

Critical Area site Assessment (Parcel 28003): East Village Short Plat

Prepared for:

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Samish Bay Real Estate Group
4703 Parkview Lane
Mount Vernon, WA 98274



Prepared by:

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16-150

December 21, 2016

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Summary

- Client: Dave Prutzman
4703 Parkview Lane
Mount Vernon, WA 98274
- Site: 13.4 acre site (Parcel 28003) located in south Mount Vernon, North of East Blackburn Road within the Northwest ¼ of Section 28, Township 34 N., Range 4 E., W.M., Skagit County, Washington.
- Project: The subject proposal is to subdivide Parcel 28003 into 8 lots through the short subdivision process.
- Areas Assessed: Wetland A - Category III 2.1 acre depressional, wetland
Wetland B – Category IV 220 sf depressional, wetland
Wetland C – Category III 10,101 sf depressional wetland
Maddox Creek - Type F (Fish Habitat) water
- Regulatory Guidance: MVMC 15.40 establishes the standard buffers for:
Category III wetlands - 75 feet
Category IV wetlands – 50 feet
Type F (fish habitat) waters – 150 feet
- Proposed Mitigation: Wetland A – Standard Category III wetland buffer of 75 feet will be applied to avoid project impacts
- Wetland B – Buffer averaging plan is proposed to minimize impacts to category IV wetland. Buffer will be reduced to 37.5 feet and increased by 12.5 feet along the forested portion of the buffer of Wetland A.
- Wetland C – Wetland C will be filled in conjunction with residential development and unavoidable impacts will be minimized through the purchase of mitigation credits at an authorized wetland mitigation bank.
- Maddox Creek – Standard Type F stream buffer of 150 feet will be applied to avoid project impacts.
- Critical areas and buffers will be designated as a native growth protection area (NGPA). Designation of the NGPA will occur through conservation easement, protective easement or tract and deed restriction. The NGPA may require permanent fencing at the discretion of the Director. Signage posted at 150 foot intervals will be placed along the common boundary between the NGPA and the abutting land.



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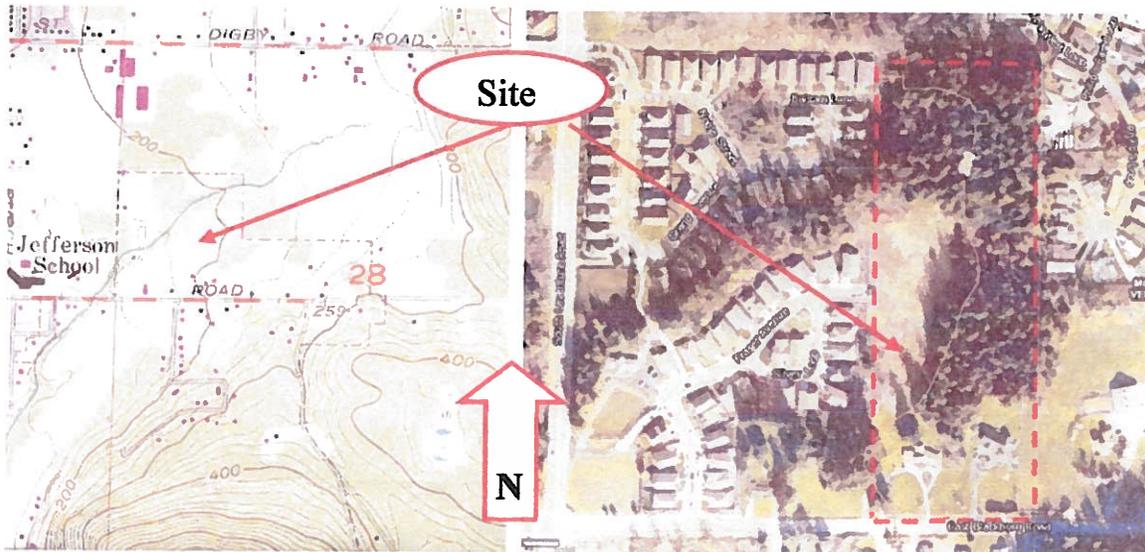
Re: Critical Area Site Assessment (Parcel 28003)

1. Introduction

At the request of Mr. Dave Prutzman, Graham-Bunting Associates (GBA) have conducted a site investigation and prepared the following report addressing regulated wetlands and fish and wildlife habitat conservation areas within and adjacent to the above referenced parcel. The report confirms and adds upon an earlier Critical Area Site Assessment prepared by Graham-Bunting Associates for Ms. Maggie Wallace, Dated July 31, 2009. The report is intended to confirm the findings of our original assessment relating to the area of the parcel south of Maddox Creek. In addition this report revisits and provides further analysis of the area north of the creek which has been receiving stormwater from areas offsite to the east. The report also incorporates the most recent update of the Washington State Wetland Rating System for Western Washington (Ecology, 2014). The report is prepared consistent with the requirements of the City of Mount Vernon Critical Area Ordinance (MVMC 15.40). The report includes a characterization of existing site conditions, project description, review of existing information sources, wetland assessment and stream study. The report is prepared in conjunction with application for a short subdivision.

2. Existing Conditions

The subject property is located in south Mount Vernon, north of East Blackburn Road within the Northwest ¼ of Section 28, Township 34 N., Range 4 E., W.M., Skagit County, Washington.



USGS: Mount Vernon, WA (1981)

Skagit County GIS: I-Map (2015)

The subject property is a rectangular shaped parcel of approximately 13.4 acres. The parcel measures approximately 1,285 feet along the east and west property lines, 430 feet along the southern property line (at Blackburn Road) and 460 feet along the northerly property line. Two single family residences are located on the southern quarter of the parcel and are accessed off of

Blackburn Road. The northern three quarters of the parcel is undeveloped and consists of open pasture and mixed forest. Maddox Creek flows from east to west through the forested northern portion of the parcel. The northern portion of the site is contiguous to the Big Fir North residential development. An interior road associated with the development (Balsam Lane), dead ends at the northwestern property boundary. The parcel is relatively flat with an average grade of approximately 3% and drains north and south to roadway ditches and to Maddox Creek.

An open pasture is the primary feature of the central and western portion of the site. The pasture drains to Maddox Creek through a shallow ditch or swale located centrally on the parcel. The pasture is vegetated with mixed grasses consisting of sweet vernal grass (*Anthoxanthum odoratum*), velvet grass (*Holcus lanatus*), colonial bentgrass (*Agrostis tenuis*), reed canarygrass (*Phalaris arundinacea*). Creeping buttercup (*Ranunculus repens*) and soft rush (*Juncus effusus*) are also located throughout the pasture. Trailing blackberry (*Rubus ursinus*) and Himalayan blackberry (*Rubus discolor*) are present at a number of locations around the northern and eastern perimeters of the pasture at the transition to forest.

