CRITICAL AREAS ASSESSMENT

SUNSET POINTE RESIDENTIAL COMMUNITY PARCELS 0420353026 and 0420353027 2100 - 19th Avenue SE, City of Puyallup, Washington

This report has been revised to incorporate review comments provided by the City of Puyallup Environmental Review Team

prepared for

Ms. Jennifer Caldwell, Senior Planner @ CES NW Inc. 310 - 29th Street NE, Suite 101 Puyallup, Washington 98372

prepared by

P.O. Box 1088
Puyallup, Washington 98371-1088
253-845-5119

January 19, 2018

REVISED SEPTEMBER 21, 2018

Table of Contents

INTRODUCTION	1
PROJECT SITE DESCRIPTION	1
BACKGROUND INFORMATION	2
NATIONAL WETLAND INVENTORY STATE OF WASHINGTON PRIORITY HABITATS AND SPECIES STATE OF WASHINGTON DEPARTMENT OF FISH AND WILDLIFE STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES CITY OF PUYALLUP MAPPING SOILS MAPPING	
ONSITE ANALYSIS	3
CRITERIA FOR CRITICAL AREAS IDENTIFICATION Wetlands Fish and Wildlife Habitat Areas STUDY METHODS FIELD OBSERVATION Onsite Plant Communities Hydrology Patterns Soils Wildlife	
CRITICAL AREAS DETERMINATION	9
WETLANDS Wetland D Wetland E FISH AND WILDLIFE HABITAT AREAS Stream B	1 <i>0</i> 1 <i>1</i> 11
INTENTIONALLY CREATED MAN-MADE FEATURES	12
EXCAVATED PONDS	12
SELECTED DEVELOPMENT ACTION	12
STANDARD OF CARE	13
FIGURES	14
REFERENCE AND BACKGROUND LIST	15
APPENDIX A – FIELD DATA FORMS	17
APPENDIX R - WETLAND RATING WORKSHEETS	18

INTRODUCTION

This document details the culmination of activities and onsite evaluations undertaken to complete a critical areas (i.e. wetlands, streams, fish and wildlife habitats) assessment for the proposed **Sunset Pointe Residential Community - Parcels 0420353026 and 0420353027 (project site).** Initial planning for this residential community also included two independent parcel to the north of 19th Avenue SE (Parcels 0420353009 and 0420157011). However, these two northern parcels have been removed for this residential community following a series of discussions with the City of Puyallup Environmental Review Team.

The project site was located at 2100 - 19th Avenue SE 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, to include the establishment of protective buffers, does not result in adverse environmental impacts to identified critical areas, their associated buffer, or adversely impact local water quality.

The assessment and delineation of specific critical areas within and immediately adjacent to the project site followed the methods and procedures defined in the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010); the Washington State *Wetland Rating System for Western Washington* (Hruby, 2014), the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030), and the City of Puyallup Chapter 21. This document was designed to accommodate site planning and potential regulatory actions and is suitable for submittal to federal, state, and local authorities for potential critical areas verification and permitting actions.

PROJECT SITE DESCRIPTION

The project site was irregular in shape and approximately 9.45-acres in size. The project site was accessed along the northwestern boundary via 19th Avenue SE. The project site was surrounded by existing development to the west, east, and south. A vacant parcel was located to the north. The project site had undergone a number of land use manipulations over the past several decades. These manipulations have included forest harvest; clearing and grading; excavation, creation, and maintenance of a series of ornamental ponds; the development and management of pastures; perimeter and internal fencing; the development of internal roadways; the development and demolition of prior homesites and associated outbuildings, the development of a new single-family home; the manipulation of seasonal surface water runoff within the watershed; and the development of adjacent parcels and public roadways.

Legal Description - Parcel 0420353026: Section 35 Township 20 Range 04 Quarter 33: PARCEL `C` 0F DBLR 95-07-17-0491 DESC AS FOLL COM AT SW COR OF SW TH N ALG W LI SD SW 1387.82 FT TO NW COR OF SW OF SW TH E ALG N LI SD SUBD 1260.60 FT TO POB TH CONT E 81.25 FT TH S 51 DEG 21 MIN 11 SEC E

Legal Description - Parcel 0420353027: Section 35 Township 20 Range 04 Quarter 34: PARCEL `D` OF DBLR 95-05-17-0491 DESC AS FOLL COM AT SW COR OF SW TH E ALG S LI SD SW 1974.60 FT TH N 01 DEG 06 MIN 54 SEC W 615.92 FT TO POB TH N 87 DEG 01 MIN 41 SEC W 292.30 FT TH N 61 DEG 33 MIN 32 SEC W 4

Directions to Project Site: From Meridian Avenue South through the center of the City of Puyallup turn east onto 23rd Avenue SE. Continue easterly on 23rd Avenue SE to 19th Street SE. Turn north onto 19rd Street SE and continue to 21st Avenue SE. Turn east onto 21st Avenue SE and continue to 2100 - 21st Avenue SE (project site).

BACKGROUND INFORMATION

NATIONAL WETLAND INVENTORY

The National Wetland Inventory (NWI) Mapping completed by the U.S. Fish and Wildlife Service was reviewed as a part of this assessment. This mapping resource identified an excavated pond within the central portion of the project site. This excavated pond was identified as palustrine, unconsolidated bottom, permanently flooded, excavated (PUBHx) (Figure 2). This mapping resource also identified an excavated pond directly to the south of the southwestern corner of the project site. The adjacent excavated pond to the south was identified as palustrine, unconsolidated bottom, permanently flooded, excavated (PUBHx).

STATE OF WASHINGTON PRIORITY HABITATS AND SPECIES

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

STATE OF WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

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

STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

The State of Washington Department of Natural Resources (WDNR) *Water Type Mapping* was reviewed as a part of this assessment (Figure 5). This mapping resource did not identify any wetlands or drainage corridors within or immediately adjacent to the project site.

CITY OF PUYALLUP MAPPING

The City of Puyallup *Inventory Mapping* was reviewed as a part of this assessment (Figure 6). This mapping resource identified a stream entering the southwestern portion of the project site. This stream then crossed through the project site to the east/northeast existing along the eastern boundary of the project site. This mapping resource also noted an offsite wetland to the west of 21st Avenue SE to the west of the project site.

SOILS MAPPING

The soil mapping prepared by the *Natural Resource Conservation Service* was reviewed as a part of this assessment (Figure 5). This mapping resource identified the northern portion of the project site was dominated by Kitsap silt loam (#20B and #20C). The Kitsap soil series consists of moderately well drained soil that formed in glacial lake sediments on remnant terraces along Puget Sound. This mapping resource also identified the southern portion of the project site to contain Everett gravelly sandy loam (#13C). The Everett soil series is noted as somewhat excessively drained and formed in gravelly glacial outwash. The Everett soil series is not listed as a "hydric" soil.

ONSITE ANALYSIS

CRITERIA FOR CRITICAL AREAS IDENTIFICATION

The City of Puyallup defines "critical areas" to include wetlands, fish and wildlife habitat areas, critical aquifer recharge areas, geologically hazardous areas, and frequently flooded areas. The critical areas assessment reported in this document has been limited to address wetlands and fish and wildlife habitat areas.

Wetlands: The City of Puyallup has defined "wetlands" as areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, retention 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 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 plan 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 repented 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.

Fish and Wildlife Habitat Areas: The City of Puyallup has defined "fish and wildlife habitat areas" to include those areas necessary for maintaining species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created as designated by WAC 365-190-080. These areas include:

- (a) Areas with which state or federally designated endangered, threatened, and sensitive species have a primary association;
- (b) Habitats of local importance, including but not limited to areas designated as priority habitat by the Department of Fish and Wildlife;
- (c) Streams and surface waters within the jurisdiction of the state of Washington; and

(d) Land essential for preserving connections between habitats and open spaces.

STUDY METHODS

Habitat Technologies completed a series of onsite assessments from September through early December 2017. In addition, Habitat Technologies has completed similar assessments for parcels located within the general area of the project site over the past several decades. The objective of this evaluation was to define and delineate potential critical areas (wetlands; drainage corridors; and fish and wildlife habitats) that may be present within or immediately adjacent to the project area. Onsite activities were completed in accordance with criteria and procedures established in the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010); the Washington State *Wetland Rating System for Western Washington* (Hruby, 2014), the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030), and the City of Puyallup Chapter 21.

FIELD OBSERVATION

The project site was accessed via 19th Street SE along the northwestern boundary of the project site. The project site had historically been managed as a single-family home associated with the production of livestock and for the production of hay crops. These activities appeared to have stopped around 2008. The phased demolition of the historic single-family home and associated outbuildings appeared to have begun in 2011. A new single-family home appeared to have been constructed in 2014 and was located at 2100 - 19th Avenue SE (along the western boundary of the project site).

The project site had undergone a number of land use manipulations over the past several decades. These manipulations have included forest harvest; clearing and grading; excavation, creation, and maintenance of a series of ornamental ponds; the development and management of pastures; perimeter and internal fencing; the development of internal roadways; the development and demolition of prior homesites and associated outbuildings, the development of a new single-family home; the manipulation of seasonal surface water runoff within the watershed; and the development of adjacent parcels and public roadways.

The project site was generally slightly sloped to the north/northeast. A ravine crossed through the site from the western boundary to the eastern boundary. This ravine was identified to contain a seasonal stream that originated offsite to the south. Onsite this ravine had undergone prior development actions to include the excavation and creation of three (3) ornamental ponds. These ponds appeared to have been created through the excavation of material within the ravine and through the placement of material to establish two (2) internal roadways corridors crossing the ravine generally north to south. Hydrology

control structures and culverts had been installed to intentionally control surface water ponding within these ornamental features.

Onsite Plant Communities

The plant communities throughout the entire project site had been altered by prior and ongoing land use actions. The plant community within the very southwestern portion of the project site adjacent with the drainage corridor was dominated by a mixed forest that included a number of mature trees. Observed tree species included Douglas fir (Pseudotsuga menziesii), Western red cedar (Thuja plicata), big leaf maple (Acer macrophyllum), red alder (Alnus rubra), Western hemlock (Tsuga heterophylla), Hawthorne (Crataegus monogyna), and black cottonwood (Populus trichocarpa). The understory within this forested area included hazelnut (Corylus cornuta), vine maple (Acer circinatum), Scot's broom (Cytisus scoparius), Himalayan blackberry (Rubus procera), evergreen blackberry (Rubus laciniatus), trailing blackberry (Rubus ursinus), Oregon grape (Berberis nervosa and Berberis aquifolium), snowberry (Symphoricarpus albus), salmonberry (Rubus spectabilis), wild rose (Rosa gymnocarpa), Indian plum (Oemleria cerasiformis), sword fern (Polystichum munitum), bracken fern (Pteridium aquilium), salal (Gaultheria shallon), holly (Ilex spp.), Pacific red elderberry (Sambucus racemosa), geranium (Geranium spp.), smooth cats ear (Hypochaeris glabra), nettle (Urtica dioica), and buttercup (Ranunculus repens). This plant community was identified as nonhydrophytic in character (i.e. typical of non-wetlands).

The plant community associated with the drainage corridor and intentionally excavated ornamental ponds within the southern portion of the project site included a mixture of mature trees, dense shrubs, grasses, herbs, and aquatic plants. Observed species included red alder, Western red cedar, black cottonwood, salmonberry, Douglas spiraea (Spiraea douglasii), red osier dogwood (Cornus stolonifera), twinberry (Lonicera involucrata), nettle, buttercup, skunk cabbage (Lysichitum americanum), softrush (Juncus effusus), slough sedge (Carex obnupta), reed canarygrass (Phalaris arundinacea), reed managrass (Glyceria grandis), common cattail (Typha latifolia), water parsley (Oenanthe sarmentosa), speedwell (Veronica spp.), lady fern (Athyrium filix-femina), small fruited bulrush (Scirpus microcarpus), and horsetail (Equisetum spp.). This plant community appeared to have formed following the creation of the three (3) excavated ponds within the drainage corridor. This plant community was identified as hydrophytic in character (i.e. typical of wetlands).

Hydrology Patterns

Onsite hydrology appeared to be the result of seasonal stormwater runoff from onsite and offsite areas, concentration of surface flows within identified drainage corridor, and the series of onsite hillside seeps. The majority of the project site appeared to drain moderately well and did not exhibit field indicators associated with the movement of seasonal surface water runoff.

A surface water drainage corridor was identified entering near the southwestern corner of the project site. This drainage corridor extended through the project site generally to the east/northeast within a well-defined ravine. This ravine had undergone prior development actions to include the intentional creation of three (3) excavated ornamental ponds. These ornamental ponds appeared to have been created through the excavation of material within the ravine and through the placement of material to establish two (2) internal roadways corridors crossing the ravine generally north to south. Hydrology control structures and culverts had been installed to intentionally control surface water ponding within these ornamental features. At the property boundary the surface water within this drainage corridor was captured within a buried drainage system installed as a part of the development of the adjacent residential community. This drainage appeared to be an eventual tributary to the Deer Creek System located well offsite to the northeast. The lower reaches of Deer Creek well offsite have been identified to meet the criteria for designation as a City of Puyallup Category II Stream with salmonids.

Soils

As documented at several sample plots the project site was dominated by soil that exhibited a silty loam texture and coloration typical of the Kitsap soil series. The majority of the onsite soil appeared to drain moderately well and did not exhibit prominent redoximorphic features. In addition, prior land use actions appeared to have dramatically altered the surface soil profile. Within many areas the surface soil appeared to have been removed by prior grading. Throughout the project site the surface soil had been compacted by the historic livestock usage.

A drainage corridor was identified entering the project site near the southwestern boundary and continued through the project site through a series of intentionally excavated ornamental ponds to the eastern boundary. The surface soil within these intentionally excavated ponds was black to very dark gray (10YR 2/1 to 10YR 3/1) to a depth of 8 to 20 inches. The subsoil to a depth of 20 to 24 inches was very dark gray to gray (10YR 3/1 to 10YR 4/2) and exhibited prominent redoximorphic features and oxidized root channels. The soil within these intentionally excavated ponds exhibited a surface layer of generally soft captured alluvial sandy silty loam to silty loam with a high organic content as a result of intentionally ponded seasonal surface water.

Wildlife

Wildlife species observed onsite, observed within the general area during prior assessments, and that would be reasonably expected to utilize the habitats provided within or adjacent to the project site would include red tailed hawk (*Buteo jamaicensis*), great blue heron (*Ardea herodias*), American crow (*Corvus brachynchos*), American robin (*Turdus migratorius*), black capped chickadee (*Parus atricapillus*), dark eyed junco (*Junco hyemalis*), rufous hummingbird (*Selasphorus rufus*), merlin (*Falco columbarius*), pileated

woodpecker (Dryocopus pileatus), rock dove (Columbia livia), evening grosbeak (Hesperiphona vespertina), black-headed grosbeak (Pheucticus melanocephalus), mourning dove (Zenaida macroura), red winged blackbird (Agelaius phoenisues), brewers blackbird (Euphagus cyanocephalus), golden crowned sparrow (Zonotrichia atricapilla), song sparrow (Melospiza melodia), white crowned sparrow (Zonotrichia leucophrys), house sparrow, house finch (Carpodacus mexicanus), starling (Sturnus vulgaris), American goldfinch (Carduelis tristis), purple finch (Carpodacus purpureus), violet green swallow (Tachycineta thallassina), tree swallow (Tachycineta bicolor), barn swallow (Hirundo rustica), song sparrow (Melospiza melodia), Steller's jay (Cyanocitta stelleri), starling (Sturnus vulgaris), black capped chickadee (Parus atricapillus), Northern flicker (Colaptes auratus), house sparrow (Passer domesticus), rufous-sided towhee (Pipilo erythrophthalmus), American goldfinch (Carduelis tristis), marsh wren (Cistothorus palustirs), killdeer (Charadrius vociferus), common mallard (Anas platyrhynchos), Canadian goose (Branta canadensis), black tailed deer (Odocoileus hemionus), coyote (Canis latrans), raccoon (Procyon lotor), striped skunk (Mephitis mephitis), opossum (Didelphis virginianus), eastern gray squirrel (Sciurus carolinensis), deer mouse (Peromyscus maniculatus), shrew (Sorex spp.), Townsend mole (Scapanus townsendii), voles (Microtus spp.), Norway rat (Rattus norvegicus), bats (Myotis spp.), common garter snake (Thamnophis sirtalis).

The project site provided suitable spawning and rearing habitats for Pacific treefrog (*Hyla regilla*), red-legged frog (*Rana aurora*), and salamander (*Ambystoma* spp). Common garter snake (*Thamnophis sirtalis*) was also present across the project site.

The project site did **not** provide direct habitats for fish species.

Wildlife Movement Corridors: The project site was within a well urbanized area. As identified by onsite wildlife trials, small and medium sized mammals appeared to be moving throughout the project site. The project site is also within the general area of the migratory movement of passerine birds.

State Priority Species: Several species identified by the State of Washington as "Priority Species" were observed onsite or potentially may utilize 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 black tailed deer, common mallard, Canada goose, and mourning dove.

State Monitored: State Monitored species are native to Washington but require habitat that has limited availability, are indicators of environmental quality, require further assessment, have unresolved taxonomy, may be competing with other species of concern, or have significant popular appeal. One State Monitored

species – great blue heron - was observed within the excavated pond in the southern portion of the project site.

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. One State Candidate species - pileated woodpecker – was not observed to use the habitats associated with the project site but has been identified during prior assessments to use the habitats associated with Wildwood Park located offsite to the west.

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 or have been documented to use the habitats associated with the project site.

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 and has not been documented to provide direct critical habitats for State Listed 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 and has not been documented to provide direct critical habitats for State Listed Endangered species.

Federally Listed Species: The project site has not been documented to provide critical habitats for federally listed Endangered, Threatened, or Sensitive species. A single, federally listed species of concern – bald eagle – has been documented to use the offsite habitats associated with the Puyallup River Corridor and the Clarks Creek Corridor.

CRITICAL AREAS DETERMINATION

WETLANDS

Wetland determination was based on observations of hydrophytic vegetation, hydric soils, and wetland hydrology in accordance with the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010). Based on these methods

no area within the project site was identified within the project site to exhibit all three of the established wetland criteria. Two (2) areas within the vicinity of the project site were identified to exhibit all three of the established wetland criteria.

WETLAND	CLASSIFICATION (USFWS)	CITY OF PUYALLUP CATEGORY	WDOE RATING SCORE	WDOE HABITAT SCORE	BUFFER WIDTH (High Intensity)
D	PFOEx/PSSEx	III	17	6	150 feet
E	PSSE/PEME	III	16	5	150 feet

Wetland D: Wetland D was identified offsite to the north of the eastern portion of the of the project site. This wetland was within a ravine associated with hillside seeps and a seasonal surface water drainage corridor. Hydrology for this wetland appeared to be provided primarily by the hillside seeps and seasonal surface water runoff from the local area. Wetland D had undergone prior land use manipulations to include clearing, grading, the intentional excavation of small livestock ponds, the installation of culverts, and the creation of internal roadways. Wetland D was dominated by a mixed forest plant community. The understory was limited as a result of the prior livestock grazing. The movement of surface water through this wetland was intermittent and controlled in part by prior ditch excavation. However, this movement did not form a continuous defined channel or swale. Surface flow within Wetland D was captured along the eastern parcel boundary and conveyed offsite via a buried storm drainage system.

Wetland D met the U.S. Fish and Wildlife Service (USFWS) criteria for classification as palustrine, forested, seasonally flooded/saturated, excavated (PFOEx); and palustrine, scrub-shrub, seasonally flooded/saturated, excavated (PEMEx). Following a series of discussions with City of Puyallup Environmental Review Team Wetland D was best defined to meet the criteria for designation as a City of Puyallup Category III Wetland. Wetland D achieved a total functions score of 17 points utilizing the Washington State Department of Ecology (WDOE) Wetland Rating Form for Western Washington (Hruby 2014) (Appendix B).

Wetland E: Wetland E was identified offsite to the north of the western portion of the project site within a swale adjacent to 21st Street SE. Hydrology appeared provided primarily from hillside seeps and seasonal sheetflow from adjacent upland areas. Wetland E was dominated by blackberries and included areas of buttercup, slough sedge, soft rush, and reed canary grass. Wetland E had undergone prior land use manipulations associated with livestock usage. The development of 21st Street SE also appeared to have been completed without the placement of a culvert to allow for the movement of seasonal surface water runoff to the northwest as existing topography would suggest.

This wetland met the USFWS criteria for classification as palustrine, emergent, seasonally flooded/saturated (PEME). Following a series of discussions with City of Puyallup Environmental Review Team Wetland E appeared best defined to meet the criteria for designation as a City of Puyallup Category III Wetland. Wetland E achieved a total functions score of 16 points utilizing the WDOE Wetland Rating Form for Western Washington (Hruby 2014) (Appendix B).

FISH AND WILDLIFE HABITAT AREAS

This onsite assessment and discussions with the City of Puyallup Environmental Review Team identified two (2) City of Puyallup designated "fish and wildlife habitat areas." These areas were identified within and immediately adjacent to the project site and were defined as "streams" within the jurisdiction of the State of Washington. No state or federally designated endangered, threatened, and sensitive species have been documented to have a primary association within the habitats onsite; no portion of the project site has been defined as a "habitat of local importance;" and no lands essential for preserving connections between habitats and open spaces have been identified or documented within the project site.

Stream A: Stream A was identified entering near the southwestern corner of the project site. This drainage corridor extended through the project site generally to the east/northeast within a well-defined ravine. This ravine had undergone prior development actions to include the intentional creation of three (3) excavated ornamental ponds. These ornamental ponds appeared to have been created through the excavation of material within the ravine and through the placement of material to establish two (2) internal roadways corridors crossing the ravine generally north to south. Hydrology control structures and culverts had been installed to intentionally control surface water ponding within these ornamental features. At the property boundary the surface water within this drainage corridor was captured within a buried drainage system installed as a part of the development of the adjacent residential community. This drainage appeared to be an eventual tributary to the Deer Creek System located well offsite to the northeast.

