western Washington (revised), Department of Ecology Document No. 04-06-025) or as further revised by Ecology.

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

- 1. Hydrophytic Vegetation: The assemblage of macrophytes that occurs in areas where inundation or soil saturation is either permanent or of sufficient frequency and duration to influence plant occurrence. Hydrophytic vegetation is present when the plant community is dominated by species that require or can tolerate prolonged inundation or soil saturation during the growing season.
- 2. Hydric Soil: A soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper parts. Most hydric soils exhibit characteristic morphologies that result from recent periods of saturation or inundation. These processes result in distinctive characteristics that persist in the soil during both wet and dry periods.
- 3. Wetland Hydrology: Permanent or periodic inundation, or surface soil saturation, at least seasonally. Wetland hydrology indicators are used in combination with indicators of hydric soil and hydrophytic vegetation to define the area. Wetland hydrology indications provide evidence that the site has a continuing wetland hydrology regime. Where hydrology has not been altered vegetation and soils provide strong evidence that wetland hydrology is present.

Streams: A "stream" is generally defined to include areas where surface water has produced a defined channel or bed and includes: bedrock, gravel beds, and sand or silt beds. "Streams" may also include swales which lack a channel of bed if such areas are connected to a fish and wildlife habitat conservation area. A channel need not contain water year-round to be considered a natural water. "Streams" include man-made drainage channels that result from the modification of a natural watercourse or wetland and excludes only artificial channels.

Fish and Wildlife Habitat Areas: The City of Puyallup defines "critical habitat" as those habitat areas with which endangered, threatened, sensitive or monitored plant or wildlife species have a primary association (e.g., feeding, breeding, rearing of young, migrating). Such areas are identified herein with reference to lists, categories, and definitions promulgated by the Washington Department of Fish and Wildlife as identified in WAC 232-12-011 or 232-12-014; in the Priority Habitat and Species (PHS) program of the Department of Fish and Wildlife; or by rules and regulations adopted by the U.S. Fish and Wildlife Service, National Marine Fisheries Service, or other agency with jurisdiction for such designations.

"Fish and Wildlife Habitat Conservation Areas" are areas that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term.

(a) These areas may include, but are not limited to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors; and areas with high relative

population density or species richness. These areas also include locally important habitats and species as determined by the city.

(b) "Habitats of local importance" designated as fish and wildlife habitat conservation areas include those areas found to be locally important by the city.

(c) These areas do not include such artificial features or constructs as irrigation delivery systems, irrigation infrastructure, irrigation canals, or drainage ditches that lie within the boundaries of and are maintained by a port district or an irrigation district, unless these features are documented as being used by salmonids for habitat.

3.2 STUDY METHODS

Habitat Technologies completed a series of onsite assessments between November 2019 and the end of April 2020. In addition, Habitat Technologies has completed similar assessments for parcels within the area of the project site.

The project site was generally flat and had been managed for several decades for the production of annual agricultural corps. The project site had been manipulated through regular tilling, plowing, planting, harvesting, and ditch maintenance. The project site had also been manipulated by the development of adjacent properties and public roadways/utilities. As such, onsite assessment focused on early spring growing season hydrology patterns throughout the project site to best define those areas meeting the specific wetland criteria. Boundaries between wetland and non-wetland areas were established by examining the transitional gradient between wetland criteria. Onsite activities were completed in accordance with criteria and procedures established in the *Corps of Engineers Wetland Delineation Manual* (1987 Manual) with the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: Western Mountains, Valleys, and Coast Region (2010 Supplement); the Washington State Wetlands Rating System (WDOE 2014 version); the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030); and the City of Puyallup Critical Areas Ordinance.

3.3 FIELD OBSERVATION

The project site was accessed from 25th Street SE – a paved public roadway forming the western boundary. The project site was generally flat and had been managed for the production of annual agricultural corps for several decades. A ditch within the eastern portion of the right of way for 25th Street SE contained a drainage corridor (Deer Creek) that forms a tributary to the Puyallup River. Field data are provided in Appendix A.

3.3.1 Soils

As documented at representative sample plots the soil profile throughout the project site had been modified by prior and ongoing land use actions generally associated with regular plowing, tilling, planting, and crop harvesting. The soil throughout the project site was generally a mixture of sandy loam and sandy silty loam that appeared to drain somewhat poorly to somewhat moderately well following seasonal storm events. The majority of the soil throughout the project site did not exhibit prominent redoximorphic features.

A few test plots (SP8, SP12, SP15) generally within the shallow depressions in the northwesterly and southwesterly portions of the project site exhibited few to faint redoximorphic features and a soil matrix color meeting the hydric soils criteria. These shallow depressions appeared best defined as formed by fall agricultural activities generally associated with tractor compaction within the corner turning areas. A viewed during prior years these shallow depressions were also routinely different in shape and location.

3.3.2 Hydrology

The presence and timing of seasonal surface water and shallow ground water hydrology patterns within and adjacent to the project site had been greatly modified by a mixture of both public and private urbanization actions. These actions included the prior channelization of the Deer Creek Corridor, the placement of fill within adjacent parcels for site developments, the development of regional stormwater control actions and facilities, and onsite field ditching.

The assessment of early spring 2020 growing season hydrology patterns was completed at fifteen (15) representative test plot locations (Appendix B). Field data were collected from the end of February through the fourth week of April. Data collection at each plot location was completed through the hand-excavation of a test hole to a depth of 24 inches. Each test hole was allowed to stabilize for approximately 30 minutes and then the level of soil saturation and the free water (if present) within each test plot was documented.

Three test plots were identified to exhibit field indicators of wetland hydrology patterns during the early spring of 2020. These test plots (SP8, SP12, SP15) were generally located within the shallow depressions in the northwesterly and southwesterly portions of the project. The two areas associated with these test plots were identified to exhibit temporary, very shallow ponding (less than one inch of depth) during the winter rainy period (December 2019 through mid-February 2020) and then to exhibit soil saturation at or near the surface for a period of more than fourteen (14) consecutive days during the early growing season (mid-February through April 2020). However, these three test plots – as with all the other test plots – were identified as "dry" to a depth of twenty four (24) inches following the second week of April.

Deer Creek was located within a created ditch offsite to the west of the western boundary of the project site. This creek was identified to exhibit perennial flow patterns and had been modified by prior ditching, roadway and utility development, property development, and stormwater management/diversion actions.

3.3.3 Vegetation

The plant community throughout the project site had been modified by prior and ongoing land management use actions generally associated with annual agricultural production and harvest. Following fall harvest it appeared that a cover crop of blue grass had been seeded but had proven of limited establishment. While also very limited, additional grass and herbs species within the project site included buttercup (*Ranunculus repens*), aster (*Aster occidentalis*), cats ear (*Hypochaeris lanatus*), mustard (*Brassica campestris*), plantain (*Plantago major*), Queen Annes lace (*Daucus carota*), Canadian thistle (*Cirsium arvensis*), dandelion (*Taraxacum officinale*), Colonial bent grass (*Agrostis tenuis*), velvet grass (*Holcus lanatus*), and toad rush (*Juncus bufonius*).

The plant community along the area immediately to the west of the project site – along Deer Creek – had been regularly managed as a part of ongoing ditch management actions. The plant community along this ditched drainage in included seedling red alder (*Alnus rubra*), starts of Sitka willow (Salix sitchensis), Himalayan blackberry (*Rubus armeniacus*), evergreen blackberry (*Rubus laciniatus*), Scots broom (*Cytisus scoparius*), rose (Rosa spp.), knotweed (*Polygonum cuspidatum*), morning glory (*Impomaea purpurea*), bracken fern (*Pteridium aquilium*), and reed canarygrass (Pha*laris arundinacea*).

The plant community along the southern boundary of the project site was generally dominated by reed canarygrass and blackberries.

3.3.4 Fish and Wildlife Observations

Wildlife species observed directly and indirectly within the project site during the early spring 2020 assessment; along with those species observed during prior assessments and those species that would reasonably be expected to use the habitats provided within and immediately adjacent to the project site included red tailed hawk (*Buteo jamaicensis*), American crow (*Corvus brachynchos*), American robin (*Turdus migratorius*), dark eyed junco (*Junco hyemalis*), common mallard, Canada goose (*Branta canadensis*), black capped chickadee (*Parus atricapillus*), purple finch (*Carpodacus purpureus*), song sparrow (*Melospiza melodia*), killdeer (*Charadrius vociferus*), eastern cottontail (*Sylvilagus floridanus*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginianus*), deer mouse (*Peromyscus maniculatus*), shrew (*Sorex spp.*), mole

(*Scapanus spp.*), bats (*Myotis spp.*), Norway rat (*Rattus norvegicus*), and common garter snake (*Thamnophis sirtalis*).

During prior assessments Deer Creek has been documented to provide habitats for coho salmon, steelhead/rainbow trout, cutthroat trout, three-spinned stickleback, and sculpin.

Wildlife Movement Corridors: The project site was within an area of adjacent high intensity land uses. As identified by a few onsite wildlife trails, small and medium sized mammals appeared to be moving along the western and southern boundaries of the project site. The project site was also within the general area of the migratory movement of waterfowl, raptors, and passerine birds.

3.3.4.a State Priority Species

A few species identified by the State of Washington as "Priority Species" were observed onsite or potentially may utilize the habitats provided within or immediately adjacent to the project site. Priority species require protective measures for their survival due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance.

Game Species: "Game species" are regulated by the State of Washington through recreational hunting bag limits, harvest seasons, and harvest area restrictions. Observed or documented "game species" within and adjacent to the project site included mourning dove, common mallard, Canada goose, coho salmon, steelhead/rainbow trout, and cutthroat trout.

State Candidate: State Candidate species are presently under review by the State of Washington Department of Fish and Wildlife (WDFW) for possible listing as endangered, threatened, or sensitive. No State Candidate species were observed to use the habitats provided within the project site as a part of this assessment.

State Sensitive: State Sensitive species are native to Washington and is vulnerable to declining and is likely to become endangered or threatened throughout a significant portion of its range without cooperative management or removal of threats. No State Sensitive species were observed to use the habitats provided within the project site as a part of this assessment.

State Threatened: State Threatened species means any wildlife species native to the state of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats. The project site did not appear to provide and has not been documented to provide direct critical habitats for State Threatened species.

State Endangered: State endangered species means any species native to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state. The project site did not appear to provide and has not been documented to provide direct critical habitats for State Endangered species.

3.3.4.b Federally Listed Species

No federally listed endangered or sensitive species were observed or have been documented to utilize the habitats provided within the project site. Two, federally listed "species of concern" – bald eagle and coho salmon – has been documented to utilize the habitats generally associated with aquatic areas (to include Deer Creek) within the lower Puyallup River Valley.

Puget Sound Steelhead trout – a federally listed threatened species has been documented within Deer Creek offsite to the west of the project site.

4.0 CRITICAL AREAS DETERMINATION

As documented within this assessment the project site was identified contain two shallow depressional wetlands. In addition, Deer Creek was identified directly to the west of the project site and was associated with 25th Street SE.

| WETLAND | CLASSIFICATION | SURVEYED | CITY OF | WDOE | WDOE | STANDARD |
|---------|----------------|-----------|----------|--------|---------|-------------|
| | (USFWS) | SIZE | PUYALLUP | RATING | HABITAT | CITY BUFFER |
| | | | CATEGORY | SCORE | SCORE | WIDTH |
| Α | PEMAdf | 4,684sqft | IV | 15 | 4 | Non- |
| | | - | | | | regulated |
| В | PEMAdf | 9,603sqft | IV | 15 | 4 | Non- |
| | | - | | | | regulated |

Wetland A: Wetland A was identified as a shallow depression within the southwestern corner of the project site. This wetland was actively managed for the production of annual agricultural crops and appeared generally formed in an area where fall harvest and plowing actions concentrated in a turn. This shallow depression was identified to exhibit temporary pond less than a few inches in depth following heavy rainfall events. The wetland was identified to remain saturated at or near the surface into early April 2020. This wetland receives seasonal stormwater runoff from onsite and from the developed areas to the east and southeast. Fall management actions had created a shallow ditch that allowed surface water from this wetland to continue to the west and enter Deer Creek.

Wetland A was noted as generally void of vegetation, regularly managed for annual agricultural production, and to meet the USFWS criteria for classification of palustrine, emergent, temporarily flooded, farmed, ditched (PEMAdf). Wetland A was also identified to meet the criteria for designation as a City of Puyallup Category IV Wetland. Wetland A achieved a total functions score of 15 points (4 habitat points) utilizing the WDOE Wetland Rating Form for Western Washington 2014 Version (Appendix C).

Wetland B: Wetland B was identified as a shallow depression within the northwestern corner of the project site. This wetland was actively managed for the production of annual agricultural crops and appeared generally formed in an area where fall harvest and plowing actions concentrated in a turn. This shallow depression was identified to exhibit temporary pond less than a few inches in depth following heavy rainfall events. The wetland was identified to remain saturated at or near the surface into early April 2020. This wetland receives seasonal stormwater runoff from onsite and from the developed areas to the east and southeast. Fall management actions had created a shallow ditch that allowed surface water from this wetland to continue to the west and enter Deer Creek.

Wetland B was noted as generally void of vegetation, regularly managed for annual agricultural production, and to meet the USFWS criteria for classification of palustrine, emergent, temporarily flooded, farmed, ditched (PEMAdf). Wetland B was also identified to meet the criteria for designation as a City of Puyallup Category IV Wetland. Wetland B achieved a total functions score of 15 points (4 habitat points) utilizing the WDOE Wetland Rating Form for Western Washington 2014 Version (Appendix C).

Deer Creek: Deer Creek was identified immediately within an excavated roadside ditch between the western boundary of the project site and 25th Street SE. The vegetation along this creek was regularly managed through mowing and appeared also somewhat excavated to retain capacity. Deer Creek has been documented to provide existing or accessible habitats for a variety of salmonid fish species.

Deer Creek would appear best defined as a City of Puyallup Type II Stream (fish bearing). The standard buffer for a City of Puyallup Type II Stream is 100 feet in width as measured perpendicular from the ordinary high water mark.

4.1 CITY OF PUYALLUP REGULATORY CONSIDERATIONS

Wetlands: The City of Puyallup has identified that all wetlands shall be regulated and subject to the provisions of Chapter 21.06 regardless of size, **except** for Category III wetlands less than 2,500 square feet if the wetland is not associated with a riparian corridor or part of a wetland mosaic **and Category IV wetlands less than 10,000 square feet.** Since both Wetland A and Wetland B are defined as Category IV Wetland less than 10,000 square feet in total size it appears that these wetlands would not be regulated by the City of Puyallup (21.06.910(4)).

Streams: Deer Creek was identified along the western boundary of the project site within the managed right of way of 25th Street SE. Deer Creek is defined by the City of Puyallup as a Type II Stream with an associated buffer of 100 feet in width as measured perpendicular from the ordinary high water mark. Stream buffers shall be established landward of the ordinary high water mark adjacent to streams to protect the integrity, functions, and values of the resource. Buffers shall consist of an undisturbed area of native vegetation and shall reflect the sensitivity of the stream and the type and intensity of the adjacent human use or activity (21.06.1050).

5.0 SELECTED DEVELOPMENT ACTION

The Selected Development Action for this project site is still within the initial planning stages.

6.0 STANDARD OF CARE

This document has been completed by Habitat Technologies for use by **Abbey Road Group Land Development Services Company LLC.** Prior to extensive site planning the defined critical habitats should be reviewed and verified by the City of Puyallup personnel and potentially other resource and permitting agencies. Habitat Technologies has provided professional services that are in accordance with the degree of care and skill generally accepted in the nature of the work accomplished. No other warranties are expressed or implied. Habitat Technologies is not responsible for design costs incurred before this document is approved by the appropriate resource and permitting agencies.

Bryan W. Peck

Bryan W. Peck Wetland Biologist

Thomas D. Deming

Thomas D. Deming, SPWS Habitat Technologies

7.0 FIGURES

Figure 1 Site Vicinity

Habitat Technologies

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The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose. Date: 5/13/2020 03:25 PM

Figure 2 NWI Mapping



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

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Figure 3 PHS Mapping



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

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Figure 4 WDFW Salmonscape Mapping



May 13, 2020

All SalmonScape Species



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

Figure 5 Forest Practices Water Type Map



Figure 6 City of Puyallup Mapping



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

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Figure 7 Soils Mapping



makes no warranty of fitness for a particular purpose.

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

9.0 Appendix A – Field Data

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

| Project/Site: Western Portion of Parcel 0420351003 | City/County: C | City of Puyallup, Pierce County | Sampling Date: <u>16 APR 2020</u> | | | | |
|---|-------------------|---|-----------------------------------|--|--|--|--|
| Applicant/Owner: Cascade Development | | State: WA | Sampling Point: <u>SP1</u> | | | | |
| Investigator(s): Habitat Technologies | Se | ection, Township, Range: <u>Sec 35 T2</u> | 0N R04E QT 12 | | | | |
| Landform (hillslope, terrace, etc.): valley | Local relief (| concave, convex, none): <u>flat</u> | Slope (%): <u><1%</u> | | | | |
| Subregion (LRR): A | Lat: | Long: | Datum: USGS | | | | |
| Soil Map Unit Name: Briscot loam | | NWI classificat | ion: somewhat poorly drained | | | | |
| Are climatic / hydrologic conditions on the site typical for this tir | ne of year? Yes 🖂 | No 🗌 (If no, explain in Remarks.) | | | | | |
| Are Vegetation, Soil, or Hydrology signific | antly disturbed? | Are "Normal Circumstances" prese | ent? Yes 🛛 No 🗌 | | | | |
| Are Vegetation, Soil, or Hydrology natural | ly 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? Hydric Soil Present? Wetland Hydrology Present? | Yes ∐ Yes □ Yes □ | No 🗌 No 🖾 No 🖾 | Is the Sampled Area within a Wetland? | Yes 🗌 | No 🖂 |
|---|-------------------------|------------------------|---------------------------------------|-------|------|
| Remarks: managed for annual agricultu | ral crop p | roduction and harvest. | | | |

VEGETATION – Use scientific names of plants.

| | Absolute | Dominant Indicator | Dominance Test worksheet: | |
|--|----------------|-----------------------|---|---------|
| Tree Stratum (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species | |
| 1 | | | That Are OBL, FACW, or FAC: | _ (A) |
| 2 | | | Total Number of Dominant | |
| 3 | | | Species Across All Strata: | (B) |
| 4 | | | | , |
| | | = Total Cover | Percent of Dominant Species | (A/B) |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | | _ (7,6) |
| 1 | | | Prevalence Index worksheet: | |
| 2 | | | Total % Cover of: Multiply by: | |
| 3. | | | OBL species x 1 = | |
| 4. | | | FACW species x 2 = | |
| 5 | | | FAC species x 3 = | |
| | | - Total Cover | FACU species x 4 = | |
| Herb Stratum (Plot size: 15ft radius) | | | $UPL species \qquad x 5 =$ | |
| 1 | _ | | Column Totals: (A) | (B) |
| 2. | | | | (D) |
| 3 | | | Prevalence Index = B/A = | - |
| 4 | | | Hydrophytic Vegetation Indicators: | |
| 5. | | | Rapid Test for Hydrophytic Vegetation | |
| 6. | | | Dominance Test is >50% | |
| 7. | | | ☐ Prevalence Index is ≤3.0 ¹ | |
| 8 | | | Morphological Adaptations ¹ (Provide supp | orting |
| a | | | data in Remarks or on a separate shee | et) |
| 3 | | | Wetland Non-Vascular Plants ¹ | |
| | | | Problematic Hydrophytic Vegetation ¹ (Exp | lain) |
| 11 | 400 | | ¹ Indicators of hydric soil and wetland hydrolog | y must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | = Total Cover | be present, unless disturbed or problematic. | |
| 1 | | | | |
| 1 | | | Hydrophytic | |
| ۷ | 0 | | Vegetation | |
| % Bare Ground in Herb Stratum | 0 | = Total Cover | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pr | ior to spring plowing a mixture of cover crop, her | bs. and |
| grasses. | | | | |

SOIL

Sampling Point: SP1

| Depth <u>Matrix</u> | Redox Features | Tester | | |
|---|---|---|--|--|
| (Inches) Color (moist) % C | $2000r (moist) _ % _ 1ype' _ Loc^2 _$ | Texture Remarks | | |
| <u>)-24 10YR 3/3 100 </u> | | SL mixed sandy loam | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | · · · · · · _ · _ · _ · · _ · | | |
| | | · · · · · · · _ / \cdot _ / _ · _ / _ · _ / \cdot _ / _ / _ / _ / _ / _ / _ / _ / _ | | |
| ype: C=Concentration, D=Depletion, RM=F | Reduced Matrix, CS=Covered or Coated Sand Gra | ains. ² Location: PL=Pore Lining, M=Matrix. | | |
| Histosol (A1) | Sandy Redox (S5) | $\square 2 \text{ cm Muck (A10)}$ | | |
| Histic Epipedon (A2) | Stripped Matrix (S6) | Red Parent Material (TF2) | | |
| Black Histic (A3) | Loamy Mucky Mineral (F1) (except MLRA 1) | Very Shallow Dark Surface (TF12) | | |
|] Hydrogen Sulfide (A4) | Loamy Gleyed Matrix (F2) | Other (Explain in Remarks) | | |
| Depleted Below Dark Surface (A11) | Depleted Matrix (F3) | | | |
| Thick Dark Surface (A12) | Redox Dark Surface (F6) | ³ Indicators of hydrophytic vegetation and | | |
|] Sandy Mucky Mineral (S1) | Depleted Dark Surface (F7) | wetland hydrology must be present, | | |
| Sandy Gleyed Matrix (S4) | Redox Depressions (F8) | unless disturbed or problematic. | | |
| | | | | |
| Restrictive Layer (if present): | | | | |
| Restrictive Layer (if present): Type: | | | | |
| Restrictive Layer (if present): Type: Depth (inches): | | Hydric Soil Present? Yes 🗌 No 🛛 | | |
| Restrictive Layer (if present): Type: Depth (inches): Remarks: NO prominent indicators of hydric s | soils | Hydric Soil Present? Yes 🗌 No 🛛 | | |
| Restrictive Layer (if present): Type: Depth (inches): Remarks: NO prominent indicators of hydric s | soils | Hydric Soil Present? Yes 🗌 No 🛛 | | |
| Restrictive Layer (if present): Type: Depth (inches): Remarks: NO prominent indicators of hydric s | soils | Hydric Soil Present? Yes 🗌 No 🛛 | | |
| estrictive Layer (if present): Type: Depth (inches): emarks: NO prominent indicators of hydric s | soils | Hydric Soil Present? Yes 🗌 No 🛛 | | |
| estrictive Layer (if present): Type: Depth (inches): emarks: NO prominent indicators of hydric s | soils | Hydric Soil Present? Yes 🗌 No 🛛 | | |
| estrictive Layer (if present): Type: Depth (inches): emarks: NO prominent indicators of hydric s DROLOGY /etland Hydrology Indicators: | soils | Hydric Soil Present? Yes ☐ No ⊠ | | |
| estrictive Layer (if present): Type: Depth (inches): emarks: NO prominent indicators of hydric s DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required; | check all that apply) | Hydric Soil Present? Yes No 🛛 | | |
| estrictive Layer (if present): Type: Depth (inches): emarks: NO prominent indicators of hydric s DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required; Surface Water (A1) | | Hydric Soil Present? Yes □ No ⊠ Secondary Indicators (2 or more required) A □ Water-Stained Leaves (B9) (MLRA 1, | | |
| estrictive Layer (if present): Type: Depth (inches): emarks: NO prominent indicators of hydric s DROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) | | Hydric Soil Present? Yes □ No ⊠ | | |
| estrictive Layer (if present): Type: Depth (inches): emarks: NO prominent indicators of hydric s DROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) | soils | Hydric Soil Present? Yes No ⊠ Secondary Indicators (2 or more required) A □ Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) □ Drainage Patterns (B10) | | |
| estrictive Layer (if present): Type: Depth (inches): emarks: NO prominent indicators of hydric s DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) | <pre>check all that apply)</pre> | Hydric Soil Present? Yes □ No ⊠ | | |
| estrictive Layer (if present): Type: Depth (inches): emarks: NO prominent indicators of hydric s DROLOGY fetland Hydrology Indicators: rimary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) | check all that apply) Check all that apply) Water-Stained Leaves (B9) (except MLR, 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) | Hydric Soil Present? Yes No | | |
| estrictive Layer (if present): Type: Depth (inches): emarks: NO prominent indicators of hydric s DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required;] Surface Water (A1)] High Water Table (A2)] Saturation (A3)] Water Marks (B1)] Sediment Deposits (B2)] Drift Deposits (B3) | check all that apply) Check all that apply) Water-Stained Leaves (B9) (except MLR/1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots | Hydric Soil Present? Yes No | | |
| estrictive Layer (if present): Type: Depth (inches): emarks: NO prominent indicators of hydric s DROLOGY //etland Hydrology Indicators: rimary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) | check all that apply) check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots Presence of Reduced Iron (C4) | Hydric Soil Present? Yes No | | |
| estrictive Layer (if present): Type: Depth (inches): emarks: NO prominent indicators of hydric s DROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required;] Surface Water (A1)] High Water Table (A2)] Saturation (A3)] Water Marks (B1)] Sediment Deposits (B2)] Drift Deposits (B3)] Algal Mat or Crust (B4)] Iron Deposits (B5) | check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) | Hydric Soil Present? Yes No | | |
| estrictive Layer (if present): Type: Depth (inches): emarks: NO prominent indicators of hydric s DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) | check all that apply) Water-Stained Leaves (B9) (except MLR/1,2,4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) | Hydric Soil Present? Yes No | | |
| Itestrictive Layer (if present): Type: | check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) | Hydric Soil Present? Yes No ⊠ | | |
| Instructive Layer (if present): Type: Depth (inches): Depth (inches): Image: Ima | check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) | Hydric Soil Present? Yes No | | |

| Sparsely Vegetated Conc | ave Surfac | e (B8) | | | | | |
|--|--------------|------------|---------------------------------------|----------------------------|------------|--|--|
| Field Observations: | | | | | | | |
| Surface Water Present? | Yes 🗌 | No 🗌 | Depth (inches): | | | | |
| Water Table Present? | Yes 🗌 | No 🛛 | Depth (inches): | | | | |
| Saturation Present? (includes capillary fringe) | Yes 🗌 | No 🛛 | Depth (inches): | Wetland Hydrology Present? | Yes 🗌 No 🛛 | | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | | | | | |
| Remarks: No prominent field i | indicators c | of wetland | d hydrology. See spring 2020 monitori | ing data | | | |