A mixed forest dominated by conifers occupies the eastern and northern portions of the parcel. Douglas fir (*Pseudotsuga menziesii*), western red cedar (*Thuja plicata*) and red alder (*Alnus rubra*) make up the forest canopy, Conifers range from 6 inches to 30 inches dbh. The understory consists primarily of elderberry (*Sambucus racemosa*), vine maple (*Acer circinatum*), sword fern (*Polystichum munitum*), lady fern (*Athyrium filix-femina*), Indian plum (*Oemleria cerasiformis*) and trailing blackberry. Skunk cabbage (*Lysichiton americanum*) is present at several locations within the banks of Maddox Creek and at locations in Wetland C.

Maddox Creek is classified as F (Fish Habitat) in accordance with WAC 222-16-031 and as a high gradient (> or equal to 2%) stream on the City of Mount Vernon Stream Gradient Map. The creek has a well defined (incised) channel and a diverse riparian plant community consisting of the species listed in the previous paragraph. The creek varies in width from 3 to 12 feet and includes several distinct associated wetlands within its banks. The OHWM is located along the top of bank at the transition from wetland to upland vegetation communities dominated by sword fern and conifers.

3. Project Description

The subject proposal is to subdivide Parcel 28003 into 8 lots. The new residential lots (1 through 7) will be located along the northern property boundary extending from the western to the eastern property boundary. Lots 1 through 7 will range from 10,000 square feet to 13,183 square feet in area. The lots will be accessed via a private road extending from the terminus of Balsam Lane east to a hammer head turnaround at Lot 7. A stormwater pond will be located contiguous to and south of the access from Balsam Lane in Tract A. Lot 8 will include the existing homesites along East Blackburn Road. Maddox Creek and wetlands will be protected as a Native Growth Protection Area (NGPA) and included in Lot 8. The subdivision will result in new development of 2.03 acres of the 13.4 acre site.

4. Existing Information Review

The subject property has been addressed under a number of existing studies. These information sources have been reviewed and synthesized to assist GBA in characterizing the subject property. The sources are summarized as follow:

4.1 National Wetland Inventory

The National Wetland Inventory (NWI) is compiled by the U.S. Department of Interior's Fish and Wildlife Service. NWI relies upon visual aerial photo interpretation of wetland indicators

including hydrologic, vegetation and topographic signatures. Wetland areas identified under NWI are also classified in accordance with the Cowardin classification system. NWI identifies a system of connected wetlands in the vicinity of the subject property. Within the property boundaries, a linear wetland is identified bisecting the northern portion of the site. The wetland is classified as a Riverine, Upper Perennial, Unconsolidated Bottom, Permanently Flooded (R3UBH) wetland. The mapped location, alignment and classification are generally consistent with the location of Maddox Creek. GBA utilize NWI only as a generalized map indication of the possible presence and extent of wetlands. Jurisdictional delineations are always based on a site-specific analysis.

4.2 Soil Survey of Skagit County Area, Washington

The Soil Survey is compiled by the Natural Resource Conservation Service and includes mapped soil units registered to detailed descriptions of soil characteristics. The survey maps two soil units within the property boundaries:

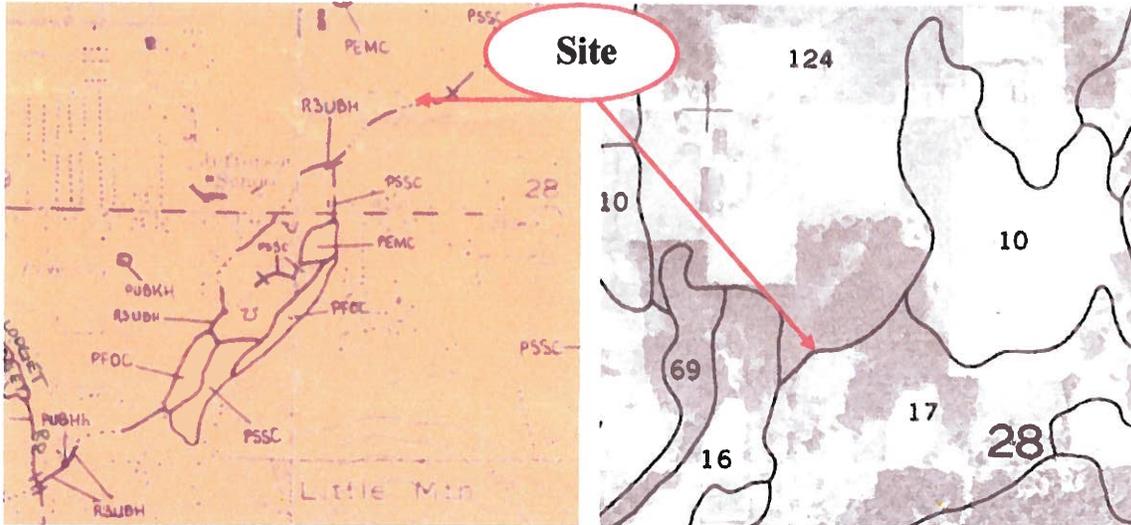
#17 Bow gravelly loam (3-8 percent slopes) is a very deep, somewhat poorly drained soil frequently found on glaciated terraces and undulating till plains. Permeability of the Bow soil is slow and available water capacity is high. The Bow soil is mapped over the southern portion of the site. The bow soil is included on the local hydric soil list under criteria 2 a):

2. – Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Aquisalids, Pachic subgroups, or Cumulic subgroups that are:
 - a) Somewhat poorly drained with a water table equal to 0.0 feet from the surface during the growing season.

#124 Skipopa silt loam (0–3 percent slopes) is a very deep, somewhat poorly drained soil frequently found on terraces. Permeability of the Skipopa soil is very slow and available water capacity is high. The Skipopa soil is mapped on the northern portion of the site. The Skipopa soil is not included on the local hydric soil list, however the hydric Bellingham series may occur as an inclusion in this mapped unit.

4.3 City of Mount Vernon Wetland and Stream Inventory (January 2000)

The City of Mount Vernon compiled a wetland and stream inventory with the assistance of Shannon and Wilson Inc. Geotechnical and Environmental Consultants. The inventory was compiled utilizing existing resource information including NWI, Skagit Soil Survey, Department of Natural Resources Water Resource Inventory and aerial photographs. The inventory also incorporated site-specific assessments prepared in association with development proposals and windshield surveys. The southeast corner of the subject property is included within an area identified as a potential palustrine emergent wetland. The area identified is currently occupied by a single family residence. Review of the inventory does not indicate that site specific analysis was utilized in identifying the potential wetland boundaries. However, a windshield survey relying primarily on the presence of wetland vegetation conducted prior to construction of the residence may be the rationale for identifying a portion of the parcel as a potential wetland.