As discussed with the City of Puyallup Environmental Review Team Stream A meet the criteria for designation as a City of Puyallup Type III Stream within the project site. A Type III Stream is defined to exhibit perennial or intermittent flow and as not used by anadromous fish. The standard buffer for a Type III Stream is 50 feet in width as measured perpendicular from the ordinary high water mark (OHWM).

Stream B: Stream B was identified offsite to the north of the eastern portion of project site and as associated with offsite Wetland D. This stream commenced from a series of hillside seeps then flowed generally to the north/northeast. Hydrology was collected in a drainage system along the western boundary of the adjacent housing development. Further to the north, hydrology appeared to infiltrate within the historic pasture area. Stream B had undergone prior development activities to include to creation of excavated livestock ponds, ditching, internal road crossing, and culvert installation within the project site.

Stream B appeared to meet the criteria for designation as a City of Puyallup Type III Stream. A Type III Stream is defined to exhibit perennial or intermittent flow and as not used by anadromous fish. The standard buffer for a Type III Stream is 50 feet in width as measured perpendicular from the OHWM.

INTENTIONALLY CREATED MAN-MADE FEATURES

EXCAVATED PONDS

Three intentionally excavated ponds were identified associated with Stream A in the southern portion of the project site. These excavated ponds had been created in a topographic ravine that contained Stream A which entered the site near the southwestern boundary and continued through the site generally to the east/northeast. These ponds appeared best defined as intentionally created through the excavation of material within the Stream A ravine and through the placement of material to establish two (2) internal roadways corridors crossing the ravine generally north to south. Hydrology control structures and culverts had also been installed and maintained to provide hydrology within the ponds and to control seasonal high storage levels. These excavated ponds had been historically created as a part of the site development activities associated with the use by livestock and irrigation of the project site.

These intentionally excavated ponds appeared to meet the criteria within the City of Puyallup Title 21.06.210 Definitions section:

(21.06.210.75) "Intentionally created wetland or surface water systems" means wetlands or surface water systems created through purposeful human action, such as irrigation and drainage ditches, grass-lined swales, canals, farm ponds, detention/retention facilities, and landscape/ornamental amenities. Purposeful creation must be demonstrated through documentation, photographs, statements and/or other evidence. Intentionally created wetlands or surface water systems do not include areas or systems created as mitigation.

SELECTED DEVELOPMENT ACTION

The Selected Development Action for the project site for the project site focuses on the creation of a number of new parcels suitable for single-family homesite development. The final creation of new homesite parcels would be consistent with the City of Puyallup Comprehensive Plan, local zoning, and the City's Critical Areas Ordinance. As presently identified within the initial site plan and as discussed with the City of Puyallup Environmental Review Team, the final site plan would establish a protective stream buffer as measured from the top edge of the excavated ponds associated with Stream A within the project site. Protective buffers associated with Wetlands D and E located offsite to the north would not be expected to encroach into the project site. The proposed development of this residential community would avoid potential adverse impacts to identified streams and wetlands within the project site and adjacent area.

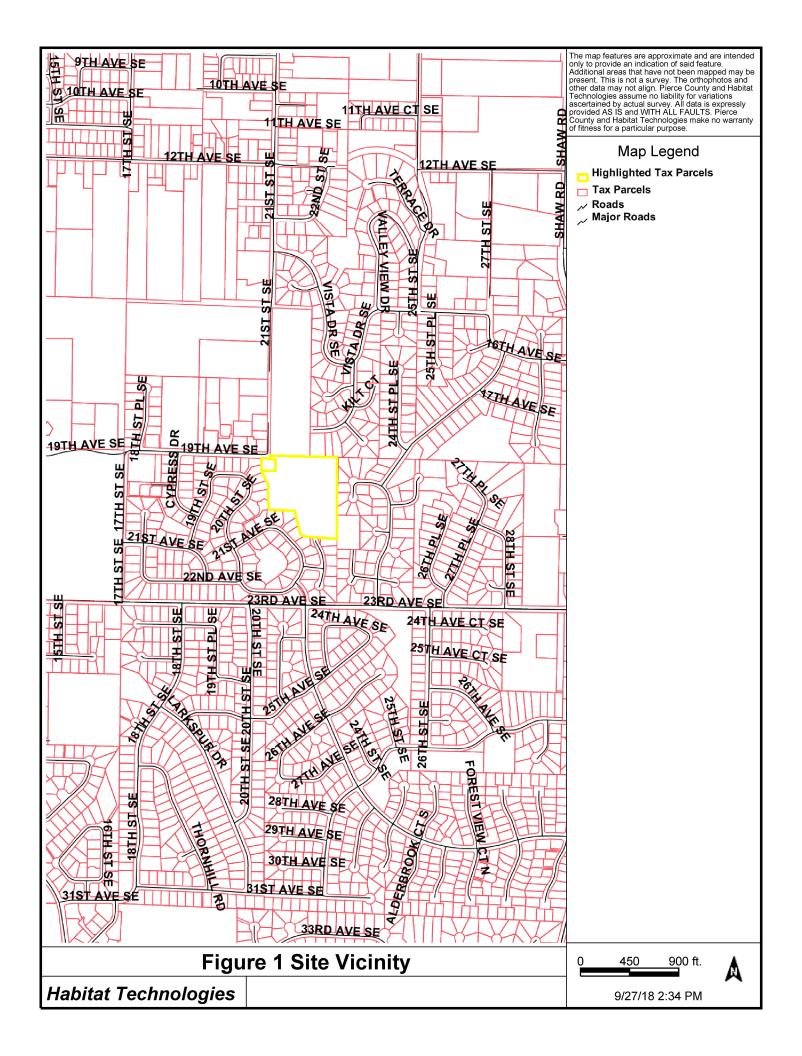
STANDARD OF CARE

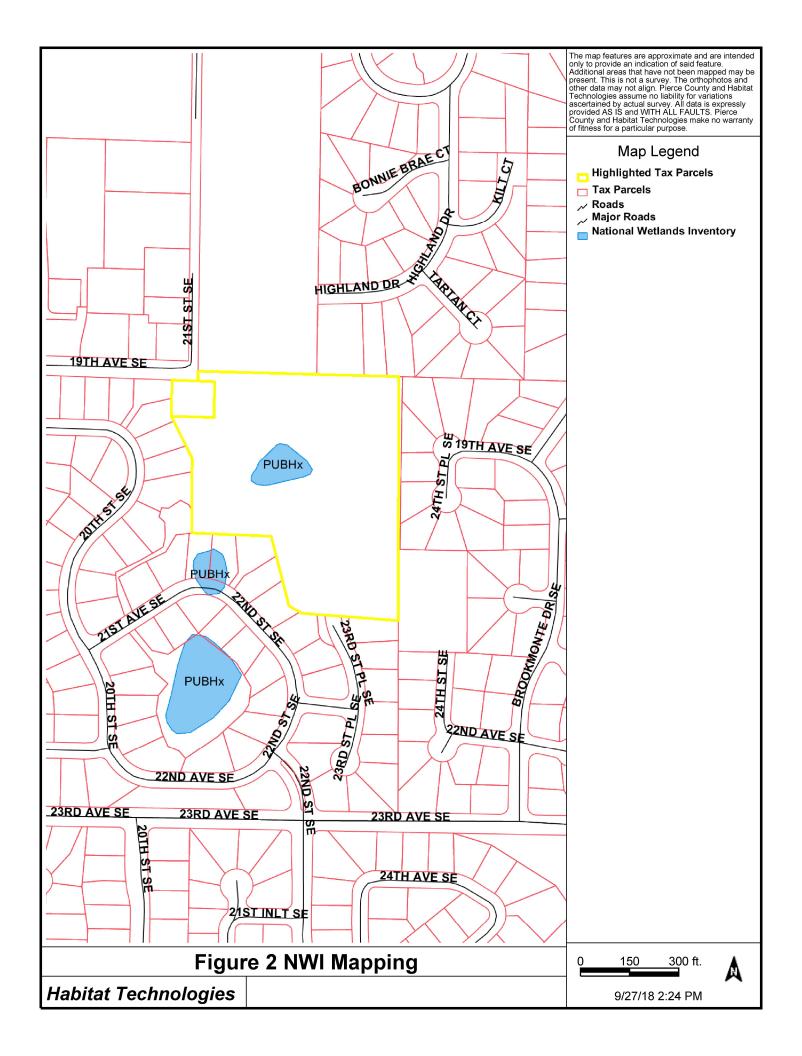
This document has been completed by Habitat Technologies for use by **CES NW Inc**. Prior to extensive site planning the findings documented in this document should be reviewed and verified by the City of Puyallup. Habitat Technologies has provided professional services that are in accordance with the 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, PWS
Habitat Technologies

FIGURES





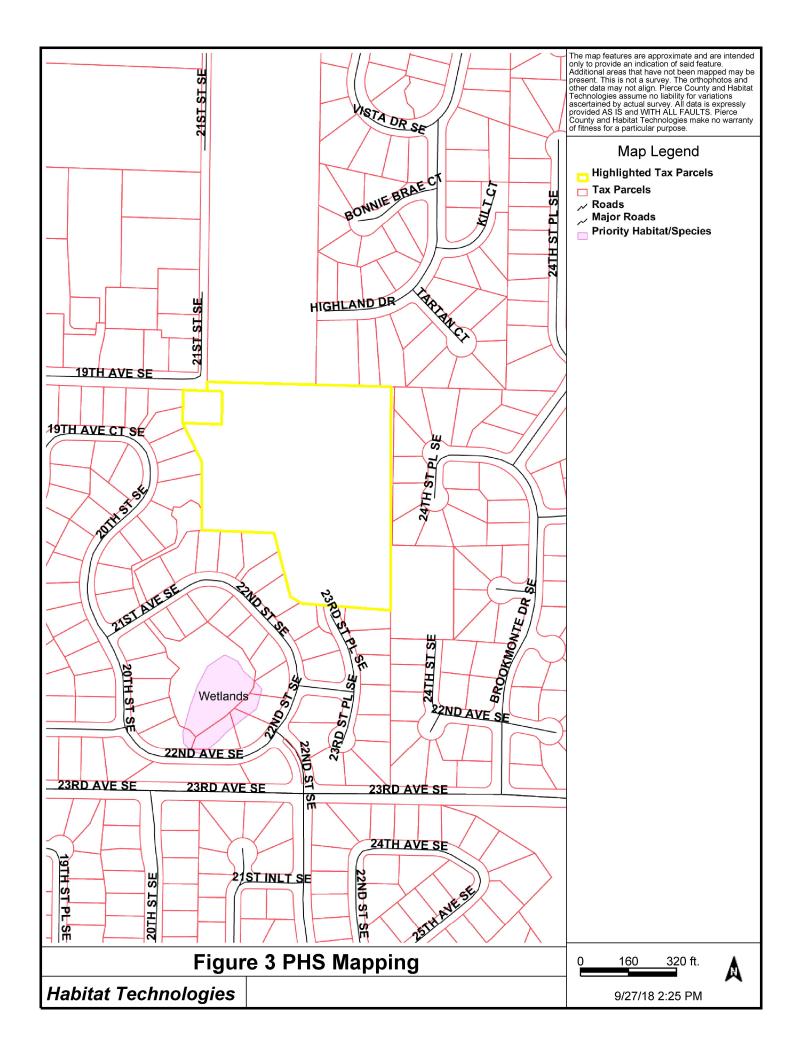
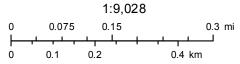


Figure 4 WDFW Mapping



September 27, 2018

— All SalmonScape Species

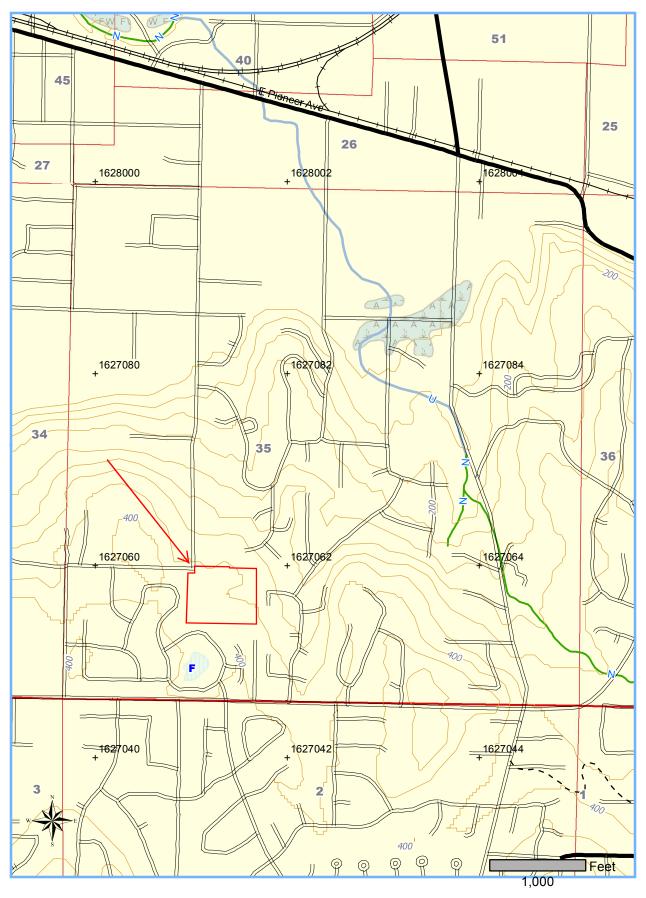


USGS/NHD
Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus
DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 5 FOREST PRACTICE WATER TYPE MAP

TOWNSHIP 20 NORTH HALF 0, RANGE 04 EAST (W.M.) HALF 0, SECTION 35

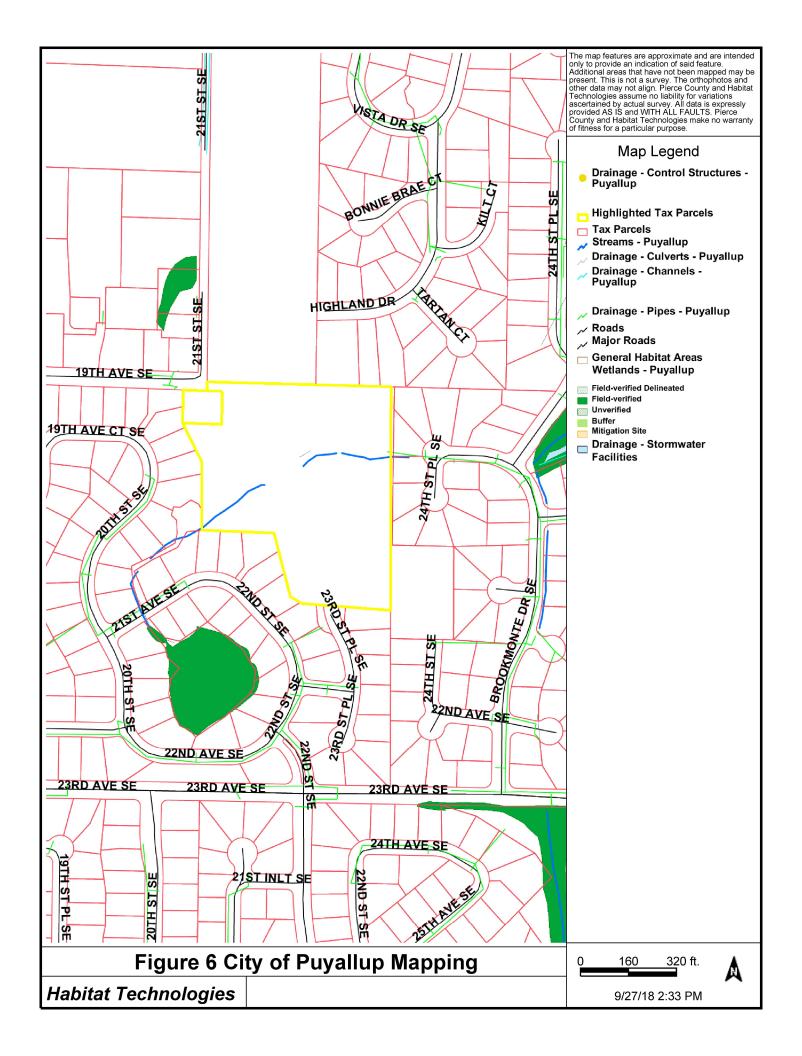
Application #:

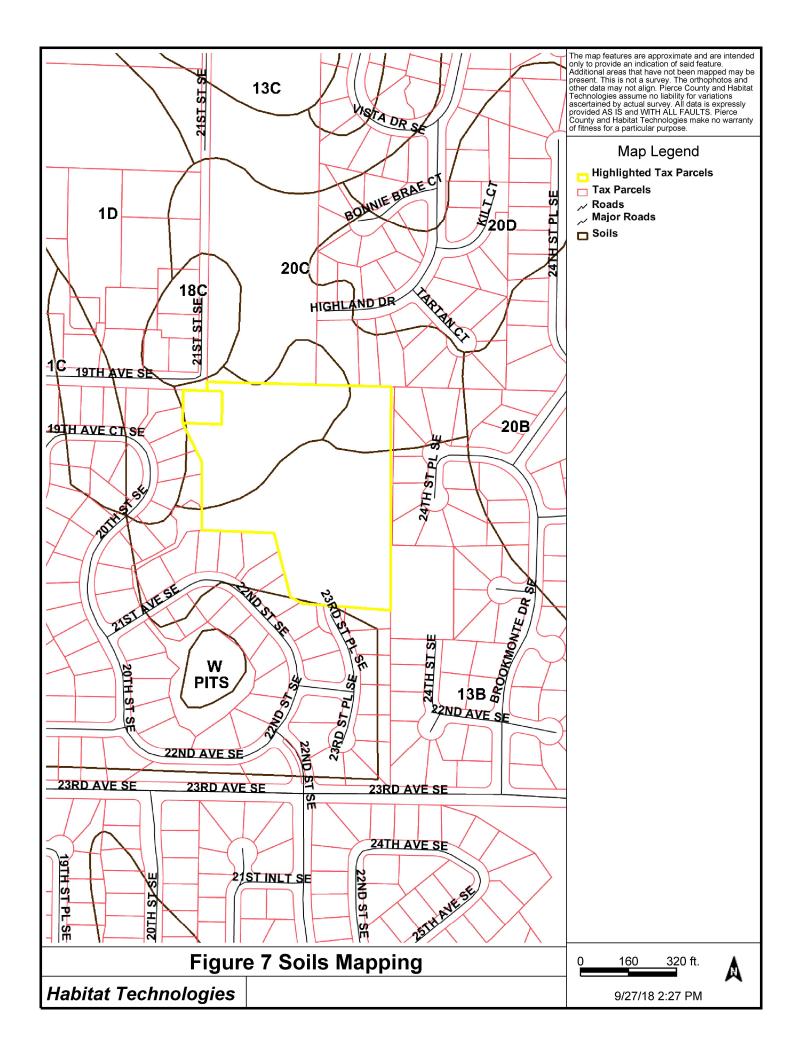


Date: 10/31/2017 Time: 10:43:11 AM

NAD 83

Contour Interval: 40 Feet





REFERENCE AND BACKGROUND LIST

Adamus, P.R., E.J. Clairain Jr., R.D. Smith, and R.E. Young. 1987. Wetland Evaluation Technique (WET); Volume II: Methodology, Operational Draft Technical Report Y-87, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Cowardin, Lewis M. et al, 1979. Classification of Wetlands and Deepwater Habitats of the United States. Office of Biological Services, U.S. Fish and Wildlife Service, U.S. Department of the Interior, FWS/OBS-79/31.

Hitchcock, C.L., A. Cronquist. 1977. Flora of the Pacific Northwest. University of Washington Press. Seattle, Washington.

Hruby, T. 2008. Washington State Wetland Rating System for Western Washington: 2008 Update. Publication #08-06-029. Olympia, WA: Washington Department of Ecology.

Hruby, T. 2014. Washington State Wetland Rating System for Western Washington: 2014 Update. Publication #14-06-029. Olympia, WA: Washington Department of Ecology.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetlands Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X. http://wetland-plands. Usace.army.mil/

Reppert, R.T., W. Sigleo, E. Stakhiv, L. Messman, and C. Meyers. 1979. Wetland Values - Concepts and Methods for Wetland Evaluation. Research Report 79-R1, U.S. Army Corps of Engineers, Institute for Water Resources, Fort Belvoir, Virginia.

United States Army Corps of Engineers, 1987. Wetlands Delineation Manual. Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. March 1987.

United States Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), Environmental Laboratory ERDC/EL TR-08-13.

US Climate Data, 2015 http://www.usclimatedata.com/climate/tacoma/washington/united-states/ uswa0441/0441/2014/1

USDA Natural Resource Conservation Service Plants Database, 2015 (for hydrophytic plan classification): http://plants.usda.gov/

United States Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey. 2016 http://vewsoilsurvey.nrcs.usda.gov/app/newfeatures.2.3.htm.

US Fish and Wildlife Service National Wetland Inventory Mapper, 2016 (for NWI wetland mapping): http://www.fws.gov/wetlands/Data/Mapper.html.

Washington State Department of Ecology. 1997. Washington State Wetlands Identification and Delineation Manual. Publication Number 96-94.