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

| Project/Site: Western Portion of Parcel 0420351003 | City/County: C | ity of Puyallup, Pierce County | Sampling Date: <u>16 APR 2020</u> | | | | |
|---|-------------------------|--|-----------------------------------|--|--|--|--|
| Applicant/Owner: Cascade Development | | State: WA | Sampling Point: SP10 | | | | |
| Investigator(s): Habitat Technologies | See | ction, Township, Range: <u>Sec 35 T2</u> | 0N R04E QT 12 | | | | |
| Landform (hillslope, terrace, etc.): valley | Local relief (c | concave, convex, none): flat | Slope (%): <u><1%</u> | | | | |
| Subregion (LRR): A | _ Lat: | Long: | Datum: USGS | | | | |
| Soil Map Unit Name: Briscot Ioam | | NWI classificat | ion: somewhat poorly drained | | | | |
| Are climatic / hydrologic conditions on the site typical for this | s time of year? Yes 🛛 N | No 🗌 (If no, explain in Remarks.) | | | | | |
| Are Vegetation, Soil, or Hydrology sign | ificantly disturbed? | Are "Normal Circumstances" prese | ent? Yes 🛛 No 🗌 | | | | |
| Are Vegetation, Soil, or Hydrology natu | rally 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? Hydric Soil Present? Wetland Hydrology Present? | Yes 🗌 Yes 🗍 Yes 🗍 | No 🗌 No 🖾 No 🖾 | Is the Sampled Area within a Wetland? | Yes 🗌 | No 🖂 |
|---|-------------------------|------------------------|---------------------------------------|-------|------|
| Remarks: managed for annual agricultu | ral crop pr | roduction and harvest. | | | |

VEGETATION – Use scientific names of plants.

| | Absolute | Dominant Indicator | Dominance Test worksheet: | |
|--|----------------|------------------------|---|-----------|
| Tree Stratum (Plot size: 15ft radius) | <u>% Cover</u> | Species? Status | Number of Dominant Species | |
| 1 | | · · | That Are OBL, FACW, or FAC: | _ (A) |
| 2 | | · · | Total Number of Dominant | |
| 3 | | · · | Species Across All Strata: | (B) |
| 4 | | | | _ 、 / |
| | | = Total Cover | That Are OBL_EACW or EAC | (Δ/R) |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | | _ (/////) |
| 1 | | · · | Prevalence Index worksheet: | |
| 2 | | | Total % Cover of: Multiply by: | |
| 3. | | | OBL species x 1 = | |
| 4. | | | FACW species x 2 = | |
| 5. | | | FAC species x 3 = | |
| | | = Total Cover | FACU species x 4 = | |
| Herb Stratum (Plot size: 15ft radius) | | | UPL species $x 5 =$ | |
| 1 | | | Column Totals: (A) | (B) |
| 2 | | | | (=) |
| 3 | | | Prevalence Index = B/A = | |
| 4 | | | Hydrophytic Vegetation Indicators: | |
| 5. | | | Rapid Test for Hydrophytic Vegetation | |
| 6. | | | Dominance Test is >50% | |
| 7. | | | □ Prevalence Index is ≤3.0 ¹ | |
| 8 | | | Morphological Adaptations ¹ (Provide supp | orting |
| 9 | | · | data in Remarks or on a separate shee | et) |
| <u>.</u> | | · · | Wetland Non-Vascular Plants ¹ | |
| 11 | | · · | Problematic Hydrophytic Vegetation ¹ (Exp | lain) |
| · · · · · · · · · · · · · · · · · · · | 100 | Total Cover | ¹ Indicators of hydric soil and wetland hydrolog | y must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | = Total Cover | be present, unless disturbed or problematic. | |
| 1 | | | | |
| 2 | | · | Hydrophytic | |
| ۲ | 0 | - Total Cover | Vegetation Present? Ves No No | |
| % Bare Ground in Herb Stratum | <u>U</u> | | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pri | ior to spring plowing a mixture of cover crop, her | bs, and |
| grasses. | | | | |

SOIL

Sampling Point: SP10

| Depth | Matrix | K | Re | dox Feature | S | | | · · · · · · · · · · · · · · · · · · · |
|---|--|-----------------------------|--|--|-------------------------------|------------------|-----------|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | Textur | re Remarks |
| 0-14 | 10YR 3/3 | 100 | | | | | SL | mixed sandy loam |
| 14-24 | <u>10YR 3/3</u> | 98 | 10YR 4/6 | 2 | <u>D</u> | <u>M</u> | <u>SL</u> | mixed sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Type: C=C | concentration, D=D | Depletion, R | M=Reduced Matrix, | CS=Covere | d or Coat | ed Sand G | rains. | ² Location: PL=Pore Lining, M=Matrix. |
| ydric Soil | Indicators: (App | licable to a | all LRRs, unless oth | nerwise not | ed.) | | In | dicators for Problematic Hydric Soils ³ : |
| Histosol Histic Er Black Hi Hydroge Depleter Thick Da Sandy M Sandy C Cestrictive Type: | (A1) pipedon (A2) istic (A3) en Sulfide (A4) d Below Dark Surf ark Surface (A12) Mucky Mineral (S1) Bleyed Matrix (S4) Layer (if present | ace (A11))): | Sandy Redox Stripped Matr Loamy Mucky Loamy Gleyed Depleted Matr Redox Dark S Depleted Darl Redox Depres | (S5) ix (S6) Mineral (F ⁴ d Matrix (F2 rix (F3) Gurface (F6) Surface (F6) Sisions (F8) | 1) (excep) 77) | t MLRA 1) | 31r | 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) ndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| Depth (in | iches): | | | | | | Hydri | ic Soil Present? Yes 🗌 No 🖂 |
| Remarks: N | O prominent indic | ators of hyd | ric soils | | | | | |
| Wetland Hy | drology Indicato | rs: | | | | | | |
| ۔ Primary Indi | cators (minimum o | of one requi | red; check all that ap | oply) | | | | Secondary Indicators (2 or more required) |
| ☐ Surface ☐ High Wa | Water (A1) ater Table (A2) | | Water-Si 1, 2, | tained Leave 4A, and 4B | es (B9) (e) | except MLI | RA | Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) |
| Saturatio | on (A3) | | Salt Crus | st (B11) | | | | Drainage Patterns (B10) |
| Water M | larks (B1) | | Aquatic I | nvertebrate | s (B13) | | | Dry-Season Water Table (C2) |
| Sedimer | nt Deposits (B2) | | Hydroge | n Sulfide Oo | dor (C1) | | | Saturation Visible on Aerial Imagery (C |
| Drift Dep | posits (B3) | | | Rhizosphe | res along | Living Roc | ots (C3) | Geomorphic Position (D2) |

| wettand hydrology indicators. | | | | | | | | |
|--|------------|-----------|---|---|---|--|--|--|
| Primary Indicators (minimum | of one req | uired; ch | | Secondary Indicators (2 or more 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) | | | Salt Crust (B11) | | Drainage Patterns (B10) | | | |
| Water Marks (B1) | | | Aquatic Invertebrates (B13) | | Dry-Season Water Table (C2) | | | |
| Sediment Deposits (B2) | | | Hydrogen Sulfide Odor (C1) | | Saturation Visible on Aerial Imagery (C9) | | | |
| Drift Deposits (B3) | | | Oxidized Rhizospheres along Livi | ng Roots (C3) | Geomorphic Position (D2) | | | |
| Algal Mat or Crust (B4) | | | Presence of Reduced Iron (C4) | | Shallow Aquitard (D3) | | | |
| Iron Deposits (B5) Re | | | Recent Iron Reduction in Tilled Second | oils (C6) | FAC-Neutral Test (D5) | | | |
| Surface Soil Cracks (B6) | | | | LRR A) | Raised Ant Mounds (D6) (LRR A) | | | |
| Inundation Visible on Aeri | al Imagery | / (B7) | Other (Explain in Remarks) | | Frost-Heave Hummocks (D7) | | | |
| Sparsely Vegetated Conc | ave Surfac | ce (B8) | | | | | | |
| Field Observations: | | | | | | | | |
| Surface Water Present? | Yes 🗌 | No 🗌 | Depth (inches): | | | | | |
| Water Table Present? | Yes 🗌 | No 🖂 | Depth (inches): | | | | | |
| Saturation Present? (includes capillary fringe) | Yes 🗌 | No 🖂 | Depth (inches): | Wetland Hy | drology Present? Yes 🗌 No 🛛 | | | |
| Describe Recorded Data (stre | eam gauge | , monito | ing well, aerial photos, previous inspe | ctions), if availa | able: | | | |
| | | | | | | | | |
| Remarks: NO prominent field | indicators | of wetlar | nd hydrology documented early growin | g season. See | e spring 2020 monitoring data | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

| Project/Site: Western Portion of Parcel 0420351003 | City/County: (| City of Puyallup, Pierce County | Sampling Date: <u>16 APR 2020</u> | | | | | |
|---|-------------------|---|-----------------------------------|--|--|--|--|--|
| Applicant/Owner: Cascade Development | | State: WA | Sampling Point: SP11 | | | | | |
| Investigator(s): Habitat Technologies | Se | ection, Township, Range: <u>Sec 35 T2</u> | 0N R04E QT 12 | | | | | |
| Landform (hillslope, terrace, etc.): valley | Local relief (| concave, convex, none): <u>flat</u> | Slope (%): <u><1%</u> | | | | | |
| Subregion (LRR): A | Lat: | Long: Datum | | | | | | |
| Soil Map Unit Name: Briscot loam | | NWI classificat | ion: somewhat poorly drained | | | | | |
| Are climatic / hydrologic conditions on the site typical for this ti | me of year? Yes 🛛 | No 🗌 (If no, explain in Remarks.) | | | | | | |
| Are Vegetation, Soil, or Hydrology signifi | cantly disturbed? | Are "Normal Circumstances" prese | ent? Yes 🛛 No 🗌 | | | | | |
| Are Vegetation, Soil, or Hydrology natura | lly 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? Hydric Soil Present? Wetland Hydrology Present? | Yes 🗌 Yes 🗍 Yes 🗍 | No 🗌 No 🖾 No 🖾 | Is the Sampled Area within a Wetland? | Yes 🗌 | No 🖂 |
|---|-------------------------|------------------------|---------------------------------------|-------|------|
| Remarks: managed for annual agricultu | ral crop pr | roduction and harvest. | | | |

VEGETATION – Use scientific names of plants.

| | Absolute | Dominant Indicator | Dominance Test worksheet: | |
|--|----------------|------------------------|---|-----------|
| <u>Tree Stratum</u> (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species | |
| 1 | | | That Are OBL, FACW, or FAC: | (A) |
| 2 | | | Total Number of Dominant | |
| 3 | | | Species Across All Strata: | (B) |
| 4 | | | | |
| | | = Total Cover | That Are OBL FACW or FAC | (A/B) |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | | _ (////// |
| 1 | | | Prevalence Index worksheet: | |
| 2 | | | Total % Cover of: Multiply by: | |
| 3. | | | OBL species x 1 = | |
| 4. | | | FACW species x 2 = | |
| 5. | | | FAC species x 3 = | |
| | | = Total Cover | FACU species x 4 = | |
| Herb Stratum (Plot size: 15ft radius) | | | UPL species x 5 = | |
| 1 | | | Column Totals: (A) | (B) |
| 2. | | | | (D) |
| 3 | | | Prevalence Index = B/A = | |
| 4 | _ | | Hydrophytic Vegetation Indicators: | |
| 5. | | | Rapid Test for Hydrophytic Vegetation | |
| 6. | | | Dominance Test is >50% | |
| 7. | | | □ Prevalence Index is ≤3.0 ¹ | |
| 8 | | | Morphological Adaptations ¹ (Provide supp | orting |
| a | | | data in Remarks or on a separate shee | et) |
| 3 | | | Wetland Non-Vascular Plants ¹ | |
| | | | Problematic Hydrophytic Vegetation ¹ (Exp | lain) |
| 11 | 400 | | ¹ Indicators of hydric soil and wetland hydrolog | y must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | = Total Cover | be present, unless disturbed or problematic. | |
| 1 | | | | |
| · | | | Hydrophytic | |
| ۲ | 0 | Total Cover | Vegetation | |
| % Bare Ground in Herb Stratum | 0 | = Total Cover | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pri | I or to spring plowing a mixture of cover crop. her | bs, and |
| grasses. | | , | , | , |

SOIL

Sampling Point: SP11

| (inches) | Color (moist) | x% | <u>Color (moist)</u> | <u>dox Featu</u> % | <u>Type</u> 1 | Loc ² | Texture | Remarks |
|---|--|--------------|--|---|--------------------|------------------|-------------------------------------|--|
| D-6 | 10YR 3/3 | 100 | | | | | SL | mixed sandy loam |
| 6-18 | 10YR 3/3 | 98 | 10YR 4/6 | 2 | D | М | SL | mixed sandy loam |
| 18-24 | <u>10YR 4/3</u> | 95 | 10YR 4/6 | 5 | D | M | <u>SL</u> | mised sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| ¹ Type: C=C Hydric Soil | Concentration, D=I | Depletion, R | M=Reduced Matrix, | CS=Cover | red or Coat | ed Sand C | Grains. ² Lo Indicat | ocation: PL=Pore Lining, M=Matrix. |
| Histosol Histic E Black H Hydroge | l (A1) pipedon (A2) istic (A3) en Sulfide (A4) | | Sandy Redox Stripped Matri Loamy Mucky Loamy Gleye | (S5) ix (S6) / Mineral (d Matrix (F | F1) (excep | t MLRA 1 | ☐ 2 c ☐ Rea) ☐ Ver ☐ Oth | m Muck (A10) d Parent Material (TF2) ry Shallow Dark Surface (TF12) ner (Explain in Remarks) |
| Depicte Thick Data Sandy M Sandy C | ark Surface (A12) Aucky Mineral (S1 Gleyed Matrix (S4) |)) | Depleted Mat Redox Dark § Depleted Dar Redox Depre | Surface (F6 k Surface (F6 ssions (F8 | 6) (F7) | | ³ Indica wetl unle | tors of hydrophytic vegetation and land hydrology must be present, ess disturbed or problematic. |
| Restrictive Type: Depth (ir | Layer (if present | i): | | | · | | Hydric So | il Present? Yes 🗌 No 🛛 |
| Domorko, N | IO prominent indic | ators of hyc | tric soils | | | | 1 | |

| Primary Indicators (minimum of one required; check all that apply) | | | | | Secondary Indicators (2 or more required) | | |
|--|--|-----------|--|--------------------|---|--|--|
| Surface Water (A1) Water-Stained Leaves (| | | | ept MLRA | Water-Stained Leaves (B9) (MLRA 1, 2, | | |
| High Water Table (A2) | | | 1, 2, 4A, and 4B) | | 4A, and 4B) | | |
| Saturation (A3) | | | Salt Crust (B11) | | Drainage Patterns (B10) | | |
| Water Marks (B1) | | | Aquatic Invertebrates (B13) | | Dry-Season Water Table (C2) | | |
| Sediment Deposits (B2) | | | Hydrogen Sulfide Odor (C1) | | Saturation Visible on Aerial Imagery (C9) | | |
| Drift Deposits (B3) | | | Oxidized Rhizospheres along Liv | ing 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 S | oils (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 Aeri | al Imagery | ′ (B7) | Other (Explain in Remarks) | | Frost-Heave Hummocks (D7) | | |
| Sparsely Vegetated Conc | ave Surfac | ce (B8) | | | | | |
| Field Observations: | | | | | | | |
| Surface Water Present? | Yes 🗌 | No 🗌 | Depth (inches): | | | | |
| Water Table Present? | Yes 🗌 | No 🖂 | Depth (inches): | | | | |
| Saturation Present? (includes capillary fringe) | Yes 🗌 | No 🛛 | Depth (inches): | Wetland Hy | rdrology Present? Yes 🗌 No 🛛 | | |
| Describe Recorded Data (stre | eam gauge | , monitor | ring well, aerial photos, previous inspe | ctions), if availa | able: | | |
| | | | | | | | |
| Remarks: NO prominent field | Remarks: NO prominent field indicators of wetland hydrology documented early growing season. See spring 2020 monitoring data | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

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

| Project/Site: Western Portion of Parcel 0420351003 | City/County | : City of Puyallup, Pierce County | Sampling Date: <u>16 APR 2020</u> | | | | | | |
|---|---|---|-----------------------------------|--|--|--|--|--|--|
| Applicant/Owner: Cascade Development | State: WA | Sampling Point: SP12 | | | | | | | |
| Investigator(s): Habitat Technologies | Section, Township, Range: <u>Sec 35 T</u> | 20N R04E QT 12 | | | | | | | |
| Landform (hillslope, terrace, etc.): valley | Local relief | elief (concave, convex, none): <u>flat</u> Slope (%): | | | | | | | |
| Subregion (LRR): A | _ Lat: | Long: | Datum: USGS | | | | | | |
| Soil Map Unit Name: Briscot Ioam | | NWI classifica | tion: somewhat poorly drained | | | | | | |
| Are climatic / hydrologic conditions on the site typical for this | time of year? Yes 🖂 | No 🗌 (If no, explain in Remarks.) | | | | | | | |
| Are Vegetation, Soil, or Hydrology sign | ificantly disturbed? | Are "Normal Circumstances" pres | sent? Yes 🛛 No 🗌 | | | | | | |
| Are Vegetation, Soil, or Hydrology natu | rally problematic? | (If needed, explain any answers in | n Remarks.) | | | | | | |
| SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. | | | | | | | | | |
| | | | | | | | | | |

| Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? | Yes | Is the Sampled Area within a Wetland? | Yes 🛛 | No 🗌 |
|---|-----------------------------------|---------------------------------------|-----------|------|
| Remarks: managed for annual agricul | tural crop production and harvest | shallow depression seasonally | saturated | |

VEGETATION – Use scientific names of plants.

| | Absolute | Dominant Indicator | Dominance Test worksheet: |
|--|----------------|------------------------|---|
| Tree Stratum (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species |
| 1 | | | That Are OBL, FACW, or FAC: (A) |
| 2 | | | Total Number of Dominant |
| 3 | | | Species Across All Strata: (B) |
| 4. | | | |
| | | = Total Cover | Percent of Dominant Species |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | |
| 1 | | | Prevalence Index worksheet: |
| 2. | | | Total % Cover of:Multiply by: |
| 3. | | | OBL species x 1 = |
| 4. | | | FACW species x 2 = |
| 5. | | | FAC species x 3 = |
| | | = Total Cover | FACU species x 4 = |
| Herb Stratum (Plot size: 15ft radius) | | | UPL species x 5 = |
| 1 | | | Column Totals: (A) (B) |
| 2 | | | |
| 3 | | | Prevalence Index = B/A = |
| 4 | | | Hydrophytic Vegetation Indicators: |
| 5 | | | Rapid Test for Hydrophytic Vegetation |
| 6. | | | Dominance Test is >50% |
| 7. | | | □ Prevalence Index is ≤3.0 ¹ |
| 8. | | | Morphological Adaptations ¹ (Provide supporting |
| 9 | | | data in Remarks or on a separate sheet) |
| 10 | | | Wetland Non-Vascular Plants ¹ |
| 10 | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| ···· | 100 | - Total Covar | ¹ Indicators of hydric soil and wetland hydrology must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | | be present, unless disturbed or problematic. |
| 1. | | | |
| 2 | | | Hydrophytic |
| £. | 0 | - Total Covor | |
| % Bare Ground in Herb Stratum | <u>U</u> | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pri | or to spring plowing a mixture of cover crop, herbs, and |
| grasses. | | . ,, | |

SOIL

Sampling Point: SP12

| (inches) | Color (moist) | % | Color (moist) | <u>uox reatur</u> % | <u>es</u> Type ¹ | 1 oc^2 | Texture | e Remarks |
|---|---|--------------|---|---|--|------------------------------------|---------------------------------|--|
| | | 100 | | /0 | | | | |
|)-4 | <u>101R 3/2</u> | | | | | | <u>SL</u> | |
| 1-9 | <u>10YR 3/2</u> | 90 | <u>10YR 4/6</u> | 10 | <u>D</u> | <u>M</u> | <u>SL</u> | mixed sandy loam |
|)-24 | <u>10YR 4/2</u> | <u>80</u> | 10YR 4/6 | 20 | <u>D</u> | M | SL | mixed sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| Type: C=C | Concentration, D=De | pletion, RM= | -Reduced Matrix, | CS=Cover | ed or Coat | ed Sand G | rains. | ² Location: PL=Pore Lining, M=Matrix. |
| lydric Soil | Indicators: (Appli | cable to all | LRRs, unless otl | nerwise no | oted.) | | Inc | dicators for Problematic Hydric Soils ³ : |
| Histosol Histic E_l Black Hi Hydroge Depletee Thick Data Sandy M Sandy O | (A1) pipedon (A2) istic (A3) en Sulfide (A4) d Below Dark Surfac ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) | ce (A11) | Sandy Redox Stripped Matr Loamy Mucky Loamy Gleye Depleted Mat Redox Dark S Depleted Dar Redox Depre | (S5) ix (S6) / Mineral (F d Matrix (F rix (F3) Surface (F6 k Surface (ssions (F8) | F1) (excep 2) 5) (F7) | t MLRA 1) | ³ In | 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| Restrictive | Layer (if present): | | - | | | | | |
| Type: | | | | | | | | |
| Depth (ir | nches): | | | | | | Hydri | c Soil Present? 🛛 Yes 🖂 No 🗌 |
| | | | | | | | | |
| Wetland Hy | drology Indicators | | | | | | | |
| Primary Indi | icators (minimum of | one required | d check all that ar | vlac | | | | Secondary Indicators (2 or more required) |
| | Water (A1) | | □ Water-S | tained Lea | ves (B9) (e | xcept MLF | RA | Water-Stained Leaves (B9) (MLRA 1. |
| High Wa | ater Table (A2) | | 1, 2, | 4A, and 4 | B) | | | 4A, and 4B) |
| Saturation | on (A3) | | Salt Cru | st (B11) | , | | | Drainage Patterns (B10) |
| Water N | larks (B1) | | Aquatic | Invertebrat | es (B13) | | | Dry-Season Water Table (C2) |
| Sedimer | nt Deposits (B2) | | 🗌 Hydroge | n Sulfide C | Odor (C1) | | | Saturation Visible on Aerial Imagery (|
| Drift Dep | posits (B3) | | Oxidized | l Rhizosph | eres along | Living Roo | ts (C3) | Geomorphic Position (D2) |
| | at or Crust (B4) | | Presenc | e of Reduc | ed Iron (C4 | 4) | | Shallow Aquitard (D3) |
| | | | | | | | | |
| Iron Dep | oosits (B5) | | Recent I | ron Reduc | tion in Tille | d Soils (C6 | i) | FAC-Neutral Test (D5) |
| Algal Ma Iron Dep Surface | oosits (B5) Soil Cracks (B6) | | Recent I Stunted | ron Reduc or Stresse | tion in Tille d Plants (D | d Soils (C6 1) (LRR A) | ;)) | FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) |

| Sparsely Vegetated Concave Surface (B8) | | | | | | | | | |
|--|-------|------|-----------------|----------------------------|-------|------|--|--|--|
| Field Observations: | | | | | | | | | |
| Surface Water Present? | Yes 🗌 | No 🗌 | Depth (inches): | | | | | | |
| Water Table Present? | Yes 🗌 | No 🖂 | Depth (inches): | | | | | | |
| Saturation Present? (includes capillary fringe) | Yes 🗌 | No 🛛 | Depth (inches): | Wetland Hydrology Present? | Yes 🛛 | No 🗌 | | | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | | | | | | | |
| Remarks: prominent field indicators of wetland hydrology documented early growing season. Dry on April 16, 2020. See spring 2020 monitoring data | | | | | | | | | |