Source: NWI Mount Vernon, WA (1989)

Source: Skagit Soil Survey, Sheet 42 (1989)

5. Site Investigation

GBA conducted our original investigation during late spring of 2009. The purpose of this assessment is to assess current conditions in order to determine if the environmental baseline has changed in the intervening seven years and to confirm current wetland boundaries. The following discussion documents the procedures and methods utilized in our most recent wetland investigation (January 2016) and summarize our findings.

5.1 Methodology

GBA utilized the 1987 Corps of Engineers Wetland Delineation Manual (Technical Report Y-87-1) in the preparation of this report. The Corps Manual and Western Mountains, Valley's and Coast Regional Supplement represent the accepted standard for identifying and delineating wetlands for jurisdictional purposes under the Clean Water Act. And the City of Mount Vernon for use in conjunction with the Growth Management Act mandated Critical Areas Ordinance. The manual incorporates the Clean Water Act Definition of Wetlands as follows:

“Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.”

The City's Critical Areas Ordinance stipulates additional defining elements as follows:

“Wetlands do not include those artificial wetlands created from non-wetland sites, including but not limited to, irrigation and drainage ditches, grass lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas created to mitigate conversion of wetlands.”

The definition requires that three interrelated defining elements or parameters be established when identifying wetlands. These parameters are wetland hydrology, hydric soils and hydrophytic vegetation.

5.1.1 Wetland Hydrology

Water is the driving force that creates and sustains wetlands. The 1987 Manual and subsequent Corps guidance identifies wetlands as areas where soils are inundated or continuously saturated for a minimum of 5% of the growing season (approximately 12.5 days for Western Washington). When direct observation of the water table cannot be made, hydrology is determined by relying upon hydrologic indicators such as hydric soil characteristics, water marks, drift lines, sediment deposits or drainage patterns.

Onsite surface hydrology consists of four features including Maddox Creek and 3 wetlands varying in size from 2.1 acres to 220 square feet. Maddox Creek bisects the parcel at a point of approximately 700 feet north of Blackburn Road. A centrally located wetland (Wetland A), approximately 2.1 acres in size, as identified through GBA's 2009 assessment dominates the open meadow. A small, 220 square foot wetland (Wetland B) is located adjacent to Lots 16 and 17 of Big Fir North. A 10,000 square foot wetland (Wetland C) is located along the northwestern portion of the property east of the terminus of Balsam Lane.

Maddox Creek is a well-defined incised channel feature which exhibits wetland areas within its banks and is charged by seasonal storm flows. The centrally located Wetland A and Wetland B receive hydrology from surface sheet flows, precipitation and a seasonal water table that is at or near the surface during a portion of the growing season. The northwestern wetland was not identified or delineated in our 2009 assessment, however hydrology was observed entering the site along the northern property boundary through a white PVC pipe. An observation was included in the report as follows:

While Wetland B was the only area along the northwestern property line identified as a regulated wetland, the entire area is receiving drainage from offsite locations and may be transitioning to wetland status.

5.1.2 Hydric Soils

Wetlands exhibit hydric soils. These are soils which are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions. These are conditions where no free oxygen is present in the upper soil horizons. Typical field indicators of hydric soils are the presence of a thick organic layer, or in predominantly mineral soils such as found on this site, a low chroma matrix (gray color) and/or bright mottling. Soil chromas are determined by comparing soil samples with color chips in the Munsell Color Charts.

Soils onsite were found to be generally consistent with the descriptions of #124 Skipopa silt loam (0-3 percent) and #17 Bow gravelly loam (3 – 8 percent). Areas exhibiting hydric soil characteristics were generally found at locations subject to a high water table consistent with hydric criteria 2, a) as described under subsection 3.2 of this report.

5.1.3 Hydrophytic Vegetation

The U.S. Fish and Wildlife Service has classified wetland vegetation according to its frequency of occurrence in wetlands:

Obligate wetland species (OBL) occur in wetlands greater than 99% of the time.

Facultative wetland species (FACW) occur in wetlands greater than 67% of the time.

Facultative species (FAC) occur in wetlands 34%-66% of the time.

Facultative upland species (FACU) occur in wetlands less than 34% of the time.

Upland species (UPL) occur in wetlands less than 1% of the time.

Generally the hydrophytic vegetation parameter is satisfied when greater than 50% of the species present at an observation point have an indicator status of OBL, FACW and/or FAC; when two or more dominant species have observed morphological or known physiological adaptations for occurrence in wetlands; or when other indicators of hydrophytic vegetation are present.

Vegetation onsite was observed to be predominantly a mix of facultative trees, shrubs and groundcover with few obligate or upland species. Obligate species were limited to communities of skunk cabbage within the banks of Maddox Creek and slough sedge located at discrete locations in forested areas and adjacent to the northern property boundary.

5.2 Data Collection

The site investigation was initiated on January 25, 2016. Two transects were established 1) near the terminus of Balsam Lane (data points 1 and 2) and 2) along a topographic break in the southern pasture (data points 3 and 4). Data were assessed at each transect to correspond to and confirm our earlier findings relative to data assessed in 2009. Data points 1 and 2 indicated a need for further assessment during early spring. Data points 3 and 4 confirmed our earlier findings relative to the open pasture and Wetland A. Data points 5, 6, 7, 8, and 9 were assessed on April 7 and 8, 2016 in order to identify and delineate Wetland C. Soil test pits were dug to a depth of 20 inches. Hydrology, soil and vegetation were assessed at each data point. Data was documented in field notes for subsequent transfer to wetland determination data forms. Photographs were taken of soil profiles and test pits. Data collected is summarized on the following table. (Attachment A: Wetland Determination Data Forms)

Table 1 – Wetland Data Summary

DP	HYDROLOGY	SOIL	DOMINANT VEGETATION	STATUS
1	*Water table @ 4" – Saturation to soil surface	*Silt loam – 10YR 2/1	* <i>Alnus rubra</i> FAC (5%) <i>Rosa nutkana</i> FAC (40%) <i>Rubus spectabilis</i> FAC (20%) <i>Carex obnupta</i> OBL (50%)	Wet
2	Water table @10"	Gravelly silt loam – 2.5Y 3/3 – No redox	* <i>Rubus spectabilis</i> FAC (10%) <i>Rosa nutkana</i> FAC (10%) <i>Rannunculus repens</i> FAC (70%) <i>Juncus effuses</i> FACW (20%)	Up
3	no indicators	sandy loam – 2.5Y 4/3 – 5% redox – 7.5YR 4/6	* <i>Rubus armeniacus</i> FACU (5%) <i>Phalaris arundinacea</i> FACW (50%) <i>Holcus lanatus</i> FAC (20%) <i>Agrostis tenuis</i> FAC (20%)	Up
4	*water table @ 4" – saturation to surface	*sandy silt loam – 10YR 2/1 -	* <i>Phalaris arundinacea</i> FACW (90%) <i>Holcus lanatus</i> FAC (5%) <i>Agrostis tenuis</i> FAC (5%)	Wet