Washington State Department of Fish and Wildlife Priority Habitats and Species Maps 2016 http://wdfw.wa.gov/mapping/phs/

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

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

APPENDIX A – Field Data Forms

Project/Site: Sunset Pointe	C	ity/County: Puy	Sampling Date:03 OCT 2017			
Applicant/Owner:			Sampling Point: <u>SPB-1</u>			
Investigator(s): Habitat Technologies		Secti	on, Township, Range: <u>S35,</u>	T20, R4E		
Landform (hillslope, terrace, etc.):		Local relief (cor	ncave, convex, none):	Slope (%):		
Subregion (LRR): A						
Soil Map Unit Name: <u>Kitsap silt loam</u>						
Are climatic / hydrologic conditions on the site typical for						
Are Vegetation, Soil, or Hydrology s	-		، "Normal Circumstances" ا			
Are Vegetation, Soil, or Hydrology n			f needed, explain any answei			
SUMMARY OF FINDINGS – Attach site ma			•	,		
Lindranbutia Variation Durant?						
Hydrophytic Vegetation Present? Yes ⊠ No Hydric Soil Present? Yes ⊠ No	=	Is the S	ampled Area			
Wetland Hydrology Present? Yes ⊠ No	_	within a	Wetland? Yes	⊠ No □		
Remarks: Wetland D.						
VEGETATION – Use scientific names of pla	ants.					
Trop Stratum (Diet size) 45ft radius)	Absolute	Dominant Inc		worksheet:		
<u>Tree Stratum</u> (Plot size: <u>15ft radius</u>) 1. <u>Alnus rubra</u>		Species? S yes FA	— Number of Domina			
2.						
3.			Total Namber of B			
4.				(b)		
		= Total Cove	I Percent of Domina			
Sapling/Shrub Stratum (Plot size: 15ft radius)	· 		That Are ODE, I AC	(AB)		
1. Cornus stolonifera	20	<u>yes</u> <u>FA</u>				
2				of: Multiply by:		
3				x 1 =		
4				x 2 =		
5				x 3 =		
Herb Stratum (Plot size: 15ft radius)	<u>20</u>	= Total Cove		x 4 = x 5 =		
1. Lysichitum americanum	30	yes OE	N .	(A) (B)		
2. Equisetum arvense				(A) (B)		
3				ndex = B/A =		
4				etation Indicators:		
5			 '	Hydrophytic Vegetation		
6						
7						
8		·		Adaptations ¹ (Provide supporting marks or on a separate sheet)		
9			— ☐ Wetland Non-V	· · · · · · · · · · · · · · · · · · ·		
10		·	—	ydrophytic Vegetation¹ (Explain)		
11		· _	Indicators of hydri	c soil and wetland hydrology must		
Woody Vine Stratum (Plot size: 15ft radius)	<u>50</u>	= Total Cove		disturbed or problematic.		
1. Rubus procera	40	<u>yes FA</u>	vC			
2.		· 	Hydrophytic Vegetation			
	40	= Total Cove	_ ~	Yes ⊠ No □		
% Bare Ground in Herb Stratum 40	· <u> </u>	•				
Remarks:						

Depth (inches) Color (moist) 0-4 10YR 2/1 4-20 10YR 4/2	100	Redox Features		
0-4 10YR 2/1	100			
<u> </u>		lor (moist) % Type	Loc ²	Texture Remarks
4-20 10YR 4/2	_ 80 10			<u>L</u>
	_ <u> </u>	YR 4/6 20 C	М	Gcl
		<u> </u>		
				
				
		educed Matrix, CS=Covered or Co	ated Sand Gra	rains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Appli	cable to all LR	Rs, 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) (exce	pt MLRA 1)	☐ Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		☐ Other (Explain in Remarks)
Depleted Below Dark Surface		Depleted Matrix (F3)		31m diagram of hardware backs and the
☐ Thick Dark Surface (A12)	_	Redox Dark Surface (F6)		³ Indicators of hydrophytic vegetation and
☐ Sandy Mucky Mineral (S1)☐ Sandy Gleyed Matrix (S4)		Depleted Dark Surface (F7) Redox Depressions (F8)		wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if present):		Nedox Depressions (10)		unless disturbed of problematic.
Type:				
Depth (inches):				Hydric Soil Present? Yes ⊠ No □
Remarks:		_		Hydric Soil Present? Yes ⊠ No □
'DROLOGY				
Wetland Hydrology Indicators	5 :			
Primary Indicators (minimum of	one required; c	heck all that apply)		Secondary Indicators (2 or more required)
☐ Surface Water (A1)		☐ Water-Stained Leaves (B9)	(except MLR.	RA Water-Stained Leaves (B9) (MLRA 1, 2
⊠ High Water Table (A2)		1, 2, 4A, and 4B)		4A, and 4B)
		☐ Salt Crust (B11)		☐ Drainage Patterns (B10)
Saturation (A3)		☐ Aquatic Invertebrates (B13)		_
Saturation (A3) Water Marks (B1)		☐ Hydrogen Sulfide Odor (C1)		□ Dry-Season Water Table (C2)
		_ , ,)	☐ Dry-Season Water Table (C2)☐ Saturation Visible on Aerial Imagery (C9)
☐ Water Marks (B1)		Oxidized Rhizospheres alor		☐ Saturation Visible on Aerial Imagery (CS
☐ Water Marks (B1) ☐ Sediment Deposits (B2)			ng Living Roots	☐ Saturation Visible on Aerial Imagery (CS
Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3)		Oxidized Rhizospheres alor	ng Living Roots C4)	☐ Saturation Visible on Aerial Imagery (Csts (C3) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)		☐ Oxidized Rhizospheres alor☐ Presence of Reduced Iron (ng Living Roots C4) Iled Soils (C6)	□ Saturation Visible on Aerial Imagery (CSts (C3) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Imagery (B7)	☐ Oxidized Rhizospheres alor☐ Presence of Reduced Iron (☐ Recent Iron Reduction in Til	ng Living Roots C4) Iled Soils (C6)	□ Saturation Visible on Aerial Imagery (CSts (C3) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)		 □ Oxidized Rhizospheres alor □ Presence of Reduced Iron (□ Recent Iron Reduction in Til □ Stunted or Stressed Plants 	ng Living Roots C4) Iled Soils (C6)	□ Saturation Visible on Aerial Imagery (CSts (C3) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial		 □ Oxidized Rhizospheres alor □ Presence of Reduced Iron (□ Recent Iron Reduction in Til □ Stunted or Stressed Plants 	ng Living Roots C4) Iled Soils (C6)	□ Saturation Visible on Aerial Imagery (CSts (C3) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav		 □ Oxidized Rhizospheres alor □ Presence of Reduced Iron (□ Recent Iron Reduction in Til □ Stunted or Stressed Plants □ Other (Explain in Remarks) 	ng Living Roots C4) Iled Soils (C6)	□ Saturation Visible on Aerial Imagery (CSts (C3) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concaverield Observations: Surface Water Present?	ve Surface (B8)	☐ Oxidized Rhizospheres alor ☐ Presence of Reduced Iron (☐ Recent Iron Reduction in Til ☐ Stunted or Stressed Plants ☐ Other (Explain in Remarks) ☐ Depth (inches):	ng Living Roots C4) Iled Soils (C6)	□ Saturation Visible on Aerial Imagery (CSts (C3) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav Field Observations: Surface Water Present? Water Table Present?	ve Surface (B8) Yes □ No ⊠	☐ Oxidized Rhizospheres alor ☐ Presence of Reduced Iron (☐ Recent Iron Reduction in Til ☐ Stunted or Stressed Plants ☐ Other (Explain in Remarks) ☐ Depth (inches): ☐ Depth (inches): 2	ng Living Roots C4) Illed Soils (C6) (D1) (LRR A)	□ Saturation Visible on Aerial Imagery (CSts (C3) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	ye Surface (B8) Yes □ No ☒ Yes ☒ No □ Yes ☒ No □	☐ Oxidized Rhizospheres alor ☐ Presence of Reduced Iron (☐ Recent Iron Reduction in Til ☐ Stunted or Stressed Plants ☐ Other (Explain in Remarks) ☐ Depth (inches): ☐ Depth (inches): 2	ng Living Roots C4) Illed Soils (C6) (D1) (LRR A)	□ Saturation Visible on Aerial Imagery (CSts (C3) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) and Hydrology Present? Yes ☑ No □
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (strear	ye Surface (B8) Yes □ No ☒ Yes ☒ No □ Yes ☒ No □	☐ Oxidized Rhizospheres alor ☐ Presence of Reduced Iron (☐ Recent Iron Reduction in Til ☐ Stunted or Stressed Plants ☐ Other (Explain in Remarks) ☐ Depth (inches): ☐ Depth (inches): 2 ☐ Depth (inches): 0	ng Living Roots C4) Illed Soils (C6) (D1) (LRR A)	□ Saturation Visible on Aerial Imagery (CSts (C3) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) and Hydrology Present? Yes ☑ No □
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	ye Surface (B8) Yes □ No ☒ Yes ☒ No □ Yes ☒ No □	☐ Oxidized Rhizospheres alor ☐ Presence of Reduced Iron (☐ Recent Iron Reduction in Til ☐ Stunted or Stressed Plants ☐ Other (Explain in Remarks) ☐ Depth (inches): ☐ Depth (inches): 2 ☐ Depth (inches): 0	ng Living Roots C4) Illed Soils (C6) (D1) (LRR A)	□ Saturation Visible on Aerial Imagery (CSts (C3) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) and Hydrology Present? Yes ☑ No □
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (strear	ye Surface (B8) Yes □ No ☒ Yes ☒ No □ Yes ☒ No □	☐ Oxidized Rhizospheres alor ☐ Presence of Reduced Iron (☐ Recent Iron Reduction in Til ☐ Stunted or Stressed Plants ☐ Other (Explain in Remarks) ☐ Depth (inches): ☐ Depth (inches): 2 ☐ Depth (inches): 0	ng Living Roots C4) Illed Soils (C6) (D1) (LRR A)	□ Saturation Visible on Aerial Imagery (CSts (C3) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) and Hydrology Present? Yes ☑ No □

		nty/ Courn	Sampling Date:03 OCT 2017			
Applicant/Owner:	State: Washington Sampling Point: SPB-2					
Investigator(s): Habitat Technologies			Section, Tow	vnship, Range: <u>S35, T20</u>), R4E	
Landform (hillslope, terrace, etc.):		Local reli	ef (concave, o	convex, none):	Slope	(%):
Subregion (LRR): <u>A</u>						
Soil Map Unit Name: <u>Kitsap silt loam</u>						
Are climatic / hydrologic conditions on the site typical for this						
	-		•	mal Circumstances" pre		П
Are Vegetation, Soil, or Hydrology sign				·		Ш
Are Vegetation, Soil, or Hydrology natur SUMMARY OF FINDINGS – Attach site map s			`	d, explain any answers in cations, transects	,	ures, etc.
		i	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Hydrophytic Vegetation Present? Yes ☐ No ☒ Hydric Soil Present? Yes ☐ No ☒		Is	the Sampled	l Area		
Wetland Hydrology Present? Yes ☐ No ☒		wi	ithin a Wetlar	nd? Yes 🗌	No 🖾	
Remarks: Upland						
The state of the s						
VEGETATION – Use scientific names of plant	s.					
Tree Stratum (Plot size: 15ft radius)	Absolute		int Indicator	Dominance Test wor		
Pseudotsuga menziesii			s? Status FACU	Number of Dominant : That Are OBL, FACW		(A)
0. 01	00		FACU	That Ale Obl., I AOW	, 011 AO. <u>1</u>	(^)
Crataegus monogyna 3		-		Total Number of Domi Species Across All Str		(B)
4				Species Across Air Sti	ata. <u>1</u>	(Б)
T	65			Percent of Dominant S That Are OBL, FACW		(A/D)
Sapling/Shrub Stratum (Plot size: 15ft radius)	<u> </u>			That Ale OBL, FACW	, 01 FAC. <u>14</u>	(A/b)
Oemleria cerasiformis	10	yes	<u>FACU</u>	Prevalence Index wo	orksheet:	
2. Sambucus racemosa	10	yes	FACU	Total % Cover of:	Multiply	by:
3				OBL species		
4				FACW species		
5				FAC species		
Horb Stratum (Diot aizo: 15ff radius)	20	_ = Total	Cover	FACU species		
Herb Stratum (Plot size: 15ft radius) 1. Polystichum munitum	30	VAS	<u>FACU</u>	UPL species		
Polystichum munitum 2				Column Totals:	(A)	(B)
3				Prevalence Inde	ex = B/A =	
4				Hydrophytic Vegetat		
5				☐ Rapid Test for Hy		
6.				☐ Dominance Test is	s >50%	
7				☐ Prevalence Index	is ≤3.0 ¹	
8.				☐ Morphological Ada		
9.					ks or on a separate s	sheet)
10				☐ Wetland Non-Vas		
11				Problematic Hydro	, , , ,	' '
Woody Vine Stratum (Plot size: 15ft radius)	30		Cover	¹ Indicators of hydric so be present, unless dis		
1. Rubus procera	40	yes	<u>FAC</u>			
2. Rubus ursinus		_	FACU	Hydrophytic Vegetation		
	90	= Total			es □ No ⊠	

Depth (inches)	Color (moist)	%_	_ <u>Col</u>	or (moist)	%Type ¹	Loc ²	<u>l exture</u>	<u> </u>		Remarks	
)-4	10YR 3/2	100					L				
l-20	10YR 3/3	100					Sal				
-20	1011(3/3						<u>ogi</u>				
					<u></u> -	_					
									-		
	-		- —			_					
	oncentration, D=D					ated Sand C				Pore Lining,	
-	Indicators: (App	licable to								olematic Hyd	dric Soils*:
Histosol	· ·			Sandy Redox (S	·				Muck (A10	,	
	pipedon (A2)			Stripped Matrix	. ,	mt MI DA 4				erial (TF2)	TE40\
☐ Black His	n Sulfide (A4)			Loamy Gleyed I	Mineral (F1) (exce	PLIVILKAT)	-		ark Surface (n Remarks)	1 - 12)
	l Below Dark Surf	ace (A11)		Depleted Matrix				Othe	i (Explaiii i	ii itelliaiks)	
	ark Surface (A12)	200 (7111)		Redox Dark Sur			3Inc	dicato	rs of hvdro	phytic vegeta	ation and
	lucky Mineral (S1))		Depleted Dark S	` '					gy must be p	
-	leyed Matrix (S4)			Redox Depress	ions (F8)					or problema	
Restrictive	Layer (if present)):									
Depth (in	ches):			_			Hydric	Soil	Present?	Yes 🗌 🛚 I	No ⊠
	SY .										
DROLOG	SY drology Indicato	rs:									
DROLOG				eck all that appl	y)			Secon	dary Indica	ators (2 or m	ore required)
DROLOG Wetland Hy	drology Indicato		يired; ch		y) ned Leaves (B9)	(except ML			•	•	
DROLOG Wetland Hy Primary India	drology Indicato		uired; ch	☐ Water-Stai		(except ML			•	d Leaves (B	
DROLOG Wetland Hy Primary India Surface High Wa	drology Indicato cators (minimum o Water (A1) ter Table (A2)		uired; ch	☐ Water-Stai	ned Leaves (B9) A, and 4B)	(except ML	_RA [□ Wa	ater-Staine 4A , and 4	d Leaves (B	
DROLOG Wetland Hy Primary India Surface ' High Wa Saturatic	drology Indicato cators (minimum o Water (A1) ter Table (A2) on (A3)		uired; ch	☐ Water-Stai 1, 2, 4/ ☐ Salt Crust	ned Leaves (B9) A, and 4B)		_ RA [□ Wa	ater-Staine 4A , and 4 ainage Pat	d Leaves (B	9) (MLRA 1, 2
DROLOG Wetland Hy Primary India Surface High Wa Saturatic Water M	drology Indicato cators (minimum o Water (A1) ter Table (A2) on (A3)		uired; ch	☐ Water-Stai 1, 2, 44 ☐ Salt Crust ☐ Aquatic Inv	ned Leaves (B9) A, and 4B) (B11)		_ RA [□ Wa	ater-Staine 4A, and 4 ainage Pat y-Season \	d Leaves (B IB) terns (B10) Water Table	9) (MLRA 1, 2 (C2)
DROLOG Wetland Hyderimary India Surface ' High Wa Saturation Water M Sedimen	drology Indicato cators (minimum o Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2)		_ired; ch	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13)		_ RA [☐ Wa	ater-Staine 4A, and 4 ainage Pat y-Season \ uturation Vi	d Leaves (B IB) terns (B10) Water Table	9) (MLRA 1, 2 (C2) al Imagery (C
Primary India Surface High Wa Saturatic Water M Sedimen Drift Dep	drology Indicato cators (minimum o Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2)		uired; ch	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1)	ng Living Ro	LRA [☐ Wa	ater-Staine 4A, and 4 ainage Pat y-Season \ uturation Vi	d Leaves (B IB) terns (B10) Water Table sible on Aeri Position (D2	9) (MLRA 1, 2 (C2) al Imagery (C
DROLOG Wetland Hy Primary India Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4)		uired; ch	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) thizospheres alon	ng Living Ro C4)	LRA [☐ Wa ☐ Dra ☐ Dra ☐ Sa ☐ Ge ☐ Sh	ater-Staine 4A, and 4 ainage Pate y-Season Visteration Visteration	d Leaves (B IB) terns (B10) Water Table sible on Aeri Position (D2) tard (D3)	9) (MLRA 1, 2 (C2) al Imagery (C
DROLOG Wetland Hy Primary India Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4)		uired; ch	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) thizospheres alon of Reduced Iron (ng Living Ro C4) led Soils (C		☐ Wa ☐ Dri ☐ Dri ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Staine 4A, and 4 ainage Pat y-Season \ ituration Vis eomorphic allow Aqui	d Leaves (B IB) terns (B10) Water Table sible on Aeri Position (D2) tard (D3)	9) (MLRA 1, 2 (C2) al Imagery (C
Metland Hyderimary India Surface Metland Mater M	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) osits (B5)	of one requ		Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) thizospheres alon of Reduced Iron (in Reduction in Til	ng Living Ro C4) led Soils (C		☐ Wa ☐ Dr. ☐ Dr. ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Staine 4A, and 4 ainage Pat y-Season \ aturation Vis comorphic allow Aqui aC-Neutral	d Leaves (Bandle) terns (B10) Water Table sible on Aeri Position (D2) tard (D3) Test (D5)	9) (MLRA 1, 2 (C2) al Imagery (C
Primary India Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria	of one requ	r (B7)	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) thizospheres alor of Reduced Iron (in Reduction in Till Stressed Plants (ng Living Ro C4) led Soils (C		☐ Wa ☐ Dr. ☐ Dr. ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Staine 4A, and 4 ainage Pat y-Season \ aturation Vis comorphic allow Aqui aC-Neutral	d Leaves (Bilb) terns (B10) Water Table sible on Aeri Position (D2) tard (D3) Test (D5) lounds (D6)	9) (MLRA 1, 2 (C2) al Imagery (C
TDROLOG Wetland Hy Primary India Surface S High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatio	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria	of one requ	r (B7)	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o Recent Iron Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) thizospheres alon of Reduced Iron (in n Reduction in Til Stressed Plants (alain in Remarks)	ng Living Ro C4) led Soils (C		☐ Wa ☐ Dr. ☐ Dr. ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Staine 4A, and 4 ainage Pat y-Season \ aturation Vis comorphic allow Aqui aC-Neutral	d Leaves (Bilb) terns (B10) Water Table sible on Aeri Position (D2) tard (D3) Test (D5) lounds (D6)	9) (MLRA 1, 2 (C2) al Imagery (C3)
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) sosits (B5) Soil Cracks (B6) on Visible on Aeria vegetated Concavations:	of one requ	r (B7)	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o Recent Iron Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) thizospheres alor of Reduced Iron (in Reduction in Till Stressed Plants (ng Living Ro C4) led Soils (C		☐ Wa ☐ Dr. ☐ Dr. ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Staine 4A, and 4 ainage Pat y-Season \ aturation Vis comorphic allow Aqui aC-Neutral	d Leaves (Bilb) terns (B10) Water Table sible on Aeri Position (D2) tard (D3) Test (D5) lounds (D6)	9) (MLRA 1, 2 (C2) al Imagery (C3)
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundation	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) sosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concavations: er Present?	of one requ al Imagery ave Surfac	r (B7) ce (B8)	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) thizospheres alon of Reduced Iron (in n Reduction in Til Stressed Plants (alain in Remarks)	ng Living Ro C4) led Soils (C (D1) (LRR <i>J</i>		☐ Wa ☐ Dr. ☐ Dr. ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Staine 4A, and 4 ainage Pat y-Season \ aturation Vis comorphic allow Aqui aC-Neutral	d Leaves (Bilb) terns (B10) Water Table sible on Aeri Position (D2) tard (D3) Test (D5) lounds (D6)	9) (MLRA 1, 2 (C2) al Imagery (C3)
Metland Hyderimary India Surface Metland Hyderimary India Surface Metland Mater Methods Sediment Drift Deptor Surface Methods Inundation Sparsely Field Observator Table Seduration Perpending Methods	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Conca vations: er Present? Present?	of one requ al Imagery ave Surfac	e (B7) ce (B8) No 🖂	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) thizospheres alon of Reduced Iron (in Reduction in Till Stressed Plants (illain in Remarks)	ng Living Ro C4) led Soils (C (D1) (LRR /		☐ Wa ☐ Dra ☐ Dra ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Staine 4A, and 4 ainage Pat y-Season \ ituration Vis comorphic allow Aqui iC-Neutral aised Ant M ost-Heave	d Leaves (B IB) terns (B10) Water Table sible on Aeri Position (D2) tard (D3) Test (D5) lounds (D6) Hummocks (9) (MLRA 1, 2 (C2) al Imagery (C
Primary India Surface	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Conca vations: er Present? Present? resent? pillary fringe)	al Imagery ave Surface Yes Yes Yes Yes Yes	No 🖂 No 🖂	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) thizospheres alon of Reduced Iron (in Reduction in Til Stressed Plants (in Remarks) s):	ng Living Ro C4) led Soils (C (D1) (LRR A		☐ Wa ☐ Dr. ☐ Dr. ☐ Sa ☐ Ge ☐ Sh ☐ FA ☐ Ra ☐ Fre	ater-Staine 4A, and 4 ainage Pat y-Season \ ituration Vis comorphic allow Aqui iC-Neutral aised Ant M ost-Heave	d Leaves (Bill) terns (B10) Water Table sible on Aeri Position (D2) tard (D3) Test (D5) dounds (D6) Hummocks (9) (MLRA 1, 2 (C2) al Imagery (C) (LRR A) D7)
Primary India Surface	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Conca vations: er Present? Present?	al Imagery ave Surface Yes Yes Yes Yes Yes	No 🖂 No 🖂	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) thizospheres alon of Reduced Iron (in Reduction in Til Stressed Plants (in Remarks) s):	ng Living Ro C4) led Soils (C (D1) (LRR A		☐ Wa ☐ Dr. ☐ Dr. ☐ Sa ☐ Ge ☐ Sh ☐ FA ☐ Ra ☐ Fre	ater-Staine 4A, and 4 ainage Pat y-Season \ ituration Vis comorphic allow Aqui iC-Neutral aised Ant M ost-Heave	d Leaves (Bill) terns (B10) Water Table sible on Aeri Position (D2) tard (D3) Test (D5) dounds (D6) Hummocks (9) (MLRA 1, 2 (C2) al Imagery (C) (LRR A) D7)
Primary India Primary India Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Obser Surface Water Table Saturation P includes cap Describe Re	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Conca vations: er Present? Present? resent? pillary fringe)	al Imagery ave Surface Yes Yes Yes Yes Yes	No 🖂 No 🖂	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) thizospheres alon of Reduced Iron (in Reduction in Til Stressed Plants (in Remarks) s):	ng Living Ro C4) led Soils (C (D1) (LRR A		☐ Wa ☐ Dr. ☐ Dr. ☐ Sa ☐ Ge ☐ Sh ☐ FA ☐ Ra ☐ Fre	ater-Staine 4A, and 4 ainage Pat y-Season \ ituration Vis comorphic allow Aqui iC-Neutral aised Ant M ost-Heave	d Leaves (Bill) terns (B10) Water Table sible on Aeri Position (D2) tard (D3) Test (D5) dounds (D6) Hummocks (9) (MLRA 1, 2 (C2) al Imagery (C) (LRR A) D7)
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P includes cal	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Conca vations: er Present? Present? resent? pillary fringe)	al Imagery ave Surface Yes Yes Yes Yes Yes	No 🖂 No 🖂	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) thizospheres alon of Reduced Iron (in Reduction in Til Stressed Plants (in Remarks) s):	ng Living Ro C4) led Soils (C (D1) (LRR A		☐ Wa ☐ Dr. ☐ Dr. ☐ Sa ☐ Ge ☐ Sh ☐ FA ☐ Ra ☐ Fre	ater-Staine 4A, and 4 ainage Pat y-Season \ ituration Vis comorphic allow Aqui iC-Neutral aised Ant M ost-Heave	d Leaves (Bill) terns (B10) Water Table sible on Aeri Position (D2) tard (D3) Test (D5) dounds (D6) Hummocks ((C2) (C2) (al Imagery (C) (LRR A) (D7)