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

| Project/Site: Western Portion of Parcel 0420351003 | City/County: C | City of Puyallup, Pierce County | Sampling Date: <u>16 APR 2020</u> | | | | | |
|---|-----------------------|--|-----------------------------------|--|--|--|--|--|
| Applicant/Owner: Cascade Development | | State: WA | Sampling Point: SP13 | | | | | |
| Investigator(s): Habitat Technologies | Se | ction, Township, Range: <u>Sec 35 T2</u> | 0N R04E QT 12 | | | | | |
| Landform (hillslope, terrace, etc.): valley | Local relief (| concave, convex, none): <u>flat</u> | Slope (%): <u><1%</u> | | | | | |
| Subregion (LRR): A | Lat: | Lat: Long: | | | | | | |
| Soil Map Unit Name: Briscot Ioam | | NWI classificat | ion: somewhat poorly drained | | | | | |
| Are climatic / hydrologic conditions on the site typical for this | time of year? Yes 🛛 🕴 | No 🗌 (If no, explain in Remarks.) | | | | | | |
| Are Vegetation, Soil, or Hydrology signi | ficantly disturbed? | Are "Normal Circumstances" prese | ent? Yes 🛛 No 🗌 | | | | | |
| Are Vegetation, Soil, or Hydrology natur | ally 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? Hydric Soil Present? Wetland Hydrology Present? | Yes 🗌 Yes 🗍 Yes 🗍 | No 🗌 No 🖾 No 🖾 | Is the Sampled Area within a Wetland? | Yes 🗌 | No 🖂 |
|---|-------------------------|------------------------|---------------------------------------|-------|------|
| Remarks: managed for annual agricultu | ral crop pr | roduction and harvest. | | | |

VEGETATION – Use scientific names of plants.

| | Absolute | Dominant Indicator | Dominance Test worksheet: | |
|--|----------------|------------------------|---|-----------|
| Tree Stratum (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species | |
| 1 | | | That Are OBL, FACW, or FAC: | _ (A) |
| 2 | | | Total Number of Dominant | |
| 3 | | | Species Across All Strata: | (B) |
| 4 | | | | _ 、 / |
| | | = Total Cover | That Are OBL FACW or FAC | (Δ/R) |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | | _ (/////) |
| 1 | | | Prevalence Index worksheet: | |
| 2 | | | Total % Cover of: Multiply by: | |
| 3. | | | OBL species x 1 = | |
| 4. | | | FACW species x 2 = | |
| 5. | | | FAC species x 3 = | |
| | | = Total Cover | FACU species x 4 = | |
| Herb Stratum (Plot size: 15ft radius) | | | UPL species $x 5 =$ | |
| 1 | | | Column Totals: (A) | (B) |
| 2 | | | | (=) |
| 3 | | | Prevalence Index = B/A = | |
| 4 | _ | | Hydrophytic Vegetation Indicators: | |
| 5. | | | Rapid Test for Hydrophytic Vegetation | |
| 6. | | | Dominance Test is >50% | |
| 7. | | | □ Prevalence Index is ≤3.0 ¹ | |
| 8 | | | Morphological Adaptations ¹ (Provide supp | orting |
| 9 | | | data in Remarks or on a separate shee | et) |
| 10 | | | Wetland Non-Vascular Plants ¹ | |
| 11 | | | Problematic Hydrophytic Vegetation ¹ (Exp | lain) |
| 11 | 400 | Tatal Causar | ¹ Indicators of hydric soil and wetland hydrolog | y must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | = Total Cover | be present, unless disturbed or problematic. | |
| 1 | | | | |
| 2 | | | Hydrophytic | |
| 2 | 0 | | Vegetation Present? Ves No No No | |
| % Bare Ground in Herb Stratum | 0 | | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pri | I for to spring plowing a mixture of cover crop. her | bs, and |
| grasses. | | , | , or | , |

SOIL

Sampling Point: SP13

| (inches) | Matrix Color (moist) | % | _ <u>Re</u> Color (moist) | dox Featur % | <u>es</u> Type ¹ | Loc ² | Texture | Remarks |
|---------------|-------------------------|-------------|------------------------------|-----------------|--------------------------------|------------------|-------------------------|---|
|)-11 | 10YR 3/3 | 100 | <u></u> | | | | SI | mixed sandy loam |
| 11-24 | <u>10YR 3/3</u> | 98 | 10YR 4/6 | 2 | D | М | <u>SL</u> | mixed sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| Туре: С=С | Concentration, D=D | epletion, R | M=Reduced Matrix, | CS=Cover | ed or Coat | ed Sand C | Grains. ² Lo | ocation: PL=Pore Lining, M=Matrix. |
| Hydric Soil | Indicators: (Appl | icable to a | all LRRs, unless oth | nerwise no | oted.) | | Indicat | ors for Problematic Hydric Soils ³ : |
| | I (A1) ninedon (A2) | | Sandy Redox | (55) ix (56) | | | | m Muck (A10) d Parent Material (TE2) |
| Black H | istic (A3) | | | Mineral (F | -1) (excen | t MI RA 1 | | v Shallow Dark Surface (TF12) |
| | en Sulfide (A4) | | Loamy Glever | d Matrix (F | 2) | | , ⊡ ve. □ Oth | per (Explain in Remarks) |
| Deplete | d Below Dark Surfa | ce (A11) | Depleted Mat | rix (F3) | _) | | | |
| Thick D | ark Surface (A12) | () | Redox Dark S | Surface (F6 | 5) | | ³ Indicat | tors of hydrophytic vegetation and |
| □ Sandy N | Aucky Mineral (S1) | | Depleted Darl | < Surface (| , F7) | | wetl | and hydrology must be present. |
| Sandy (| Gleved Matrix (S4) | | Redox Depres | ssions (F8) |) | | unle | ess disturbed or problematic. |
| Restrictive | Layer (if present): | | | . , | | | | • |
| Type: | | | | | | | | |
| Depth (ir | nches): | | | | | | Hydric So | il Present? Yes 🗌 No 🖂 |
| Remarks: N | O prominent indica | tors of hvd | ric soils | | | | | |
| | | , | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| Primary Indicators (minimum of one | required; c | | Secondary Indicators (2 or more required) | | | |
|--|--------------|---|---|---|--|--|
| Surface Water (A1) | | pt MLRA | Water-Stained Leaves (B9) (MLRA 1, 2, | | | |
| High Water Table (A2) | | 1, 2, 4A, and 4B) | | 4A, and 4B) | | |
| Saturation (A3) | | Salt Crust (B11) | | Drainage Patterns (B10) | | |
| Water Marks (B1) | | Aquatic Invertebrates (B13) | | Dry-Season Water Table (C2) | | |
| Sediment Deposits (B2) | | Hydrogen Sulfide Odor (C1) | | Saturation Visible on Aerial Imagery (C9) | | |
| Drift Deposits (B3) | | Oxidized Rhizospheres along Livi | ng Roots (C3) | Geomorphic Position (D2) | | |
| Algal Mat or Crust (B4) | | Presence of Reduced Iron (C4) | | Shallow Aquitard (D3) | | |
| Iron Deposits (B5) | | Recent Iron Reduction in Tilled Second Se | oils (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) | | Other (Explain in Remarks) | | Frost-Heave Hummocks (D7) | | |
| Sparsely Vegetated Concave Set | ırface (B8) | | | | | |
| Field Observations: | | | | | | |
| Surface Water Present? Yes | 🗌 No 🗌 | Depth (inches): | | | | |
| Water Table Present? Yes | 🗌 🛛 No 🖾 | Depth (inches): | | | | |
| Saturation Present? Yes 🗌 No 🛛 Depth (inches): | | | Wetland Hydrology Present? Yes 🗌 No 🖂 | | | |
| Describe Recorded Data (stream ga | uge, monito | oring well, aerial photos, previous inspec | ctions), if availa | able: | | |
| | | | | | | |
| Remarks: NO prominent field indica | ors of wetla | and hydrology documented early growin | g season. See | e spring 2020 monitoring data | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

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

| Project/Site: Western Portion of Parcel 0420351003 | City/County: City c | f Puyallup, Pierce County | Sampling Date: <u>16 APR 2020</u> |
|---|--------------------------|--------------------------------------|-----------------------------------|
| Applicant/Owner: Cascade Development | | State: WA | Sampling Point: SP14 |
| Investigator(s): Habitat Technologies | Section | n, Township, Range: <u>Sec 35 T2</u> | 0N R04E QT 12 |
| Landform (hillslope, terrace, etc.): valley | Local relief (conc | ave, convex, none): <u>flat</u> | Slope (%): <u><1%</u> |
| Subregion (LRR): A | ∟at: | Long: | Datum: USGS |
| Soil Map Unit Name: Briscot loam | | NWI classificat | ion: somewhat poorly drained |
| Are climatic / hydrologic conditions on the site typical for this tir | ne of year? Yes 🛛 🛛 No 🗌 |] (If no, explain in Remarks.) | |
| Are Vegetation, Soil, or Hydrology signific | antly disturbed? Are | "Normal Circumstances" pres | ent? Yes 🛛 No 🗌 |
| Are Vegetation, Soil, or Hydrology natural | y problematic? (If n | eeded, explain any answers in | Remarks.) |
| SUMMARY OF FINDINGS – Attach site map sh | owing sampling poir | nt locations, transects, | important features, etc. |
| | | | |

| Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? | Yes 🗌 Yes 🗍 Yes 🗍 | No ∐ No ⊠ No ⊠ | Is the Sampled Area within a Wetland? | Yes 🗌 | No 🖂 |
|---|-------------------------|------------------------|---------------------------------------|-------|------|
| Remarks: managed for annual agricultu | ral crop pr | roduction and harvest. | | | |

VEGETATION – Use scientific names of plants.

| | Absolute | Dominant Indicator | Dominance Test worksheet: | |
|--|----------------|------------------------|---|-----------|
| <u>Tree Stratum</u> (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species | |
| 1 | | | That Are OBL, FACW, or FAC: | (A) |
| 2 | | | Total Number of Dominant | |
| 3 | | | Species Across All Strata: | (B) |
| 4 | | | | |
| | | = Total Cover | That Are OBL FACW or FAC | (A/B) |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | | _ (////// |
| 1 | | | Prevalence Index worksheet: | |
| 2 | | | Total % Cover of: Multiply by: | |
| 3. | | | OBL species x 1 = | |
| 4. | | | FACW species x 2 = | |
| 5. | | | FAC species x 3 = | |
| | | = Total Cover | FACU species x 4 = | |
| Herb Stratum (Plot size: 15ft radius) | | | UPL species x 5 = | |
| 1 | | | Column Totals: (A) | (B) |
| 2. | | | | (D) |
| 3 | | | Prevalence Index = B/A = | |
| 4 | _ | | Hydrophytic Vegetation Indicators: | |
| 5. | | | Rapid Test for Hydrophytic Vegetation | |
| 6. | | | Dominance Test is >50% | |
| 7. | | | □ Prevalence Index is ≤3.0 ¹ | |
| 8 | | | Morphological Adaptations ¹ (Provide supp | orting |
| a | | | data in Remarks or on a separate shee | et) |
| 3 | | | Wetland Non-Vascular Plants ¹ | |
| | | | Problematic Hydrophytic Vegetation ¹ (Exp | lain) |
| 11 | 400 | | ¹ Indicators of hydric soil and wetland hydrolog | y must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | = Total Cover | be present, unless disturbed or problematic. | |
| 1 | | | | |
| · | | | Hydrophytic | |
| 2 | 0 | Total Causer | Vegetation | |
| % Bare Ground in Herb Stratum | 0 | = 10tal Cover | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pri | I or to spring plowing a mixture of cover crop. her | bs, and |
| grasses. | | , | , | , |

SOIL

Sampling Point: SP14

| Profile Des | cription: (Describ | e to the de | pth needed | to docu | ment the | indicator | or confi | rm the at | osence | of indicators.) |
|------------------------------|---------------------------------------|---------------|-----------------|------------|--------------------|---------------------|------------------|--------------|-----------------|---|
| Depth | Matrix | | | Red | ox Featur | es | | | | |
| (inches) | Color (moist) | % | Color (moi | st) | % | Type ¹ | Loc ² | Textu | re | Remarks |
| <u>0-9</u> | <u>10YR 3/3</u> | 100 | | | | | | SL | | mixed sandy loam |
| <u>9-15</u> | <u>10YR 3/3</u> | 90 | 10YR 4/6 | | 10 | D | M | SL | | mixed sandy loam |
| <u>15-24</u> | <u>10YR 4/2</u> | 90 | <u>10YR 4/6</u> | | 10 | <u>D</u> | M | <u>SL</u> | | mixed sandy loam |
| | | | | | | | | - <u> </u> | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| ¹ Tvpe: C=C | oncentration. D=De | epletion. RM | I=Reduced I | Matrix. C | S=Covere | ed or Coat | ed Sand (| Grains. | ² Lo | cation: PL=Pore Lining. M=Matrix. |
| Hydric Soil | Indicators: (Appl | icable to al | I LRRs, unl | ess othe | erwise no | ted.) | | lı | ndicato | ors for Problematic Hydric Soils ³ : |
| Histosol | (A1) | | Sandy | Redox (| S5) | | | C |] 2 cm | n Muck (A10) |
| Histic Ep | oipedon (A2) | | Strippe | ed Matrix | : (S6) | | | Ľ |] Red | Parent Material (TF2) |
| Black Hi | stic (A3) | | Loamy | Mucky I | Mineral (F | 1) (excep | t MLRA 1 |) [|] Very | / Shallow Dark Surface (TF12) |
| Hydroge | n Sulfide (A4) | <i></i> | Loamy | Gleyed | Matrix (F2 | 2) | | Ľ |] Othe | er (Explain in Remarks) |
| | d Below Dark Surfa | ce (A11) | | ed Matri | х (F3) тала (ГС | ` | | 31 | | |
| | In Sunace (A12) | | | od Dark | Surface (Fo |) E7) | | - | wotla | and hydrology must be present |
| Sandy N | leved Matrix (S4) | | | Depress | sions (F8) | () | | | unles | and hydrology must be present, |
| Restrictive | Layer (if present): | | | | | | | | | |
| Type: | , , , , , , , , , , , , , , , , , , , | | | | | | | | | |
| Depth (in | ches): | | | | | | | Hvdi | ric Soil | Present? Yes 🗌 No 🕅 |
| Remarks: N | O prominent indica | tors of hydri | c soils locat | ed outsic | le of shall | ow depres | sion | | | |
| | | | | | | | | | | |
| IYDROLOG | 9Y | | | | | | | | | |
| Wetland Hy | drology Indicators | s: | | | | | | | | |
| Primary Indi | cators (minimum of | one require | ed; check all | that app | oly) | | | | Seco | ndary Indicators (2 or more required) |
| Surface | Water (A1) | | | /ater-Sta | ined Leav | /es (B9) (e | except ML | RA | | /ater-Stained Leaves (B9) (MLRA 1, 2, |
| 🗌 High Wa | iter Table (A2) | | | 1, 2, 4 | A, and 4E | 3) | • | | | 4A, and 4B) |
| Saturatio | on (A3) | | 🗆 s | alt Crust | (B11) | - | | | 🗆 D | rainage Patterns (B10) |
| U Water M | arks (B1) | | 🗆 A | quatic In | vertebrate | es (B13) | | | 🗆 D | ry-Season Water Table (C2) |
| Sedimer | nt Deposits (B2) | | Пн | ydrogen | Sulfide O | dor (C1) | | | 🗆 s | aturation Visible on Aerial Imagery (C9) |
| Drift Dep | oosits (B3) | | | xidized F | Rhizosphe | eres along | Living Ro | oots (C3) | ΠG | eomorphic Position (D2) |
| 🗌 Algal Ma | at or Crust (B4) | | 🗌 P | resence | of Reduc | ed Iron (C | 4) | | 🗆 S | hallow Aquitard (D3) |
| 🗌 Iron Dep | osits (B5) | | 🗌 R | ecent Irc | on Reduct | ion in Tille | d Soils (C | 6) | 🗆 F. | AC-Neutral Test (D5) |
| Surface | Soil Cracks (B6) | | 🗆 S | tunted o | r Stressed | l Plants (D | 1) (LRR / | A) | 🗌 R | aised Ant Mounds (D6) (LRR A) |
| 🗌 Inundatio | on Visible on Aerial | Imagery (E | 37) 🗌 C | ther (Exp | plain in Re | emarks) | | | 🗆 F | rost-Heave Hummocks (D7) |
| Sparsely | Vegetated Concav | ve Surface | (B8) | | | | | | | |
| Field Obser | vations: | | | | | | | | | |
| Surface Wat | er Present? | Yes 🗌 🛛 N | lo 🗌 🛛 Dep | th (inche | s): | | | | | |
| Water Table | Present? | Yes 🗌 🛛 N | lo 🛛 🛛 Dep | th (inche | s): | | | | | |
| Saturation P (includes ca | resent? pillary fringe) | Yes 🗌 N | lo 🛛 Dep | th (inche | s): | | We | tland Hy | drolog | y Present? Yes 🗌 No 🛛 |
| Describe Re | corded Data (strea | m gauge, n | ionitoring we | en, aerial | photos, p | nevious in | spections |), ir availa | able: | |

Remarks: No prominent field indicators of wetland hydrology. See spring 2020 monitoring data

US Army Corps of Engineers
| Project/Site: Western Portion of Parcel 0420351003 | City/County | City of Puyallup, Pierce County | Sampling Date: 16 APR 2020 |
|---|---------------------|--|-------------------------------|
| Applicant/Owner: Cascade Development | | State: WA | Sampling Point: SP15 |
| Investigator(s): Habitat Technologies | : | Section, Township, Range: <u>Sec 35 T2</u> | 20N R04E QT 12 |
| Landform (hillslope, terrace, etc.): valley | Local relief | (concave, convex, none): <u>flat</u> | Slope (%): <u><1%</u> |
| Subregion (LRR): A | Lat: | Long: | Datum: USGS |
| Soil Map Unit Name: Briscot Ioam | | NWI classifica | tion: somewhat poorly drained |
| Are climatic / hydrologic conditions on the site typical for this t | time of year? Yes 🛛 | No 🗌 (If no, explain in Remarks.) | |
| Are Vegetation, Soil, or Hydrology signif | icantly disturbed? | Are "Normal Circumstances" pres | ent? Yes 🛛 No 🗌 |
| Are Vegetation, Soil, or Hydrology natura | ally problematic? | (If needed, explain any answers in | Remarks.) |
| SUMMARY OF FINDINGS – Attach site map s | howing sampling | point locations, transects, | important features, etc. |
| | | | |

| Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? | Yes | Is the Sampled Area within a Wetland? | Yes 🛛 | No 🗌 |
|---|-----------------------------------|---------------------------------------|-----------|------|
| Remarks: managed for annual agricu | ltural crop production and harves | t. shallow depression seasonally | saturated | |

| | Absolute | Dominant Indicator | Dominance Test worksheet: |
|--|----------------|------------------------|---|
| Tree Stratum (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species |
| 1 | | | That Are OBL, FACW, or FAC: (A) |
| 2 | | | Total Number of Dominant |
| 3 | | | Species Across All Strata: (B) |
| 4. | | | |
| | | = Total Cover | Percent of Dominant Species |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | |
| 1 | | | Prevalence Index worksheet: |
| 2. | | | Total % Cover of:Multiply by: |
| 3. | | | OBL species x 1 = |
| 4. | | | FACW species x 2 = |
| 5. | | | FAC species x 3 = |
| | | = Total Cover | FACU species x 4 = |
| Herb Stratum (Plot size: 15ft radius) | | | UPL species x 5 = |
| 1 | | | Column Totals: (A) (B) |
| 2 | | | |
| 3 | | | Prevalence Index = B/A = |
| 4 | | | Hydrophytic Vegetation Indicators: |
| 5 | | | Rapid Test for Hydrophytic Vegetation |
| 6. | | | Dominance Test is >50% |
| 7. | | | □ Prevalence Index is ≤3.0 ¹ |
| 8. | | | Morphological Adaptations ¹ (Provide supporting |
| 9 | | | data in Remarks or on a separate sheet) |
| 10 | | | Wetland Non-Vascular Plants ¹ |
| 10 | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| ···· | 100 | | ¹ Indicators of hydric soil and wetland hydrology must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | | be present, unless disturbed or problematic. |
| 1. | | | |
| 2 | | | Hydrophytic |
| £. | 0 | - Total Covor | |
| % Bare Ground in Herb Stratum | <u>U</u> | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pri | or to spring plowing a mixture of cover crop, herbs, and |
| grasses. | | . ,, | |