* Wetland parameter met

DP	HYDROLOGY	SOIL	DOMINANT VEGETATION	STATUS
5	Water table @ 10" – saturation @ 9"	Gravelly silt loam – 2.5Y 3/3 - no redox	<i>Thuja plicata</i> FAC (40%) <i>Psuedotsuga menziesii</i> FACU (40%) <i>Alnus rubra</i> FAC (10%) <i>Rubus spectabilis</i> FAC (30%) <i>Polystichum munitum</i> FACU (10%) <i>Symphoricarpos albus</i> FACU (10%) <i>Rubus ursinus</i> FACU (5%)	Up
6	*Water table @ 10" – Saturation @ 8"	*Silt loam – 10YR 2/1 – Thick dark surface	* <i>Alnus rubra</i> FAC (60%) <i>Cornus stolonifera</i> FACW (50%) <i>Rosa nutkana</i> FAC (20%) <i>Tellima grandiflora</i> FAC (10%)	Wet
7	*Water Table @ 10 – Surface saturation – surface water @ 1" depth	*Silty clay loam – 2.5Y 5/1 and 3/2 – 5% redox -7.5YR 6/6	* <i>Alnus rubra</i> sprigs FAC (50%) <i>Juncus effuses</i> FACW (90%)	Wet
8	Water table @ 13" – Saturation @ 12"	Silty clay loam – 2.5Y 3/3 – < 2% Redox - 10YR 6/6	* <i>Alnus rubra</i> sprigs FAC (20%) <i>Thuja plicata</i> FAC (10%) <i>Rubus armeniacus</i> FACU (30%) <i>Rubus spectabilis</i> FAC (10%)	Up
9	* Water able @ 8" – Saturation at 6"	*Silty clay loam – 10YR 3/2 – 5% redox 10YR 4/6	* <i>Cornus stolonifera</i> FAC (50%) <i>Rosu nutkana</i> FAC (20%) <i>Lonicera involucrate</i> FAC (20%) <i>Tellima grandiflora</i> FAC (80%)	Wet

* Wetland parameter met

5.3 Wetlands Identified and Delineated

Three wetlands were identified and delineated through assessment of the above data:

Wetland A as delineated in 2009 was confirmed through assessment of data points 3 and 4. Wetland A is a 93,213 square foot (2.1 acre) depressional wetland that includes palustrine emergent seasonally flooded and palustrine scrub shrub seasonally flooded classes (Cowardin et. al., 1979). The wetland is the dominant landscape feature over the pasture area north of the existing homesites and extends to the east into an area dominated by scrub shrub vegetation. The wetland receives its hydrologic charge from localized on site and off site stormwater runoff, precipitation and a seasonal high water table. Indicators of wetland hydrology were present at data point 4 in the form of a seasonal high water table and saturation to the soil surface. Drainage patterns were present at a number of locations within the wetland and a prominent ditch draining to Maddox Creek appears to represent an historic attempt at draining the pasture area for agricultural purposes. Soil is a sandy silt loam, exhibiting hydric indicators in a very dark matrix chroma accompanied by contrasting redoximorphic features. Vegetation consists of facultative grasses dominated by reed canary grass. The wetland transitions from the pasture east to a mixed scrub shrub community dominated by salmonberry (*Rubus spectabilis*).



Photo 1 – View of soil profile and test pit at wetland data point 4 showing dark matrix chroma and water table at 4 inches from soil surface.



Photo 2 – View north showing open pasture portion of Wetland A dominated by reed canarygrass. Data points 3 and 4 are shown at arrows.

Wetland B is a 220 square foot depressional/palustrine scrub shrub seasonally flooded wetland located adjacent to Lots 16 and 17 of Big Fir North. Flags from our 2009 assessment were intact and observed to accurately represent the wetland boundary. No additional data was collected. The wetland receives its hydrologic charge from offsite runoff which collects along the western property line. The source of runoff appears to be emanating from developed areas to the north and west. Soil was a gravelly silt loam exhibiting a very dark matrix chroma. Vegetation is dominated by a mix of facultative plant species and includes a vigorous community of the obligate slough sedge.

Wetland C is a depressional/palustrine, scrub shrub, seasonally flooded wetland of 0.23 acres (10,101 square feet). The wetland was identified through the assessment of data points 1, 2, 5, 6, 7, 8, and 9. The area was not recognized as wet during our 2009 site assessment, however, surface hydrology was observed entering the site from the east via a white PVC pipe. The area was assessed at data points 1 and 2 on January 23rd and determined to require additional assessment during the early spring. The area was revisited on April 7th and 8th and data points 5, 6, 7, 8, and 9 were evaluated. Wetland data points (6, 7, 9) exhibited a very dark matrix chroma of 1 or a chroma of 2 accompanied by contrasting redoximorphic features. Vegetation consisted of a mix of facultative trees, shrubs and herbaceous species. Upland data points exhibited no hydrology indicators, and were accompanied by lighter soils, fewer or no redoximorphic features and a similar mix of facultative plant species. Data point 5 failed to meet the vegetation parameter. (Attachment B: Wetland Delineation Site Plan)

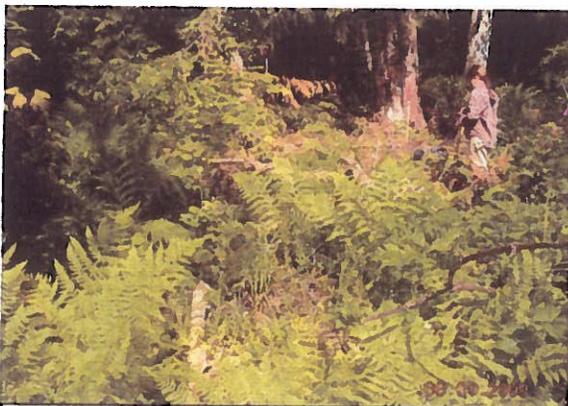


Photo 3 – View of Wetland B in June 2009. Vegetation is dominated by a mix of facultative herbs, shrubs and trees including slough sedge.



Photo 4 – View of Wetland C south of white PVC pipe showing surface saturation and facultative vegetation community.