Project/Site: Sunset Pointe	C	ity/County: <u>Puyallup /</u>	Sampling Date:03 OCT 2017			
Applicant/Owner:		Sampling Point: SPB-3				
Investigator(s): Habitat Technologies		Section, To), R4E			
Landform (hillslope, terrace, etc.):		Local relief (concave,	convex, none):	Slope (%):		
Subregion (LRR): A		· ·	•			
Soil Map Unit Name: <u>Kitsap silt loam</u>						
Are climatic / hydrologic conditions on the site typical for						
Are Vegetation, Soil, or Hydrology	-	•	rmal Circumstances" pre			
Are Vegetation, Soil, or Hydrology			ed, explain any answers i			
SUMMARY OF FINDINGS – Attach site m				,		
Hydrophytic Vegetation Present? Yes ☐ 1	ulo M		<u> </u>	· · · · · · · · · · · · · · · · · · ·		
Hydric Soil Present? Yes \(\)		Is the Sample				
Wetland Hydrology Present? Yes ☐ 1	_	within a Wetla	nd? Yes □	No ⊠		
Remarks: Upland						
VEGETATION – Use scientific names of p	olants.					
<u>Tree Stratum</u> (Plot size: <u>15ft radius</u>)	Absolute % Cover	Dominant Indicator Species? Status	Dominance Test wo			
1. Pseudotsuga menziesii	·	yes FACU	Number of Dominant That Are OBL, FACW			
2.						
3			Total Number of Dom Species Across All St			
4			Percent of Dominant			
Sapling/Shrub Stratum (Plot size: 15ft radius)	<u>50</u>	= Total Cover		, or FAC: <u>20</u> (A/B)		
1. Sambucus racemosa	30	yes FACU	Prevalence Index wo	orksheet:		
2.	· · · · · · · · · · · · · · · · · · ·		Total % Cover of:	Multiply by:		
3			OBL species	x 1 =		
4			FACW species	x 2 =		
5				x 3 =		
Harb Otracking (Dietains 455 and inc.)	30	= Total Cover		x 4 =		
Herb Stratum (Plot size: 15ft radius) 1. Polystichum munitum	20	<u>yes FACU</u>		x 5 =		
2.			Column Totals:	(A) (B)		
3.			Prevalence Inde	ex = B/A =		
4.			Hydrophytic Vegetat			
5.			☐ Rapid Test for Hy			
6.			☐ Dominance Test i	s >50%		
7.			☐ Prevalence Index	is ≤3.0 ¹		
8				aptations ¹ (Provide supporting		
9			□ Wetland Non-Vas	ks or on a separate sheet)		
10				ophytic Vegetation¹ (Explain)		
11			-	oil and wetland hydrology must		
Woody Vine Stratum (Plot size: 15ft radius)	20	= Total Cover		sturbed or problematic.		
1. Rubus procera	100	yes FAC				
2. Rubus ursinus	<u>30</u>	yes FACU	Hydrophytic Vegetation			
	100	= Total Cover		es □ No ⊠		
% Bare Ground in Herb Stratum 0						
Remarks:						

Depth (inches)	Color (moist)	%	_ <u>Cor</u>	or (moist)	%Type	Loc ²	<u>Texture</u>	- -		Remarks	
)-4	10YR 3/2	100					L				
 l-18	10YR 3/3	100				_	- Sal				
-10	1011070					_	<u>ogi</u>				
						_					
						_					
	oncentration, D=[ated Sand (ore Lining, M=Ma	
-	Indicators: (App	ilicable to								ematic Hydric S	olis".
☐ Histosol	` '			Sandy Redox (S	•				Muck (A10)		
Histic Ep Black His	oipedon (A2)			Stripped Matrix	(ວ _{ຽ)} ⁄lineral (F1) (exc e	ont MI DA 1			Parent Mate	riai (1F2) k Surface (TF12)	
	n Sulfide (A4)			Loamy Gleyed I	, , ,	primerva i	',	-	er (Explain in		
	d Below Dark Surf	ace (A11)		Depleted Matrix				Otilo	i (Explain in	rtomarto)	
	ark Surface (A12)	(/		Redox Dark Su			³ ln	dicato	ors of hydroph	nytic vegetation a	nd
☐ Sandy M	lucky Mineral (S1)		Depleted Dark S	Surface (F7)					must be present	
☐ Sandy G	Gleyed Matrix (S4)			Redox Depress	ions (F8)			unles	s disturbed o	or problematic.	
	Layer (if present										
Depth (in	ches):			_			Hydri	c Soil	Present?	Yes ☐ No ⊠	
	SY										
DROLOG	SY drology Indicato	rs:									
DROLOG				eck all that appl	y)			Secor	ndary Indicato	ors (2 or more rec	quired)
DROLOG Wetland Hy	drology Indicato		ıired; ch		y) ned Leaves (B9)	(except MI			•	ors (2 or more red Leaves (B9) (ML	
DROLOG Wetland Hy Primary India	drology Indicato		uired; ch	☐ Water-Stai		(except MI			•	Leaves (B9) (ML	
DROLOG Wetland Hy Primary India Surface High Wa	drology Indicato cators (minimum o Water (A1) tter Table (A2)		uired; ch	☐ Water-Stai	ned Leaves (B9) A, and 4B)	(except MI	LRA	□ w	ater-Stained	Leaves (B9) (ML	
DROLOG Wetland Hy Primary India Surface High Wa Saturatic	drology Indicato cators (minimum o Water (A1) ter Table (A2) on (A3)		ired; ch	☐ Water-Stai 1, 2, 4	ned Leaves (B9) A, and 4B)		LRA	W	ater-Stained 4A, and 4E rainage Patte	Leaves (B9) (ML	
DROLOG Wetland Hy Primary India Surface High Wa Saturatic Water M	drology Indicato cators (minimum o Water (A1) ter Table (A2) on (A3)		ired; ch	☐ Water-Stai 1, 2, 4/ ☐ Salt Crust ☐ Aquatic Inv	ned Leaves (B9) A, and 4B) (B11)		LRA	W Di Di	ater-Stained 4A, and 4E rainage Patte ry-Season W	Leaves (B9) (ML B) erns (B10)	.RA 1, 2
DROLOG Wetland Hyderimary India Surface ' High Wa Saturation Water M Sedimen	drology Indicato cators (minimum of Water (A1) ster Table (A2) on (A3) arks (B1) at Deposits (B2)		uired; ch	Water-Stai 1, 2, 4,/ Salt Crust Aquatic Inv	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13))	LRA	☐ W ☐ Di ☐ Di ☐ Si	ater-Stained 4A, and 4E rainage Patte ry-Season W	Leaves (B9) (ML 3) erns (B10) ater Table (C2) ble on Aerial Ima	.RA 1, 2
Primary India Surface High Wa Saturatic Water M Sedimen Drift Dep	drology Indicato cators (minimum of Water (A1) ster Table (A2) on (A3) arks (B1) at Deposits (B2)		uired; ch	Water-Stai 1, 2, 4,4 Salt Crust Aquatic Inv Hydrogen Oxidized F	ned Leaves (B9) A, and 4B) (B11) /ertebrates (B13) Sulfide Odor (C1)) ng Living Ro	Doots (C3)	☐ W ☐ Di ☐ Di ☐ Si ☐ Gi	ater-Stained 4A, and 4E rainage Patte ry-Season Waturation Visil	Leaves (B9) (ML 3) erns (B10) ater Table (C2) ble on Aerial Ima osition (D2)	.RA 1, 2
Primary India Surface High Wa Saturatic Water M Sedimen Drift Dep	drology Indicato cators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4)		uired; ch	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized F	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) ng Living Ro (C4)	Doots (C3)	☐ W ☐ Di ☐ Di ☐ Si ☐ Gi	dater-Stained 4A, and 4E rainage Patte ry-Season W aturation Visil	Leaves (B9) (ML 3) erns (B10) ater Table (C2) ble on Aerial Ima osition (D2) ard (D3)	.RA 1, 2
DROLOG Wetland Hy Primary India Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma	drology Indicato cators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4)		uired; ch	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1 thizospheres alor of Reduced Iron (n Reduction in Ti Stressed Plants) ng Living Ro (C4) Iled Soils (C	Doots (C3)	W Di Di Si Gi Si F/	rater-Stained 4A, and 4E rainage Patte ry-Season W aturation Visit eomorphic Po hallow Aquita AC-Neutral To	Leaves (B9) (ML 3) erns (B10) ater Table (C2) ble on Aerial Ima osition (D2) ard (D3)	RA 1, 2
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface	drology Indicato cators (minimum of Water (A1) ster Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria	of one requ	r (B7)	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1 thizospheres alor of Reduced Iron (n Reduction in Ti) ng Living Ro (C4) Iled Soils (C	Doots (C3)	Di Di Di Si Si Si F/	rater-Stained 4A, and 4E rainage Patte ry-Season W aturation Visil eomorphic Po hallow Aquita AC-Neutral To aised Ant Mo	Leaves (B9) (ML B) erns (B10) ater Table (C2) ble on Aerial Ima osition (D2) ard (D3) est (D5)	RA 1, 2
Primary India Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic	drology Indicato cators (minimum of Water (A1) ster Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) sosits (B5) Soil Cracks (B6) on Visible on Aeria	of one requ	r (B7)	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1 thizospheres alor of Reduced Iron (n Reduction in Ti Stressed Plants) ng Living Ro (C4) Iled Soils (C	Doots (C3)	Di Di Di Si Si Si F/	rater-Stained 4A, and 4E rainage Patte ry-Season W aturation Visil eomorphic Po hallow Aquita AC-Neutral To aised Ant Mo	Leaves (B9) (ML B) erns (B10) ater Table (C2) ble on Aerial Ima osition (D2) ard (D3) est (D5) unds (D6) (LRR	RA 1, 2
Primary India Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic	drology Indicato cators (minimum of Water (A1) ster Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) sosits (B5) Soil Cracks (B6) on Visible on Aeria	of one requ	r (B7)	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1 thizospheres alor of Reduced Iron (n Reduction in Ti Stressed Plants clain in Remarks)) ng Living Ro (C4) Iled Soils (C	Doots (C3)	Di Di Di Si Si Si F/	rater-Stained 4A, and 4E rainage Patte ry-Season W aturation Visil eomorphic Po hallow Aquita AC-Neutral To aised Ant Mo	Leaves (B9) (ML B) erns (B10) ater Table (C2) ble on Aerial Ima osition (D2) ard (D3) est (D5) unds (D6) (LRR	RA 1, 2
Primary India Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely	drology Indicato cators (minimum of Water (A1) ther Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeric vegetated Concervations:	of one requ	r (B7)	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1 thizospheres alor of Reduced Iron (n Reduction in Ti Stressed Plants) ng Living Ro (C4) Iled Soils (C	Doots (C3)	Di Di Di Si Si Si F/	rater-Stained 4A, and 4E rainage Patte ry-Season W aturation Visil eomorphic Po hallow Aquita AC-Neutral To aised Ant Mo	Leaves (B9) (ML B) erns (B10) ater Table (C2) ble on Aerial Ima osition (D2) ard (D3) est (D5) unds (D6) (LRR	RA 1, 2
Metland Hyderimary India Surface Metland Water Mater M	drology Indicato cators (minimum of Water (A1) Iter Table (A2) In (A3)	of one requ al Imagery ave Surfac	r (B7) ce (B8)	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1 thizospheres alor of Reduced Iron (n Reduction in Ti Stressed Plants clain in Remarks)) ng Living Ro C4) Iled Soils (C (D1) (LRR)	Doots (C3)	Di Di Di Si Si Si F/	rater-Stained 4A, and 4E rainage Patte ry-Season W aturation Visil eomorphic Po hallow Aquita AC-Neutral To aised Ant Mo	Leaves (B9) (ML B) erns (B10) ater Table (C2) ble on Aerial Ima osition (D2) ard (D3) est (D5) unds (D6) (LRR	RA 1, 2
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P	drology Indicato cators (minimum of Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (B1) Inter Table (B2) Inter Table (B3) Inter Table (B4) Inter Table (B6) Inter Trust (B6) Inter Table (B6) Inter Tabl	of one requal Imagery ave Surface Yes □	e (B7) ce (B8) No 🖂	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1 thizospheres alor of Reduced Iron (n Reduction in Ti Stressed Plants clain in Remarks)) ng Living Ro (C4) Illed Soils (C (D1) (LRR	Doots (C3) C6) A)	W Di Si Si Si Si Si Si Si Si	rater-Stained 4A, and 4E rainage Patte ry-Season W aturation Visil eomorphic Po hallow Aquita AC-Neutral To aised Ant Mo	Leaves (B9) (ML 3) erns (B10) ater Table (C2) ble on Aerial Ima osition (D2) ard (D3) est (D5) aunds (D6) (LRR ummocks (D7)	RA 1, 2
Primary India Surface	drology Indicato cators (minimum of Water (A1) Iter Table (A2) In (A3)	al Imagery ave Surface Yes Yes Yes Yes Yes	No 🖂 No 🖂	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1 thizospheres alor of Reduced Iron (n Reduction in Ti Stressed Plants clain in Remarks) s): s):) ng Living Ro C4) Iled Soils (0 (D1) (LRR)	pots (C3) C6) A)	W Di Di Si Si Si Si F/F Fr	dater-Stained 4A, and 4E rainage Patte ry-Season W aturation Visil eomorphic Po hallow Aquita AC-Neutral To aised Ant Mo rost-Heave H	Leaves (B9) (ML 3) erns (B10) ater Table (C2) ble on Aerial Ima osition (D2) ard (D3) est (D5) aunds (D6) (LRR ummocks (D7)	RA 1, 2
Primary India Surface	drology Indicato cators (minimum of Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (B1) Inter Table (B2) Inter Table (B3) Inter Table (B4) Inter Table (B6) Inter Trust (B6) Inter Table (B6) Inter Tabl	al Imagery ave Surface Yes Yes Yes Yes Yes	No 🖂 No 🖂	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1 thizospheres alor of Reduced Iron (n Reduction in Ti Stressed Plants clain in Remarks) s): s):) ng Living Ro C4) Iled Soils (0 (D1) (LRR)	pots (C3) C6) A)	W Di Di Si Si Si Si F/F Fr	dater-Stained 4A, and 4E rainage Patte ry-Season W aturation Visil eomorphic Po hallow Aquita AC-Neutral To aised Ant Mo rost-Heave H	Leaves (B9) (ML 3) erns (B10) ater Table (C2) ble on Aerial Ima osition (D2) ard (D3) est (D5) aunds (D6) (LRR ummocks (D7)	RA 1, 2
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water Table Saturation P Includes cap Describe Re	drology Indicato cators (minimum of Water (A1) Iter Table (A2) In (A3)	al Imagery ave Surface Yes Yes Yes Yes Yes	No 🖂 No 🖂	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1 thizospheres alor of Reduced Iron (n Reduction in Ti Stressed Plants clain in Remarks) s): s):) ng Living Ro C4) Iled Soils (0 (D1) (LRR)	pots (C3) C6) A)	W Di Di Si Si Si Si F/F Fr	dater-Stained 4A, and 4E rainage Patte ry-Season W aturation Visil eomorphic Po hallow Aquita AC-Neutral To aised Ant Mo rost-Heave H	Leaves (B9) (ML 3) erns (B10) ater Table (C2) ble on Aerial Ima osition (D2) ard (D3) est (D5) aunds (D6) (LRR ummocks (D7)	RA 1, 2
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P includes cal	drology Indicato cators (minimum of Water (A1) Iter Table (A2) In (A3)	al Imagery ave Surface Yes Yes Yes Yes Yes	No 🖂 No 🖂	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ned Leaves (B9) A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1 thizospheres alor of Reduced Iron (n Reduction in Ti Stressed Plants clain in Remarks) s): s):) ng Living Ro C4) Iled Soils (0 (D1) (LRR)	pots (C3) C6) A)	W Di Di Si Si Si Si F/F Fr	dater-Stained 4A, and 4E rainage Patte ry-Season W aturation Visil eomorphic Po hallow Aquita AC-Neutral To aised Ant Mo rost-Heave H	Leaves (B9) (ML 3) erns (B10) ater Table (C2) ble on Aerial Ima osition (D2) ard (D3) est (D5) aunds (D6) (LRR ummocks (D7)	RA 1, 2

State: Washington Sampling Point: SPB-10 on, Township, Range: S35, T20, R4E cave, convex, none): Slope (%):
ncave, convex, none): Slope (%):
Long
Long: Datum:
NWI classification:
☐ (If no, explain in Remarks.)
re "Normal Circumstances" present? Yes ⊠ No □
needed, explain any answers in Remarks.)
int locations, transects, important features, etc.
ampled Area Wetland? Yes ⊠ No □
welland: 165 🖾 140 🖂
icator Dominance Test worksheet: tatus Number of Dominant Species
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant
Species Across All Strata: 3 (B)
Percent of Dominant Species
That Are OBL, FACW, or FAC: 100 (A/B)
Prevalence Index worksheet:
Total % Cover of: Multiply by:
OBL species x 1 =
FACW species x 2 =
FACU species x 4 =
UPL species x 5 =
C Column Totals: (A) (B)
Prevalence Index = B/A =
Hydrophytic Vegetation Indicators:
Rapid Test for Hydrophytic Vegetation
☐ Dominance Test is >50%
Prevalence Index is ≤3.0¹
Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Wetland Non-Vascular Plants ¹
Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must
be present, unless disturbed or problematic.
<u>c </u>
Hydrophytic Vegetation
Present? Yes 🗵 No 🗌