Sampling Point: SP15

| (inches) | Color (moist) | % | Colo | r (moist) | % | Type ¹ | Loc ² | Textu | re | Remarks |
|--|---|---|--|--|--|--|--|--------------------------------------|-----------------|--|
| 0-7 | <u>10YR 3/2</u> | 100 | | | | | | SL | | mixed sandy loam |
| 7-15 | 10YR 3/2 | 90 | | R 4/6 | 10 | D | М | SL | | mixed sandy loam |
| 15-24 | 10VR 1/2 | 80 | 1071 | 2 1/6 | 20 | | M | <u></u> | | mixed sandy loam |
| 15-24 | <u>101R 4/2</u> | _ <u>80</u> | <u> </u> | (4/0 | 20 | | | <u>3L</u> | | |
| | | | | | | | | | | |
| | | | | | | | | | | <u>-</u> |
| | · · · · · · · · · · · · · · · · · · · | _ | | | | | . <u></u> | | | |
| | | | | | | | | | | |
| Type: C=0 | Concentration, D=De | epletion, | RM=Red | uced Matrix, | CS=Cover | ed or Coat | ed Sand G | Grains. | ² Lo | ocation: PL=Pore Lining, M=Matrix. |
| lydric Soil | I Indicators: (Appl | icable to | all LRR | s, unless oth | nerwise no | oted.) | | Ir | ndicat | ors for Problematic Hydric Soils ³ : |
| Histoso | ol (A1) | | □ € | Sandy Redox | (S5) | | | C |] 2 c | m Muck (A10) |
| Histic E | pipedon (A2) | | | stripped Matri | ix (S6) | | | | Re | d Parent Material (TF2) |
| Black H | listic (A3) | | | .oamy Mucky | Mineral (F | -1) (excep | t MLRA 1) |) L | | ry Shallow Dark Surface (TF12) |
| _ Hydrogi ☑ Damlata | en Sulfide (A4) | (| | .oamy Gleyed | d Matrix (F | 2) | | L | Otr | ner (Explain in Remarks) |
| | ed Below Dark Surra | ce (ATT) | | Pepieted Mati | fix (F3) Surface (E6 | | | 31 | ndiaa | tors of hydrophytic vegetation and |
| | Mucky Mineral (S1) | | | Ceutox Dark 3 | |) (EZ) | | | nuica | and hydrology must be present |
| □ Sandy (| Gleved Matrix (S4) | | | Redox Depres | ssions (F8) |) | | | unle | ess disturbed or problematic |
| Postrictivo | Laver (if present): | | | | | / | | | | |
| veanienve | Eayer (II present). | | | | | | | | | |
| Type: | Eayer (il present). | | | | | | | | | |
| Type: Depth (ir | nches): | | | | | | | Hydr | ic So | il Present? Yes 🛛 No 🗌 |
| Type: Depth (ii | nches): | of hvdrid | | ated outside | of shallow | depressio | n | Hydr | ic So | il Present? Yes 🛛 No 🗌 |
| Type: Depth (in Remarks: p | nches): | of hydrid | c soils loc | ated outside | of shallow | depressio | n | Hydr | ic So | il Present? Yes 🛛 No 🗌 |
| Type: Depth (ii Remarks: p | nches): | of hydrid | c soils loc | ated outside | of shallow | depressio | n | Hydr | ic So | il Present? Yes 🛛 No 🗌 |
| Type: Depth (in Remarks: p | nches): | of hydrid | | ated outside | of shallow | depressio | n | Hydr | ic So | il Present? Yes 🛛 No 🗌 |
| Type: Depth (ii Remarks: p | nches): | of hydrid | c soils loc | ated outside | of shallow | depressio | n | Hydr | ic So | il Present? Yes 🛛 No 🗌 |
| Type: Depth (in Remarks: p | nches): prominent indicators GY | of hydrid | c soils loc | ated outside | of shallow | depressio | n | Hydr | ic So | il Present? Yes ⊠ No 🗌 |
| Type: Depth (in Remarks: p DROLOO Wetland Hy Primary Ind | nches): prominent indicators GY ydrology Indicators | of hydrid | c soils loc | ated outside | of shallow | depressio | n | Hydr | Seco | il Present? Yes ⊠ No □ |
| Depth (in Remarks: p DROLO Wetland Hy Primary Ind | GY ydrology Indicators Water (A1) | of hydrid | c soils loc | ated outside | of shallow | depressio | n except ML | Hydr | ic So | il Present? Yes ⊠ No □ ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1. |
| Type: Depth (in Remarks: p DROLOO Wetland Hy Primary Ind Surface High W | GY ydrology Indicators dicators (minimum of Water (A1) later Table (A2) | of hydrid S: one req | c soils loc | ated outside | of shallow ply) tained Lea 4A. and 4 | depressio | n except ML | Hydr RA | ic So | il Present? Yes ⊠ No □ pondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A. and 4B) |
| Type: Depth (in Depth (in Remarks: Primary Ind Primary Ind Surface High Watart | GY ydrology Indicators dicators (minimum of Water (A1) later Table (A2) ion (A3) | of hydrid S: one req | c soils loc | ated outside <u>ck all that ap</u> □ Water-St 1, 2, □ Salt Crus | of shallow pply) tained Lea 4A, and 4 | depressio ves (B9) (e B) | n except ML | Hydr Hydr | ic So | il Present? Yes ⊠ No □ ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) |
| Depth (in Remarks: p DROLOO Vetland Hy Primary Ind Surface High W Saturati | GY ydrology Indicators dicators (minimum of ater Table (A2) ion (A3) Varks (B1) | of hydrid | c soils loc | ated outside <u>ck all that ap</u> Water-St 1, 2, Salt Crus Aquatic I | of shallow pply) tained Lea 4A, and 4 st (B11) nvertebrat | depressio ves (B9) (e B) es (B13) | n except ML | RA | | il Present? Yes ⊠ No □ ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) |
| Type: Depth (in Remarks: p DROLO Vetland Hy Primary Ind Surface High W Saturati Water M Sedime | GY ydrology Indicators by Water (A1) vater Table (A2) ion (A3) Warks (B1) ent Deposits (B2) | of hydrid | c soils loc | ated outside | of shallow pply) tained Lea 4A, and 4 st (B11) nvertebrat n Sulfide C | depressio ves (B9) (e B) es (B13) Odor (C1) | n except ML | RA | | il Present? Yes ⊠ No □ ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C |
| Type: Depth (in Remarks: p TOROLOO Wetland Hy Primary Ind Surface High W Saturati Saturati Water N Sedime | GY ydrology Indicators by a constraint indicators gydrology Indicators dicators (minimum of Water (A1) water (A1) water Table (A2) ion (A3) Marks (B1) ent Deposits (B2) prosits (B3) | of hydrid | uired; che | ated outside eck all that ap Water-St 1, 2, Salt Crus Aquatic I Hydroge Oxidized | of shallow pply) tained Lea 4A, and 4 st (B11) nvertebrat n Sulfide C Rhizosph | ves (B9) (c B) es (B13) Odor (C1) eres along | n except ML | RA RA | | il Present? Yes ⊠ No □ ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Seomorphic Position (D2) |
| Type: Depth (in Remarks: p DROLOO Wetland Hy Primary Ind Surface High Wi Saturati Water N Sedime Drift De Algal M | GY ydrology Indicators GY ydrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) | of hydrid | c soils loc | ated outside | of shallow pply) tained Lea 4A, and 4 st (B11) nvertebrat n Sulfide C Rhizosph | depressio ves (B9) (6 B) es (B13) Odor (C1) eres along ced Iron (C | n except ML | RA bots (C3) | | il Present? Yes ⊠ No □ ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) |
| Type: Depth (in Remarks: p Depth (in Remarks: p DROLOO Wetland Hy Primary Ind Surface High W: Saturati Saturati Saturati Saturati Sedime Drift De Algal M | GY ydrology Indicators dicators (minimum of a Water (A1) dater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) aposits (B3) lat or Crust (B4) posits (B5) | of hydrid S: one req | c soils loc | ated outside | of shallow of shallow and the st (B11) nvertebrat n Sulfide C Rhizosph e of Reduc | depressio ves (B9) (6 B) es (B13) Odor (C1) eres along ced Iron (C tion in Tille | n except ML Living Rod 4) | RA ots (C3) 6) | | il Present? Yes ⊠ No □ ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) EAC-Neutral Test (D5) |
| Type: Depth (in Remarks: p //DROLOO //DROLO | GY ydrology Indicators dicators (minimum of Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) a Soil Cracks (B6) | of hydrid | c soils loc | ated outside | of shallow pply) tained Lea 4A, and 4 st (B11) nvertebrat n Sulfide C Rhizosph e of Reduc ron Reduc or Stresse | depressio ves (B9) (6 B) es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (F | n Except ML Living Rod 4) ed Soils (Cl 21) (LRR A | RA 6) | | il Present? Yes ⊠ No □ ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) |
| Type: Depth (in Remarks: p //DROLOG | GY ydrology Indicators grominent indicators grominent indicators grominent indicators grominent indicators dicators (minimum of water (A1) later Table (A2) ion (A3) warks (B1) warks (B1) warks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aerial | of hydrid s: one req | uired; che | ated outside ated outside ated outside water-St 1,2, Salt Crus Aquatic I Hydroge Oxidized Presence Stunted of Stunted of | of shallow pply) tained Lea 4A, and 4 st (B11) nvertebrat n Sulfide C Rhizosph e of Reduc ron Reduc or Stresse xplain in R | depressio ves (B9) (e B) es (B13) Odor (C1) eres along ced Iron (C tion in Tille d Plants (E emarks) | n Except ML Living Rod 4) ed Soils (Cd 2) (LRR A | RA 6) | | il Present? Yes ⊠ No □ ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |
| Type: Depth (in Remarks: p TOROLOO Wetland Hy Primary Ind Surface High W Saturati Water N Sedime Algal M Iron De Surface Inundat Sparsel | GY grominent indicators prominent indicators grominent indicators GY ydrology Indicators dicators (minimum of Water (A1) vater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) e Soil Cracks (B6) tion Visible on Aerial lat Venetated Concas | of hydrid s: one req Imagery | uired; che | ated outside ack all that ap Water-St 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent In Stunted of Other (E) | of shallow pply) tained Lea 4A, and 4 st (B11) nvertebrat n Sulfide C Rhizosph e of Reduc ron Reduc or Stresse xplain in R | depressio ves (B9) (e B) es (B13) Odor (C1) eres along ced Iron (C tion in Tille d Plants (E emarks) | n Except ML 4) ed Soils (Co 01) (LRR A | Hydr Hydr RA ots (C3) | | il Present? Yes ⊠ No □ ondary Indicators (2 or more required) water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |
| Type: Depth (in Remarks: p //DROLOO//DROLOO | GY ydrology Indicators GY ydrology Indicators dicators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) a Soil Cracks (B6) tion Visible on Aerial ly Vegetated Concaver ervations: | of hydrid s: one req Imagery /e Surfac | c soils loc uired; che ' (B7) >e (B8) | ated outside ack all that ap Water-St 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted of Other (E) | of shallow pply) tained Lea 4A, and 4 st (B11) nvertebrat n Sulfide C Rhizosph e of Reduc or Reduc or Stresse xplain in R | depressio ves (B9) (6 B) es (B13) Ddor (C1) eres along æd Iron (C tion in Tille d Plants (E emarks) | n Except ML Living Rod 4) ed Soils (Cd 01) (LRR A | RA ots (C3) 6) | | il Present? Yes ⊠ No □ Dindary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |
| Type: Depth (in Remarks: p //DROLOO Wetland Hy Primary Ind Surface High W: Saturati Saturati Saturati Saturati Saturati Surface Inundat Sparsel Field Obse | GY ydrology Indicators grominent indicators grominent indicators GY ydrology Indicators dicators (minimum of a Water (A1) dater Table (A2) ion (A3) Warks (B1) ent Deposits (B2) aposits (B3) lat or Crust (B4) posits (B5) a Soil Cracks (B6) tion Visible on Aerial ly Vegetated Concav ervations: ater Present? | of hydrid S: one req Imagery ve Surfac Yes [| c soils loc uired; che (B7) >e (B8) | ated outside ated outside ated outside Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Stunted of Other (E: | of shallow pply) tained Lea 4A, and 4 st (B11) nvertebrat n Sulfide C Rhizosph e of Reduc or Stresse xplain in R es): | depressio ves (B9) (6 B) es (B13) Odor (C1) eres along ced Iron (C tion in Tille d Plants (E emarks) | n Except ML Except ML Id Soils (Cd D1) (LRR A | Hydr Hydr RA ots (C3) 6) | | il Present? Yes ⊠ No □ ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |

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

Yes 🗌 No 🖾

Depth (inches):

Remarks: prominent field indicators of wetland hydrology documented early growing season. Dry on April 16, 2020. See spring 2020 monitoring data

Saturation Present?

Wetland Hydrology Present? Yes 🛛 No 🗌

| Project/Site: Western Portion of Parcel 0420351003 | City/County: Cit | y of Puyallup, Pierce County | Sampling Date: <u>16 APR 2020</u> |
|--|------------------------|---|-----------------------------------|
| Applicant/Owner: Cascade Development | | State: WA | Sampling Point: <u>SP2</u> |
| Investigator(s): Habitat Technologies | Sect | tion, Township, Range: <u>Sec 35 T2</u> | 0N R04E QT 12 |
| Landform (hillslope, terrace, etc.): valley | Local relief (cc | oncave, convex, none): <u>flat</u> | Slope (%): <u><1%</u> |
| Subregion (LRR): A | Lat: | Long: | Datum: USGS |
| Soil Map Unit Name: Briscot loam | | NWI classificat | on: somewhat poorly drained |
| Are climatic / hydrologic conditions on the site typical for this ti | me of year? Yes 🛛 🛛 No | o 🗌 (If no, explain in Remarks.) | |
| Are Vegetation, Soil, or Hydrology signific | cantly disturbed? | Are "Normal Circumstances" prese | ent? Yes 🛛 No 🗌 |
| Are Vegetation, Soil, or Hydrology natural | ly problematic? (I | If needed, explain any answers in | Remarks.) |
| SUMMARY OF FINDINGS – Attach site map sh | owing sampling po | oint locations, transects, | important features, etc. |
| | | | |

| Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? | Yes ∐ Yes □ Yes □ | No 🗌 No 🖾 No 🖾 | Is the Sampled Area within a Wetland? | Yes 🗌 | No 🖂 |
|---|-------------------------|------------------------|---------------------------------------|-------|------|
| Remarks: managed for annual agricultu | ral crop p | roduction and harvest. | | | |

| | Absolute | Dominant Indicator | Dominance Test worksheet: | |
|--|----------------|-----------------------|---|---------|
| Tree Stratum (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species | |
| 1 | | | That Are OBL, FACW, or FAC: | _ (A) |
| 2 | | | Total Number of Dominant | |
| 3 | | | Species Across All Strata: | (B) |
| 4 | | | | , |
| | | = Total Cover | Percent of Dominant Species | (A/B) |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | | _ (7,6) |
| 1 | | | Prevalence Index worksheet: | |
| 2 | | | Total % Cover of: Multiply by: | |
| 3. | | | OBL species x 1 = | |
| 4. | | | FACW species x 2 = | |
| 5 | | | FAC species x 3 = | |
| | | - Total Cover | FACU species x 4 = | |
| Herb Stratum (Plot size: 15ft radius) | | | $UPL species \qquad x 5 =$ | |
| 1 | _ | | Column Totals: (A) | (B) |
| 2. | | | | (D) |
| 3 | | | Prevalence Index = B/A = | - |
| 4 | | | Hydrophytic Vegetation Indicators: | |
| 5. | | | Rapid Test for Hydrophytic Vegetation | |
| 6. | | | Dominance Test is >50% | |
| 7. | | | ☐ Prevalence Index is ≤3.0 ¹ | |
| 8 | | | Morphological Adaptations ¹ (Provide supp | orting |
| a | | | data in Remarks or on a separate shee | et) |
| 3 | | | Wetland Non-Vascular Plants ¹ | |
| | | | Problematic Hydrophytic Vegetation ¹ (Exp | lain) |
| 11 | 400 | | ¹ Indicators of hydric soil and wetland hydrolog | y must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | = Total Cover | be present, unless disturbed or problematic. | |
| 1 | | | | |
| 1 | | | Hydrophytic | |
| ۷ | 0 | | Vegetation | |
| % Bare Ground in Herb Stratum | 0 | = Total Cover | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pr | ior to spring plowing a mixture of cover crop, her | bs. and |
| grasses. | | | | |

Sampling Point: SP2

| (inches) | Color (moist) | % | Colo | or (moist) | % | Type ¹ | Loc ² | Texture | <u>e</u> | | Remarks | |
|--|---|-----------------------------------|--|---|--|-------------------------|---------------------|---------------|--|---|--|---|
| 0-12 | <u>10YR 3/3</u> | 100 | | | | | | SL | | mixed sand | y loam | |
| 12-24 | <u>10YR 3/3</u> | 100 | | | | | | GSL | | mixed sand | y loam wi | th gravel fill |
| | | | | | | | | | | | | |
| Type: C=0 | Concentration, D=De | pletion, | RM=Rec | duced Matrix, | CS=Covered | d or Coate | ed Sand G | rains. | ² Loc | ation: PL=P | ore Lining | g, M=Matrix. |
| Hydric Soi | Indicators: (Appli | cable to | all LRR | ts, unless oth | erwise not | ed.) | | In | dicato | rs for Proble | ematic H | ydric Soils ³ : |
| Histoso Histic E Black H Hydrog Deplete Thick D Sandy I Sandy (| pipedon (A2) istic (A3) en Sulfide (A4) d Below Dark Surfac ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) | xe (A11) | | Sandy Redox Stripped Matri Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark S Depleted Dark Redox Depres | (S5) Mineral (F1 Matrix (F2) iurface (F3) Surface (F6) Surface (F8) |) (except) 7) | MLRA 1) | □ □ 3In | Z cm Red Very Othe othe dicator wetlar unless | Parent Mate Shallow Dar r (Explain in rs of hydroph nd hydrology s disturbed c | rial (TF2) k Surface Remarks) nytic vege r must be or problem | e (TF12)) tation and present, natic. |
| Restrictive | Layer (if present): | | | | | | | | | | | |
| Type: | | | | _ | | | | | | | | |
| Depth (ii | nches): | | | - | | | | Hydri | c Soil | Present? | Yes 🗌 | No 🖂 |
| | GY | | | | | | | | | | | |
| Wetland Hy | vdrology Indicators | <u> </u> | | | | | | | | | | |
| Primary Ind | icators (minimum of | one rear | uired: ch | eck all that ap | vla | | | | Secon | darv Indicate | ors (2 or n | nore required) |
| Surface | Water (A1) ater Table (A2) | · · · · | , . | □ Water-St 1. 2. | ained Leave | es (B9) (e) | xcept MLF | RA | 🗌 Wa | ater-Stained 4A. and 4E | Leaves (E | B9) (MLRA 1, 2 |
| Saturati | on (A3) | | | Salt Crus | st (B11) | | | | Dr. | ainage Patte | <i>.</i> erns (B10) | |
| Water N | /larks (B1) | | | Aquatic I | nvertebrates | s (B13) | | | Dr | y-Season W | ater Table | e (C2) |
| Sedime | nt Deposits (B2) | | | Hydroge | n Sulfide Od | lor (C1) | | | 🗌 Sa | turation Visi | ble on Ae | rial Imagery (C |
| Drift De | posits (B3) | | | Oxidized | Rhizospher | res along | Living Roo | ots (C3) | 🗌 Ge | omorphic P | osition (D | 2) |
| Algal M | at or Crust (B4) | | | | e of Reduce | d Iron (C4 | l) | | ☐ Sh | allow Aquita | rd (D3) | |
| | posits (B5) | | | Recent li | ron Reductio | on in Tille | d Soils (C6 | 5) | ∐ FA | C-Neutral T | est (D5) | |
| Iron De | | | | ☐ Stunted | or Stressed | Plants (D | 1) (LRR A) |) | ∐ Ra | ised Ant Mo | unds (D6) |) (LRR A) |
| Iron De | Soil Cracks (B6) | | (| | | | | | | set Lleave Ll | | |
| Iron De Surface Inundat | Soil Cracks (B6) ion Visible on Aerial | Imagery | (B7) | Other (E | xplain in Rei | marks) | | | | JSI-I leave I I | ummocks | (D7) |
| Iron De Surface Inundat Sparsel | Soil Cracks (B6) ion Visible on Aerial y Vegetated Concav | Imagery e Surfac | (B7) e (B8) | U Other (E | xplain in Rei | marks) | | | | JSI-Heave H | ummocks | (D7) |
| Iron De Surface Inundat Sparsel Field Obse | Soil Cracks (B6) ion Visible on Aerial y Vegetated Concav rvations: | Imagery e Surfac | (B7) e (B8) | ☐ Other (E: | xplain in Rei | marks) | | | | | | (D7) |
| Iron De Surface Inundat Sparsel Field Obse Surface Wa | Soil Cracks (B6) ion Visible on Aerial y Vegetated Concav rvations: iter Present? | Imagery e Surfac Yes 🗌 | (B7) e (B8) | Depth (inch | xplain in Rei | marks) | | | | | ummocks | - (D7) |
| Iron De Surface Inundat Sparsel Field Obse Surface Wa Water Table | Soil Cracks (B6) ion Visible on Aerial y Vegetated Concav rvations: iter Present? | Imagery e Surfac Yes Yes | (B7) e (B8) No No No No No No No No No No | Depth (inch | xplain in Rei es): es): | marks) | | | | | | (D7) |

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

Remarks: No prominent field indicators of wetland hydrology. See spring 2020 monitoring data

| Project/Site: Western Portion of Parcel 0420351003 | City/County: | City of Puyallup, Pierce County | Sampling Date: 16 APR 2020 |
|--|-------------------------|--|-------------------------------|
| Applicant/Owner: Cascade Development | | State: WA | Sampling Point: SP3 |
| Investigator(s): Habitat Technologies | S | Section, Township, Range: <u>Sec 35 T2</u> | 20N R04E QT 12 |
| Landform (hillslope, terrace, etc.): valley | Local relief | (concave, convex, none): flat | Slope (%): <u><1%</u> |
| Subregion (LRR): A | Lat: | Long: | Datum: USGS |
| Soil Map Unit Name: Briscot Ioam | | NWI classifica | tion: somewhat poorly drained |
| Are climatic / hydrologic conditions on the site typical for the | nis time of year? Yes 🛛 | No [] (If no, explain in Remarks.) | |
| Are Vegetation, Soil, or Hydrology si | gnificantly disturbed? | Are "Normal Circumstances" pres | ent? Yes 🛛 No 🗌 |
| Are Vegetation, Soil, or Hydrology na | turally 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? Hydric Soil Present? Wetland Hydrology Present? | Yes ∐ Yes □ Yes □ | No 🗌 No 🖾 No 🖾 | Is the Sampled Area within a Wetland? | Yes 🗌 | No 🖂 |
|---|-------------------------|------------------------|---------------------------------------|-------|------|
| Remarks: managed for annual agricultu | ral crop p | roduction and harvest. | | | |

| | Absolute | Dominant Indicator | Dominance Test worksheet: | |
|--|----------------|-----------------------|---|---------|
| Tree Stratum (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species | |
| 1 | | | That Are OBL, FACW, or FAC: | _ (A) |
| 2 | | | Total Number of Dominant | |
| 3 | | | Species Across All Strata: | (B) |
| 4 | | | | , |
| | | = Total Cover | Percent of Dominant Species | (A/B) |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | | _ (7,6) |
| 1 | | | Prevalence Index worksheet: | |
| 2 | | | Total % Cover of: Multiply by: | |
| 3. | | | OBL species x 1 = | |
| 4. | | | FACW species x 2 = | |
| 5 | | | FAC species x 3 = | |
| | | - Total Cover | FACU species x 4 = | |
| Herb Stratum (Plot size: 15ft radius) | | | $UPL species \qquad x 5 =$ | |
| 1 | _ | | Column Totals: (A) | (B) |
| 2. | | | | (D) |
| 3 | | | Prevalence Index = B/A = | - |
| 4 | _ | | Hydrophytic Vegetation Indicators: | |
| 5. | | | Rapid Test for Hydrophytic Vegetation | |
| 6. | | | Dominance Test is >50% | |
| 7. | | | ☐ Prevalence Index is ≤3.0 ¹ | |
| 8 | | | Morphological Adaptations ¹ (Provide supp | orting |
| a | | | data in Remarks or on a separate shee | et) |
| 3 | | | Wetland Non-Vascular Plants ¹ | |
| | | | Problematic Hydrophytic Vegetation ¹ (Exp | lain) |
| 11 | 400 | | ¹ Indicators of hydric soil and wetland hydrolog | y must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | = Total Cover | be present, unless disturbed or problematic. | |
| 1 | | | | |
| 1 | | | Hydrophytic | |
| ۷ | 0 | | Vegetation | |
| % Bare Ground in Herb Stratum | 0 | = Total Cover | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pr | ior to spring plowing a mixture of cover crop, her | bs. and |
| grasses. | | | | |