5.4 Wetland Rating & Functions

The wetland was rated under the Washington State Wetland Rating System for Western Washington, 2014 Update (October 2014 – Effective January 2015). The rating system is designed to differentiate between wetlands based on their sensitivity to disturbance, rarity, the functions they provide and whether or not they can be replaced. The rating system divides wetlands into six different hydrogeomorphic (HGM) classes. These classes sort wetlands into groups that function in similar ways. The rating system then rates the wetlands based on specific functional attributes relating to water quality, hydrologic and habitat functions. The following table summarizes the assessment of wetland A as detailed in the ratings attached to the report. (Attachment C: Wetland Rating Forms)

Table 2: Wetland Rating Summary

Wetland	HGM	Cowardin	Water Quality	Hydrologic	Habitat	Total	Category
A	depressional	*PEMSSA	7	6	5	18	III
B	depressional	PEMSSA	6	5	4	15	IV
C	depressional	PEMSSA	7	6	4	17	III

*PEMSSA = Palustrine Emergent Scrub Shrub Temporarily Flooded

Wetlands A and C were rated as Category III with a total of 18 and 17 points respectively. “Category III wetlands are wetlands with a moderate level of functions. These wetlands have generally been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands.”

Wetland B received a Category IV rating, in part because of its discrete nature and very small size. “Category IV wetlands have the lowest level of functions (scores fewer than 16 points) and are often heavily disturbed. These are wetlands that we should be able to replace, and in some cases be able to improve. However, experience has shown that replacement cannot be guaranteed in any specific case. These wetlands may provide some important functions and also need to be protected.”

6. Stream Study

GBA identified the location of the OHWM of Maddox Creek based on guidance contained in the definition included in the CAO under section 15.40.170 B.

“Ordinary High Water Mark: On lakes and streams, that mark that will be found by examining the beds and banks and ascertaining where the presence and action of waters are so common and usual, and so long continues in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on the effective date of regulations, as it may naturally change thereafter, or as it may change in accordance with permits issued by the City or state. Where the ordinary high water mark cannot be found, it shall be the stage of the stage of the 50 percent exceedance flow, according to the period of record of a measured or synthetic hydrograph. For braided streams, the ordinary high water mark is found on the banks forming the outer limits of the depression within which the braiding occurs.”

Section 15.40.080 D. 3. provides additional guidance relating to identification of the OHWM as it relates to buffer measurement:

“... Buffers shall be measured from the ordinary high water mark (OHWM) or from the top of the bank where the OHWM cannot be identified. ...”



Photo 5 – View of Maddox Creek showing the OHWM as identified along the top of bank. The top of bank was consistent with an associated wetland edge. No attempt was made to delineate the wetland as the OHWM and wetland edge were viewed as coexistent. The wetland edge was also observed to be at the transition from obligate vegetation consisting of skunk cabbage to facultative upland species including sword fern. Maddox Creek and the OHWM were surveyed over the site (Lisser and Associates, 2009) as represented on the Attachment C: Wetland Delineation Site Plan. .

6.1 Riparian Functions

The general character and classification of Maddox Creek was discussed earlier in this report under existing conditions. The creek is bordered by a mature forested buffer which provides a full range of riparian functions including:

LWD Recruitment - Large conifers are generally the preferred source of LWD, the presence of a mature forest community dominated by Douglas fir and western red cedar provides an ongoing source for recruitment of woody material into the stream. LWD promotes complexity within the stream and provides holding areas for salmonids and resident fish species. Woody material was observed within the stream channel at several location and would be expected to recruit on an ongoing basis.

Bank Stability – The three strata vegetation community along the riparian corridor promotes bank stability through establishment of deep root systems. The anchored roots help hold the gravelly silt loam of the banks intact and minimize the forces of erosion, sedimentation and increased turbidity.

Shade - The forest canopy provides shade during low flow summer months and helps to maintain cool temperatures and dissolved oxygen levels required by salmonids and resident fish species. The width of the forested buffer likely maintains a stable microclimate on a year round basis.

Water Quality – Shrubs and emergent vegetation contiguous to the OHWM provide for the filtering of sediments and pollutants. The filtering function helps prevent delivery of sediments and pollutants to receiving waters.

Fish and Wildlife Habitat – While no salmonids or resident fish species were observed during our site investigation, Maddox Creek is reportedly utilized by Coho salmon (*Oncorhynchus kisutch*) and cutthroat trout (*Salmo clarki clarki*). Riparian corridors are utilized by many wildlife species on a preferential basis and may provide a migratory corridor within the urban context of the City.

7. Mitigation

Adherence to the standard stream and wetland buffer requirements is generally considered the preferred method of “avoiding” project generated impacts pursuant to the mitigation sequence listed under 15.40.080 E. 4.

7.1 Maddox Creek Stream Buffer

Subsection 15.40.080 D. 3. establishes the standard buffer width for Maddox Creek (F type water) at 150 feet. In addition to the standard buffer width a 15 foot building setback is required from the outside edge of the buffer. If native vegetation communities are insufficient in providing the necessary buffer functions, enhancement plantings may be required. GBA have determined through our site investigation that the existing mature forested buffer and diverse native understory provide sufficient riparian functions including: LWD recruitment, shade, bank stability, water quality and wildlife habitat. The standard 150 foot stream buffer will be applied to Maddox Creek. Temporary impacts to the buffer will result from installation of a 12 inch pipe from the stormwater pond to an outfall at Maddox Creek equipped with an energy dissipater. The pipe will be located to avoid significant vegetation and, once installed, will be covered with native soil and replanted with native shrubs common to the project site.

7.2 Wetland A Buffer

Subsection 15.40.090 F. 1. of the CAO establishes the standard buffer width for Wetland A (Category III wetland) at 75 feet. Wetland buffers are measured on a horizontal plane landward of the wetland edge as surveyed in the field. The standard buffer width presumes the presence of a relatively intact native vegetation community. GBA consider the existing emergent, scrub shrub and forested condition of upland buffers to be consistent with the “relatively intact” standard. Buffers are to be maintained in an undisturbed natural condition.