Depth	<u>Matri</u>			Redox Feat	ures _ 1	. 2	- .	
(inches)	Color (moist)	%	Color (mois	<u>%</u>	Iype'	Loc ²		Remarks
0-8	10YR 4/2	100					<u>SI</u>	
8-18	10YR 4/1	80	10YR 4/6	20	<u>C</u>	M	SI	
			_					
							· ——	
							. <u> </u>	
			_					
Tvpe: C=0	Concentration, D=l	Depletion. R	M=Reduced M	latrix. CS=Cove	ered or Coat	ed Sand 0	Grains. 2	Location: PL=Pore Lining, M=Matrix.
	I Indicators: (Ap							ators for Problematic Hydric Soils ³ :
☐ Histoso	I (A1)		☐ Sandy	Redox (S5)			□ 2	cm Muck (A10)
☐ Histic E	pipedon (A2)		☐ Strippe	d Matrix (S6)				Red Parent Material (TF2)
☐ Black H	, ,		-	Mucky Mineral		t MLRA 1	•	ery Shallow Dark Surface (TF12)
	en Sulfide (A4)		-	Gleyed Matrix (F2)			Other (Explain in Remarks)
	ed Below Dark Sur			ed Matrix (F3)	-0)		2	
	ark Surface (A12)			Dark Surface (F	•			cators of hydrophytic vegetation and
-	Mucky Mineral (S1 Gleyed Matrix (S4	•	•	ed Dark Surface Depressions (F				etland hydrology must be present, nless disturbed or problematic.
	Layer (if present		□ IVedOX	popi casiona (F	o,		ui	noss disturbed of problematic.
Type:	Layer (ii present	•						
· ·	nches):						Hydric 9	Soil Present? Yes ⊠ No ⊠
Remarks:	,						Tiyane c	on Fresent: Tes 🖂 No 🖂
DROLO	GY ydrology Indicato	ors.						
·	licators (minimum		ired check all	that apply)			Se	econdary Indicators (2 or more required)
•	· Water (A1)	<u> </u>		ater-Stained Le	aves (B9) (except ML		Water-Stained Leaves (B9) (MLRA 1, 2
	ater Table (A2)		_ ···	1, 2, 4A, and		oxoopt iii E		4A, and 4B)
Saturat Saturat			□ Sa	alt Crust (B11)	,		П	Drainage Patterns (B10)
	Marks (B1)			uatic Invertebra	ates (B13)		ī	Dry-Season Water Table (C2)
_	ent Deposits (B2)			∕drogen Sulfide	, ,			Saturation Visible on Aerial Imagery (CS
	posits (B3)			kidized Rhizosp		Living Ro		Geomorphic Position (D2)
	at or Crust (B4)			esence of Redu	_	_	` _	Shallow Aquitard (D3)
	posits (B5)			ecent Iron Redu	-	-	6)	FAC-Neutral Test (D5)
	Soil Cracks (B6)		☐ St	unted or Stress	ed Plants ([)1) (LRR <i>A</i>	-	Raised Ant Mounds (D6) (LRR A)
☐ Inundat	ion Visible on Aer	ial Imagery		her (Explain in	-			Frost-Heave Hummocks (D7)
Sparse	y Vegetated Cond	ave Surface						
Field Obse	rvations:							
Surface Wa	ater Present?	Yes 🗌	No 🛛 Dept	h (inches):				
Water Table	e Present?	Yes 🛛	No 🗌 Dept	h (inches): 3	_			
Saturation I		Yes ⊠	No 🗌 Dept	h (inches): <u>0</u>	-	We	tland Hydro	logy Present? Yes 🛭 No 🗌
	apillary fringe) ecorded Data (stre	eam gauge,	monitoring we	I, aerial photos,	, previous in	spections)), if available:	
Remarks:								

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

Project/Site: Sunset Pointe	Cit	ty/County: <u>Puyallup /</u>	_ Sampling Date:03 OCT 2017		
Applicant/Owner:			_ Sampling Point: SPB-11		
Investigator(s): Habitat Technologies		Section, Tov	vnship, Range: <u>S35, T20</u>), R4E	
Landform (hillslope, terrace, etc.):	L	ocal relief (concave,	convex, none):	Slope (%):	
			Long: Datum:		
Soil Map Unit Name: <u>Kitsap silt loam</u>			-		
Are climatic / hydrologic conditions on the site typica					
Are Vegetation, Soil, or Hydrology	•	•	mal Circumstances" pre		
Are Vegetation, Soil, or Hydrology			d, explain any answers i		
SUMMARY OF FINDINGS – Attach site			, ,	,	
Hydrophytic Vegetation Present? Yes ⊠	No 🗌	In the Complet	I Area		
Hydric Soil Present? Yes ⊠	No 🗌	Is the Sampled within a Wetlan		No 🗆	
Wetland Hydrology Present? Yes ⊠	No 🗌	within a wella	iid: Tes 🖂	No 🗆	
Remarks: Wetland					
VEGETATION – Use scientific names of	f plants.				
<u>Tree Stratum</u> (Plot size: <u>15ft radius</u>) 1	% Cover	Dominant Indicator Species? Status	Dominance Test wor Number of Dominant S That Are OBL, FACW	Species	
2			Total Number of Domi Species Across All Str	inant	
4Sapling/Shrub Stratum (Plot size: 15ft radius)		= Total Cover	Percent of Dominant S That Are OBL, FACW		
1			Prevalence Index wo Total % Cover of:	orksheet: Multiply by:	
3			*	x 1 = x 2 =	
5				x 3 =	
Herb Stratum (Plot size: 15ft radius)	0	= Total Cover		x 4 =	
1				x 5 =	
2.			Column Totals:	(A) (B)	
3.			Prevalence Inde	x = B/A =	
4			Hydrophytic Vegetat	ion Indicators:	
5			☐ Rapid Test for Hyd	drophytic Vegetation	
6			□ Dominance Test is	s >50%	
7			☐ Prevalence Index		
8				aptations¹ (Provide supporting ks or on a separate sheet)	
9			☐ Wetland Non-Vase	' '	
10			☐ Problematic Hydro	ophytic Vegetation¹ (Explain)	
11	0	= Total Cover	¹ Indicators of hydric so be present, unless dis	oil and wetland hydrology must turbed or problematic.	
1. Rubus procera 2.		yes FAC	Hydrophytic Vegetation		
% Bare Ground in Herb Stratum <u>0</u>	100	= Total Cover		es 🗵 No 🗌	
Remarks:					

Depth	Matrix				ox Feature							
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		Texture		<u>Remarks</u>	
0-6	10YR 4/2	100			_			\$	SI			
3-18	10YR 4/1	70	10YR 4	1/6	30	<u>C</u>	M	\$	SI			
	-											
	-		-		_							
	-				_							
	-											
	Concentration, D=D						ed Sanc	d Gra		ation: PL=P		
-	Indicators: (App	licable to a				.ea.)				rs for Proble	ematic Hydri	ic Solis":
Histoso	, ,			ndy Redox (S						Muck (A10)	:-! (TEO)	
	pipedon (A2)			ipped Matrix amy Mucky N		1) (avaan	4 MI DA	. 4\		Parent Mater Shallow Dar	, ,	E12\
☐ Black H	en Sulfide (A4)			amy Gleyed	•		IVILKA	(1)	•	er (Explain in	,	-12)
	d Below Dark Surfa	ace (A11)		pleted Matrix)				i (Explain in	i (Ciliai K5)	
•	ark Surface (A12)	200 (/ 11 1)		dox Dark Su					3Indicato	rs of hydroph	vtic vegetati	on and
	Mucky Mineral (S1)			pleted Dark	, ,					nd hydrology	-	
	Gleyed Matrix (S4)		Re	dox Depress	ions (F8)	,				s disturbed o		
Restrictive	Layer (if present)	:										
Type:												
Depth (ii	nches):								Hydric Soil	Present?	Yes 🛛 No	×
Remarks:												
DROLO	ک ۲ drology Indicatoر	'S'										
	icators (minimum c		red: check	call that app	lv)				Secor	ndary Indicate	ors (2 or more	e required)
	Water (A1)	r one requi] Water-Sta	•	es (B9) (e	except N	MLRA		ater-Stained	•	
	ater Table (A2)		_		A, and 4B		жоор			4A, and 4E		(
⊒gti ⊠ Saturati			Г	., <u>-</u> ,] Salt Crust		,			□ Dr	rainage Patte	•	
☑ Water N	,] Aquatic In		s (B13)				y-Season W		:2)
	nt Deposits (B2)] Hydrogen		` ,				aturation Visil	•	,
	posits (B3)			Oxidized F			Livina F	Roots		eomorphic Po		imagory (oc
	at or Crust (B4)			Presence	•	·	•	10013		nallow Aquita		
	posits (B5)			Recent Iro				(C6)		AC-Neutral To		
	Soil Cracks (B6)			Stunted or						aised Ant Mo	,	RR A)
	ion Visible on Aeria	ıl Imagery (Other (Exp			., (=: **	•)		ost-Heave H		•
	y Vegetated Conca	0 , (_						۰۰ ت	- 2 10010 11		- /
ield Obse			()									
	ter Present?	Yes 🗌	No 🛛 🏻 [Depth (inche	s).							
Nater Table				Depth (inche								
Saturation F				Depth (inche:	-		l w	Vetlaı	nd Hydrology	v Present?	Yes⊠ No	o 🗆
(includes ca	pillary fringe)									, , , , , , , , , , , , , , , , , , , ,		_
Describe R	ecorded Data (strea	am gauge,	monitoring	g well, aerial	photos, pr	evious in	spection	ns), if	available:			
Remarks:												

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

Project/Site: Sunset Pointe	City	//County: <u>Puyallup / I</u>	Sampling Date: 03 OCT 2017			
Applicant/Owner:			State: Washington	Sampling Point: SPB-12		
Investigator(s): <u>Habitat Technologies</u>		Section, Tov	vnship, Range: <u>S35, T20</u>	, R4E		
Landform (hillslope, terrace, etc.):	Local relief (concave, convex, none):			Slope (%):		
Subregion (LRR): A	Lat:		Long:	Datum:		
Soil Map Unit Name: <u>Kitsap silt loam</u>						
Are climatic / hydrologic conditions on the site typical for thi						
Are Vegetation, Soil, or Hydrology sig	•	•	rmal Circumstances" pre			
Are Vegetation, Soil, or Hydrology nati			d, explain any answers ir			
SUMMARY OF FINDINGS – Attach site map			•	•		
Hydrophytic Vegetation Present? Yes ⊠ No [
Hydric Soil Present? Yes ☐ No ☐		Is the Sampled				
Wetland Hydrology Present? Yes ☐ No ☑		within a Wetlar	nd? Yes □	No ⊠		
Remarks: Upland						
│ VEGETATION – Use scientific names of plar	nts					
VEGETATION - 636 Scientific flames of plan		Dominant Indicator	Dominance Test wor	ksheet:		
<u>Tree Stratum</u> (Plot size: <u>15ft radius</u>) 1		Species? Status	Number of Dominant S That Are OBL, FACW			
2			Total Number of Domi	nant		
3			Species Across All Str			
4			Percent of Dominant S	Species		
Sapling/Shrub Stratum (Plot size: 15ft radius)	0	= Total Cover	That Are OBL, FACW			
1			Prevalence Index wo	rksheet:		
2.				Multiply by:		
3.			OBL species	x 1 =		
4.			FACW species	x 2 =		
5			FAC species	x 3 =		
	0	= Total Cover	FACU species	x 4 =		
Herb Stratum (Plot size: 15ft radius)			UPL species	x 5 =		
1	<u> </u>		Column Totals:	(A) (B)		
2			Prevalence Inde	x = B/A =		
3 4			Hydrophytic Vegetat			
5			☐ Rapid Test for Hyd			
6			☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐			
7.			☐ Prevalence Index	is ≤3.0¹		
8				aptations¹ (Provide supporting ks or on a separate sheet)		
9			☐ Wetland Non-Vaso	cular Plants¹		
10			☐ Problematic Hydro	phytic Vegetation¹ (Explain)		
11 Woody Vine Stratum (Plot size: 15ft radius)		= Total Cover	¹ Indicators of hydric so be present, unless dis	oil and wetland hydrology must turbed or problematic.		
1. Rubus procera	<u>100</u>	yes <u>FAC</u>				
2			Hydrophytic Vegetation			
% Bare Ground in Herb Stratum <u>0</u>		= Total Cover		es 🛛 No 🗌		

Profile Description: (Descri	50 to the do				
Depth Matri			ox Features	. 2	
(inches) Color (moist)		Color (moist)	% Type ¹	Loc ²	Texture Remarks
0-12 <u>10YR 3/3</u>	<u>100</u>				<u>SI</u>
12-18 <u>10YR 4/2</u>	<u>95</u>	10YR 4/6	<u>5 C</u>	<u>M</u>	<u>SI</u>
17 00 11 0.5					2 2
¹ Type: C=Concentration, D=[Hydric Soil Indicators: (App				ed Sand Gi	rains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
•	nicable to al		•		
☐ Histosol (A1) ☐ Histic Epipedon (A2)		☐ Sandy Redox (S☐ Stripped Matrix			☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2)
☐ Black Histic (A3)		☐ Loamy Mucky N		MI DA 1	☐ Very Shallow Dark Surface (TF12)
☐ Hydrogen Sulfide (A4)		☐ Loamy Gleyed I		i iliLiva 1)	Other (Explain in Remarks)
☐ Depleted Below Dark Surf	face (A11)	☐ Depleted Matrix	, ,		_ carer (Explain in Remarke)
☐ Thick Dark Surface (A12)	, ,	Redox Dark Su			³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1		☐ Depleted Dark S	Surface (F7)		wetland hydrology must be present,
☐ Sandy Gleyed Matrix (S4)	1	☐ Redox Depress	ions (F8)		unless disturbed or problematic.
Restrictive Layer (if present):				
Type:					
Depth (inches):					Hydric Soil Present? Yes ☐ No ⊠
Remarks:					1
Remarks:	rs:				1
Remarks: 'DROLOGY Wetland Hydrology Indicato		ed: check all that appl	lv)		Secondary Indicators (2 or more required
Remarks: 'DROLOGY Wetland Hydrology Indicato Primary Indicators (minimum o			• '	vcent MI F	Secondary Indicators (2 or more required
Primary Indicators (minimum of Surface Water (A1)		☐ Water-Stai	ined Leaves (B9) (e	xcept MLF	RA Water-Stained Leaves (B9) (MLRA 1
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2)		☐ Water-Stai	ined Leaves (B9) (e A, and 4B)	xcept MLF	RA Water-Stained Leaves (B9) (MLRA 1 4A, and 4B)
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)		☐ Water-Stai 1, 2, 4 ☐ Salt Crust	ined Leaves (B9) (e A, and 4B) (B11)	xcept MLF	RA
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)		☐ Water-Stai 1, 2, 4 ☐ Salt Crust ☐ Aquatic Inv	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13)	xcept MLF	RA
Primary Indicators (minimum of the primary Indicat		☐ Water-Stai 1, 2, 4, ☐ Salt Crust ☐ Aquatic In ☐ Hydrogen	ined Leaves (B9) (eA, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1)		RA
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		☐ Water-Stai 1, 2, 4, ☐ Salt Crust ☐ Aquatic Int ☐ Hydrogen ☐ Oxidized F	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along	Living Roo	RA
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)		☐ Water-Stai 1, 2, 4, ☐ Salt Crust ☐ Aquatic Int ☐ Hydrogen ☐ Oxidized F	A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4)	Living Roo 1)	RA
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)		Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 n Reduction in Tille	Living Roo \$) d Soils (C6	RA
Primary Indicators (minimum of the primary Indicato	of one require	Water-Stai 1, 2, 4i Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 n Reduction in Tille Stressed Plants (D	Living Roo \$) d Soils (C6	RA
Primary Indicators (minimum of the primary Indicato	of one require	Water-Stain 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 n Reduction in Tille	Living Roo \$) d Soils (C6	RA
Primary Indicators (minimum of the primary Indicato	of one require	Water-Stain 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 n Reduction in Tille Stressed Plants (D	Living Roo \$) d Soils (C6	RA
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeri	of one require al Imagery (E ave Surface	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence G Recent Iro Stunted or Other (Exp	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 n Reduction in Tille Stressed Plants (D plain in Remarks)	Living Roo \$) d Soils (C6	RA
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeric Sparsely Vegetated Concestications: Surface Water Present?	al Imagery (Eave Surface	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Other (Exp (B8)	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 n Reduction in Tille Stressed Plants (D Dain in Remarks)	Living Roo \$) d Soils (C6	RA
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeri Sparsely Vegetated Conce Field Observations: Surface Water Present? Water Table Present?	al Imagery (Eave Surface (Yes \bigcap N	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence G Recent Iro Stunted or Stunted or Other (Exp (B8)	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 n Reduction in Tille Stressed Plants (D blain in Remarks) s): s):	Living Roo 4) d Soils (C6 1) (LRR A)	Water-Stained Leaves (B9) (MLRA 1 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (ts (C3) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7)
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeric Sparsely Vegetated Concestications: Surface Water Present?	al Imagery (Eave Surface (Yes \bigcap N	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence G Recent Iro Stunted or Stunted or Other (Exp (B8)	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 n Reduction in Tille Stressed Plants (D Dain in Remarks)	Living Roo 4) d Soils (C6 1) (LRR A)	RA
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeri Sparsely Vegetated Conce Field Observations: Surface Water Present? Water Table Present? Saturation Present?	al Imagery (E ave Surface (Yes	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Stunted or Other (Exp (B8) Depth (inches	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 n Reduction in Tille Stressed Plants (D Dlain in Remarks) s): s): s):	Living Roo d Soils (C6 1) (LRR A	RA
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aericust (B4) Sparsely Vegetated Concested Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (street	al Imagery (E ave Surface (Yes	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Stunted or Other (Exp (B8) Depth (inches	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 n Reduction in Tille Stressed Plants (D Dlain in Remarks) s): s): s):	Living Roo d Soils (C6 1) (LRR A	RA
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeric Sparsely Vegetated Concestications: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	al Imagery (E ave Surface (Yes	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Stunted or Other (Exp (B8) Depth (inches	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 n Reduction in Tille Stressed Plants (D Dlain in Remarks) s): s): s):	Living Roo d Soils (C6 1) (LRR A	RA
Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aericust (B4) Sparsely Vegetated Concested Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (street	al Imagery (E ave Surface (Yes	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Stunted or Other (Exp (B8) Depth (inches	ined Leaves (B9) (e A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 n Reduction in Tille Stressed Plants (D Dlain in Remarks) s): s): s):	Living Roo d Soils (C6 1) (LRR A	RA

		State: Wash				State: <u>Washington</u>	_ Sam	oling Point: <u>SF</u>	PB-16		
Investigator(s): Habitat Technologies		Section, Township				vnship, Range: <u>S35, T2</u>	0, R4E				
Landform (hillslope, terrace, etc.):				Local re	elief (c	oncave, o	convex, none):		Slope	(%): _	
Subregion (LRR): <u>A</u>											
Soil Map Unit Name: Kitsap silt loam							_				
Are climatic / hydrologic conditions on the											
Are Vegetation, Soil, or Hyd			-			-	mal Circumstances" pre	-	Yes⊠ No	П	
Are Vegetation, Soil, or Hyd							d, explain any answers				
SUMMARY OF FINDINGS - Att						`			,	ures,	etc.
Hydrophytic Vegetation Present?	Yes ⊠	No 🗆									
Hydric Soil Present?	Yes 🗌					Sampled					
Wetland Hydrology Present?	Yes 🗌				within	a Wetlai	nd? Yes □	No ⊠			
Remarks: Upland				-							
VEGETATION – Use scientific r	ames of	plants									
Tree Stratum (Plot size: 15ft radius)			Absolute % Cover			ndicator	Dominance Test wo				
1. Alnus rubra			20				Number of Dominant That Are OBL, FACW				(A)
2.									σ. <u>σ</u>		(* •)
3.							Total Number of Dom Species Across All S		3	((B)
4.							·		<u> </u>	,	,
Sapling/Shrub Stratum (Plot size: 15f			20				Percent of Dominant That Are OBL, FACW			((A/B)
1	-						Prevalence Index w	orkshe	et:		
2.							Total % Cover of			by:	
3.							OBL species				_
4.							FACW species				
5							FAC species		x 3 =		_
			0	_ = To	tal Cov	er	FACU species		x 4 =		_
Herb Stratum (Plot size: 15ft radius)					_		UPL species		x 5 =		-
Equisetum arvense			30			AC	Column Totals:		(A)		_ (B)
2							Prevalence Ind	ex = B/.	A =		
3 4							Hydrophytic Vegeta				
5.							☐ Rapid Test for Hy				
6							□ Dominance Test	is >50%)		
7.							☐ Prevalence Index	is ≤3.0	1		
8							☐ Morphological Ac		ns¹ (Provide si n a separate s		ng
9							☐ Wetland Non-Vas		•	,	
10							☐ Problematic Hydr	ophytic	Vegetation ¹ (I	Explain	1)
11							¹ Indicators of hydric s	soil and	wetland hydro	ology m	ıust
Woody Vine Stratum (Plot size: 15ft ra	adius)		30	_ = 10	tal Cov	er	be present, unless di	sturbed	or problemation	C.	
1. Rubus procera			100	yes	F	AC					
2.							Hydrophytic Vegetation				
			100	= To	tal Cov	er		∕es ⊠	No 🗌		
% Bare Ground in Herb Stratum <u>0</u>											
Remarks:											