Sampling Point: SP3

| | Color (moist) | % | Colo | or (moist) | % | Type ¹ | Loc ² | Texture | Remarks |
|---|--|--|--|--|--|--|--|---|---|
|)-9 | 10YR 3/3 | 100 | | | | | | SL | mixed sandy loam |
|)-24 | 10YR 3/3 | 90 | | | | | | GSL | mixed sandy loam with gravel fill |
| | | | | | | | | | |
| Гуре: C=C | Concentration, D=D | epletion, | | duced Matrix, C | S=Covered | or Coate | ed Sand G | rains. | ² Location: PL=Pore Lining, M=Matrix. |
| lydric Soil | Indicators: (Appl | icable to |) all LRR | s, unless oth | erwise note | d.) | | Indi | cators for Problematic Hydric Soils ³ : |
| _ Histosol | (A1) | | | Sandy Redox (| S5) | | | | 2 cm Muck (A10) |
| Histic E | pipedon (A2) | | | Stripped Matrix | (S6) | / / | | | Red Parent Material (TF2) |
| | ISTIC (A3) on Sulfido (A4) | | | Loamy Mucky | Motrix (F1) | (except | MILRA 1) | | Othor (Explain in Romarks) |
| _ Tiyuloge _ Denlete | d Below Dark Surfa | ce (A11) | | Depleted Matri | wanx (F2) x (F3) | | | | |
| Thick D | ark Surface (A12) | 00 (7117) | | Redox Dark Si | urface (F6) | | | ³ Ind | cators of hydrophytic vegetation and |
| Sandy N | Aucky Mineral (S1) | | | Depleted Dark | Surface (F7 |) | | v | vetland hydrology must be present, |
| Sandy C | Gleyed Matrix (S4) | | | Redox Depres | sions (F8) | , | | U | nless disturbed or problematic. |
| Restrictive | Layer (if present) | | | | | | | | |
| Type: | | | | _ | | | | | |
| Depth (ir | nches): | | | - | | | | Hydric | Soil Present? Yes 🗌 No 🖂 |
| | | | | | | | | | |
| | 27 | | | | | | | | |
| DROLO | GY /drology Indicator | s: | | | | | | | |
| DROLO(Wetland Hy Primary Ind | GY /drology Indicator icators (minimum o | s: f one reg | Jired; ch | eck all that app | | | | s | econdary Indicators (2 or more required) |
| DROLO(Wetland Hy Primary Ind □ Surface | GY /drology Indicator icators (minimum o Water (A1) | s: f one req | uired; ch | eck all that app | ווחפd Leaves | s (B9) (e | kcept MLI | <u>S</u> | econdary Indicators (2 or more required)] Water-Stained Leaves (B9) (MLRA 1. |
| DROLOO Wetland Hy Primary Ind Surface High Wa | GY /drology Indicator icators (minimum o Water (A1) ater Table (A2) | s: f one req | uired; ch | eck all that app | hined Leaves A, and 4B) | s (B9) (e | kcept MLI | <u>S</u> RA [| econdary Indicators (2 or more required)] Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) |
| DROLOG Wetland Hy Primary Ind Surface High Wa Saturati | GY vdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) | s: f one req | uired; ch | eck all that app | אוץ) ined Leaves A, and 4B) (B11) | s (B9) (e | kcept MLI | <u>S</u> RA [| econdary Indicators (2 or more required)] Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B)] Drainage Patterns (B10) |
| DROLOC Wetland Hy Primary Ind Surface High Wa Saturati Water M | GY /drology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) | s: f one req | uired; ch | eck all that app Water-Sta 1, 2, 4 Salt Crust | hly) ined Leaves A, and 4B) (B11) vertebrates | s (B9) (e : (B13) | xcept MLI | <u>S</u> RA [| econdary Indicators (2 or more required)] Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B)] Drainage Patterns (B10)] Dry-Season Water Table (C2) |
| DROLO(Wetland Hy Primary Ind Surface High Wa Saturati Water M Sedime | GY vdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) | s: f one req | uired; ch | eck all that app Water-Sta 1, 2, 4 Salt Cruss Aquatic Ir Hydrogen | bly) hined Leaves (A, and 4B) (B11) vertebrates Sulfide Odo | s (B9) (e : (B13) or (C1) | kcept MLI | <u> </u> | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C |
| DROLOO Vetland Hy Primary Ind Surface High Wa Saturati Water M Sedime Drift De | GY /drology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) | s: f one req | uired; ch | eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized | <u>ماین</u> ined Leaves A, and 4B) (B11) ivertebrates Sulfide Odo Rhizosphere | s (B9) (e (B13) or (C1) es along | ccept MLI | <u>S</u> RA [[uts (C3) [| econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 4A , and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C) Geomorphic Position (D2) |
| DROLOC Vetland Hy Primary Ind Surface High Wa Saturati Water M Sedime Drift De Algal Ma | GY vdrology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3) 1arks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) | s: f one req | uired; ch | eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic Ir Hydrogen Oxidized Presence | Ained Leaves A, and 4B) (B11) (Vertebrates Sulfide Odo Rhizosphere of Reduced | s (B9) (e : (B13) or (C1) ss along Iron (C4 | ccept MLI | <u>S</u> RA [[uts (C3) [| econdary Indicators (2 or more required)] Water-Stained Leaves (B9) (MLRA 1 , 4A , and 4B)] Drainage Patterns (B10)] Dry-Season Water Table (C2)] Saturation Visible on Aerial Imagery (C] Geomorphic Position (D2)] Shallow Aquitard (D3) |
| DROLOC Vetland Hy Primary Ind Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron Dep | GY vdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) | s: f one req | uired; ch | eck all that app Water-Sta 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Irc | bly) ained Leaves A, and 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced on Reductior | (B13) (B13) or (C1) es along Iron (C4 n in Tilleo | kcept MLI Living Roc) d Soils (C6 | RA [ts (C3) [) [| econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) |
| DROLOO Wetland Hy Primary Ind Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron De Surface | GY vdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) | s: f one req | uired; ch | eck all that app Water-Sta 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o | bly) ained Leaves (A, and 4B) (B11) (Vertebrates Sulfide Odo Rhizosphere of Reduced on Reductior r Stressed P | (B13) or (C1) s along Iron (C4 n in Tilleo Plants (D | Living Roc) d Soils (Cé 1) (LRR A | S S RA C Its (C3) C Its (C3) C Its (C3) C | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) |
| DROLOO Wetland Hy Primary Ind Surface High Wa Saturati Water N Sedime Drift De Algal Ma Iron De Surface Inundation | GY /drology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria | s: f one req | uired; ch | eck all that app Water-Sta Salt Cruss Salt Cruss Aquatic Ir Hydrogen Oxidized Presence Recent Ird Stunted o Other (Ex | ained Leaves A, and 4B) (B11) vertebrates Sulfide Odd Rhizosphere of Reduced on Reductior r Stressed P plain in Rem | (B13) or (C1) as along Iron (C4 n in Tilleo Plants (D narks) | Living Roc) d Soils (C6 1) (LRR A | <u>S</u> RA [ots (C3) [) [| econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |
| DROLOO Wetland Hy Primary Ind Surface High Wa Saturati Water N Sedime Drift De Algal Ma Iron Dep Surface Inundati Sparse! | GY vdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Conca | s: f one req I Imagery ve Surfac | <u>uired; ch</u> (B7) ≈ (B8) | eck all that app Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Irc Stunted o Other (Ex | Aly) ained Leaves A, and 4B) (B11) (Vertebrates Sulfide Odo Rhizosphere of Reduced on Reductior r Stressed P plain in Rem | s (B9) (e: (B13) or (C1) is along Iron (C4 n in Tilleo Plants (D narks) | Living Roc) J Soils (C6 1) (LRR A | RA [ts (C3) [) [| econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 4A , and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |
| | GY vdrology Indicator icators (minimum or Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) fon Visible on Aeria y Vegetated Conca rvations: | s: f one req I Imagery ve Surfac | <u>uired; ch</u> (B7) xe (B8) | eck all that apr Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Irc Stunted o Other (Ex | bly) ained Leaves A, and 4B) (B11) (Vertebrates Sulfide Odo Rhizosphere of Reduced on Reductior r Stressed P plain in Rem | s (B9) (e (B13) or (C1) es along Iron (C4 n in Tilleo Plants (D harks) | Living Roc) J Soils (Ce 1) (LRR A | S RA [[] ots (C3) []]] | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 4A , and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |
| | GY vdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Conca rvations: ter Present? | s: f one req I Imagery ve Surfac Yes 🗆 | <u>uired; ch</u> (B7) :e (B8) No [] | eck all that app Water-Sta 1, 2, 4 Salt Cruss Aquatic Ir Hydrogen Oxidized Presence Recent Ird Stunted o Other (Ex | bly) ained Leaves (A, and 4B) (B11) (vertebrates Sulfide Odd Rhizosphere of Reduced on Reductior r Stressed P plain in Rem | s (B9) (e (B13) or (C1) or (C1) Iron (C4 n in Tilleo Plants (D harks) | kcept MLI Living Roc) d Soils (Cé 1) (LRR A | <u>S</u> RA [ots (C3) [) [) [| <u>econdary Indicators (2 or more required)</u> Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |
| | GY /drology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Conca rvations: ter Present? Present? | s: f one req f one req Yes Surfac Yes Yes | uired; ch (B7) xe (B8) No □ No ⊠ | eck all that app Water-Sta 3 Salt Crus Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex Depth (inche | Alp) Ained Leaves A, and 4B) (B11) wertebrates Sulfide Odo Rhizosphere of Reduced on Reductior r Stressed P plain in Rem (s): (s): | (B13) or (C1) es along Iron (C4 n in Tilleo Plants (D narks) | Living Roc) d Soils (C6 1) (LRR A | <u>S</u> RA [ots (C3) [) [) [| econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |

Remarks: No prominent field indicators of wetland hydrology. See spring 2020 monitoring data

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

(includes capillary fringe)

| Project/Site: Western Portion of Parcel 0420351003 | City/County: City of Puyallup, Pierce County | Sampling Date: <u>16 APR 2020</u> | | | | | | |
|---|--|-----------------------------------|--|--|--|--|--|--|
| Applicant/Owner: Cascade Development | State: WA | _ Sampling Point: <u>SP4</u> | | | | | | |
| Investigator(s): Habitat Technologies | Section, Township, Range: Sec 35 | T20N R04E QT 12 | | | | | | |
| Landform (hillslope, terrace, etc.): valley | Local relief (concave, convex, none): flat | Slope (%): <u><1%</u> | | | | | | |
| Subregion (LRR): A Lat: | Long: | Datum: USGS | | | | | | |
| Soil Map Unit Name: Briscot loam | NWI classific | cation: somewhat poorly drained | | | | | | |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes 🛛 No 🗌 (If no, explain in Remarks.) | | | | | | | | |
| Are Vegetation, Soil, or Hydrology significantly | v disturbed? Are "Normal Circumstances" pre | esent? Yes 🛛 No 🗌 | | | | | | |
| Are Vegetation, Soil, or Hydrology naturally pro | blematic? (If needed, explain any answers | in Remarks.) | | | | | | |
| SUMMARY OF FINDINGS – Attach site map showing | ng sampling point locations, transects | s, important features, etc. | | | | | | |
| Hydrophytic Vegetation Present? Yes 🗌 No 🗌 | Is the Sampled Area | | | | | | | |

| Hydric Soil Present? Wetland Hydrology Present? | Yes □ No ⊠ Yes □ No ⊠ | is the Sampled Area within a Wetland? | Yes 🗌 No 🖾 | |
|--|--------------------------|--|------------|--|
| Remarks: managed for annual agricultu | ral crop production | and harvest. | | |

| | Absolute | Dominant Indicator | Dominance Test worksheet: |
|--|----------------|------------------------|---|
| Tree Stratum (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species |
| 1 | | | That Are OBL, FACW, or FAC: (A) |
| 2 | | | Total Number of Dominant |
| 3 | | | Species Across All Strata: (B) |
| 4. | | | |
| | | = Total Cover | Percent of Dominant Species |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | |
| 1 | | | Prevalence Index worksheet: |
| 2. | | | Total % Cover of: Multiply by: |
| 3 | | | OBL species x 1 = |
| 4. | | | FACW species x 2 = |
| 5. | | | FAC species x 3 = |
| | | = Total Cover | FACU species x 4 = |
| Herb Stratum (Plot size: 15ft radius) | | | UPL species x 5 = |
| 1 | | | Column Totals: (A) (B) |
| 2 | | | |
| 3 | | | Prevalence Index = B/A = |
| 4 | | | Hydrophytic Vegetation Indicators: |
| 5 | | | Rapid Test for Hydrophytic Vegetation |
| 6. | | | Dominance Test is >50% |
| 7. | | | □ Prevalence Index is ≤3.0 ¹ |
| 8. | | | ☐ Morphological Adaptations ¹ (Provide supporting |
| 9 | | | data in Remarks or on a separate sheet) |
| 10 | | | Wetland Non-Vascular Plants ¹ |
| 10 | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 11: | 400 | | ¹ Indicators of hydric soil and wetland hydrology must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | = Total Cover | be present, unless disturbed or problematic. |
| 1 | | | |
| 2 | | | Hydrophytic |
| ۲ | 0 | Total Cover | Vegetation |
| % Bare Ground in Herb Stratum | <u>U</u> | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pri | ior to spring plowing a mixture of cover crop, herbs, and |
| grasses. | | , | |

Sampling Point: SP4

| nches) Color (moist) % Color (moist) % Type! Loc2 Texture Remarks 13 10YR 3/3 100 | Depth | Matrix | | Re | dox Featur | es | | | |
|---|------------|-----------------------|-------------|-------------------------|-------------|-------------------|------------------|------------------------|--|
| 13 10YR 3/3 100 | (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | Texture | Remarks |
| 3-24 10YR 3/3 90 10YR 4/2 10 D M SL mixed sandy loam | -13 | <u>10YR 3/3</u> | 100 | <u> </u> | | | | SL | mixed sandy loam |
| ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matr ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. sardy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. strictive Layer (if present): Type: | 3-24 | <u>10YR 3/3</u> | 90 | <u>10YR 4/2</u> | <u>10</u> | <u>D</u> | <u>M</u> | <u>SL</u> | mixed sandy loam |
| ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) I Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) I Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) unless disturbed or problematic. satrictive Layer (if present): Type: thydric Soil Present? Yes Type: | | | | | | | | | |
| ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Indicators of hydrophytic vegetation and surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if present): Type: | | | | | | | | | |
| ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Histosol (A1) Sandy Redox (S5) Indicators for Problematic Hydric Soil Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if present): Type: | | | | | | | | | |
| ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix reduced Solution (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Indicators for Problematic Hydric Soil Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) ³ Indicators of hydrophytic vegetation and sold hydrology must be present, unless disturbed or problematic. sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. strictive Layer (if present): Type: | | | | | | | | | |
| ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Histosol (A1) Sandy Redox (S5) Indicators for Problematic Hydric Soil Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. strictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No ix | | | | | | | | | |
| ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Histosol (A1) Sandy Redox (S5) 1 comy Mucky Stripped Matrix (S6) Red Parent Material (TF2) Histic Epipedon (A2) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Type: Depth (inches): Depth (inches): No 🖂 | ype: C=0 | Concentration, D=De | epletion, F | M=Reduced Matrix, | CS=Cover | ed or Coat | ed Sand G | irains. ² L | ocation: PL=Pore Lining, M=Matrix. |
| Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Strictive Layer (if present): Type: Pepth (inches): Yes No 🛛 | dric Soi | I Indicators: (Appl | icable to | all LRRs, unless ot | nerwise no | oted.) | | Indica | tors for Problematic Hydric Soils ³ : |
| Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. estrictive Layer (if present): Type: Depth (inches): Mo 🛛 | Histoso | ol (A1) | | Sandy Redox | (S5) | | | 20 | cm Muck (A10) |
| Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Type: | Histic E | Epipedon (A2) | | Stripped Matr | ix (S6) | | | 🗌 Re | ed Parent Material (TF2) |
| Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Indicators of hydrophytic vegetation and wetland hydrology must be present, wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Strictive Layer (if present): Type: Hydric Soil Present? Yes No 🛛 | Black ⊢ | listic (A3) | | Loamy Mucky | Mineral (F | 1) (excep | t MLRA 1) | 🗌 Ve | ry Shallow Dark Surface (TF12) |
| Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. strictive Layer (if present): Type: Hydric Soil Present? Yes No 🛛 |] Hydrog | en Sulfide (A4) | | Loamy Gleye | d Matrix (F | 2) | | 🗌 Ot | her (Explain in Remarks) |
| Thick Dark Surface (A12) Redox Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. strictive Layer (if present): Type: Hydric Soil Present? Yes No 🛛 |] Deplete | ed Below Dark Surfa | ce (A11) | Depleted Mat | rix (F3) | | | | |
| Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. estrictive Layer (if present): Type: Hydric Soil Present? Yes No 🛛 |] Thick D | Dark Surface (A12) | | Redox Dark S | Surface (F6 |) | | ³ Indica | ators of hydrophytic vegetation and |
| Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. estrictive Layer (if present): Type: Hydric Soil Present? Yes No 🛛 Depth (inches): Hydric Soil Present? Yes No 🕅 |] Sandy I | Mucky Mineral (S1) | | Depleted Dar | k Surface (| F7) | | wet | land hydrology must be present, |
| Estrictive Layer (if present): Hydric Soil Present? Yes No |] Sandy | Gleyed Matrix (S4) | | Redox Depre | ssions (F8) | | | unl | ess disturbed or problematic. |
| Type: Hydric Soil Present? Yes No No | estrictive | e Layer (if present): | | | | | | | |
| Depth (inches): Hydric Soil Present? Yes No | Type: | | | | | | | | |
| | Depth (i | nches): | | | | | | Hydric So | oil Present? Yes 🗌 No 🖂 |
| emarks: NO prominent indicators of hydric soils | emarks: N | NO prominent indicat | tors of hyd | fric soils | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | DROLO | GY | | | | | | | |
| | Vetland H | ydrology Indicators | 5: | | | | | | |
| ROLOGY etland Hydrology Indicators: | rimary Inc | dicators (minimum of | one requ | ired; check all that ap | oply) | | | Sec | ondary Indicators (2 or more required |
| PROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) | | | | | | | | | |

| Surface Water (A1) | | | □ Water-Stained Leaves (B9) (except | ot MLRA | U Water-Stained Leaves (B9) (MLRA 1, 2, |
|--|------------|-----------|---|-------------------|---|
| High Water Table (A2) | | | 1, 2, 4A, and 4B) | | 4A, and 4B) |
| Saturation (A3) | | | Salt Crust (B11) | | Drainage Patterns (B10) |
| Water Marks (B1) | | | Aquatic Invertebrates (B13) | | Dry-Season Water Table (C2) |
| Sediment Deposits (B2) | | | Hydrogen Sulfide Odor (C1) | | Saturation Visible on Aerial Imagery (C9) |
| Drift Deposits (B3) | | | Oxidized Rhizospheres along Livir | ng Roots (C3) | Geomorphic Position (D2) |
| Algal Mat or Crust (B4) | | | Presence of Reduced Iron (C4) | | Shallow Aquitard (D3) |
| Iron Deposits (B5) | | | Recent Iron Reduction in Tilled So | ils (C6) | ☐ FAC-Neutral Test (D5) |
| Surface Soil Cracks (B6) | | | Stunted or Stressed Plants (D1) (L | .RR A) | Raised Ant Mounds (D6) (LRR A) |
| Inundation Visible on Aeria | al Imagery | / (B7) | Other (Explain in Remarks) | | Frost-Heave Hummocks (D7) |
| Sparsely Vegetated Conc | ave Surfac | ce (B8) | | | |
| Field Observations: | | | | | |
| Surface Water Present? | Yes 🗌 | No 🗌 | Depth (inches): | | |
| Water Table Present? | Yes 🗌 | No 🖂 | Depth (inches): | | |
| Saturation Present? (includes capillary fringe) | Yes 🗌 | No 🖂 | Depth (inches): | Wetland Hy | drology Present? Yes 🗌 No 🛛 |
| Describe Recorded Data (stre | am gauge | e, monito | ring well, aerial photos, previous inspec | tions), if availa | able: |
| | | | | | |
| Remarks: No prominent field i | ndicators | of wetlar | nd hydrology. See spring 2020 monitori | ng data | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Project/Site: Western Portion of Parcel 0420351003 | City/County: C | ity of Puyallup, Pierce County | Sampling Date: <u>16 APR 2020</u> | | | | | |
|---|--------------------|--|-----------------------------------|--|--|--|--|--|
| Applicant/Owner: Cascade Development | | State: WA | Sampling Point: <u>SP5</u> | | | | | |
| Investigator(s): Habitat Technologies | Se | ction, Township, Range: <u>Sec 35 T2</u> | 0N R04E QT 12 | | | | | |
| Landform (hillslope, terrace, etc.): valley | Local relief (c | concave, convex, none): <u>flat</u> | Slope (%): <u><1%</u> | | | | | |
| Subregion (LRR): A | _at: | Long: | Datum: USGS | | | | | |
| Soil Map Unit Name: Briscot Ioam | | NWI classificat | ion: somewhat poorly drained | | | | | |
| Are climatic / hydrologic conditions on the site typical for this tir | ne of year?Yes 🛛 🛛 | No 🔲 (If no, explain in Remarks.) | | | | | | |
| Are Vegetation, Soil, or Hydrology signific | antly disturbed? | Are "Normal Circumstances" prese | ent? Yes 🛛 No 🗌 | | | | | |
| Are Vegetation, Soil, or Hydrology natural | y 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? Hydric Soil Present? Wetland Hydrology Present? | Yes ∐ Yes □ Yes □ | No 🗌 No 🖾 No 🖾 | Is the Sampled Area within a Wetland? | Yes 🗌 | No 🖂 |
|---|-------------------------|------------------------|---------------------------------------|-------|------|
| Remarks: managed for annual agricultu | ral crop p | roduction and harvest. | | | |

| | Absolute | Dominant Indicator | Dominance Test worksheet: | |
|--|----------------|------------------------|---|-----------|
| Tree Stratum (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species | |
| 1 | | | That Are OBL, FACW, or FAC: | (A) |
| 2 | | | Total Number of Dominant | |
| 3 | | | Species Across All Strata: | (B) |
| 4 | | | | |
| | | = Total Cover | That Are OBL FACW or FAC | (A/B) |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | | _ (////// |
| 1 | | | Prevalence Index worksheet: | |
| 2 | | | Total % Cover of: Multiply by: | |
| 3 | | | OBL species x 1 = | |
| 4. | | | FACW species x 2 = | |
| 5. | | | FAC species x 3 = | |
| | | = Total Cover | FACU species x 4 = | |
| Herb Stratum (Plot size: 15ft radius) | | | UPL species x 5 = | |
| 1 | | | Column Totals: (A) | (B) |
| 2 | | | | (-) |
| 3 | | | Prevalence Index = B/A = | |
| 4 | | | Hydrophytic Vegetation Indicators: | |
| 5. | | | Rapid Test for Hydrophytic Vegetation | |
| 6. | | | Dominance Test is >50% | |
| 7. | | | ☐ Prevalence Index is ≤3.0 ¹ | |
| 8. | | | Morphological Adaptations ¹ (Provide supp | orting |
| 9 | | | data in Remarks or on a separate shee | et) |
| 10 | | | Wetland Non-Vascular Plants ¹ | |
| 10 | | | Problematic Hydrophytic Vegetation ¹ (Exp | lain) |
| · · · · · · · · · · · · · · · · · · · | 400 | Total Causer | ¹ Indicators of hydric soil and wetland hydrolog | y must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | = Total Cover | be present, unless disturbed or problematic. | |
| 1 | | | | |
| 2 | | | Hydrophytic | |
| ۲ | 0 | - Total Covar | Vegetation Present? Ves No | |
| % Bare Ground in Herb Stratum | <u>u</u> | | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pri | or to spring plowing a mixture of cover crop, her | bs, and |
| grasses. | | | | |