7.3 Wetland B Buffer

Subsection 15.40.090 F. 1. Establishes the standard buffer for Wetland B (Category IV wetland) at 50 feet. Because a proposed detention pond will be located in Tract A approximately 37.5 feet from the edge of Wetland B, a buffer averaging plan is proposed. Subsection 15.40.090 F. 4. provides for buffer width averaging on a case by case basis provided that the following criteria area satisfied (criteria appear in italics followed by response):

a. No feasible site design without buffer averaging;

The short subdivision has been designed to avoid and minimize impacts to wetlands and streams. The project avoids impacts to Wetland A and Maddox Creek by applying the standard buffer requirements. Wetland B is a very small Category IV wetland located entirely within the standard 150 foot stream buffer of Maddox Creek. The stream and wetland buffer extend to a point approximately 25 feet from the proposed detention pond. The buffer averaging proposal will extend the buffer an additional 12.5 feet toward the pond resulting in a buffer of 37.5 feet. The seven proposed residential lots are all located contiguous or adjacent to the northern property boundary leaving only the triangular shaped Tract A for storm water detention. The majority of the site will be protected as critical areas and associated buffers.

b. It will not reduce wetland functions or functional performance;

It is our opinion that the functions of Wetland B will receive sufficient protection by virtue of its location within the outer portion of the standard 150 foot buffer of Maddox Creek. The additional 12.5 feet adjacent to the pond along with added buffer width at another strategic location will assure that wetland and buffer function are mainlined.

c. The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils or vegetation, and the wetlands would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;

Wetland B itself is less sensitive than other critical areas on site because of its relative small size, Category IV rating and discrete location within the standard buffer of Maddox Creek. Vegetation is limited to emergent and scrub shrub species. By decreasing the buffer width to accommodate stormwater facilities and providing additional buffer width along the forested area associated with Maddox Creek, protection of the Maddox Creek corridor and Wetland A can be increased.

d. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer;

The total buffer area after averaging is will be greater than that required under the standard buffer. The buffer has been reduced by a total of 1,420 square feet and increased by 1,549 square feet along the southern forested portion of the buffer associated with Wetland A. It is our professional opinion that increasing the buffer width in this area will result in greater protection to the forested Maddox Creek corridor. It is also noteworthy that the stormwater facility itself is anticipated to replicate wetland functions by moderating and attenuating storm water flows.

e. The buffer width is not reduced to less than 75 percent of the standard buffer width, applicable to the wetland category, or 35 feet for category IV wetlands.

The buffer width will not be reduced below 35 feet. The buffer width will be maintained at 37.5 feet. (Attachment D: Buffer Averaging Site Plan)

7.4 Wetland C - Mitigation Bank

The proposed short plat access road off of Balsam Lane will cross Wetland C and require unavoidable impacts to the wetland and buffer. The only other point of access would be off of East Blackburn Road requiring construction of 1,150 linear feet of road and a crossing of Wetland A and its buffer as well as Maddox Creek and its buffer. Review of the location and extent of critical area on the project site indicate that the Balsam Lane route minimizes critical area impacts. Although only a portion of Wetlands C will be filled for the crossing, portion of lots 1 and 2 and Tract A will also be utilized for the residential subdivision. Direct and buffer impacts are considered to constitute a significant impairment of wetland functions. Accordingly, the functions lost from these wetlands and buffers will be mitigated for at the Nookachamps Wetland Mitigation Bank. The functions include shallow sub-surface water storage and exchange, and habitat functions such as flora and faunal support associated with tree and shrub canopy strata. GBA have discussed the mitigation approach with mitigation bank managers and confirmed the availability of credits at the bank for these wetland functions. Wetland C is located in the service area of the Nookachamps and Skagit Environmental Banks. Mitigation at an authorized wetland mitigation bank will address the water quality, hydrologic and habitat functions that will be impacted on site.

7.5 Native Growth Protection Area (NGPA)

Provisions addressing designation, management and maintenance of the NGPA are addressed under MVMC 15.40.040 L.

Maddox Creek and its Standard 150 foot buffer, Wetland A and its standard 75 foot buffer and Wetland B and its averaged 37.5 foot buffer and associated area of buffer increase are required to be designated as a native growth protection area (NGPA). Designation of the NGPA may occur through conservation easement, protective easement or tract and deed restriction. The NGPA may require permanent fencing at the discretion of the Director. Signage posted at 150 foot intervals must be placed along the common boundary between the NGPA and the abutting land. Suggested language is provided under the Critical Areas Ordinance:

“Protection of this natural area is in your care. Alteration or disturbance is prohibited by law.”

Responsibility for maintenance of the NGPA shall be held by a homeowners association, abutting lot owner, the permit applicant, designee or other entity as approved by the City. A note is required to be placed on the face of the short plat reading:

“MAINTENANCE RESPONSIBILITY”: All owners of lots created by or benefitting from this City action abutting or including a native growth protection easement (tract) are responsible for maintenance and protection of the easement (tract). Maintenance includes insuring that no alterations occur within the tract and that all vegetation remains undisturbed unless the express written authorization of the City has been received.”

8. Closure

GBA utilized currently accepted standards, methods and protocols in assessing the subject property. The professional opinions rendered in this report should, however, be reviewed by agencies of jurisdiction for concurrence prior to initiating land use actions or construction activities. Please call either Oscar Graham or myself with any questions relating to this report. We are available to confer with agency representatives relative to our findings and conclusions at your request.

Patricia Bunting
Wetland Ecologist, PWS

Oscar Graham
Environmental Planner

9. References

Cowardin L., V. Carter, F. Golet, E. LaRoe, 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.

Environmental Laboratory. 1987 Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, Mississippi, 100 pp. + appendices.

Herrigstad Engineering PS, March 20, 2016. East Village 2437 Blackburn Road, Drainage Analysis. 13pp. + exhibits.

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

Klungland M. W. and M. McArthur. 1989. Soil Survey of Skagit County Area, Washington. U.S.D.A. Soil Conservation Service, 372 pp. + maps.

Lichvar, Robert W., 2012, National Wetland Plant List; USACE, Cold Regions Research and Engineering Lab. USACE Research and Development Center.

Munsell Color. 1994 revised. Munsell Soil Color Charts. Kollmorgen Instruments Corp., Baltimore, MD.

Pojar J. and A. MacKinnon, 1994. Plants of the Pacific Northwest Coast Washington, Oregon, British Columbia & Alaska. Lone Pine Publishing, Vancouver B. C., 528 pp.

Shannon & Wilson Inc., Wetland and Stream Inventory for the City of Mount Vernon & Urban Growth Area; January 2000.

Sheldon, D., T. Hruby, et al. Wetlands in Washington State, Final March 2005, Ecology Publication #05-06-006. Olympia WA.

U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, ed. J.S. Wakeley, R.W... Lichvar, and C.V. Noble. ERDC/EL TR-08-13. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Fish and Wildlife Service. Alger, WA, 1987, 7.5 minute series sheet, National Wetlands Inventory.

U.S. Soil Conservation Service. 1998. Skagit County Area Hydric Soils List. U.S. Department of Agriculture, 35 pp.

USDA, NRCS 2010. Field Indicators of Hydric Soils in the U. S., Version 7.0 L. M. Vasilas, G. W. Hurt, and C. V. Noble (eds.) USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils.

WSP. 2008. City of Mount Vernon Stream Survey Maps. Data collected by WSP Environment and Energy Seattle, WA. Data Summarized and Presented by City of Mount Vernon, January 2009.