¹Type: C=Concentr Hydric Soil Indicat ☐ Histosol (A1) ☐ Histic Epipedon ☐ Black Histic (A3) ☐ Hydrogen Sulfic) le (A4) Dark Surface (A11) ace (A12) lineral (S1) //atrix (S4) if present):	RM=Reduced Mo all LRRs, unle	Redox (S5) d Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3)	d or Coated Sa	and Grains.	² Location: PL ndicators for Pro □ 2 cm Muck (A: □ Red Parent Ma	•
Hydric Soil Indicat Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (Type: Depth (inches):_	(A2)) le (A4) Dark Surface (A11) ace (A12) lineral (S1) Matrix (S4) if present):	RM=Reduced Mo all LRRs, unle	Matrix, CS=Covered ess otherwise note Redox (S5) d Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3)	d or Coated Sa	and Grains.	ndicators for Pro 2 cm Muck (A Red Parent Ma	oblematic Hydric Soils ³ : 10)
Hydric Soil Indicate Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (Type: Depth (inches):	(A2)) le (A4) Dark Surface (A11) ace (A12) lineral (S1) Matrix (S4) if present):	Sandy Strippe Loamy Loamy Deplete	Redox (S5) d Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3)	ed.)) (except MLI	ا]]	ndicators for Pro 2 cm Muck (A Red Parent Ma	oblematic Hydric Soils ³ : 10)
Hydric Soil Indicate Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (Type: Depth (inches):	(A2)) le (A4) Dark Surface (A11) ace (A12) lineral (S1) Matrix (S4) if present):	Sandy Strippe Loamy Loamy Deplete	Redox (S5) d Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3)	ed.)) (except MLI	ا]]	ndicators for Pro 2 cm Muck (A Red Parent Ma	oblematic Hydric Soils ³ : 10)
Hydric Soil Indicate Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (Type: Depth (inches):	(A2)) le (A4) Dark Surface (A11) ace (A12) lineral (S1) Matrix (S4) if present):	Sandy Strippe Loamy Loamy Deplete	Redox (S5) d Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3)	ed.)) (except MLI	ا]]	ndicators for Pro 2 cm Muck (A Red Parent Ma	oblematic Hydric Soils ³ : 10)
Hydric Soil Indicate Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (Type: Depth (inches):	(A2)) le (A4) Dark Surface (A11) ace (A12) lineral (S1) Matrix (S4) if present):	Sandy Strippe Loamy Loamy Deplete	Redox (S5) d Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3)	ed.)) (except MLI	ا]]	ndicators for Pro 2 cm Muck (A Red Parent Ma	oblematic Hydric Soils ³ : 10)
Hydric Soil Indicated Histosol (A1) Histic Epipedon Black Histic (A3) Hydrogen Sulficed Depleted Below Thick Dark Surfeed Sandy Mucky Medical Sandy Gleyed Medical Restrictive Layer (Type: Depth (inches):	(A2)) le (A4) Dark Surface (A11) ace (A12) lineral (S1) Matrix (S4) if present):	Sandy Strippe Loamy Loamy Deplete	Redox (S5) d Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3)	ed.)) (except MLI	ا]]	ndicators for Pro 2 cm Muck (A Red Parent Ma	oblematic Hydric Soils ³ : 10)
Hydric Soil Indicated Histosol (A1) Histic Epipedon Black Histic (A3) Hydrogen Sulficed Depleted Below Thick Dark Surfeed Sandy Mucky Medical Sandy Gleyed Medical Restrictive Layer (Type: Depth (inches):	(A2)) le (A4) Dark Surface (A11) ace (A12) lineral (S1) Matrix (S4) if present):	Sandy Strippe Loamy Loamy Deplete	Redox (S5) d Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3)	ed.)) (except MLI	ا]]	ndicators for Pro 2 cm Muck (A Red Parent Ma	oblematic Hydric Soils ³ : 10)
Hydric Soil Indicat Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (Type: Depth (inches):	(A2)) le (A4) Dark Surface (A11) ace (A12) lineral (S1) Matrix (S4) if present):	Sandy Strippe Loamy Loamy Deplete	Redox (S5) d Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3)	ed.)) (except MLI	ا]]	ndicators for Pro 2 cm Muck (A Red Parent Ma	oblematic Hydric Soils ³ : 10)
Hydric Soil Indicat Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (Type: Depth (inches):	(A2)) le (A4) Dark Surface (A11) ace (A12) lineral (S1) Matrix (S4) if present):	Sandy Strippe Loamy Loamy Deplete	Redox (S5) d Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3)	ed.)) (except MLI	ا]]	ndicators for Pro 2 cm Muck (A Red Parent Ma	oblematic Hydric Soils ³ : 10)
Hydric Soil Indicat Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (Type: Depth (inches):	(A2)) le (A4) Dark Surface (A11) ace (A12) lineral (S1) Matrix (S4) if present):	Sandy Strippe Loamy Loamy Deplete	Redox (S5) d Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3)	ed.)) (except MLI	ا]]	ndicators for Pro 2 cm Muck (A Red Parent Ma	oblematic Hydric Soils ³ : 10)
Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (Type: Depth (inches):	(A2)) le (A4) Dark Surface (A11) ace (A12) lineral (S1) Atrix (S4) if present):	Sandy Strippe Loamy Loamy Deplete	Redox (S5) d Matrix (S6) Mucky Mineral (F1 Gleyed Matrix (F2) ed Matrix (F3)) (except MLI]]	☐ 2 cm Muck (A ² ☐ Red Parent Ma	10)
Histic Epipedon Black Histic (A3 Hydrogen Sulfic Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (Type: Depth (inches):) le (A4) Dark Surface (A11) ace (A12) lineral (S1) //atrix (S4) if present):	Strippe Loamy Loamy Deplete	d Matrix (S6) Mucky Mineral (F1 Gleyed Matrix (F2) ed Matrix (F3)			☐ Red Parent Ma	•
☐ Black Histic (A3☐ Hydrogen Sulfic☐ Depleted Below☐ Thick Dark Surf☐ Sandy Mucky M☐ Sandy Gleyed MRestrictive Layer (☐ Type:) le (A4) Dark Surface (A11) ace (A12) lineral (S1) //atrix (S4) if present):	☐ Loamy ☐ Loamy ☐ Deplete ☐ Redox	Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3)				
Depleted Below Thick Dark Surf Sandy Mucky M Sandy Gleyed M Restrictive Layer (Type: Depth (inches):_	Dark Surface (A11) ace (A12) lineral (S1) //atrix (S4) if present):	☐ Deplete☐ Redox	ed Matrix (F3))			Dark Surface (TF12)
☐ Thick Dark Surf ☐ Sandy Mucky M ☐ Sandy Gleyed M Restrictive Layer (Type: Depth (inches):_	ace (A12) lineral (S1) Matrix (S4) if present):	Redox	` '		[☐ Other (Explain	ı in Remarks)
☐ Sandy Mucky M☐ Sandy Gleyed MRestrictive Layer (Type: Depth (inches):	lineral (S1) //atrix (S4) if present):				_	_	
Sandy Gleyed Mestrictive Layer (Type: Depth (inches):	Matrix (S4) if present):	☐ Deplete	Dark Surface (F6)	_,	3		rophytic vegetation and
Restrictive Layer (Type: Depth (inches):_	if present):	□ Dades	ed Dark Surface (F7	7)		•	ogy must be present,
Type:	•	☐ Redox	Depressions (F8)			uniess disturbe	ed or problematic.
Depth (inches):_							
					11	uia Cail Duanaut	? Yes □ No ⊠
DROLOGY	· Indiantoro						
Wetland Hydrology	minimum of one req	uirod: chock all	that apply)			Socondary Indi	cators (2 or more required)
☐ Surface Water (•		ater-Stained Leave	o (PO) (avaor	MI DA		
☐ High Water Tab	,	vv	1, 2, 4A, and 4B)) LIVILKA	4A, and	ned Leaves (B9) (MLRA 1, 2
☐ Saturation (A3)	ie (A2)	□ 9/	alt Crust (B11)			☐ Drainage Pa	•
☐ Water Marks (B	1)	_	quatic Invertebrates	s (B13)		-	n Water Table (C2)
☐ Sediment Depo			/drogen Sulfide Od	` '			Visible on Aerial Imagery (C
☐ Drift Deposits (E			xidized Rhizospher	` ,	a Roots (C3)		
☐ Algal Mat or Cru	•		esence of Reduced	_	9	☐ Shallow Aqu	
☐ Iron Deposits (E			ecent Iron Reductio		ils (C6)	☐ FAC-Neutra	
· · · · · · · · · · · · · · · · · ·	•		unted or Stressed F				Mounds (D6) (LRR A)
	le on Aerial Imagery		ther (Explain in Rer		,		e Hummocks (D7)
☐ Sparsely Vegeta	ated Concave Surfac	ce (B8)					
ield Observations	s:						
Surface Water Pres	ent? Yes □	No 🛛 Dept	h (inches):				
Nater Table Preser	nt? Yes □	No ⊠ Dept	h (inches):				
Saturation Present?	Yes □	No ⊠ Dept	h (inches):		Wetland Hy	/drology Present	t? Yes □ No ⊠
includes capillary fi							
Describe Recorded	Data (stream gauge	, monitoring we	i, aeriai photos, pre	evious inspect	ions), if availa	able:	
Remarks:							

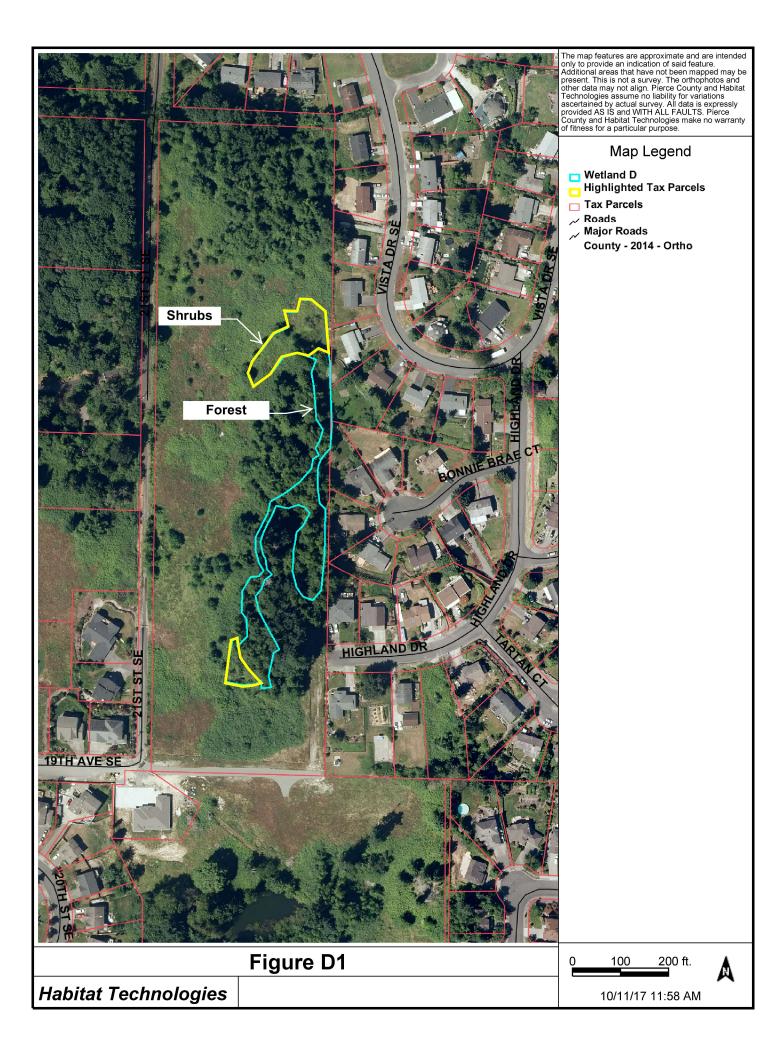
Project/Site: Sunset Pointe		City/County: <u>Puyallup /</u>	Pierce	Sampling Date:03 OCT 2017
Applicant/Owner:			State: Washington	Sampling Point: SPB-18
Investigator(s): Habitat Technologies				
Landform (hillslope, terrace, etc.):		Local relief (concave,	convex, none):	Slope (%):
Subregion (LRR): A				
Soil Map Unit Name: <u>Kitsap silt loam</u>				
Are climatic / hydrologic conditions on the site typica				
Are Vegetation, Soil, or Hydrology	-	•	rmal Circumstances" pre	
Are Vegetation, Soil, or Hydrology			ed, explain any answers i	
SUMMARY OF FINDINGS – Attach site				,
Hydrophytic Vegetation Present? Yes ⊠	No □	la tha Camania	d A	
Hydric Soil Present? Yes ⊠	No □	Is the Sampled within a Wetla		No □
, ,,	No □	within a wetta	iiu: Tes 🖂	NO [
Remarks: Wetland				
VECETATION Lies esignifica nomes e				
VEGETATION – Use scientific names o	Absolute	Dominant Indicator	Dominance Test wor	uka ba a ti
Tree Stratum (Plot size: 15ft radius)		Dominant Indicator Species? Status	Number of Dominant	
1. Alnus rubra	40	yes FAC	That Are OBL, FACW	
2			Total Number of Dom	inant
3			Species Across All St	
4			Percent of Dominant S	Species
Sapling/Shrub Stratum (Plot size: 15ft radius)	<u>40</u>	_ = Total Cover	That Are OBL, FACW	, or FAC: <u>100</u> (A/B)
1			Prevalence Index wo	orksheet:
2.			Total % Cover of:	Multiply by:
3			OBL species	x 1 =
4			*	x 2 =
5				x 3 =
Herb Stratum (Plot size: 15ft radius)	0	_ = Total Cover		x 4 =
1. Juncus effusus	20	yes FACW		x 5 = (A)
2. Equisetum arvense		yes FAC	Column rotals.	(A) (B)
3. Athyrium filix-femina		yes FAC	Prevalence Inde	ex = B/A =
4. Ranunculus repens	20	yes <u>FAC</u>	Hydrophytic Vegetat	
5			Rapid Test for Hy	1 , 0
6			☐ Dominance Test is	
7			☐ Prevalence Index	
8				aptations¹ (Provide supporting ks or on a separate sheet)
9			☐ Wetland Non-Vas	cular Plants ¹
10			☐ Problematic Hydro	ophytic Vegetation¹ (Explain)
11	100	= Total Cover		oil and wetland hydrology must
Woody Vine Stratum (Plot size: 15ft radius)	100	_ = 10tal 00vcl	be present, unless dis	sturbed or problematic.
1. Rubus procera	<u>30</u>	yes FAC	Hydrophytic	
2			Vegetation	
0/ Para Cround in Harb Stratum 0	30	_ = Total Cover	Present? Y	es ⊠ No □
% Bare Ground in Herb Stratum <u>0</u> Remarks:				
Remarks:				

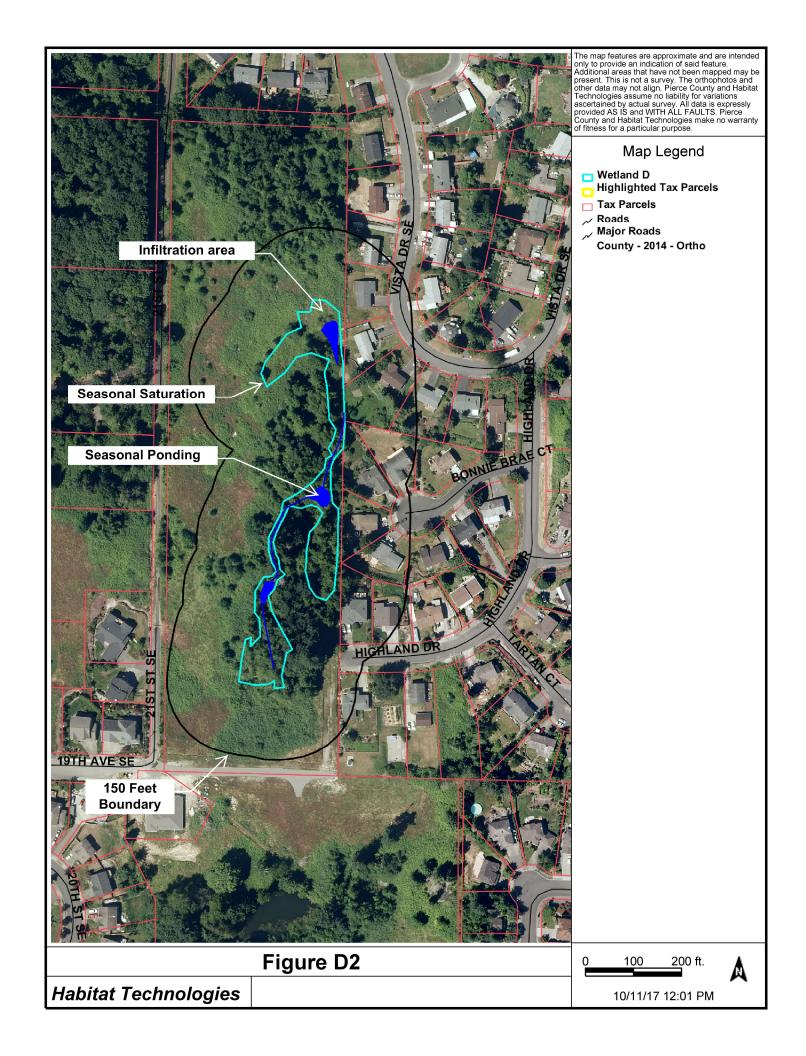
Profile Description: (Descri	ne to the (•									
Depth Matri	<u>(</u>			x Features							
(inches) Color (moist)	%	_ <u>Color</u>	(moist)		Type ¹	Loc ²	<u>Textur</u>	<u>e</u>		<u>Remarks</u>	
0-4 <u>10YR 4/2</u>	100						SI				
4-20 <u>10YR 4/1</u>	80	10YR	: 4/6	20	<u>c</u>	<u>M</u>	SI				
¹ Type: C=Concentration, D=[ed Sand G				ore Lining, M	
Hydric Soil Indicators: (App	licable to				a.)					ematic Hydric	: Soils":
Histosol (A1)			andy Redox (S						luck (A10)	: I (TEO)	
Histic Epipedon (A2)			tripped Matrix	. ,	/	MIDAA		=	arent Mater	` '	40)
☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4)			oamy Mucky N oamy Gleyed I		(except	WILKA 1)	-	nallow Dar Explain in	k Surface (TF Pomarks)	12)
☐ Hydrogen Sunde (A4) ☐ Depleted Below Dark Surf	ace (A11)		epleted Matrix				L) Other (<u> схріані ін</u>	Remarks)	
☐ Thick Dark Surface (A12)	ace (ATT)		edox Dark Su				3 r	ndicators	of hydronh	ytic vegetatio	n and
☐ Sandy Mucky Mineral (S1)		epleted Dark S	, ,)					must be pres	
☐ Sandy Gleyed Matrix (S4)			edox Depress	•	,					r problematic.	
Restrictive Layer (if present			<u> </u>	()						•	
Type:											
							Hydri	c Sail Di	resent?	Yes ⊠ No	
Depth (inches):Remarks:								C 3011 F1			
Depth (inches):Remarks:								C 30II FI		_	
Depth (inches):	rs:										
Depth (inches):	rs:	uired; chec		•				Seconda	ary Indicato	ors (2 or more	required)
Depth (inches):	rs:	uired; chec	☐ Water-Stai	ined Leaves	s (B9) (e	xcept ML		Seconda	ary Indicato er-Stained	ors (2 or more Leaves (B9) (required)
Depth (inches):Remarks: **TDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum of the continuous of	rs:	uired; ched	☐ Water-Stai	ined Leaves A, and 4B)	s (B9) (e	xcept ML		Seconda ☐ Wate	ary Indicato er-Stained IA, and 4B	ors (2 or more Leaves (B9) (required)
Depth (inches):	rs:	uired; chec	□ Water-Stai 1, 2, 4, □ Salt Crust	ined Leaves A, and 4B) (B11)	, , ,	xcept ML		Seconda Wate	ary Indicato er-Stained IA, and 4B nage Patte	ors (2 or more Leaves (B9) (i) rns (B10)	required) MLRA 1, 2
Depth (inches):	rs:	uired; chec	☐ Water-Stai 1, 2, 4/ ☐ Salt Crust ☐ Aquatic Inv	ined Leaves A, and 4B) (B11) vertebrates	(B13)	xcept ML		Seconda Wate Drain Dry-	ary Indicato er-Stained IA, and 4B nage Patte Season Wa	ors (2 or more Leaves (B9) (i) rns (B10) ater Table (C2	required) MLRA 1, 2
Depth (inches):	rs:	uired; chec	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odd	(B13) or (C1)		.RA	Seconda Wate Drain Dry- Satu	ary Indicato er-Stained I A, and 4B nage Patte Season Wa iration Visit	ors (2 or more Leaves (B9) (3) rns (B10) ater Table (C2 ole on Aerial I	required) MLRA 1, 2
Depth (inches):	rs:	uired; chec	Water-Stai 1, 2, 4, 4 Salt Crust Aquatic Inv Hydrogen Oxidized F	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odd	(B13) or (C1) es along	Living Ro	.RA	Seconda	ary Indicato er-Stained IA, and 4B nage Patte Season Wa iration Visil morphic Po	ors (2 or more Leaves (B9) (3) rns (B10) ater Table (C2 ole on Aerial I osition (D2)	required) MLRA 1, 2
Depth (inches):	rs:	uired; chec	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of	A, and 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced	(B13) or (C1) es along Iron (C4	Living Ro	.RA	Seconda Wate Drain Dry- Satu Geo Shal	ary Indicato er-Stained IA, and 4B nage Patte Season Wa Iration Visit morphic Po low Aquita	ors (2 or more Leaves (B9) (3) rns (B10) ater Table (C2 ble on Aerial I osition (D2) rd (D3)	required) MLRA 1, 2
Depth (inches):	rs:	uired; chec	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odc Rhizosphere of Reduced n Reductior	(B13) or (C1) es along Iron (C4	Living Ro	.RA ots (C3)	Seconda Wate Drain Dry- Satu Geo Shal	ary Indicato er-Stained IA, and 4B nage Patte Season Waration Visit morphic Po low Aquita -Neutral Te	ors (2 or more Leaves (B9) (i) rns (B10) ater Table (C2 ble on Aerial I osition (D2) rd (D3) est (D5)	required) MLRA 1, 2 2) magery (CS
Depth (inches):	rs: of one requ	uired; chec [[[[[Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro Stunted or	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced n Reductior Stressed P	(B13) or (C1) es along Iron (C4 n in Tille	Living Ro	.RA ots (C3)	Seconda	ary Indicato er-Stained IA, and 4B nage Patte Season Wa Iration Visil morphic Po low Aquita -Neutral Te ed Ant Mo	ors (2 or more Leaves (B9) (i) rns (B10) ater Table (C2 ole on Aerial I osition (D2) rd (D3) est (D5) unds (D6) (LF	required) (MLRA 1, 2 2) magery (CS
Depth (inches):	rs: of one requ	uired; chec [[[[[[(B7) [Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro Stunted or	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odc Rhizosphere of Reduced n Reductior	(B13) or (C1) es along Iron (C4 n in Tille	Living Ro	.RA ots (C3)	Seconda	ary Indicato er-Stained IA, and 4B nage Patte Season Wa Iration Visil morphic Po low Aquita -Neutral Te ed Ant Mo	ors (2 or more Leaves (B9) (i) rns (B10) ater Table (C2 ble on Aerial I osition (D2) rd (D3) est (D5)	required) (MLRA 1, 2 2) magery (CS
Depth (inches):	rs: of one requ	uired; chec [[[[[[(B7) [Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro Stunted or	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced n Reductior Stressed P	(B13) or (C1) es along Iron (C4 n in Tille	Living Ro	.RA ots (C3)	Seconda	ary Indicato er-Stained IA, and 4B nage Patte Season Wa Iration Visil morphic Po low Aquita -Neutral Te ed Ant Mo	ors (2 or more Leaves (B9) (i) rns (B10) ater Table (C2 ole on Aerial I osition (D2) rd (D3) est (D5) unds (D6) (LF	required) (MLRA 1, 2 2) magery (CS
Depth (inches):	rs: of one requ	uired; chec [[[[[[(B7) [Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro Stunted or	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced n Reductior Stressed P	(B13) or (C1) es along Iron (C4 n in Tille	Living Ro	.RA ots (C3)	Seconda	ary Indicato er-Stained IA, and 4B nage Patte Season Wa Iration Visil morphic Po low Aquita -Neutral Te ed Ant Mo	ors (2 or more Leaves (B9) (i) rns (B10) ater Table (C2 ole on Aerial I osition (D2) rd (D3) est (D5) unds (D6) (LF	required) (MLRA 1, 2) (MLRA 1, 2) (MLRA 1, 2) (MLRA 1, 2)
Depth (inches):	rs: of one requ	uired; chec [[[[[[(B7) [Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro Stunted or	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odc Rhizosphere of Reduced n Reductior Stressed P blain in Rem	(B13) or (C1) es along Iron (C4 n in Tille	Living Ro	.RA ots (C3)	Seconda	ary Indicato er-Stained IA, and 4B nage Patte Season Wa Iration Visil morphic Po low Aquita -Neutral Te ed Ant Mo	ors (2 or more Leaves (B9) (i) rns (B10) ater Table (C2 ole on Aerial I osition (D2) rd (D3) est (D5) unds (D6) (LF	required) (MLRA 1, 2, 2) magery (C9
Depth (inches):	rs: of one requ	uired; chec [[[[[(B7) [se (B8)	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro Stunted or Other (Exp	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odc Rhizosphere of Reduced in Reductior Stressed P blain in Rem s):	(B13) or (C1) es along Iron (C4 n in Tille	Living Ro	.RA ots (C3)	Seconda	ary Indicato er-Stained IA, and 4B nage Patte Season Wa Iration Visil morphic Po low Aquita -Neutral Te ed Ant Mo	ors (2 or more Leaves (B9) (i) rns (B10) ater Table (C2 ole on Aerial I osition (D2) rd (D3) est (D5) unds (D6) (LF	required) (MLRA 1, 2) (MLRA 1, 2) (MLRA 1, 2) (MLRA 1, 2)
Depth (inches): Remarks: TDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum of the content of	rs: of one requal Imagery ave Surface	uired; chec [[[[[(B7) [ee (B8)	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or Other (Exp	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced n Reductior Stressed P blain in Rem s):s):s): 4	(B13) or (C1) es along Iron (C4 n in Tille	Living Ro	.RA ots (C3) 6)	Seconda Wate Drain Dry- Satu Geo Shal FAC Rais Fros	ary Indicato er-Stained IA, and 4B nage Patte Season Wa Iration Visit morphic Po low Aquita -Neutral Te ed Ant Mor t-Heave Hu	ors (2 or more Leaves (B9) (i) rns (B10) ater Table (C2 ole on Aerial I osition (D2) rd (D3) est (D5) unds (D6) (LF	required) MLRA 1, 2 2) magery (C9
Depth (inches):	rs: of one requal lmagery ave Surface Yes □ Yes ⊠ Yes ⊠	uired; chec [Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro Stunted or Other (Exp Depth (inches	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odc Rhizosphere of Reduced in Reductior Stressed Polain in Rem s): s): 4 s): 0	(B13) or (C1) es along Iron (C4 n in Tille Plants (D narks)	Living Ro	.RA ots (C3) 6) A)	Seconda Wate Drain Dry- Satu Geo Shal FAC Rais Fros	ary Indicato er-Stained IA, and 4B nage Patte Season Wa Iration Visit morphic Po low Aquita -Neutral Te ed Ant Mor t-Heave Hu	ors (2 or more Leaves (B9) (3) rns (B10) ater Table (C2 ole on Aerial I osition (D2) rd (D3) est (D5) unds (D6) (LF ummocks (D7	required) MLRA 1, 2 2) magery (C9
Depth (inches): Remarks: TDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum of the content of	rs: of one requal lmagery ave Surface Yes □ Yes ⊠ Yes ⊠	uired; chec [Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro Stunted or Other (Exp Depth (inches	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odc Rhizosphere of Reduced in Reductior Stressed Polain in Rem s): s): 4 s): 0	(B13) or (C1) es along Iron (C4 n in Tille Plants (D narks)	Living Ro	.RA ots (C3) 6) A)	Seconda Wate Drain Dry- Satu Geo Shal FAC Rais Fros	ary Indicato er-Stained IA, and 4B nage Patte Season Wa Iration Visit morphic Po low Aquita -Neutral Te ed Ant Mor t-Heave Hu	ors (2 or more Leaves (B9) (3) rns (B10) ater Table (C2 ole on Aerial I osition (D2) rd (D3) est (D5) unds (D6) (LF ummocks (D7	required) MLRA 1, 2 2) magery (C9
Depth (inches): Remarks: PROLOGY Wetland Hydrology Indicator Primary Indicators (minimum of the primary Indicators (Max) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Inguity	rs: of one requal lmagery ave Surface Yes □ Yes ⊠ Yes ⊠	uired; chec [Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro Stunted or Other (Exp Depth (inches	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odc Rhizosphere of Reduced in Reductior Stressed Polain in Rem s): s): 4 s): 0	(B13) or (C1) es along Iron (C4 n in Tille Plants (D narks)	Living Ro	.RA ots (C3) 6) A)	Seconda Wate Drain Dry- Satu Geo Shal FAC Rais Fros	ary Indicato er-Stained IA, and 4B nage Patte Season Wa Iration Visit morphic Po low Aquita -Neutral Te ed Ant Mor t-Heave Hu	ors (2 or more Leaves (B9) (3) rns (B10) ater Table (C2 ole on Aerial I osition (D2) rd (D3) est (D5) unds (D6) (LF ummocks (D7	required) MLRA 1, 2, 2) magery (C9
Depth (inches):	rs: of one requal lmagery ave Surface Yes □ Yes ⊠ Yes ⊠	uired; chec [Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro Stunted or Other (Exp Depth (inches	ined Leaves A, and 4B) (B11) vertebrates Sulfide Odc Rhizosphere of Reduced in Reductior Stressed Polain in Rem s): s): 4 s): 0	(B13) or (C1) es along Iron (C4 n in Tille Plants (D narks)	Living Ro	.RA ots (C3) 6) A)	Seconda Wate Drain Dry- Satu Geo Shal FAC Rais Fros	ary Indicato er-Stained IA, and 4B nage Patte Season Wa Iration Visit morphic Po low Aquita -Neutral Te ed Ant Mor t-Heave Hu	ors (2 or more Leaves (B9) (3) rns (B10) ater Table (C2 ole on Aerial I osition (D2) rd (D3) est (D5) unds (D6) (LF ummocks (D7	required) MLRA 1, 2 2) magery (CS