Sampling Point: SP5

| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | Texture | Remarks |
|---|--|--|---|--|---|--|--|--|
| 0-24 | <u>10YR 3/3</u> | 100 | | | | | SL | mixed sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | . <u> </u> | | | |
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| | | | | | | | | |
| | | | | | - <u> </u> | | | |
| | Concontration D-Do | | -Poducod Mat | | d or Coat | | | ² castion: DL-Doro Lining M-Matrix |
| ydric Soil | Indicators: (Applie | cable to a | II LRRs, unless | otherwise not | ed.) | Su Sanu Gi | Indic | cators for Problematic Hydric Soils ³ : |
|] Histosol | (A1) | | Sandy Re | dox (S5) | | | □ 2 | 2 cm Muck (A10) |
|] Histic Ep | pipedon (A2) | | Stripped N | latrix (S6) | | | 🗌 F | Red Parent Material (TF2) |
| Black Hi | istic (A3) | | 🔲 Loamy Mu | cky Mineral (F1 |) (except | MLRA 1) | | /ery Shallow Dark Surface (TF12) |
| Hydroge | en Sulfide (A4) | (.) | Loamy Gle | yed Matrix (F2) |) | | | Other (Explain in Remarks) |
| Deplete | d Below Dark Surfac | æ (A11) | | Aatrix (F3) | | | ناء ما: | |
| | ark Surface (A12) | | | K Surface (F6) | 7) | | °India | cators of hydrophytic vegetation and |
| _ Sandy № □ Sandy Ø | Played Matrix (S4) | | | Jark Surface (F | /) | | W | eliand hydrology must be present, |
| Candy C | Laver (if present): | | | | | | | mess disturbed of problematic. |
| Type: | | | | | | | | |
| Depth (ir | 1ches): | | | | | | Hydric S | Soil Present? Yes 🗌 No 🕅 |
| Remarks: N | O prominent indicato | ors of hydr | ic soils | | | | | |
| | | , , . | | | | | | |
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| | | | | | | | | |
| DROLOG | }Y | | | | | | | |
| DROLO(| ३Y 'drology Indicators | | | | | | | |
| DROLO(Vetland Hy Primary Indi | 3Y rdrology Indicators cators (minimum of o | : one requir | ed; check all tha | | | | <u>Se</u> | econdary Indicators (2 or more required) |
| DROLOC Wetland Hy Primary Indi | GY rdrology Indicators cators (minimum of o Water (A1) | : one requir | ed; check all tha □ Wate | t apply) r-Stained Leave | es (B9) (e | xcept MLR | <u>Se</u> | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, |
| DROLOC Vetland Hy Primary Indi Surface High Wa | GY rdrology Indicators cators (minimum of e Water (A1) ater Table (A2) | : one requir | ed; check all tha □ Wate 1 | t apply) r-Stained Leave 2, 4A, and 4B) | es (B9) (e | xcept MLR | <u>Se</u> | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) |
| DROLOC Vetland Hy Primary Indi Surface High Wa Saturati | GY <u>vdrology Indicators</u> <u>cators (minimum of d</u> Water (A1) ater Table (A2) on (A3) | : one requir | ed; check all tha □ Wate 1 □ Salt (| <u>t apply)</u> r-Stained Leave 2, 4A, and 4B) Vrust (B11) | es (B9) (e) | xcept MLR | <u> Se</u> A [] | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) |
| DROLOC Vetland Hy Primary Indi Surface High Wa Saturatio Water M | GY rdrology Indicators cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) | : one requir | ed; check all tha | t apply) r-Stained Leave 2, 4A, and 4B) Vrust (B11) tic Invertebrates | es (B9) (e) s (B13) | xcept MLR | <u>Se</u> | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) |
| DROLOC Netland Hy Primary Indi Surface High Wa Saturati Water M Sedimen | GY <i>r</i> drology Indicators <u>icators (minimum of a</u> Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) | : one requir | ed; check all tha Wate Salt (Aqua Hydro | t apply) r-Stained Leave 2, 4A, and 4B) Crust (B11) tic Invertebrates ogen Sulfide Od | es (B9) (e) s (B13) lor (C1) | xcept MLR | <u>Se</u> | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C |
| DROLOC Vetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Dep | GY rdrology Indicators icators (minimum of a Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) | : one requir | ed; check all tha Wate 1 Salt (Aqua Hydro Oxidi | t apply) r-Stained Leave 2, 4A, and 4B) Crust (B11) tic Invertebrates ogen Sulfide Od zed Rhizospher | es (B9) (e) s (B13) lor (C1) res along | xcept MLR | <u>Se</u> SA | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) |
| DROLOC Vetland Hy Primary Indi Surface High Wa Saturatid Water M Sedimen Drift Dep Algal Ma | GY rdrology Indicators icators (minimum of e Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) | : one requir | ed; check all tha Wate 1 Salt 0 Aqua Hydru 0 Oxidi Prese | t apply) r-Stained Leave 2, 4A, and 4B) Crust (B11) tic Invertebrates ogen Sulfide Od zed Rhizospher ence of Reduced | es (B9) (e) s (B13) lor (C1) res along d Iron (C4 | xcept MLR Living Root | <u>Se</u> A □ □ □ □ □ □ | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) |
| DROLOC Vetland Hy Primary Indi Surface High Wa Saturatio Saturatio Saturatio Drift Dep Algal Ma Iron Dep | GY rdrology Indicators icators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) | : one requir | ed; check all tha Wate Salt (Aqua Hydro Oxidi Prese Rece | t apply) r-Stained Leave 2, 4A, and 4B) Crust (B11) tic Invertebrates ogen Sulfide Od zed Rhizospher ince of Reduced nt Iron Reductio | es (B9) (e) s (B13) lor (C1) res along d Iron (C4 on in Tille | xcept MLR Living Root 4) d Soils (C6) | | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) |
| DROLOC Vetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface | GY rdrology Indicators icators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) | : one requir | ed; check all tha Wate Salt (Aqua Hydro Oxidi Prese Stunt | t apply) r-Stained Leave 2, 4A, and 4B) Crust (B11) tic Invertebrates ogen Sulfide Od zed Rhizospher ance of Reduced nt Iron Reduction ed or Stressed | es (B9) (e) dor (C1) res along d Iron (C4 on in Tille Plants (D | xcept MLR Living Roof 4) d Soils (C6) 1) (LRR A) | Second Se | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) |
| DROLOC Vetland Hy Primary Indi Surface High Wa Saturation Water M Sedimen Control Dep Algal Ma Iron Dep Surface Inundati | GY rdrology Indicators icators (minimum of e Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aerial | : one requir | ed; check all tha Wate Salt (Aqua Hydro Oxidi Preso Rece Stunt 37) Othe | t apply) r-Stained Leave 2, 4A, and 4B Crust (B11) tic Invertebrates ogen Sulfide Od zed Rhizospher ance of Reduced nt Iron Reductic ed or Stressed I (Explain in Rer | es (B9) (e) lor (C1) res along d Iron (C4 on in Tille Plants (D marks) | xcept MLR Living Root I) d Soils (C6) 1) (LRR A) | <u>Se</u> | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |
| DROLOC Vetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely | GY rdrology Indicators icators (minimum of a Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial I / Vegetated Concave | inagery (E | ed; check all tha Wate 1 Salt (Aqua Hydre Oxidi Prese Stunt 37) Other (B8) | t apply) r-Stained Leave , 2, 4A, and 4B) Crust (B11) tic Invertebrates ogen Sulfide Od zed Rhizospher ance of Reduced nt Iron Reductio ed or Stressed I (Explain in Ref | es (B9) (e) lor (C1) res along d Iron (C4 on in Tille Plants (D marks) | xcept MLR Living Roof I) d Soils (C6 1) (LRR A) | <u>Se</u> S S S S S S S S | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |
| DROLOC Wetland Hy Primary Indi Surface High Wa Saturatii Water M Sedimei Drift Deg Algal Ma Iron Deg Surface Inundati Sparsely | GY rdrology Indicators icators (minimum of a Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial I / Vegetated Concave rvations: | : one requir lmagery (F e Surface | ed; check all tha Wate Salt (Aqua Hydru Oxidi Prese Stunt 37) Othe (B8) | t apply) r-Stained Leave 2, 4A, and 4B Crust (B11) tic Invertebrates ogen Sulfide Od zed Rhizospher ence of Reduced nt Iron Reductic ed or Stressed I (Explain in Rer | es (B9) (e) s (B13) lor (C1) res along d Iron (C4 on in Tille Plants (D marks) | xcept MLR Living Roof I) d Soils (C6) 1) (LRR A) | Second Se | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |
| DROLOC Wetland Hy Primary Indi Surface High Wa Saturation Water M Sediment Drift Dep Algal Materia Iron Dep Surface Inundati Sparsely Field Obset Surface Water | GY rdrology Indicators icators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial I / Vegetated Concave rvations: ter Present? | Imagery (E e Surface | ed; check all tha Wate Salt (Aqua Hydro Oxidi Prese Stunt 37) Other (B8) | t apply) r-Stained Leave 2, 4A, and 4B) Crust (B11) tic Invertebrates ogen Sulfide Od zed Rhizospher ance of Reducer nt Iron Reductic ed or Stressed I (Explain in Rer | es (B9) (e) dor (C1) dor (C1) d Iron (C4 on in Tille Plants (D marks) | xcept MLR Living Roof 1) d Soils (C6) 1) (LRR A) | Second Se | econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |

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

Depth (inches):

Remarks: No prominent field indicators of wetland hydrology. See spring 2020 monitoring data

Yes 🗌 No 🖾

Saturation Present?

Wetland Hydrology Present? Yes 🗌 No 🖂

| Project/Site: Western Portion of Parcel 0420351003 | City/County: City | of Puyallup, Pierce County | Sampling Date: <u>16 APR 2020</u> | | | | | |
|---|---------------------|---------------------------------------|-----------------------------------|--|--|--|--|--|
| Applicant/Owner: Cascade Development | | State: WA | Sampling Point: SP6 | | | | | |
| Investigator(s): Habitat Technologies | Section | on, Township, Range: <u>Sec 35 T2</u> | 0N R04E QT 12 | | | | | |
| Landform (hillslope, terrace, etc.): valley | Local relief (con | cave, convex, none): <u>flat</u> | Slope (%): <u><1%</u> | | | | | |
| Subregion (LRR): A | _at: | Long: | Datum: USGS | | | | | |
| Soil Map Unit Name: Briscot Ioam | | NWI classificat | ion: somewhat poorly drained | | | | | |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes 🛛 No 🗌 (If no, explain in Remarks.) | | | | | | | | |
| Are Vegetation, Soil, or Hydrology signific | antly disturbed? Ar | re "Normal Circumstances" pres | ent? Yes 🛛 No 🗌 | | | | | |
| Are Vegetation, Soil, or Hydrology natural | y 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? Hydric Soil Present? Wetland Hydrology Present? | Yes ∐ Yes □ Yes □ | No 🗌 No 🖾 No 🖾 | Is the Sampled Area within a Wetland? | Yes 🗌 | No 🖂 |
|---|-------------------------|------------------------|---------------------------------------|-------|------|
| Remarks: managed for annual agricultu | ral crop p | roduction and harvest. | | | |

| | Absolute | Dominant Indicator | Dominance Test worksheet: | |
|--|----------------|-----------------------|---|---------|
| Tree Stratum (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species | |
| 1 | | | That Are OBL, FACW, or FAC: | _ (A) |
| 2 | | | Total Number of Dominant | |
| 3 | | | Species Across All Strata: | (B) |
| 4 | | | | , |
| | | = Total Cover | Percent of Dominant Species | (A/B) |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | | _ (7,6) |
| 1 | | | Prevalence Index worksheet: | |
| 2 | | | Total % Cover of: Multiply by: | |
| 3. | | | OBL species x 1 = | |
| 4. | | | FACW species x 2 = | |
| 5 | | | FAC species x 3 = | |
| | | - Total Cover | FACU species x 4 = | |
| Herb Stratum (Plot size: 15ft radius) | | | UPL species x 5 = | |
| 1 | _ | | Column Totals: (A) | (B) |
| 2. | | | | (D) |
| 3 | | | Prevalence Index = B/A = | - |
| 4 | _ | | Hydrophytic Vegetation Indicators: | |
| 5. | | | Rapid Test for Hydrophytic Vegetation | |
| 6. | | | Dominance Test is >50% | |
| 7. | | | ☐ Prevalence Index is ≤3.0 ¹ | |
| 8 | | | Morphological Adaptations ¹ (Provide supp | orting |
| a | | | data in Remarks or on a separate shee | et) |
| 3 | | | Wetland Non-Vascular Plants ¹ | |
| | | | Problematic Hydrophytic Vegetation ¹ (Exp | lain) |
| 11 | 400 | | ¹ Indicators of hydric soil and wetland hydrolog | y must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | = Total Cover | be present, unless disturbed or problematic. | |
| 1 | | | | |
| 1 | | | Hydrophytic | |
| ۷ | 0 | | Vegetation | |
| % Bare Ground in Herb Stratum | 0 | = Total Cover | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pr | ior to spring plowing a mixture of cover crop, her | bs. and |
| grasses. | | | | |

Sampling Point: SP6

| Profile Des | cription: (Describ | e to the de | pth needed to doc | ument the | indicato | or confirn | n the absence | e of indicato | ors.) | |
|--|---|---------------|-----------------------|-----------------------|--------------------|------------------|---|--|------------------------------|--|
| Depth | Matrix | | Re | dox Feature | S | | | | | |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | Texture | | Remarks | |
| <u>0-16</u> | 10YR 3/3 | 100 | | | | | SL | mixed san | dy loam | |
| 16-24 | 10YR 4/3 | 95 | 10YR 4/6 | 5 | D | М | SL | mixed loar | m | |
| | | | | | | | | | | |
| · | | | | | | | | | | |
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| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Type: C=C | oncentration, D=D | epletion, RN | I=Reduced Matrix, | CS=Covere | d or Coat | ed Sand G | rains. ² Lo | ocation: PL= | Pore Lining, M=Matrix. | |
| Hydric Soli | indicators: (App | icable to a | | | ea.) | | | | | |
| | (A1) | | Sandy Redox | (85) | | | | m Muck (A10 | J) | |
| | olpedon (A2) | | Stripped Matr | X (56) Minoral (E) | 1) (22222 | | | Keu Parent Material (TF2) Very Shallow Dark Surface (TE12) | | |
| Black Histic (A3) Loamy Mucky Mineral (F1) | | | |) (excep | | | y Shallow Da or (Evoloin ii | n Romarka) | | |
| | Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F2) | | | | | | | n nemarks) | | |
| | ark Surface (A12) | | | urface (E6) | | | ³ Indicators of hydrophytic vegetation and | | | |
| | Aucky Mineral (S1) | | | (Surface (F | 7) | | wot | wetland hydrology must be present | | |
| Sandy R | leved Matrix (S4) | | | ssions (F8) | ,, | | unle | ess disturbed | or problematic. | |
| Restrictive | Laver (if present) | | | | | | | | | |
| Type: | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | | | | | | | |
| Depth (in | ches): | | | | | | Hydric So | il Present? | Yes 🗆 No 🕅 | |
| Remarks: N | O prominent indica | tors of hydri | ic soils | | | | | | | |
| Remarks. N | | tors of flyan | 0.0013 | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| IYDROLOG | SY | | | | | | | | | |
| Wetland Hy | drology Indicator | s: | | | | | | | | |
| Primary Indi | cators (minimum o | f one require | ed; check all that ap | ply) | | | Seco | ondary Indica | ators (2 or more required) | |
| □ Surface | Water (A1) | | □ Water-St | ained Leav | es (B9) (e | except MLF | | Vater-Staine | d Leaves (B9) (MLRA 1. 2. | |
| ☐ High Wa | ter Table (A2) | | 1.2. | 4A. and 4B |)) | | | 4A. and 4 | IB) | |
| □ Saturatio | on (A3) | | Salt Crus | st (B11) | , | | | Drainage Pat | , terns (B10) | |
| □ Water M | arks (B1) | | | nvertebrate | s (B13) | | | Dry-Season V | Nater Table (C2) | |
| Sedimer | nt Deposits (B2) | | | n Sulfide Od | dor (C1) | | | Saturation Vis | sible on Aerial Imagerv (C9) | |

Н

| Wetland Hydrology Indicato | rs: | | | | | | | | |
|--|--|---------|---|---------------|---|--|--|--|--|
| Primary Indicators (minimum c | of one requ | | Secondary Indicators (2 or more required) | | | | | | |
| Surface Water (A1) | | pt MLRA | Water-Stained Leaves (B9) (MLRA 1, 2, | | | | | | |
| High Water Table (A2) | | | 1, 2, 4A, and 4B) | | 4A, and 4B) | | | | |
| Saturation (A3) | | | Salt Crust (B11) | | Drainage Patterns (B10) | | | | |
| Water Marks (B1) | | | Aquatic Invertebrates (B13) | | Dry-Season Water Table (C2) | | | | |
| Sediment Deposits (B2) | | | Hydrogen Sulfide Odor (C1) | | Saturation Visible on Aerial Imagery (C9) | | | | |
| Drift Deposits (B3) | | | Oxidized Rhizospheres along Livir | ng Roots (C3) | Geomorphic Position (D2) | | | | |
| Algal Mat or Crust (B4) | | | Presence of Reduced Iron (C4) | | Shallow Aquitard (D3) | | | | |
| Iron Deposits (B5) | □ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) | | | | ☐ FAC-Neutral Test (D5) | | | | |
| Surface Soil Cracks (B6) | Surface Soil Cracks (B6) | | | | Raised Ant Mounds (D6) (LRR A) | | | | |
| □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) | | | | | Frost-Heave Hummocks (D7) | | | | |
| Sparsely Vegetated Conca | ave Surfac | e (B8) | | | | | | | |
| Field Observations: | | | | | | | | | |
| Surface Water Present? | Yes 🗌 | No 🗌 | Depth (inches): | | | | | | |
| Water Table Present? | Yes 🗌 | No 🛛 | Depth (inches): | | | | | | |
| Saturation Present? (includes capillary fringe) | Yes 🗌 | No 🛛 | Depth (inches): | Wetland Hy | drology Present? Yes 🗌 No 🛛 | | | | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | | | | | | | |
| Remarks: No prominent field in | Remarks: No prominent field indicators of wetland hydrology. See spring 2020 monitoring data | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| Project/Site: Western Portion of Parcel 0420351003 | City/County: City of Puyallup, Pierce County | Sampling Date: <u>16 APR 2020</u> |
|---|--|-----------------------------------|
| Applicant/Owner: Cascade Development | State: WA | _ Sampling Point: <u>SP7</u> |
| Investigator(s): Habitat Technologies | Section, Township, Range: Sec 35 | T20N R04E QT 12 |
| Landform (hillslope, terrace, etc.): valley | Local relief (concave, convex, none): flat | Slope (%): <1% |
| Subregion (LRR): A Lat: | Long: | Datum: USGS |
| Soil Map Unit Name: Briscot loam | NWI classific | cation: somewhat poorly drained |
| Are climatic / hydrologic conditions on the site typical for this time of | of year? Yes 🛛 No 🗌 (If no, explain in Remarks | .) |
| Are Vegetation, Soil, or Hydrology significant | ly disturbed? Are "Normal Circumstances" pre | esent? Yes 🛛 No 🗌 |
| Are Vegetation, Soil, or Hydrology naturally p | roblematic? (If needed, explain any answers | in Remarks.) |
| SUMMARY OF FINDINGS – Attach site map show | ring sampling point locations, transects | s, important features, etc. |
| Hydrophytic Vegetation Present? Yes 🗌 No 🗍 | | |

| riyulophylic vegetallorri resent: | | | Is the Sampled Area | |
|------------------------------------|----------------|----------------------|---------------------|--|
| Hydric Soil Present? | Yes 🖂 | No 🗌 | within a Wetland? | |
| Wetland Hydrology Present? | Yes 🗌 | No 🖂 | | |
| Remarks: managed for annual agrice | ultural crop p | roduction and harves | t. | |
| | | | | |

| | Absolute | Dominant Indicator | Dominance Test worksheet: | |
|--|----------------|-----------------------|---|---------|
| Tree Stratum (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species | |
| 1 | | | That Are OBL, FACW, or FAC: | _ (A) |
| 2 | | | Total Number of Dominant | |
| 3 | | | Species Across All Strata: | (B) |
| 4 | | | | , |
| | | = Total Cover | Percent of Dominant Species | (A/B) |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | | _ (7,6) |
| 1 | | | Prevalence Index worksheet: | |
| 2 | | | Total % Cover of: Multiply by: | |
| 3. | | | OBL species x 1 = | |
| 4. | | | FACW species x 2 = | |
| 5 | | | FAC species x 3 = | |
| | | - Total Cover | FACU species x 4 = | |
| Herb Stratum (Plot size: 15ft radius) | | | $UPL species \qquad x 5 =$ | |
| 1 | _ | | Column Totals: (A) | (B) |
| 2. | | | | (D) |
| 3 | | | Prevalence Index = B/A = | - |
| 4 | _ | | Hydrophytic Vegetation Indicators: | |
| 5. | | | Rapid Test for Hydrophytic Vegetation | |
| 6. | | | Dominance Test is >50% | |
| 7. | | | ☐ Prevalence Index is ≤3.0 ¹ | |
| 8 | | | Morphological Adaptations ¹ (Provide supp | orting |
| a | | | data in Remarks or on a separate shee | et) |
| 3 | | | Wetland Non-Vascular Plants ¹ | |
| | | | Problematic Hydrophytic Vegetation ¹ (Exp | lain) |
| 11 | 400 | | ¹ Indicators of hydric soil and wetland hydrolog | y must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | = Total Cover | be present, unless disturbed or problematic. | |
| 1 | | | | |
| 1 | | | Hydrophytic | |
| ۷ | 0 | | Vegetation | |
| % Bare Ground in Herb Stratum | 0 | = Total Cover | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pr | ior to spring plowing a mixture of cover crop, her | bs. and |
| grasses. | | | | |

Sampling Point: SP7

| (1101103) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | Texture | <u>e</u> | Remarks |
|--|--|----------------|---|---|---|--|-------------------------|---|--|
|)-13 | 10YR 3/3 | 100 | | | | | SL | | mixed sandy loam |
| 3-24 | 10YR 4/2 | 90 | 10YR 4/6 | 10 | D | М | SL | | mixed loam |
| | | | | | | | | | |
| | | - <u> </u> | | | | | | | |
| | | · | | | | | | | |
| | Concontration D-Do | | Poducod Matrix | | | | raine | 21 0 | cation: PL-Poro Lining M-Matrix |
| vdric Soil | Indicators: (Appli | cable to all I | LRRs. unless o | therwise no | ted.) | eu Sanu Gi | In | dicato | ors for Problematic Hydric Soils ³ |
|] Histosol | (A1) | | | x (S5) | , | | | 2 cm | n Muck (A10) |
|] Histic Er | bipedon (A2) | | Stripped Ma | trix (S6) | | | | Red | Parent Material (TF2) |
|] Black Hi | istic (A3) | | Loamy Muck | y Mineral (F | 1) (excep | t MLRA 1) | | Very | / Shallow Dark Surface (TF12) |
|] Hydroge | en Sulfide (A4) | | Loamy Gley | ed Matrix (F | 2) | | | Othe | er (Explain in Remarks) |
| Depleted | d Below Dark Surfac | e (A11) | Depleted Ma | atrix (F3) | | | | | |
|] Thick Da | ark Surface (A12) | | Redox Dark | Surface (F6 |) | | ³ In | ndicato | ors of hydrophytic vegetation and |
|] Sandy M | lucky Mineral (S1) | | Depleted Da | rk Surface (| F7) | | | wetla | and hydrology must be present, |
| J Sandy G | Gleyed Matrix (S4) | | Redox Depr | essions (F8) | | | | unles | ss disturbed or problematic. |
| | | | | | | | | | |
| Restrictive | Layer (if present): | | | | | | | | |
| Restrictive Type: | Layer (if present): | | | | | | | | |
| Restrictive Type: Depth (in Remarks: p | Layer (if present): | of hydric soil | s located outsid | e of shallow | depressio | n | Hydri | c Soil | Present? Yes 🛛 No 🗌 |
| estrictive Type: Depth (in emarks: p | Layer (if present): | of hydric soil | s located outsid | e of shallow | depressio | n | Hydri | c Soil | I Present? Yes ⊠ No 🗌 |
| Type: Depth (in temarks: p | Layer (if present): inches): rominent indicators | of hydric soil | s located outsid | e of shallow | depressio | n | Hydri | c Soil | Present? Yes 🛛 No 🗌 |
| Type: Depth (in Cemarks: p DROLOG Vetland Hy Primary Indi | Layer (if present): inches): irominent indicators GY drology Indicators cators (minimum of | of hydric soil | s located outsid | e of shallow | depressio | n | Hydri | c Soil | I Present? Yes ⊠ No □ ndary Indicators (2 or more require |
| Restrictive Type: Depth (in Remarks: p DROLOG Vetland Hy Primary India Surface | Layer (if present): inches): irominent indicators GY rdrology Indicators cators (minimum of Water (A1) | of hydric soil | s located outsid | e of shallow apply) Stained Leav | depressio | n except MLF | Hydri | c Soil | I Present? Yes ⊠ No □ ndary Indicators (2 or more required /ater-Stained Leaves (B9) (MLRA 1 |
| Type: Depth (in Remarks: p DROLOC Vetland Hy Irimary Indii Surface High Wa | Layer (if present): aches): rominent indicators GY drology Indicators cators (minimum of Water (A1) ater Table (A2) | of hydric soil | s located outsid | e of shallow apply) Stained Leav | depressio | n except MLF | Hydri RA | c Soil | I Present? Yes ⊠ No □ ndary Indicators (2 or more required /ater-Stained Leaves (B9) (MLRA 1 4A, and 4B) |
| | Layer (if present): inches): irominent indicators GY rdrology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) | of hydric soil | s located outsid | e of shallow apply) Stained Leav 4 AA, and 4 ust (B11) | depressio /es (B9) (6 3) | n except MLF | Hydri RA | c Soil | Present? Yes ⊠ No □ ndary Indicators (2 or more required /ater-Stained Leaves (B9) (MLRA ↑ 4A, and 4B) rainage Patterns (B10) |
| estrictive Type: Depth (in emarks: p DROLOG /etland Hy rimary Indii] Surface] High Wa] Saturatio] Water M | Layer (if present): inches): irominent indicators GY rdrology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) | of hydric soil | I; check all that a Water-3 1, 2 Salt Cru | e of shallow apply) Stained Leav J, 4A, and 4 Just (B11) : Invertebrate | depressio /es (B9) (e 3) es (B13) | n except MLF | Hydri RA | <u>c Soil</u> <u>Seco</u> W D D D | Present? Yes ⊠ No □ ndary Indicators (2 or more required /ater-Stained Leaves (B9) (MLRA 1 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) |
| estrictive Type: Depth (in emarks: p DROLOG /etland Hy rimary Indi Surface High Wa Saturatio Water M Sedimer | Layer (if present): inches): irominent indicators GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) | of hydric soil | s located outsid | e of shallow apply) Stained Leav 4A, and 4 ust (B11) : Invertebrate en Sulfide C | depressio ves (B9) (e 3) es (B13) odor (C1) | n except MLF | Hydri RA | <u>c Soil</u> <u>Seco</u> W D D S S | I Present? Yes ⊠ No □ Indary Indicators (2 or more required /ater-Stained Leaves (B9) (MLRA 1 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery |
| | Layer (if present): inches): irrominent indicators GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) | of hydric soil | s located outsid | apply) Stained Leav st (B11) c Invertebrate en Sulfide C ad Rhizosphe | depressio ves (B9) (6 3) es (B13) odor (C1) eres along | n except MLF | Hydri RA | <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Secon</u> <u>Se</u> | I Present? Yes ⊠ No □ ndary Indicators (2 or more required /ater-Stained Leaves (B9) (MLRA ↑ 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery recomorphic Position (D2) |
| Restrictive Type: Depth (in Remarks: p DROLOC Vetland Hy Primary Indii Surface High Wa Saturatio Water M Saturatio Sedimer Drift Dep Algal Ma | Layer (if present): inches): irrominent indicators GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) | of hydric soil | I; check all that a Water- U Water- 1, 2 Salt Cru Aquatio Hydrog Oxidize Presen | apply) Stained Leav 4A, and 4I ust (B11) invertebrate en Sulfide C ed Rhizosphe ce of Reduc | depressio ves (B9) (e 3) es (B13) odor (C1) eres along ed Iron (C | n except MLF Living Roo 4) | Hydri RA ets (C3) | <u>Secon</u> <u>Secon</u> <u>D</u> <u>D</u> <u>S</u> <u>C</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> | Present? Yes ⊠ No □ ndary Indicators (2 or more required /ater-Stained Leaves (B9) (MLRA 1 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery reomorphic Position (D2) hallow Aquitard (D3) |
| Restrictive Type: Depth (in Remarks: p DROLOC Vetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Sedimer Drift Dep Algal Ma | Layer (if present): aches): rominent indicators aches): rominent indicators GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) | of hydric soil | s located outsid | e of shallow apply) Stained Leav , 4A, and 4I ust (B11) Invertebrate en Sulfide C ad Rhizosphe ce of Reduc Iron Reduct | depressio ves (B9) (e 3) es (B13) odor (C1) eres along ed Iron (C ion in Tille | n except MLF Living Roo 4) ed Soils (C6 | RA RA | <u>Secco</u> | I Present? Yes ⊠ No □ Indary Indicators (2 or more required /ater-Stained Leaves (B9) (MLRA 1 /ater-Stained Leaves (B9) (MLRA 1 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery reomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) |
| Restrictive Type: Depth (in Remarks: p DROLOC Vetland Hy Primary India Saturatio Saturatio Water M Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface | Layer (if present): inches): irominent indicators irominent indicators GY rdrology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) | of hydric soil | s located outsid | e of shallow apply) Stained Leav s, 4A, and 4I ust (B11) c Invertebrate en Sulfide C ed Rhizosphe ce of Reduc Iron Reduct d or Stressed | depressio ves (B9) (¢ 3) es (B13) odor (C1) eres along ed Iron (C ion in Tille d Plants (E | n Except MLF Living Roo 4) ed Soils (C6 D1) (LRR A) | Hydri RA ets (C3) | <u>Seco</u> ■ U ■ D ■ C ■ S ■ G ■ S ■ F, ■ R | Present? Yes ⊠ No □ ndary Indicators (2 or more required /ater-Stained Leaves (B9) (MLRA 1 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery recomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) |
| Restrictive Type: Depth (in Remarks: p DROLOC Vetland Hy Primary Indi Saturatio Saturatio Water M Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio | Layer (if present): inches): irrominent indicators irrominent indicators GY rdrology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial | of hydric soil | s located outsid | e of shallow apply) Stained Leav st (B11) st (B11) invertebrate en Sulfide C ed Rhizosphe ce of Reduc Iron Reduct d or Stressed Explain in R | depressio ves (B9) (e 3) es (B13) odor (C1) eres along ed Iron (C ion in Tille d Plants (E emarks) | n Except MLF Living Roo 4) ed Soils (C6 01) (LRR A) | Hydri RA ets (C3) | <u>Secon</u> D D D S G S C F, R C F | I Present? Yes ⊠ No □ Indary Indicators (2 or more required /ater-Stained Leaves (B9) (MLRA 1 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery reomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7) |