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

Project/Site: East Village Short plat/2437 East Blackburn Rd, City/County: Mount Vernon/Skagit County Sampling Date: 1/25/16
 Applicant/Owner: Dave Pruztman State: WA Sampling Point: DP-1
 Investigator(s): Pat & Oscar, Graham-Bunting Associates Section, Township, Range: S 28, T34N, R4E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 2-5
 Subregion (LRR): A, Northwest Forests and Coast Lat: 48.408140 Long: -122.308922 Datum: _____
 Soil Map Unit Name: #124, Skippopa silt loam, 0-3% NWI classification: none

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 25r)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Alnus rubra</u>	5	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5 _____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: 10r)				
1. <u>Rubus armeniacus</u>	5	N	FACU	
2. <u>Rubus spectabilis</u>	20	Y	FAC	
3. <u>Rosa nutkana</u>	40	Y	FAC	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
65 _____ = Total Cover				
Herb Stratum (Plot size: 5r)				
1. <u>Carex obnupta</u>	50	Y	OBL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
50 _____ = Total Cover				
Woody Vine Stratum (Plot size: 10r)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: Hydrophytic vegetation indicator, >50% FAC or greater, is met.				

SOIL

Sampling Point: DP-1

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-10	10YR2/1	100					silt lm	
10+	2.5Y3/3	99	10YR5/6	1	C	M	grav. clay lm	

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

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

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

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

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

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are met. Soil chroma at 10" is dark, chroma of 1.

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): 4"

Saturation Present? Yes No Depth (inches): surface (includes capillary fringe)

Wetland Hydrology Present? Yes No

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

Remarks: Wetland hydrology indicators are met. Soil saturation and watertable are present.

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

Project/Site: East Village Short plat/2437 East Blackburn Rd. City/County: Mount Vernon/Skagit County Sampling Date: 1/25/16
 Applicant/Owner: Dave Pruztman State: WA Sampling Point: DP-2
 Investigator(s): Pat & Oscar, Graham-Bunting Associates Section, Township, Range: S 28, T34N, R4E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 2-5
 Subregion (LRR): A, Northwest Forests and Coast Lat: 48.408140 Long: -122.308922 Datum: _____
 Soil Map Unit Name: #124, Skippopa silt loam, 0-3% NWI classification: none

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: North of creek near drainage channel from the north pipe	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 25r)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: 10r) 1. _____				
2. <u>Rubus spectabilis</u> 10 Y FAC				
3. <u>Rosa nutkana</u> 10 Y FAC				
4. <u>Alnus rubra, sprigs</u> 1 N FAC				
5. _____				
21 = Total Cover				
Herb Stratum (Plot size: 5r) 1. <u>Ranunculus repens</u> 70 Y FAC				
2. <u>Juncus effuses</u> 20 Y FACW				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
90 = Total Cover				
Woody Vine Stratum (Plot size: 10r) 1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Remarks: Hydrophytic vegetation indicator, >50% FAC or greater, is met. Dominance test is 100%

SOIL

Sampling Point: DP-2

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-9	10YR2/1	100					silt lm	
9+	2.5Y3/3	99	10YR5/6	<1	C	M	gr sl.lm	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are not met. Soil chroma below 9" is 3, not dark and redox features are less than 1% .

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (LRR A)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 10"
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks: Wetland hydrology indicators are not met. Soil saturation is not in the majority of the root zone and the winter watertable is at 10" ..

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

Project/Site: Short plat/2601 East Blackburn Rd, City/County: Mount Vernon/Skagit County Sampling Date: 1/25/16
 Applicant/Owner: Dave Pruztman/Maggie Wallace State: WA Sampling Point: DP-3
 Investigator(s): Pat & Oscar, Graham-Bunting Associates Section, Township, Range: S 28, T34N, R4E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 2-5
 Subregion (LRR): A, Northwest Forests and Coast Lat: 48.408140 Long: -122.308922 Datum: _____
 Soil Map Unit Name: #17, Bow gravelly loam, 3-8% slopes NWI classification: none

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Data is collected near wetland flag 1 on south end of wetland A	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 25r)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: 10r)				
1. <u>Rubus armeniacus</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Herb Stratum (Plot size: 5r)				
1. <u>Phalaris arundinacea</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Holcus lanatus</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Agrostis tenuis</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Dactylis glomerata</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. <u>Juncus effusus</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>101</u> = Total Cover				
Woody Vine Stratum (Plot size: 10r)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: Hydrophytic vegetation indicator, >50% FAC or greater, is met. Dominance test is 75%				

SOIL

Sampling Point: DP-3

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-8	10YR2/2	100					sandy, silty lm	
8+	2.5Y4/3	95	7.5YR4/6	5	C	M	sandy lm	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are not met. Soil chroma below 8 inches is 3 with redox.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (LRR A)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): >12" _____
 Saturation Present? Yes No Depth (inches): 10" _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

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

Remarks: Wetland hydrology indicators are not met. Soil saturation and watertable are below 10 and 12" during wet season.

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

Project/Site: Short plat/2601 East Blackburn Rd. City/County: Mount Vernon/Skagit County Sampling Date: 1/25/16
 Applicant/Owner: Dave Pruztman/Maggie Wallace State: WA Sampling Point: DP-4
 Investigator(s): Pat & Oscar, Graham-Bunting Associates Section, Township, Range: S 28, T34N, R4E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 2-5
 Subregion (LRR): A, Northwest Forests and Coast Lat: 48.408140 Long: -122.308922 Datum: _____
 Soil Map Unit Name: #17, Bow gravelly loam, 3-8% slopes NWI classification: none

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Data is collected near wetland flag 1 on south end of wetland A</u>	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: 25r)				
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: 10r)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: 5r)				
1. <u>Phalaris arundinacea</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Holcus lanatus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3. <u>Agrostis tenuis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. <u>Juncus effusus</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>101</u> = Total Cover				
Woody Vine Stratum (Plot size: 10r)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: <u>Hydrophytic vegetation indicator, >50% FAC or greater, is met. Dominance test is 100%</u>				

SOIL

Sampling Point: DP-4

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

Depth (inches)	Matrix		Redox Features			Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0-11	10YR2/1	100						sandy silt lm	
11+	2.5Y3/2	90	7.5YR5/6	10	C	M		sandy lm	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are met. Soil chroma in thick dark surface is 1.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (LRR A)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 4"
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): 0"

Wetland Hydrology Present? Yes No

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

Remarks: Wetland hydrology indicators are met. Soil saturation and high watertable are near the surface.