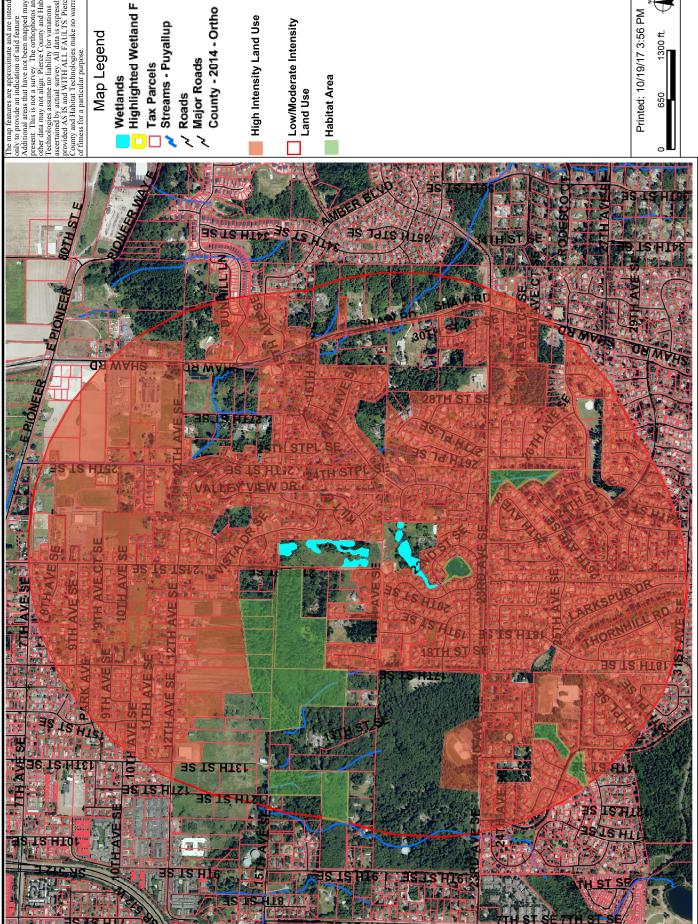
Project/Site: Sunset Pointe		C	city/Cour	nty: <u>F</u>	Puyallup /	Pierce	Sam	pling Date: <u>03</u>	OCT 201	17	
Applicant/Owner:		State:			State: Washington	_ Sam	pling Point: <u>SF</u>	² B-24			
Investigator(s): Habitat Technologies				_ Se	ction, Tov	vnship, Range: <u>S35, T20</u>), R4E				
Landform (hillslope, terrace, etc.):				Local re	elief (d	concave, c	convex, none):		Slope	(%):	
			Lat: Long:					Datum:			
Soil Map Unit Name: <u>Kitsap silt loam</u>											
Are climatic / hydrologic conditions on the si											
Are Vegetation, Soil, or Hydro			-		_	•	mal Circumstances" pre		Yes⊠ No	П	
Are Vegetation, Soil, or Hydro							d, explain any answers i			_	
SUMMARY OF FINDINGS - Attac						`			,	ures, e	tc.
Hydrophytic Vegetation Present?	Yes ⊠	No □			- 41	0	1.4				
Hydric Soil Present?	Yes 🖂	No 🗌				Sampled n a Wetlai		No \square			
Wetland Hydrology Present?	Yes ⊠	No 🗌		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	VILIIII	ı a vvellai	iiu! Tes 🖂	NO 🗀			
Remarks: Wetland.											
VECETATION Line asigntific no		nlonte									
VEGETATION – Use scientific na	mes or	piants		Domin	nant.	Indicator	Dominance Test we	ulca baa	4.		
<u>Tree Stratum</u> (Plot size: <u>15ft radius</u>)			Absolute <u>% Cover</u>			Indicator Status	Number of Dominant				
1. Alnus rubra			30	yes	!	FAC	That Are OBL, FACW			(A	4)
2				- ——			Total Number of Dom	inant			
3							Species Across All St		5	(B)	6)
4							Percent of Dominant	Species	s		
Sapling/Shrub Stratum (Plot size: 15ft r	adius)		30	_ = Tota	al Co	ver	That Are OBL, FACW			(A	/B)
1. Rubus spectabilis			20	ves		FAC	Prevalence Index wo	orkshe	 et:		
2							Total % Cover of	<u>. </u>	Multiply	by:	
3.							OBL species				
4.							FACW species		x 2 =		
5							FAC species		_ x 3 =		
			20	_ = Tota	al Co	ver	FACU species		_ x 4 =		
Herb Stratum (Plot size: 15ft radius)			00			E 4 O 4 /	UPL species				
Lysichitum americanum Gruinetum anvenee			80	-		FACW_ FAC	Column Totals:		_ (A)	((B)
Equisetum arvense Athyrium filix-femina							Prevalence Inde	ex = B/.	A =		
4							Hydrophytic Vegeta				
5							☐ Rapid Test for Hy				
6.							□ Dominance Test i	s >50%))		
7.							☐ Prevalence Index	is ≤3.0	,1		
8							☐ Morphological Ad				3
9				- ——			data in Remar ☐ Wetland Non-Vas		•	sneet)	
10				- ——			Problematic Hydro			Evolain)	
11				- —			¹ Indicators of hydric s	. ,	•	' '	
Woody Vine Stratum (Plot size: 15ft rad	liue)		<u>100</u>	_ = Tota	al Co	ver	be present, unless dis				J.
1											
2.					_		Hydrophytic				
			0	= Tota	— · al Co	ver	Vegetation Present? Y	'es ⊠	No 🗌		
% Bare Ground in Herb Stratum <u>0</u>											
% Bare Ground in Herb Stratum <u>0</u> Remarks:			0	_ = Tota	al Co	ver	Present? Y	es 🖂	NO [

Depth Matri: (inches) Color (moist)				
		Redox Features Color (moist) % Type ¹	Loo ² To	exture Remarks
0-18 10YR 3/1	<u> </u>		<u>Sil</u>	<u> </u>
				·
¹ Type: C=Concentration, D=I	Depletion, RM=F	Reduced Matrix, CS=Covered or Coated	Sand Grains	s. ² Location: PL=Pore Lining, M=Matrix.
		RRs, 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 N	ILRA 1)	☐ Very Shallow Dark Surface (TF12)
☐ Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		☐ Other (Explain in Remarks)
Depleted Below Dark Surf		Depleted Matrix (F3)		31
☐ Thick Dark Surface (A12)☐ Sandy Mucky Mineral (S1		☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present,
☐ Sandy Midcky Milleral (S1) ☐ Sandy Gleyed Matrix (S4)	,	Redox Depressions (F8)		unless disturbed or problematic.
Restrictive Layer (if present				armose dictarbed or problemade.
Type:	•			
Depth (inches):				Hydric Soil Present? Yes ⊠ No □
	ors:			
Wetland Hydrology Indicato		check all that apply)		Secondary Indicators (2 or more required)
Wetland Hydrology Indicator		check all that apply) ☐ Water-Stained Leaves (B9) (exc	ept MLRA	Secondary Indicators (2 or more required) ☐ Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1)		• • • •	ept MLRA	· · · · · · · · · · · · · · · · · · ·
Wetland Hydrology Indicato Primary Indicators (minimum o ☐ Surface Water (A1) ☐ High Water Table (A2)		☐ Water-Stained Leaves (B9) (exc	ept MLRA	☐ Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicato Primary Indicators (minimum of the control of the co		☐ Water-Stained Leaves (B9) (exc 1, 2, 4A, and 4B)	ept MLRA	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicator Primary Indicators (minimum of the control of the co		☐ Water-Stained Leaves (B9) (exc 1, 2, 4A, and 4B) ☐ Salt Crust (B11)	ept MLRA	 □ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2)
Wetland Hydrology Indicator Primary Indicators (minimum of the primary Indicators (minimum of the primary Indicators (minimum of the primary Indicators (M1) ☐ High Water Table (A2) ☐ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2)		☐ Water-Stained Leaves (B9) (exc 1, 2, 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13)		 □ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicator Primary Indicators (minimum of the primary Indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)		 □ Water-Stained Leaves (B9) (exc 1, 2, 4A, and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) □ Hydrogen Sulfide Odor (C1) 		 □ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicator Primary Indicators (minimum of the surface Water (A1) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)		 Water-Stained Leaves (B9) (exc 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled States 	ving Roots (0	□ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5)
Wetland Hydrology Indicator Primary Indicators (minimum of the primary Indicators (minimum of the primary Indicators (minimum of the primary Indicators (Material Material Ma	of one required;	Water-Stained Leaves (B9) (excessed Plants (D1)) Water-Stained Leaves (B9) (excessed Plants (B1)) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled (C4) Stunted or Stressed Plants (D1)	ving Roots (0	 □ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicator Primary Indicators (minimum of the primary Indicators (minimum of the primary Indicators (minimum of the primary Indicators (Material Parks (Mate	of one required;	Water-Stained Leaves (B9) (excessed Plants (D1)) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Stanted or Stressed Plants (D1) Other (Explain in Remarks)	ving Roots (0	□ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5)
Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeri	of one required;	Water-Stained Leaves (B9) (excessed Plants (D1)) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Stanted or Stressed Plants (D1) Other (Explain in Remarks)	ving Roots (0	 □ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicator Primary Indicators (minimum of the primary Indicators (Material Material Indicators (Material Material Indicators (Material Indi	of one required; al Imagery (B7) ave Surface (B8	Water-Stained Leaves (B9) (excessed 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled 3 Stunted or Stressed Plants (D1) Other (Explain in Remarks) Stantal Control (Explain in Remarks)	ving Roots (0	 □ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicator Primary Indicators (minimum of the primary Indicators (minimum of the primary Indicators (minimum of the primary Indicators (Management Papers) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeric Sparsely Vegetated Concertications: Surface Water Present?	of one required; fal Imagery (B7) ave Surface (B8		ving Roots (0	 □ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeric Sparsely Vegetated Concerications: Surface Water Present?	of one required; al Imagery (B7); ave Surface (B8) Yes □ No [Yes ☑ No [ving Roots (0 Soils (C6) (LRR A)	 □ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) C3) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7)
Wetland Hydrology Indicator Primary Indicators (minimum of Minimum	of one required; fal Imagery (B7) ave Surface (B8		ving Roots (0 Soils (C6) (LRR A)	 □ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicator Primary Indicators (minimum of the primary Indicators (Marks (Mar	of one required; al Imagery (B7) ave Surface (B8 Yes □ No [Yes ☑ No [Yes ☑ No [ving Roots (0 Soils (C6) (LRR A) Wetland	Water-Stained Leaves (B9) (MLRA 1, 2,
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeri Sparsely Vegetated Conc Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (streen)	of one required; al Imagery (B7) ave Surface (B8 Yes □ No [Yes ☑ No [Yes ☑ No [Water-Stained Leaves (B9) (excession 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled 3 Stunted or Stressed Plants (D1) Other (Explain in Remarks) Depth (inches): Depth (inches): 3 Depth (inches): 0	ving Roots (0 Soils (C6) (LRR A) Wetland	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicator Primary Indicators (minimum of the primary Indicators (Material Present) Surface Water Table (A2) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeric Sparsely Vegetated Concomposition (Material Present) Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	of one required; al Imagery (B7) ave Surface (B8 Yes □ No [Yes ☑ No [Yes ☑ No [Water-Stained Leaves (B9) (excession 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled 3 Stunted or Stressed Plants (D1) Other (Explain in Remarks) Depth (inches): Depth (inches): 3 Depth (inches): 0	ving Roots (0 Soils (C6) (LRR A) Wetland	Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeric Sparsely Vegetated Conceried Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (street	of one required; al Imagery (B7) ave Surface (B8 Yes □ No [Yes ☑ No [Yes ☑ No [Water-Stained Leaves (B9) (excession 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled 3 Stunted or Stressed Plants (D1) Other (Explain in Remarks) Depth (inches): Depth (inches): 3 Depth (inches): 0	ving Roots (0 Soils (C6) (LRR A) Wetland	Water-Stained Leaves (B9) (MLRA 1, 2,

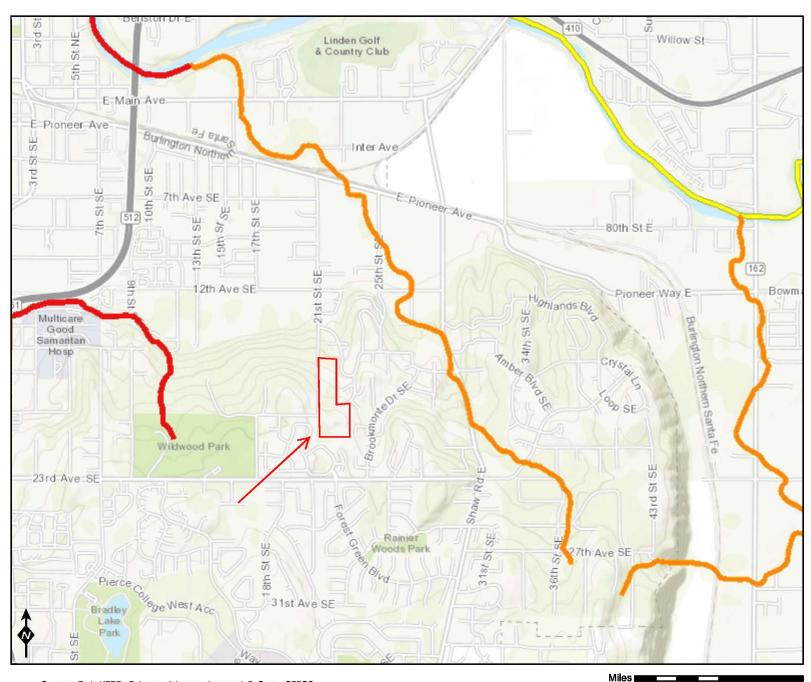
APPENDIX B – Wetland Rating Worksheets







Habitat Technologies



Assessed Waters/Sediment

Water

- Category 5 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

Sediment

- Category 5 303d
- **ZZZ** Category 4C
- **ZZZ** Category 4B
- **Category 4A**
- Category 2
- ZZZZ Category 1

0 0.25 0.5 1



Custom Search

Search

About us | Contact us

Home

Water Quality & Supply

Waste & Toxics

Air & Climate

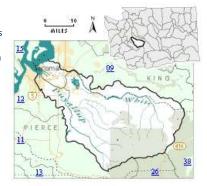
Cleanup & Spills

Water Quality Improvement Projects (TMDLs)

Water Quality Improvement > Water Quality Improvement Projects by WRIA > WRIA 10: Puyallup-White

WRIA 10: Puyallup-White

The following table lists overview information for water quality improvement projects (also known as total maximum daily loads, or TMDLs) for this water resource inventory area (WRIA). Please use links (where available) for more information on a project.