| (includes capillary fringe) | |
|--|-----------------------|
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspect | tions), if available: |

Depth (inches):

Depth (inches):

Remarks: No prominent field indicators of wetland hydrology. See spring 2020 monitoring data

Yes 🗌 No 🖂

Yes 🗌 No 🖂

Water Table Present?

Saturation Present?

Wetland Hydrology Present? Yes 🗌 No 🖂

| Project/Site: Western Portion of Parcel 0420351003 | City/County: | City of Puyallup, Pierce County | Sampling Date: <u>16 APR 2020</u> | | | | |
|---|--|------------------------------------|-----------------------------------|--|--|--|--|
| Applicant/Owner: Cascade Development | | State: WA | Sampling Point: SP8 | | | | |
| Investigator(s): Habitat Technologies | Section, Township, Range: <u>Sec 35 T2</u> | 20N R04E QT 12 | | | | | |
| Landform (hillslope, terrace, etc.): valley | Local relief | (concave, convex, none): flat | Slope (%): <u><1%</u> | | | | |
| Subregion (LRR): A | Lat: | Long: | Datum: USGS | | | | |
| Soil Map Unit Name: Briscot Ioam | | NWI classifica | tion: somewhat poorly drained | | | | |
| Are climatic / hydrologic conditions on the site typical for this t | ime of year? Yes 🖂 | No 🔲 (If no, explain in Remarks.) | | | | | |
| Are Vegetation, Soil, or Hydrology signif | icantly disturbed? | Are "Normal Circumstances" pres | ent? Yes 🛛 No 🗌 | | | | |
| Are Vegetation, Soil, or Hydrology natura | ally 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? Hydric Soil Present? Wetland Hydrology Present? | Yes | Is the Sampled Area within a Wetland? | Yes 🛛 | No 🗌 |
|---|-----------------------------------|---------------------------------------|-----------|------|
| Remarks: managed for annual agricu | ltural crop production and harves | t. shallow depression seasonally | saturated | |

| | Absolute | Dominant Indicator | Dominance Test worksheet: |
|--|----------------|------------------------|---|
| Tree Stratum (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species |
| 1 | | | That Are OBL, FACW, or FAC: (A) |
| 2 | | | Total Number of Dominant |
| 3 | | | Species Across All Strata: (B) |
| 4. | | | |
| | | = Total Cover | Percent of Dominant Species |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | |
| 1 | | | Prevalence Index worksheet: |
| 2. | | | Total % Cover of:Multiply by: |
| 3. | | | OBL species x 1 = |
| 4. | | | FACW species x 2 = |
| 5. | | | FAC species x 3 = |
| | | = Total Cover | FACU species x 4 = |
| Herb Stratum (Plot size: 15ft radius) | | | UPL species x 5 = |
| 1 | | | Column Totals: (A) (B) |
| 2 | | | |
| 3 | | | Prevalence Index = B/A = |
| 4 | | | Hydrophytic Vegetation Indicators: |
| 5 | | | Rapid Test for Hydrophytic Vegetation |
| 6. | | | Dominance Test is >50% |
| 7. | | | □ Prevalence Index is ≤3.0 ¹ |
| 8. | | | Morphological Adaptations ¹ (Provide supporting |
| 9 | | | data in Remarks or on a separate sheet) |
| 10 | | | Wetland Non-Vascular Plants ¹ |
| 10 | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| ···· | 100 | - Total Covar | ¹ Indicators of hydric soil and wetland hydrology must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | | be present, unless disturbed or problematic. |
| 1. | | | |
| 2 | | | Hydrophytic |
| £. | 0 | - Total Covor | |
| % Bare Ground in Herb Stratum | <u>U</u> | | |
| Remarks: managed for annual agricultural crop production | and harves | t. plant community pri | or to spring plowing a mixture of cover crop, herbs, and |
| grasses. | | . ,, | |

Sampling Point: SP8

| Depth | Matrix | | Red | dox Featur | es | | | |
|---|---|------------|--|--|--------------------------------------|--------------------|-----------|--|
| (inches) | Color (moist) | % | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Texture | e Remarks |
| 0-6 | 10YR 3/2 | 100 | | | | | SL | mixed sandy loam |
| 6-13 | 10YR 3/2 | 90 | 10YR 4/6 | 10 | <u>D</u> | M | SL | mixed sandy loam |
| 13-24 | <u>10YR 4/2</u> | 80 | <u>10YR 4/6</u> | 20 | _ <u>D</u> | <u>M</u> | <u>SL</u> | mixed sandy loam |
| | | | | | | | | |
| | | | | | ed or Coat | ed Sand Gr | ains | ² ocation: PI =Pore Lining M=Matrix |
| Hydric Soil I | ndicators: (Appli | cable to a | II LRRs, unless oth | erwise nc | oted.) | | Inc | dicators for Problematic Hydric Soils ³ : |
| Histosol (Histic Epi Black His Hydrogen Depleted Thick Dar Sandy Mu Sandy Gla | A1) pedon (A2) tic (A3) n Sulfide (A4) Below Dark Surfac rk Surface (A12) ucky Mineral (S1) eyed Matrix (S4) | e (A11) | Sandy Redox Stripped Matri Loamy Mucky Loamy Gleyeet Depleted Matri Redox Dark S Depleted Dark Redox Depression | (S5) x (S6) Mineral (F d Matrix (F2) d Matrix (F3) durface (F6) c Surface (ssions (F8) | F1) (excep 2)) F7) | t MLRA 1) | 3In | 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| Type: Depth (inc | hes): | | | | | | Hydri | c Soil Present? Yes 🛛 No 🗌 |
| DROLOG Wetland Hyd | Y Irology Indicators | : | | | | | | |
| Primary Indic | ators (minimum of | one requir | ed; check all that ap | ply) | | | | Secondary Indicators (2 or more required) |
| Surface V High Wate | Vater (A1) er Table (A2) | | Water-St 1, 2, | ained Leav 4A, and 4 | ves (B9) (e B) | except MLR | Α | Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) |
| Saturation | n (A3) arks (B1) | | Salt Crus | st (B11) nvertebrat | es (B13) | | | Drainage Patterns (B10)Dry-Season Water Table (C2) |
| Sediment Drift Depo | : Deposits (B2) osits (B3) | | HydrogeOxidized | n Sulfide C Rhizosph |)dor (C1) eres along | Living Root | s (C3) | Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) |
| Algal Mat Iron Depo | or Crust (B4) osits (B5) | | Presence Recent I | ∍ of Reduc ron Reduc ⁱ | ed Iron (C4 tion in Tille | 4) d Soils (C6) |) | Shallow Aquitard (D3)FAC-Neutral Test (D5) |
| _ Surface S | Soil Cracks (B6) | | Stunted 0 | or Stresser | d Plants (D | 1) (LRR A) | | Raised Ant Mounds (D6) (LRR A) |

□ Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes 🗌 No 🗌 Depth (inches): Water Table Present? Yes 🗌 No 🖂 Depth (inches): Saturation Present? Yes 🗌 No 🖂 Depth (inches): ____ Wetland Hydrology Present? Yes 🛛 No 🗌 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: prominent field indicators of wetland hydrology documented early growing season. Dry on April 16, 2020. See spring 2020 monitoring data

| Project/Site: Western Portion of Parcel 0420351003 | City/County: City of Puyallup, Pierce County | Sampling Date: <u>16 APR 2020</u> | | | | | |
|---|--|-----------------------------------|--|--|--|--|--|
| Applicant/Owner: Cascade Development | State: WA | _ Sampling Point: <u>SP9</u> | | | | | |
| Investigator(s): Habitat Technologies | Section, Township, Range: Sec 35 | T20N R04E QT 12 | | | | | |
| Landform (hillslope, terrace, etc.): valley | Local relief (concave, convex, none): flat | Slope (%): <u><1%</u> | | | | | |
| Subregion (LRR): A Lat: | Long: | Datum: USGS | | | | | |
| Soil Map Unit Name: Briscot loam | NWI classific | cation: somewhat poorly drained | | | | | |
| Are climatic / hydrologic conditions on the site typical for this time of | year? Yes 🛛 No 🗌 (If no, explain in Remarks | .) | | | | | |
| Are Vegetation, Soil, or Hydrology significantly | disturbed? Are "Normal Circumstances" pro | esent? Yes 🛛 No 🗌 | | | | | |
| Are Vegetation, Soil, or Hydrology naturally pro | blematic? (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 🗌 No 🗌 | Is the Sampled Area | | | | | | |

| Hydric Soil Present? Wetland Hydrology Present? | Yes □ No ⊠ Yes □ No ⊠ | is the Sampled Area within a Wetland? | Yes 🗌 No 🖾 | |
|--|--------------------------|--|------------|--|
| Remarks: managed for annual agricultu | ral crop production ar | nd harvest. | | |

| | Absolute | Dominant Indicator | Dominance Test worksheet: |
|--|----------------|-------------------------|---|
| Tree Stratum (Plot size: <u>15ft radius</u>) | <u>% Cover</u> | Species? Status | Number of Dominant Species |
| 1 | | · · | That Are OBL, FACW, or FAC: (A) |
| 2 | | · · | Total Number of Dominant |
| 3 | | | Species Across All Strata: (B) |
| 4 | | | |
| | | = Total Cover | Percent of Dominant Species |
| Sapling/Shrub Stratum (Plot size: 15ft radius) | | | |
| 1 | | | Prevalence Index worksheet: |
| 2 | | | Total % Cover of: Multiply by: |
| 3. | | | OBL species x 1 = |
| 4. | | | FACW species x 2 = |
| 5. | | | FAC species x 3 = |
| | | = Total Cover | FACU species x 4 = |
| Herb Stratum (Plot size: 15ft radius) | | | UPL species x 5 = |
| 1 | | · · | Column Totals: (A) (B) |
| 2 | | · · | |
| 3 | | | Prevalence Index = B/A = |
| 4 | | | Hydrophytic Vegetation Indicators: |
| 5 | | | Rapid Test for Hydrophytic Vegetation |
| 6. | | | Dominance Test is >50% |
| 7. | | | □ Prevalence Index is ≤3.0 ¹ |
| 8. | | | Morphological Adaptations ¹ (Provide supporting |
| 9 | | | data in Remarks or on a separate sheet) |
| 10 | | · | Wetland Non-Vascular Plants ¹ |
| 11 | | · · | Problematic Hydrophytic Vegetation ¹ (Explain) |
| · | 100 | Total Cavar | ¹ Indicators of hydric soil and wetland hydrology must |
| Woody Vine Stratum (Plot size: 15ft radius) | 100 | | be present, unless disturbed or problematic. |
| 1 | | | |
| 2 | | · | Hydrophytic |
| £ | 0 | - Total Covor | Vegetation Present? Yes No No |
| % Bare Ground in Herb Stratum | 0 | | |
| Remarks: managed for annual agricultural crop production | and harves | st. plant community pri | or to spring plowing a mixture of cover crop, herbs, and |
| grasses. | | | · ·· · |

Sampling Point: SP9

| (inches) Color (moist) % Type¹ Loc² Texture Remarks 0-16 10YR 3/3 100 | (inches) Color (moist) % Type ¹ Loc ² Texture Remarks 0-16 10YR 3/3 100 | Depth | Matrix | | Re | dox Featur | es | | | |
|---|---|------------------------|-------------------------------------|-------------|---------------------|-------------------------|-------------------|------------------|-------------------------|-------------------------------------|
| 0-16 10YR 3/3 100 | 20-16 10YR 3/3 100 SL mixed sandy loam 16-24 10YR 3/3 98 10YR 4/6 2 D M SL mixed sandy loam 16-24 10YR 3/3 98 10YR 4/6 2 D M SL mixed sandy loam 16-24 10YR 3/3 98 10YR 4/6 2 D M SL mixed sandy loam 16-24 10YR 3/3 98 10YR 4/6 2 D M SL mixed sandy loam 16-24 10YR 3/3 98 10YR 4/6 2 D M SL mixed sandy loam 16-24 10YR 3/3 98 10YR 4/6 2 D M SL mixed sandy loam 17 10 | (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | Texture | Remarks |
| 16-24 10YR 3/3 98 10YR 4/6 2 D M SL mixed sandy loam Image: Second Se | 10YR 3/3 98 10YR 4/6 2 D M SL mixed sandy loam Image: Subscript of the structure of the str | 0-16 | <u>10YR 3/3</u> | 100 | | | | | SL | mixed sandy loam |
| 'Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ?Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydric Below Dark Surface (A11) Depleted Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) 3 ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: | Image: Second | 16-24 | <u>10YR 3/3</u> | 98 | 10YR 4/6 | 2 | D | M | <u>SL</u> | mixed sandy loam |
| ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Histosol (A1) Sandy Redox (S5) Indicators for Problematic Hydric Soil Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Mydric Soil Present? Yes No in file | Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) unless disturbed or problematic. Restrictive Layer (if present): Type: | | | | | | | | | |
| Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F3) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Type: | Type: | | | | | | | | | |
| ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix Plant Pore Lining, M=Matrix Plant Pore Lining, M=Matrix Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Histosol (A1) Sandy Redox (S5) Indicators for Problematic Hydric Soil Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loarny Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Indicators of hydrophytic vegetation and surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: | ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): No it Depth (inches): More and hydric soils No it Remarks: NO prominent indicators of hydric soils | | | | | | | | | |
| ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Histosol (A1) Sandy Redox (S5) Indicators for Problematic Hydric Soil Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: | Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Unless of Present? Yes No 🗵 | | | | | | | | | |
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No it | Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils*: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Type: | ¹ Type: C=C | Concentration, D=De | epletion, R | M=Reduced Matrix, | CS=Cover | ed or Coat | ed Sand G | Grains. ² Lo | ocation: PL=Pore Lining, M=Matrix. |
| □ Histosol (A1) □ Sandy Redox (S5) □ 2 cm Muck (A10) □ Histic Epipedon (A2) □ Stripped Matrix (S6) □ Red Parent Material (TF2) □ Black Histic (A3) □ Loamy Mucky Mineral (F1) (except MLRA 1) □ Very Shallow Dark Surface (TF12) □ Hydrogen Sulfide (A4) □ Loamy Gleyed Matrix (F2) □ Other (Explain in Remarks) □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, □ Sandy Gleyed Matrix (S4) □ Depleted Dark Surface (F7) wetland hydrology must be present, □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): | Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histoc Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: | Hydric Soil | Indicators: (Appl | icable to | all LRRs, unless of | nerwise no | oted.) | | Indica | tors for Problematic Hydric Solls": |
| □ Histic Epipedon (A2) □ Stripped Matrix (S6) □ Red Parent Material (1F2) □ Black Histic (A3) □ Loamy Mucky Mineral (F1) (except MLRA 1) □ Very Shallow Dark Surface (TF12) □ Hydrogen Sulfide (A4) □ Loamy Gleyed Matrix (F2) □ Other (Explain in Remarks) □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) wetland hydrology must be present, □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: | □ Histic Epipedon (A2) □ Stripped Matrix (S6) □ Red Parent Material (1F2) □ Black Histic (A3) □ Loamy Mucky Mineral (F1) (except MLRA 1) □ Very Shallow Dark Surface (TF12) □ Hydrogen Sulfide (A4) □ Loamy Gleyed Matrix (F2) □ Other (Explain in Remarks) □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes □ No ⊠ Remarks: NO prominent indicators of hydric soils Remarks: NO prominent indicators of hydric soils Hydric Soil Present? Yes □ No ⊠ | Histosol | l (A1) | | Sandy Redox | (S5) | | | | m Muck (A10) |
| □ Black Histic (A3) □ Loarity Mucky Mineral (F1) (except MLKA 1) □ Vely Strailow Dark Surface (F12) □ Hydrogen Sulfide (A4) □ Loarny Gleyed Matrix (F2) □ Other (Explain in Remarks) □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) wetland hydrology must be present, □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes □ No ⊠ | Black Histic (A3) Loamy Mucky Mineral (F1) (except MLKA T) Very Strahow Dark Surface (F12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No 🛛 Remarks: NO prominent indicators of hydric soils Remarks: NO prominent indicators of hydric soils Hydric Soil Present? | | pipedon (A2) | | | IX (56) (Minaral (F | -1) (avaan | | | d Parent Material (TF2) |
| □ Hydrogen Sullide (A4) □ Loamy Gleyed Matrix (F2) □ Other (Explain in Remarks) □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) wetland hydrology must be present, □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: | □ Hydrogen Sullide (A4) □ Loamy Gleyed Matrix (F2) □ Other (Explain in Remarks) □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) wetland hydrology must be present, □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes □ No ⊠ Remarks: NO prominent indicators of hydric soils Remarks: NO prominent indicators of hydric soils Hydric Soil Present? Yes □ No ⊠ | | ISTIC (A3) | | | / Matrix (F | • (excep | | | ry Snallow Dark Surface (TF12) |
| □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) Restrictive Layer (if present): Type: □ Depth (inches): □ □ Depth (inches): □ □ Depth (inches): □ | □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) Restrictive Layer (if present): Type: □ Depth (inches): □ □ Depth (inches): □ □ Remarks: NO prominent indicators of hydric soils | 🔲 Hyaroge | en Sumde (A4) d Bolow Dork Surfo | 00 (111) | | a Matrix (F. | 2) | | | her (Explain in Remarks) |
| □ Thick Dark Sufface (A12) □ Redox Dark Sufface (F0) Indicators of hydrophytic Vegetation and wetland hydrology must be present, unless disturbed or problematic. □ Sandy Mucky Mineral (S1) □ Depleted Dark Sufface (F7) wetland hydrology must be present, unless disturbed or problematic. □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: | Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Remarks: NO prominent indicators of hydric soils | | u Below Dark Sulla | ce (ATT) | | IIX (F3) Surface (E6 | <u>۱</u> | | ³ Indica | tors of hydrophytic vogotation and |
| □ Sandy Mideky Mineral (S1) □ Depleted Dark Sunace (T) wetrand Hydrology Midst be present, unless disturbed or problematic. □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): | Sandy Mucky Mineral (31) Depleted Dark Sunace (17) Wetand Hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Hydric Soil Present? Yes No 🛛 Depth (inches): Remarks: NO prominent indicators of hydric soils No 🖾 | | Ark Surface (ATZ) | | | k Surfaco (|) E7) | | muica | land hydrology must be present |
| Restrictive Layer (if present): Type: Depth (inches): | Restrictive Layer (if present): Type: Depth (inches): Remarks: NO prominent indicators of hydric soils | □ Sandy (| Sloved Matrix (S4) | | | ssions (F8) | F <i>1</i>) | | wei | and hydrology must be present, |
| Type: | Type: Depth (inches): Hydric Soil Present? Yes I No I Remarks: NO prominent indicators of hydric soils | Restrictive | Laver (if present) | | | 3310113 (1 0) | | | | |
| Depth (inches): Hydric Soil Present? Yes D No 🛛 | Depth (inches): Hydric Soil Present? Yes No X Remarks: NO prominent indicators of hydric soils | Type: | | | | | | | | |
| | Remarks: NO prominent indicators of hydric soils | Depth (ir | nches): | | | | | | Hydric So | il Present? Yes 🗌 No 🖂 |
| Remarks: NU prominent indicators of hydric soils | | Remarks: N | O prominent indicat | tors of hyd | tric soils | | | | | |
| | | | | | | | | | | |
| | | | 2)/ | | | | | | | |
| (DROLOGY | DROLOGY | /DROLOG | Ϋ́Ε | | | | | | | |

| Primary Indicators (minimum | of one req | uired; ch | eck all that apply) | | Secondary Indicators (2 or more required) | | | |
|--|--|-----------|------------------------------------|---------------|---|--|--|--|
| Surface Water (A1) | | | □ Water-Stained Leaves (B9) (exce | pt MLRA | Water-Stained Leaves (B9) (MLRA 1, 2, | | | |
| High Water Table (A2) | | | 1, 2, 4A, and 4B) | | 4A, and 4B) | | | |
| Saturation (A3) | | | Salt Crust (B11) | | Drainage Patterns (B10) | | | |
| Water Marks (B1) | | | Aquatic Invertebrates (B13) | | Dry-Season Water Table (C2) | | | |
| Sediment Deposits (B2) | | | Hydrogen Sulfide Odor (C1) | | Saturation Visible on Aerial Imagery (C9) | | | |
| Drift Deposits (B3) | | | Oxidized Rhizospheres along Livit | ng Roots (C3) | Geomorphic Position (D2) | | | |
| Algal Mat or Crust (B4) | | | Presence of Reduced Iron (C4) | | Shallow Aquitard (D3) | | | |
| Iron Deposits (B5) | | | Recent Iron Reduction in Tilled Sc | oils (C6) | ☐ FAC-Neutral Test (D5) | | | |
| Surface Soil Cracks (B6) | | | Stunted or Stressed Plants (D1) (I | LRR A) | Raised Ant Mounds (D6) (LRR A) | | | |
| Inundation Visible on Aeri | al Imagery | ′ (B7) | Other (Explain in Remarks) | | Frost-Heave Hummocks (D7) | | | |
| Sparsely Vegetated Conc | ave Surfa | ce (B8) | | | | | | |
| Field Observations: | | | | | | | | |
| Surface Water Present? | Yes 🗌 | No 🗌 | Depth (inches): | | | | | |
| Water Table Present? | Yes 🗌 | No 🖂 | Depth (inches): | | | | | |
| Saturation Present? (includes capillary fringe) | Yes 🗌 | No 🛛 | Depth (inches): | Wetland Hy | drology Present? Yes 🗌 No 🛛 | | | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | | | | | | |
| | | | | | | | | |
| Remarks: NO prominent field | Remarks: NO prominent field indicators of wetland hydrology documented early growing season. See spring 2020 monitoring data | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