Counties

- King County
- Pierce County

Waterbody Name	Pollutant	Status**	TMDL Leads		
Clarks Creek Meeker Creek	<u>Dissolved Oxygen</u> Sediment	Approved by EPA Has an implementation plan	<u>Donovan Gray</u> 360-407-6407		
	<u>Fecal Coliform</u>	Approved by EPA Has an implementation plan			
Commencement Bay	Dioxin	Approved by EPA	<u>Donovan Gray</u> 360-407-6407		
Puyallup River Watershed	Fecal Coliform	Approved by EPA	<u>Donovan Gray</u>		
	Multi-parameter Ammonia-N BOD (5-day)	Approved by EPA	360-407-6407		
	White River Watershed Upper White: • Sediment • Temperature Lower White	Approved by EPA Under Development			
	• pH				
South Prairie Creek Tributary: Wilkeson/Gale Creek	Fecal Coliform Temperature	Approved by EPA Has an implementation plan	<u>Donovan Gray</u> 360-407-6407		

^{**} Status will be listed as one of the following: Approved by EPA, Under Development or Implementation

For more information about WRIA 10:

- Waterbodies in WRIA 10 using the Water Quality Assessment Query Tool
- Watershed Information for WRIA 10
- * The Department of Ecology and other state resource agencies frequently use a system of 62 "Water Resource Inventory Areas" or "WRIAs" to refer to the state's major watershed basins.

Back to top of page

Last updated October 2016

Feedback?

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Sunset Pointe	Date of site visit: 11 OCT 2017									
Rated by Habitat Technologies	Trained by Ecology? <u>x</u> YesNo Date of training 2014									
HGM Class used for rating Slope	Wetland has multiple HGM classes? Y x N									
NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map Pierce County GIS										
OVERALL WETLAND CATEGORY4	(based on functions or special characteristics)									
1 Category of wetland based on FL	INCTIONS									

1. Category of wetland based on FUNCTIONS

	Category I – Total score = 23 - 27
	Category II – Total score = 20 - 22
	Category III - Total score = 16 - 19
X	Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
Circle the appropriate ratings										
Site Potential	Н	М	L	Н	М	L	Н	М	L	
Landscape Potential	Н	М	L	Н	М		Н	М	L	
Value	Н	М	L	Н	M	L	Н	М	L	TOTAL
Score Based on Ratings		5			5			4		14

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L 7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value		I
Bog		I
Mature Forest		I
Old Growth Forest		I
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above	x	

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	D1
Hydroperiods	H 1.2	D2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	D1
Plant cover of dense , rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		D1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	D2
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		W4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	W5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	W6

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)

YES - Freshwater Tidal Fringe

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?
 - X The wetland is on a slope (*slope can be very gradual*),
 - <u>x</u> 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,
 - X 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.

Wetland name or number D

NO – go to 6

YES – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

SLOPE WETLANDS Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance) Slope is 1% or less points = 3 Slope is > 1%-2% points = 2 Slope is > 2%-5% points = 1 Slope is greater than 5% points = 0	0
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in. Dense, uncut, herbaceous plants > 90% of the wetland area points = 6 Dense, uncut, herbaceous plants > ½ of area points = 3 Dense, woody, plants > ½ of area points = 2 Dense, uncut, herbaceous plants > ¼ of area points = 1 Does not meet any of the criteria above for plants	3
Total for S 1 Add the points in the boxes above	3

Rating of Site Potential If score is: 12 = H 6-11 = M X 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources Yes = 1 No = 0	0
Total for S 2 Add the points in the boxes above	1

Rating of Landscape Potential If score is: X 1-2 = M ___0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Yes = 1 No = 0	0
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0	1
Total for S 3 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

SLOPE WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream eros	ion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > \frac{1}{8} in), or dense enough, to remain erect during surface flows. Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions points = 0	1

Rating of Site Potential If score is: $\chi 1 = M = 0 = L$

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	0
Surface (union:	

Rating of Landscape Potential If score is: $_{1} = M _{X} 0 = L$

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream points = 0	0
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	0
Total for S 6 Add the points in the boxes above	0

Rating of Value If score is: ____2-4 = H ____1 = M ___X_0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 __Emergent 3 structures: points = 2 2 X Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: X The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 X Seasonally flooded or inundated 3 types present: points = 2 2 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 X Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name 1 the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species points = 2 5 - 19 species points = 1 points = 0 < 5 species H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. None = 0 points Moderate = 2 points Low = 1 point All three diagrams in this row are **HIGH** = 3points

wedand name of number	
Check the habitat features that are present in the wetland. The number of checks is the number of points. X Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). X Standing snags (dbh > 4 in) within the wetland X 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) At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	3
Total for H 1 Add the points in the boxes above	9
Rating of Site Potential If score is: 15-18 = H X 7-14 = M 0-6 = L Record the rating on the	he first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat 5 + [(% moderate and low intensity land uses)/2] 3 = 8 % If total accessible habitat is: > $^1/_3$ (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat 12 + [(% moderate and low intensity land uses)/2] 20 = 32 % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0 H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (-2)	(-2)
≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	0
Rating of Landscape Potential If score is:4-6 = H1-3 = MX < 1 = L	e first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated. Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m Points = 0	0

Rating of Value If score is: 2 = H 1 = M χ 0 = L

Record the rating on the first page

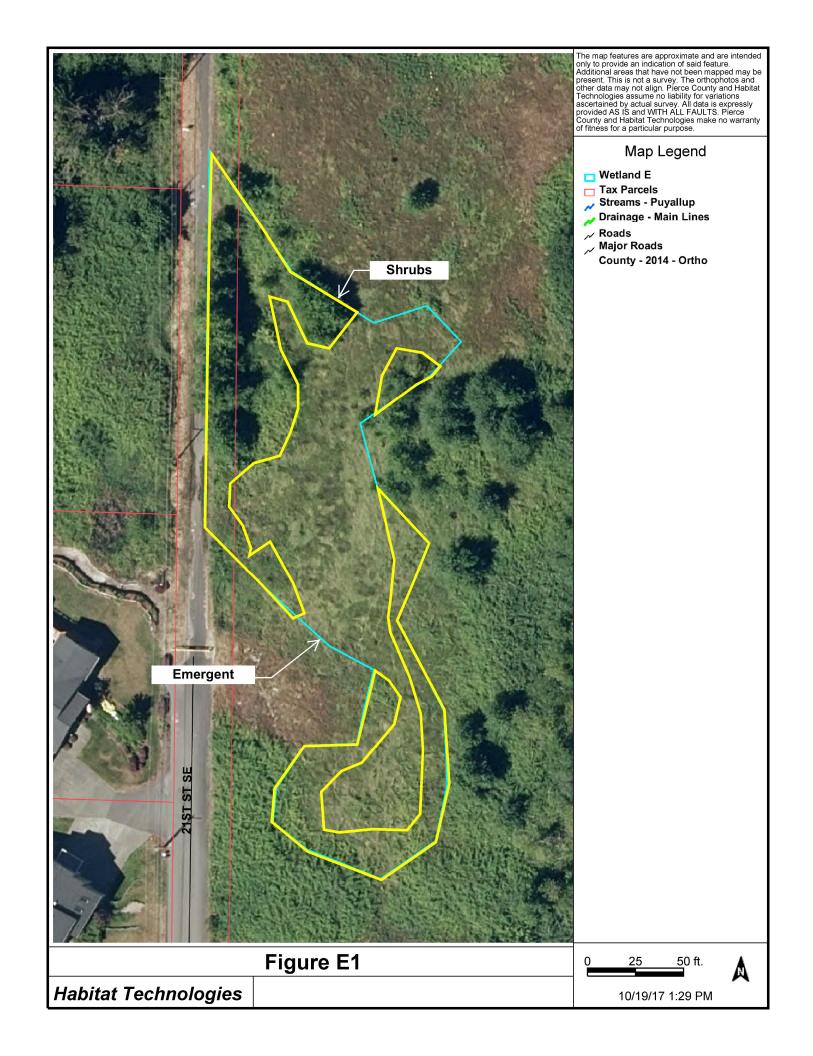
WDFW Priority Habitats

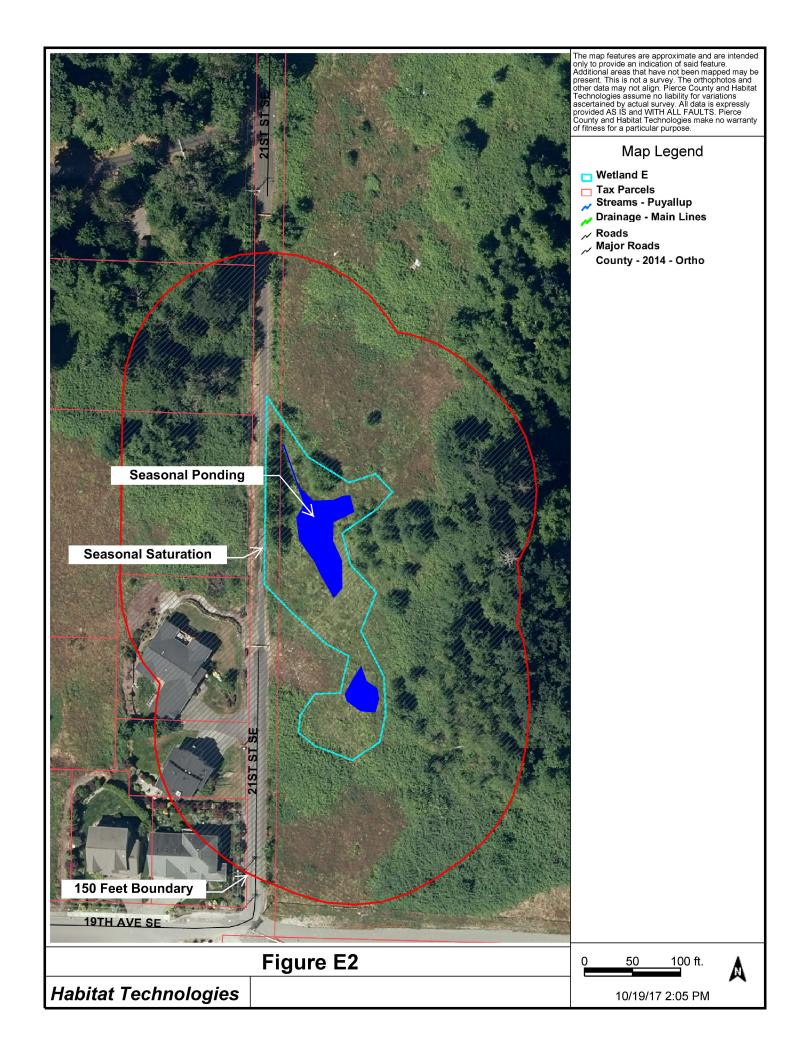
<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf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

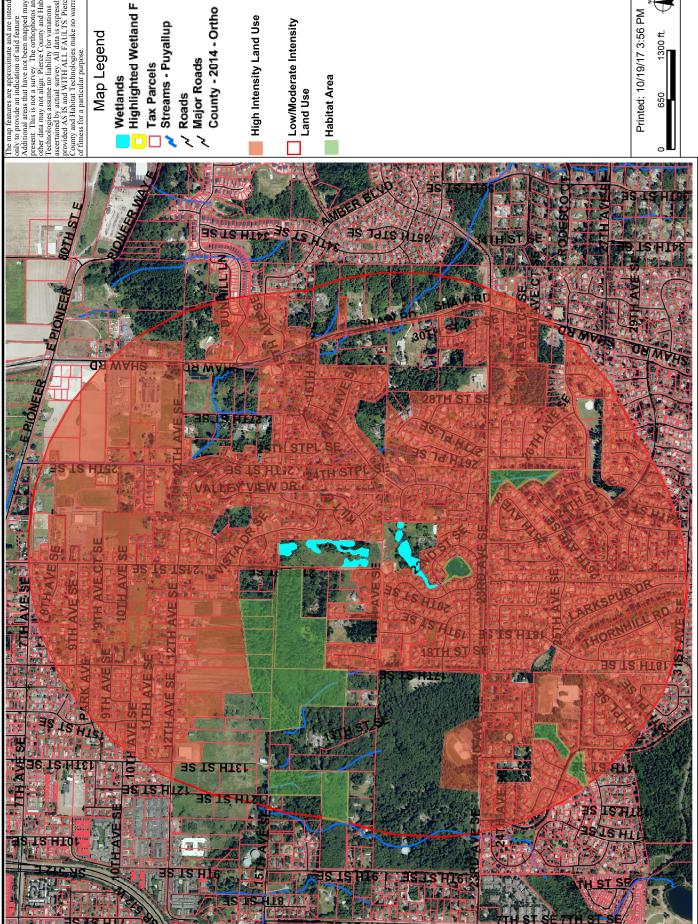
Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: *NOTE:* This question is independent of the land use between the wetland unit and the priority habitat.

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

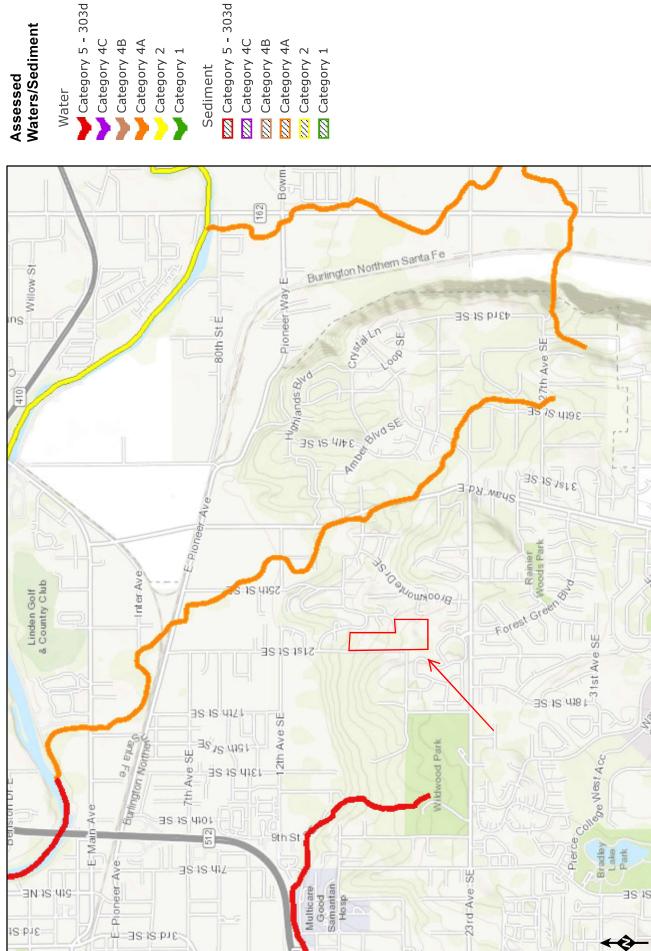
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.







Habitat Technologies



Waters/Sediment Assessed

722 Category 5 - 303d Category 4A ZZZ Category 4C ZZZ Category 4B ZZZ Category 4A Category 2 ZZZ Category 2 Category 1 ZZZ Category 1 Sediment



0.5

0.25

Miles _____



Custom Search

Search

About us | Contact us

Home

Water Quality & Supply

Waste & Toxics

Air & Climate

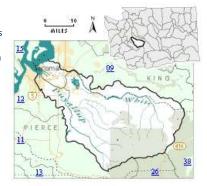
Cleanup & Spills

Water Quality Improvement Projects (TMDLs)

Water Quality Improvement > Water Quality Improvement Projects by WRIA > WRIA 10: Puyallup-White

WRIA 10: Puyallup-White

The following table lists overview information for water quality improvement projects (also known as total maximum daily loads, or TMDLs) for this water resource inventory area (WRIA). Please use links (where available) for more information on a project.



Counties

- King County
- Pierce County

Waterbody Name	Pollutant	Status**	TMDL Leads
Clarks Creek Meeker Creek	<u>Dissolved Oxygen</u> Sediment	Approved by EPA Has an implementation plan	<u>Donovan Gray</u> 360-407-6407
	<u>Fecal Coliform</u>	Approved by EPA Has an implementation plan	
Commencement Bay	Dioxin	Approved by EPA	<u>Donovan Gray</u> 360-407-6407
Puyallup River Watershed	Fecal Coliform	Approved by EPA	<u>Donovan Gray</u>
	Multi-parameter Ammonia-N BOD (5-day)	Approved by EPA	360-407-6407
	White River Watershed Upper White: • Sediment • Temperature Lower White	Approved by EPA Under Development	
	• pH		
South Prairie Creek Tributary: Wilkeson/Gale Creek	Fecal Coliform Temperature	Approved by EPA Has an implementation plan	<u>Donovan Gray</u> 360-407-6407

^{**} Status will be listed as one of the following: Approved by EPA, Under Development or Implementation

For more information about WRIA 10:

- Waterbodies in WRIA 10 using the Water Quality Assessment Query Tool
- Watershed Information for WRIA 10
- * The Department of Ecology and other state resource agencies frequently use a system of 62 "Water Resource Inventory Areas" or "WRIAs" to refer to the state's major watershed basins.

Back to top of page

Last updated October 2016

Feedback?

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Sunset Pointe	Date of site visit: 11 OCT 2017
Rated by <u>Habitat Technologies</u>	Trained by Ecology? \underline{x} YesNo Date of training $\underline{2014}$
HGM Class used for rating Slope	Wetland has multiple HGM classes? Y x N
NOTE: Form is not complete without Source of base aerial photo/map	ut the figures requested (figures can be combined). Pierce County GIS
OVERALL WETLAND CATEGORY	(based on functions or special characteristics)
1. Category of wetland based on FL	INCTIONS

	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		mprov iter Q	_	H	ydrolo	ogic		Habit	at	
					Circle	the ap	propi	riate ro	atings	
Site Potential	Н	М	L	Н	М	L	Н	М	L	
Landscape Potential	Н	М	L	Н	М		Н	М	L	
Value	Н	M	L	Н	M	L	Н	М	L	TOTAL
Score Based on Ratings		5			5			3		13

Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H8 = H,H,M7 = H,H,L 7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATE	GORY	
Estuarine	I	II	
Wetland of High Conservation Value		I	
Bog		I	
Mature Forest		I	
Old Growth Forest		I	
Coastal Lagoon	I	II	
Interdunal	I II	III IV	
None of the above	×	х	

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	E1
Hydroperiods	H 1.2	E2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	E1
Plant cover of dense , rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		E1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	E2
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		W4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	W5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	W6

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)

YES - Freshwater Tidal Fringe

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?
 - X The wetland is on a slope (*slope can be very gradual*),
 - <u>x</u> 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,
 - X 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.

Wetland name or number E

NO – go to 6

YES – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

SLOPE WETLANDS Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance) Slope is 1% or less Slope is > 1%-2% Slope is > 2%-5% Slope is greater than 5% points = 1 points = 0	0
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
Dense, uncut, herbaceous plants > 90% of the wetland area Dense, uncut, herbaceous plants > ½ of area Dense, woody, plants > ½ of area Dense, uncut, herbaceous plants > ¼ of area Does not meet any of the criteria above for plants points = 0	3
Total for S 1 Add the points in the boxes above	3

Rating of Site Potential If score is: 12 = H 6-11 = M X 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources Yes = 1 No = 0	
Total for S 2 Add the points in the boxes above	1

Rating of Landscape Potential If score is: X 1-2 = M ___0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list. Yes = 1 No = 0	0
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0	
Total for S 3 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

SLOPE WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion	
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > \frac{1}{8} in), or dense enough, to remain erect during surface flows. Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions points = 0	1

Rating of Site Potential If score is: $\chi 1 = M = 0 = L$

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	•
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	0
surface runoff? Yes = 1 No = 0	

Rating of Landscape Potential If score is: $_{1} = M _{X} 0 = L$

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream points = 0	1
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	
Total for S 6 Add the points in the boxes above	1

Rating of Value If score is: $2-4 = H \times 1 = M = 0 = L$

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 X Emergent 3 structures: points = 2 1 X Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 x Seasonally flooded or inundated 3 types present: points = 2 1 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 Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name 1 the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species points = 2 5 - 19 species points = 1 points = 0 < 5 species H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. None = 0 points Moderate = 2 points Low = 1 point All three diagrams in this row are **HIGH** = 3points

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. The number of checks is the number of points.		
<u>X</u> 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	3.3 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 d	legree 1	
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weath	hered '	
where wood is exposed)		
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are		
permanently or seasonally inundated (structures for egg-laying by amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for a stratum)	list of	
Strata) Total for H 1 Add the points in the box	es above 5	
·	he 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 <i>only habitat that directly abuts wetland unit</i>).	_	
Calculate: % undisturbed habitat $2 + [(\% \text{ moderate and low intensity land uses})/2] 3 =$	_5%	
If total accessible habitat is:		
•	points = 3	
	points = 2	
	points = 1	
	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	32 ~	
Calculate: % undisturbed habitat $12 + [(\% \text{ moderate and low intensity land uses})/2] = 0$		
· -	points = 3	
·	points = 2	
	points = 1	
	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	(2)	
	nts = (- 2) (-2)	
	points = 0	
Total for H 2 Add the points in the box		
Rating of Landscape Potential If score is:4-6 = H1-3 = MX < 1 = L Record the	e rating on the first page	
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the high	nest score	
that applies to the wetland being rated.		
- · · · · · · · · · · · · · · · · · · ·	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 fed	leral lists) 0	
— It is mapped as a location for an individual WDFW priority species		
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources		
— It has been categorized as an important habitat site in a local or regional comprehensive plan, in	a	
Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
·	points = 0 he rating on the first page	

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

Wetland name or number __E___

WDFW Priority Habitats

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

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

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

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