10.0 Appendix B – Spring 2020 Hydrology Data

| DATE | SP1 | SP2 | SP3 | SP4 | SP5 | SP6 | SP7 | SP8 |
|---------|------------|------------|------------|------------|------------|------------|------------|-------------|
| 2/28/20 | Sat at -18 | Not Sat | Not Sat | Sat at -16 | Not Sat | Not Sat | Sat at -14 | Sat at -5 |
| | No free | Free at -18 |
| 3/6/20 | Sat at -16 | Sat at -16 | Sat at -17 | Sat at -14 | Sat at -14 | Sat at -15 | Sat at -12 | Sat at -2 |
| | No free | Free at -14 |
| 3/13/20 | Sat at -9 | Sat at -11 | Sat at -14 | Sat at -10 | Sat at -11 | Sat at -14 | Sat at -7 | Sat at -0 |
| | No free | Free at -9 |
| 3/20/20 | Not Sat | Not Sat | Not Sat | Sat at -16 | Not Sat | Not Sat | Sat at -16 | Sat at -8 |
| | No free | Free at -20 |
| 3/27/20 | Not Sat | Sat at -22 | Sat at -16 |
| | No free |
| 4/3/20 | Sat at -13 | Sat at -14 | Sat at -13 | Sat at -8 | Sat at -11 | Sat at -12 | Sat at -9 | Sat at -0 |
| | No free | Free at -10 |
| 4/10/20 | Not Sat | Sat at -22 |
| | No free |
| 4/16/20 | Not Sat |
| | No free |

FIELD DATA AT ESTABLISHED MONITORING PLOTS

Depth of free water (free) and saturation (sat) in inches from ground level.

| DATE | SP9 | SP10 | SP11 | SP12 | SP13 | SP14 | SP15 | |
|---------|------------|------------|------------|-------------|------------|------------|-------------|---|
| 2/28/20 | Sat at -14 | Sat at -18 | Sat at -13 | Sat at -1 | Sat at -15 | Sat at -16 | Sat at -2 | |
| | No free | No free | No free | Free at -12 | No free | No free | Free at -14 | |
| 3/6/20 | Sat at -16 | Not Sat | Sat at -17 | Sat at -2 | Sat at -18 | Sat at -16 | Sat at -2 | |
| | No free | No free | No free | Free at -14 | No free | No free | Free at -12 | |
| 3/13/20 | Sat at -9 | Sat at -12 | Sat at -10 | Sat at -0 | Sat at -9 | Sat at -8 | Sat at -0 | |
| | No free | No free | No free | Free at -7 | No free | No free | Free at -6 | 1 |
| 3/20/20 | Not Sat | Not Sat | Sat at -18 | Sat at -14 | Sat at -22 | Sat at -22 | Sat at -11 | |
| | No free | No free | No free | No Free | No free | No free | Free at -20 | 1 |
| 3/27/20 | Not Sat | Not Sat | Not Sat | Sat at -17 | Not Sat | Not Sat | Sat at -16 | |
| | No free | No free | No free | No Free | No free | No free | No Free | 1 |
| 4/3/20 | Sat at -8 | Sat at -12 | Sat at -10 | Sat at -1 | Sat at -10 | Sat at -11 | Sat at -0 | |
| | No free | No free | No free | Free at -11 | No free | No free | Free at -10 | 1 |
| 4/10/20 | Not Sat | Not Sat | Not Sat | Sat at -17 | Not Sat | Not Sat | Sat at -16 | |
| | No free | No free | No free | No free | No free | No free | No free | |
| 4/16/20 | Not Sat | Not Sat | Not Sat | Not Sat | Not Sat | Not Sat | Not Sat | |
| | No free | No free | No free | No free | No free | No free | No free | |

FIELD DATA AT ESTABLISHED MONITORING PLOTS

Depth of free water (free) and saturation (sat) in inches from ground level.

11.0 Appendix C – Wetland Rating Worksheet

Figure A1

Habitat Technologies

P.O.Box 1088 Puyallup, WA 98371 (253) 845-5119 | www.habitattechnologies.net



The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS'AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose. Date: 6/16/2020 03:51 PM

Figure A2

Habitat Technologies

P.O.Box 1088 Puyallup, WA 98371 (253) 845-5119 | www.habitattechnologies.net



The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose. Date: 6/16/2020 03:50 PM

Habitat Technologies

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Figure A3

The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS'AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose. Date: 6/16/2020 03:53 PM Date: 6/16/2020 03:53 PM

Figure A4

Habitat Technologies

P.O.Box 1088 Puyallup, WA 98371 (253) 845-5119 | www.habitattechnologies.net



The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS'AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose. Date: 6/16/2020 05:01 PM

Figure W4



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Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and



Figure W5



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Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and



RATING SUMMARY – Western Washington

Name of wetland (or ID #):part of Parcel 0420351003Date of site visit:16 ARP 2020Rated byHabitat TechnologiesTrained by Ecology? x YesNo Date of training 2014HGM Class used for ratingDepressionalWetland has multiple HGM classes? x YN

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map Pierce County GIS

OVERALL WETLAND CATEGORY 4 (based on functions x or special characteristics)

1. Category of wetland based on FUNCTIONS

Category I – Total score = 23 - 27

Category II – Total score = 20 - 22

_____Category III – Total score = 16 - 19

X Category IV – Total score = 9 - 15

| FUNCTION | lr Wa | nprov ter Q | /ing uality | Н | ydrolo | gic | | | |
|---------------------------|----------|--------------------------------|----------------|---|--------|-----|----|----|-----|
| | | Circle the appropriate ratings | | | | | 15 | | |
| Site Potential | Н | Μ | L | Н | Μ | L | Н | ΜL |] |
| Landscape Potential | Н | Μ | L | Н | M | L | Н | мг |] |
| Value | Н | Μ | L | Н | Μ | L | Н | ΜL | тот |
| Score Based on Ratings | | 6 | | | 5 | | | 4 | 15 |

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 | CATE | GORY |
|------------------------------------|------|--------|
| Estuarine | Ι | II |
| Wetland of High Conservation Value | | Ι |
| Bog | | Ι |
| Mature Forest | | Ι |
| Old Growth Forest | | Ι |
| Coastal Lagoon | Ι | II |
| Interdunal | I II | III IV |
| None of the above |) | (|

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 | A1 |
| Hydroperiods | D 1.4, H 1.2 | A2 |
| Location of outlet (can be added to map of hydroperiods) | D 1.1, D 4.1 | A2 |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2 | A2 |
| Map of the contributing basin | D 4.3, D 5.3 | A4 |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including | Н 2.1, Н 2.2, Н 2.3 | A3 |
| polygons for accessible habitat and undisturbed habitat | | 7.0 |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website) | D 3.1, D 3.2 | W4 |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web) | D 3.3 | W5 |

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

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

HGM Classification of Wetlands in Western Washington

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

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

1. Are the water levels in the entire unit usually controlled by tides except during floods?

NO – go to 2

YES – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

NO – Saltwater Tidal Fringe (Estuarine) If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO – go to 3 **YES** – The wetland class is **Flats** *If your wetland can be classified as a Flats wetland, use the form for Depressional wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria? ____The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size; ____At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
 - _____The wetland is on a slope (*slope can be very gradual*).
 - The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
 - _____The water leaves the wetland **without being impounded**.

NO – go to 5

YES – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
 - The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
 - ____The overbank flooding occurs at least once every 2 years.

YES - Freshwater Tidal Fringe

Wetland name or number <u>A</u>

NO - go to 6YES - The wetland class is RiverineNOTE: The Riverine unit can contain depressions that are filled with water when the river is notflooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7

YES – The wetland class is Depressional

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

YES – The wetland class is Depressional

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

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

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

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

| DEPRESSIONAL AND FLATS WETLANDS | | |
|--|---------------------------------------|---|
| Water Quality Functions - Indicators that the site functions to improve water quality | | |
| D 1.0. Does the site have the potential to improve water quality? | | |
| D 1.1. Characteristics of surface water outflows from the wetland: | | |
| Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (r | no outlet). | |
| Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing | points = 3 g outlet. points = 2 | 2 |
| Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. | points = 1 points = 1 | |
| D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes | s = 4 No = 0 | 0 |
| D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cow | ardin classes): | |
| Wetland has persistent, ungrazed, plants > 95% of area | points = 5 | |
| Wetland has persistent, ungrazed, plants > $\frac{1}{2}$ of area | points = 3 | 0 |
| Wetland has persistent, ungrazed plants > $^{1}/_{10}$ of area | points = 1 | |
| Wetland has persistent, ungrazed plants <1/10 of area | points = 0 | |
| D 1.4. Characteristics of seasonal ponding or inundation: | | |
| This is the area that is ponded for at least 2 months. See description in manual. | | |
| Area seasonally ponded is > $\frac{1}{2}$ total area of wetland | points = 4 | 0 |
| Area seasonally ponded is > $\frac{1}{4}$ total area of wetland | points = 2 | |
| Area seasonally ponded is < ¼ total area of wetland | points = 0 | |
| Total for D 1 Add the points in the b | oxes above | 2 |

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 0-5 = L Record the rating on the first page

| D 2.0. Does the landscape have the potential to support the water quality function of the site? | |
|--|---|
| D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0 | 0 |
| D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 | 1 |
| D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0 | 0 |
| D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? SourceYes = 1 No = 0 | 0 |
| Total for D 2Add the points in the boxes above | 1 |

Rating of Landscape Potential If score is: <u>3 or 4 = H</u> <u>X</u> 1 or 2 = M <u>0 = L</u> 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 = 1 No = 0 | |
| D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0 | |
| D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (<i>answer YES if there is a TMDL for the basin in which the unit is found</i>)? Yes = 2 No = 0 | |
| Total for D 3Add the points in the boxes above3 | |
| Rating of Value If score is: X 2-4 = H I = 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 degradati | on |
| D 4.0. Does the site have the potential to reduce flooding and erosion? | |
| D 4.1. <u>Characteristics of surface water outflows from the wetland</u> : Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outletpoints = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0 | 2 |
| D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0 | 0 |
| D 4.3. <u>Contribution of the wetland to storage in the watershed</u> : <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i> The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5 | 3 |
| Total for D 4 Add the points in the boxes above | 5 |
| Rating of Site Potential If score is: $12-16 = H$ $6-11 = M$ \times $0-5 = L$ Record the rating on the product of the rating of the ratio of the rating of 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 receive stormwater discharges? Yes = 1 No = 0 | 0 |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0 | 1 |
| D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0 | 1 |
| Total for D 5Add the points in the boxes above2 | |
| Rating of Landscape Potential If score is:3 = H X_1 or 2 = M 0 = L Record the rating on the provided on the pr | first page |
| D 6.0. Are the hydrologic functions provided by the site valuable to society? | |
| D 6.1. <u>The unit is in a landscape that has flooding problems</u>. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one condition is met</u>. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 Surface flooding problems are in a sub-basin farther down-gradient. X points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why</i> points = 0 | 1 |
| inere are no problems with flooding downstream of the wetland. points = 0 | |
| D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0 | 0 |
| Total for D 6Add the points in the boxes above | 1 |
| Rating of Value If score is: $2-4 = H \times 1 = M 0 = L$ Record the rating on the | first page |

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

| H 1.5. Special habitat features: | |
|--|---|
| Check the habitat features that are present in the wetland. The number of checks is the number of points. | |
| Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). | |
| Standing snags (dbh > 4 in) within the wetland | |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) | |
| 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) | 0 |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated <i>(structures for egg-laying by amphibians)</i> | |
| Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata) | |
| Total for H 1Add the points in the boxes above | 1 |

Rating of Site Potential If score is: ___15-18 = H ___7-14 = M X_0-6 = L

Record the rating on the first page

| H 2.0. Does the landscape have the potential to support the habitat functions of the site? | |
|--|-----------------|
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). | |
| <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>0</u> | _% |
| If total accessible habitat is: | |
| > ¹ / ₃ (33.3%) of 1 km Polygon points | = 3 0 |
| 20-33% of 1 km Polygon points | = 2 |
| 10-19% of 1 km Polygon points | = 1 |
| < 10% of 1 km Polygon points | = 0 |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. | |
| <i>Calculate:</i> % undisturbed habitat <u>10</u> + [(% moderate and low intensity land uses)/2] <u>11</u> = <u>21</u> | _% |
| Undisturbed habitat > 50% of Polygon points | = 3 |
| Undisturbed habitat 10-50% and in 1-3 patches points | = 2 1 |
| Undisturbed habitat 10-50% and > 3 patches points | = 1 |
| Undisturbed habitat < 10% of 1 km Polygon points | = 0 |
| H 2.3. Land use intensity in 1 km Polygon: If | |
| > 50% of 1 km Polygon is high intensity land use points = (| - 2) - 2 |
| ≤ 50% of 1 km Polygon is high intensity points | = 0 |
| Total for H 2 Add the points in the boxes abo | ove -1 |
| | |

Rating of Landscape Potential If score is: ____4-6 = H ____1-3 = M ___X < 1 = L

Record the rating on the first page

| H 3.0. Is the habitat provided by the site valuable to society? | |
|--|-------------------------------------|
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Ch | noose only the highest score |
| that applies to the wetland being rated. | |
| Site meets ANY of the following criteria: | points = 2 |
| It has 3 or more priority habitats within 100 m (see next page) | |
| It provides habitat for Threatened or Endangered species (any plant or animal | on the state or federal lists) 1 |
| It is mapped as a location for an individual WDFW priority species | |
| It is a Wetland of High Conservation Value as determined by the Department of | of Natural Resources |
| It has been categorized as an important habitat site in a local or regional comp | rehensive plan, in a |
| Shoreline Master Plan, or in a watershed plan | |
| Site has 1 or 2 priority habitats (listed on next page) within 100 m | χ points = 1 |
| Site does not meet any of the criteria above | points = 0 |
| Rating of Value If score is: 2 = H X 1 = M 0 = L | Record the rating on the first page |
WDFW Priority Habitats

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

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

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

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

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

Habitat Technologies

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Figure B1

The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS'AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose. Date: 6/16/2020 03:55 PM Date: 6/16/2020 03:55 PM

Figure B2

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Figure B3

The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose. Date: 6/16/2020 04:03 PM

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PIONEER **Contributing Basin** è SHAW RD חחחר 12TH AV 0 Legend 1 KM Boundary **Tax Parcels** Roads Verified - - - -Unverified Wetland B Base Parcel **CWI Wetlands** Condominium Delineation Other Delineated 105 420 0 210 County - 2017 Ortho 1:4,800 Feet

Figure B4

The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose. Date: 6/16/2020 04:56 PM

Figure W4



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Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and



Figure W5



0

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and



RATING SUMMARY – Western Washington

Name of wetland (or ID #):part of Parcel 0420351003Date of site visit:16 ARP 2020Rated byHabitat TechnologiesTrained by Ecology? x YesNo Date of training 2014HGM Class used for ratingDepressionalWetland has multiple HGM classes? x YN

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map Pierce County GIS

OVERALL WETLAND CATEGORY 4 (based on functions x or special characteristics)

1. Category of wetland based on FUNCTIONS

Category I – Total score = 23 - 27

Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

X Category IV – Total score = 9 - 15

| FUNCTION | In Wat | nprov ter Q | ving uality | Н | ydrolo | ogic | | Habita | ət | |
|---------------------------|-----------|----------------|----------------|---|--------|--------|-------|----------|-------|-------|
| | | | | | Circle | the ap | propi | riate ra | tings | |
| Site Potential | Н | Μ | L | Н | М | L | Н | М | L | |
| Landscape Potential | н | Μ | L | Н | М | L | Н | М | L | |
| Value | Н | Μ | L | Н | Μ | L | Н | Μ | L | TOTAL |
| Score Based on Ratings | | 6 | | | 5 | | | 4 | | 15 |

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 | I | II |
| Wetland of High Conservation Value | | Ι |
| Bog | | Ι |
| Mature Forest | | Ι |
| Old Growth Forest | | Ι |
| Coastal Lagoon | Ι | II |
| Interdunal | I II | III IV |
| None of the above | | K |

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 | B1 |
| Hydroperiods | D 1.4, H 1.2 | B2 |
| Location of outlet (can be added to map of hydroperiods) | D 1.1, D 4.1 | B2 |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2 | B2 |
| Map of the contributing basin | D 4.3, D 5.3 | B4 |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including | H 2.1, H 2.2, H 2.3 | B3 |
| polygons for accessible habitat and undisturbed habitat | | 20 |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website) | D 3.1, D 3.2 | W4 |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web) | D 3.3 | W5 |

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

1. Are the water levels in the entire unit usually controlled by tides except during floods?

NO – go to 2

YES – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

NO – Saltwater Tidal Fringe (Estuarine) If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO – go to 3 **YES** – The wetland class is **Flats** *If your wetland can be classified as a Flats wetland, use the form for Depressional wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria? ____The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size; ____At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
 - _____The wetland is on a slope (*slope can be very gradual*).
 - The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
 - _____The water leaves the wetland **without being impounded**.

NO – go to 5

YES – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
 - The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
 - ____The overbank flooding occurs at least once every 2 years.

YES - Freshwater Tidal Fringe

Wetland name or number <u>B</u>

NO - go to 6YES - The wetland class is RiverineNOTE: The Riverine unit can contain depressions that are filled with water when the river is not
flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7

YES – The wetland class is Depressional

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

YES – The wetland class is Depressional

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

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

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

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

| DEPRESSIONAL AND FLATS WETLANDS | | |
|--|---|---|
| Water Quality Functions - Indicators that the site functions to improve wa | ter quality | |
| D 1.0. Does the site have the potential to improve water quality? | | |
| D 1.1. <u>Characteristics of surface water outflows from the wetland</u> : Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (r Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing | no outlet). points = 3 g outlet. points = 2 | 2 |
| Wetland has an unconstructed, or slightly constructed, surface outlet that is permanently flowing Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. | points = 1 $points = 1$ $s = 4$ $No = 0$ | 0 |
| D 1.3. <u>Characteristics and distribution of persistent plants</u> (Emergent, Scrub-shrub, and/or Forested Cow Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > ¹/₁₀ of area Wetland has persistent, ungrazed plants < ¹/₁₀ of area | ardin classes): points = 5 points = 3 points = 1 points = 0 | 0 |
| D 1.4. <u>Characteristics of seasonal ponding or inundation</u> : <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ¼ total area of wetland Area seasonally ponded is < ¼ total area of wetland | points = 4 points = 2 points = 0 | 0 |
| Total for D 1 Add the points in the b | oxes above | 2 |

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 0-5 = L Record the rating on the first page

| D 2.0. Does the landscape have the potential to support the water quality function of the site? | | |
|--|---|--|
| D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0 | 0 | |
| D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 | 1 | |
| D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0 | 0 | |
| D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? SourceYes = 1 No = 0 | 0 | |
| Total for D 2Add the points in the boxes above | 2 | |

Rating of Landscape Potential If score is: **3 or 4 = H x 1 or 2 = M 0 = L** *Record the rating on the first page*

| 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 = 1 No = 0 | 0 | |
| D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0 | 1 | |
| D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (<i>answer YES if there is a TMDL for the basin in which the unit is found</i>)? Yes = 2 No = 0 | | |
| Total for D 3Add the points in the boxes above | 3 | |
| Rating of Value If score is: x 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. <u>Characteristics of surface water outflows from the wetland</u> : Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outletpoints = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0 | 2 | | |
| D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outletpoints = 7Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet | 0 | | |
| D 4.3. <u>Contribution of the wetland to storage in the watershed</u> : <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i> The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5 | 3 | | |
| Total for D 4 Add the points in the boxes above | 5 | | |
| Rating of Site Potential If score is: $12-16 = H$ $6-11 = M$ $X_0-5 = L$ 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 receive stormwater discharges? Yes = 1 No = 0 | 0 | | |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0 | 1 | | |
| D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0 | 1 | | |
| Total for D 5Add the points in the boxes above | 2 | | |
| Rating of Landscape Potential If score is: 3 = H X 1 or 2 = M 0 = L Record the rating on the standard term in the stand | first page | | |
| D 6.0. Are the hydrologic functions provided by the site valuable to society? | | | |
| D 6.1. <u>The unit is in a landscape that has flooding problems</u>. <i>Choose the description that best matches conditions around the wetland unit being rated.</i> Do not add points. <u>Choose the highest score if more than one condition is met</u>. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 Surface flooding problems are in a sub-basin farther down-gradient. points = 1 | 1 | | |
| Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why</i> points = 0 There are no problems with flooding downstream of the wetland. points = 0 | | | |
| D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0 | 0 | | |
| Total for D 6 Add the points in the boxes above | 1 | | |
| Rating of Value If score is: 2-4 = H X 1 = M 0 = L Record the rating on the | first page | | |

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

| H 1.5. Special habitat features: | |
|--|---|
| Check the habitat features that are present in the wetland. The number of checks is the number of points. | |
| Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). | |
| Standing snags (dbh > 4 in) within the wetland | |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) | |
| 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) | 0 |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated <i>(structures for egg-laying by amphibians)</i> | |
| Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata) | |
| Total for H 1Add the points in the boxes above | 1 |

Rating of Site Potential If score is: ___15-18 = H ___7-14 = M X_0-6 = L

Record the rating on the first page

| H 2.0. Does the landscape have the potential to support the habitat functions of the site? | |
|---|------|
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). | |
| <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>0</u> % | |
| If total accessible habitat is: | |
| > ¹ / ₃ (33.3%) of 1 km Polygon points = 3 | 0 |
| 20-33% of 1 km Polygon points = 2 | Ũ |
| 10-19% of 1 km Polygon points = 1 | |
| < 10% of 1 km Polygon points = 0 | |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. | |
| <i>Calculate:</i> % undisturbed habitat <u>10</u> + [(% moderate and low intensity land uses)/2] <u>11</u> = <u>21</u> % | |
| Undisturbed habitat > 50% of Polygon points = 3 | |
| Undisturbed habitat 10-50% and in 1-3 patches points = 2 | 1 |
| Undisturbed habitat 10-50% and > 3 patches points = 1 | |
| Undisturbed habitat < 10% of 1 km Polygon points = 0 | |
| H 2.3. Land use intensity in 1 km Polygon: If | |
| > 50% of 1 km Polygon is high intensity land use points = (- 2) | (-2) |
| ≤ 50% of 1 km Polygon is high intensity points = 0 | |
| Total for H 2Add the points in the boxes above | 0 |
| Rating of Landscape Potential If score is:4-6 = H1-3 = M<1 = L Record the rating on the first particular to the state of th | |

| H 3.0. Is the habitat provided by the site valuable to society? | |
|--|-------------------|
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score | |
| that applies to the wetland being rated. | |
| Site meets ANY of the following criteria: points = 2 | |
| It has 3 or more priority habitats within 100 m (see next page) | |
| — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) | 1 |
| It is mapped as a location for an individual WDFW priority species | |
| It is a Wetland of High Conservation Value as determined by the Department of Natural Resources | |
| — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a | |
| Shoreline Master Plan, or in a watershed plan | |
| Site has 1 or 2 priority habitats (listed on next page) within 100 m X points = 1 | |
| Site does not meet any of the criteria above points = 0 | |
| Rating of Value If score is: 2 = H X 1 = M 0 = L Record the rating | on the first page |

WDFW Priority Habitats

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

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

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

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

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 12.0 Photos



View southeasterly across Wetland B from the northwestern corner of the project site.



View easterly across Wetland B from the northwestern corner of the project site.



View westerly from eastern boundary of Wetland A.



View northerly across the eastern portion of the project site.



View northerly along Deer Creek near the southwestern corner of the project site.



View southerly along Deer Creek near the northwestern corner of the project site.