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

Project/Site: East Village Short plat/2437 East Blackburn Rd. City/County: Mount Vernon/Skagit County Sampling Date: 4/7/16
 Applicant/Owner: Dave Pruztman State: WA Sampling Point: DP-5
 Investigator(s): Pat & Oscar, Graham-Bunting Associates Section, Township, Range: S 28, T34N, R4E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 2-5
 Subregion (LRR): A, Northwest Forests and Coast Lat: 48.408140 Long: -122.308922 Datum: _____
 Soil Map Unit Name: #124, Skippopa silt loam, 0-3% NWI classification: none

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>North of creek near northerly boundary in old tire ruts, mixed forest</u>	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>25r</u>)				
1. <u>Thuja plicata</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
2. <u>Pseudotsuga menziesii</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Alnus rubra</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. _____				
<u>90</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10r</u>)				
1. <u>Rubus spectabilis</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Polystichum munitum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Symphoricarpos albus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
4. _____				
5. _____				
<u>50</u> = Total Cover				
Herb Stratum (Plot size: <u>5r</u>)				
1. <u>Rubus ursinus</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>5</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>90</u>				
Remarks: <u>Hydrophytic vegetation indicator, >50% FAC or greater, is not met. Dominance test is less than 50%</u>				

SOIL

Sampling Point: DP-5

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-10	2.5Y3/3	100					silt lm	
10+	2.5Y3/3 & 4/1	80	10YR5/6	>20%	C	M	gr sl.lm	sample in low ruts

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
--	--

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

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are not met. Soil chroma at 10" is 3, not dark and redox features are below 10"

HYDROLOGY

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): 10"

Saturation Present? Yes No Depth (inches): 9"
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

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

Remarks: Wetland hydrology indicators are not met. Soil saturation is not in the majority of the root zone and the winter watertable is at 10".

SOIL

Sampling Point: DP-6

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-10	10YR2/1	100					silt lm	
10+	10YR2/2	99	10YR5/6	>1%	C	M	sl.lm	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are met. Soil chroma at 10" is 1, dark

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (LRR A)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 10"
 Saturation Present? Yes No Depth (inches): 8"
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

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

Remarks: Wetland hydrology indicators are met. Soil saturation is in the majority of the root zone.

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

Project/Site: East Village Short plat/2437 East Blackburn Rd, City/County: Mount Vernon/Skagit County Sampling Date: 4/8/16
 Applicant/Owner: Dave Pruztman State: WA Sampling Point: DP-7
 Investigator(s): Pat & Oscar, Graham-Bunting Associates Section, Township, Range: S 28, T34N, R4E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 2-5
 Subregion (LRR): A, Northwest Forests and Coast Lat: 48.408140 Long: -122.308922 Datum: _____
 Soil Map Unit Name: #124, Skippopa silt loam, 0-3% NWI classification: none

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: North of creek near NW boundary and drainage channel	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 25r)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: 10r)				
1. <u>Alnus rubra, sprigs</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Lonicera involucrata</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3. <u>Cornus stolonifera</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>Rosa nutkana</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
<u>75</u> = Total Cover				
Herb Stratum (Plot size: 5r)				
1. <u>Juncus effusus</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
_____ = Total Cover				

Remarks: Hydrophytic vegetation indicator, >50% FAC or greater, is met. Dominance test is 100%

SOIL

Sampling Point: DP-7

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-8	10YR2/1	100					clv lm	
8+	2.5Y5/1 & 3/2	95	7.5YR6/6	5%	C	M	sclv.lm	mix soils

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are met. Predominant Soil chroma at 10" is 1, dark and mixed with other soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (LRR A)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes No Depth (inches): 1
 Water Table Present? Yes No Depth (inches): 10"
 Saturation Present? Yes No Depth (inches): surface
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

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

Remarks: Wetland hydrology indicators are met. Soil saturation is in the majority of the root zone.

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

Project/Site: East Village Short plat/2437 East Blackburn Rd. City/County: Mount Vernon/Skagit County Sampling Date: 4/8/16
 Applicant/Owner: Dave Pruztman State: WA Sampling Point: DP-8
 Investigator(s): Pat & Oscar, Graham-Bunting Associates Section, Township, Range: S 28, T34N, R4E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 2-5
 Subregion (LRR): A, Northwest Forests and Coast Lat: 48.408140 Long: -122.308922 Datum: _____
 Soil Map Unit Name: #124, Skippopa silt loam, 0-3% NWI classification: none

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: North of creek near NE 1/4 of site in low spot	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>25r</u>)				
1. <u>Alnus rubra</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. <u>Thuja plicata</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3. _____				
4. _____				
	<u>30</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>10r</u>)				
1. <u>Rubus armeniacus</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Rubus spectabilis</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Sambucus racemosa</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4. <u>Cornus stolonifera</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Althyrum felix-femina</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
	<u>55</u>	= Total Cover		
Herb Stratum (Plot size: <u>5r</u>)				
1. _____				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Woody Vine Stratum (Plot size: _____)				
1. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____				
% Bare Ground in Herb Stratum _____ = Total Cover				

Remarks: Hydrophytic vegetation indicator, >50% FAC or greater, is met. Dominance test is 75%

SOIL

Sampling Point: DP-8

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-5	10YR3/2	100					sl lm	
5-8	2.5Y3/3	99	10YR6/6	<2	C	M	slclv.lm	mix soils
8+	2.5Y6/2	80	10YR6/8	20	C	M	clay loam	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are not met. Predominant soil chroma at 8" is 3 and not dark. Distinct mottles exist but are less than 2% at 8".

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (LRR A)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 13"
 Saturation Present? Yes No Depth (inches): 12"
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

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

Remarks: Wetland hydrology indicators are not met. Soil saturation is not in the majority of the root zone.

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

Project/Site: East Village Short plat/2437 East Blackburn Rd. City/County: Mount Vernon/Skagit County Sampling Date: 4/8/16
 Applicant/Owner: Dave Pruztman State: WA Sampling Point: DP-9
 Investigator(s): Pat & Oscar, Graham-Bunting Associates Section, Township, Range: S 28, T34N, R4E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 2-5
 Subregion (LRR): A, Northwest Forests and Coast Lat: 48.408140 Long: -122.308922 Datum: _____
 Soil Map Unit Name: #124, Skippopa silt loam, 0-3% NWI classification: none

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: North of creek near NW 1/4 of site in low spot next to drainage channel coming from buried pvc pipe	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 25r)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: 10r)				
1. <u>Rosa nutkana</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Cornus stolonifera</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Lonicera involucrata</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Symphoricarpos albus</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. <u>Oemleria cerasiformis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
<u>105</u> = Total Cover				
Herb Stratum (Plot size: 5r)				
1. <u>Tellima grandiflora</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>80</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Remarks: Hydrophytic vegetation indicator, >50% FAC or greater, is met. Dominance test is 100%

SOIL

Sampling Point: DP-9

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-9	10YR2/1	100					sl lm	
9+	10YR3/2	95	10YR4/6	5	C	M	slclly.lm	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are met. Predominant soil chroma below 9" is 2, dark with redox.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

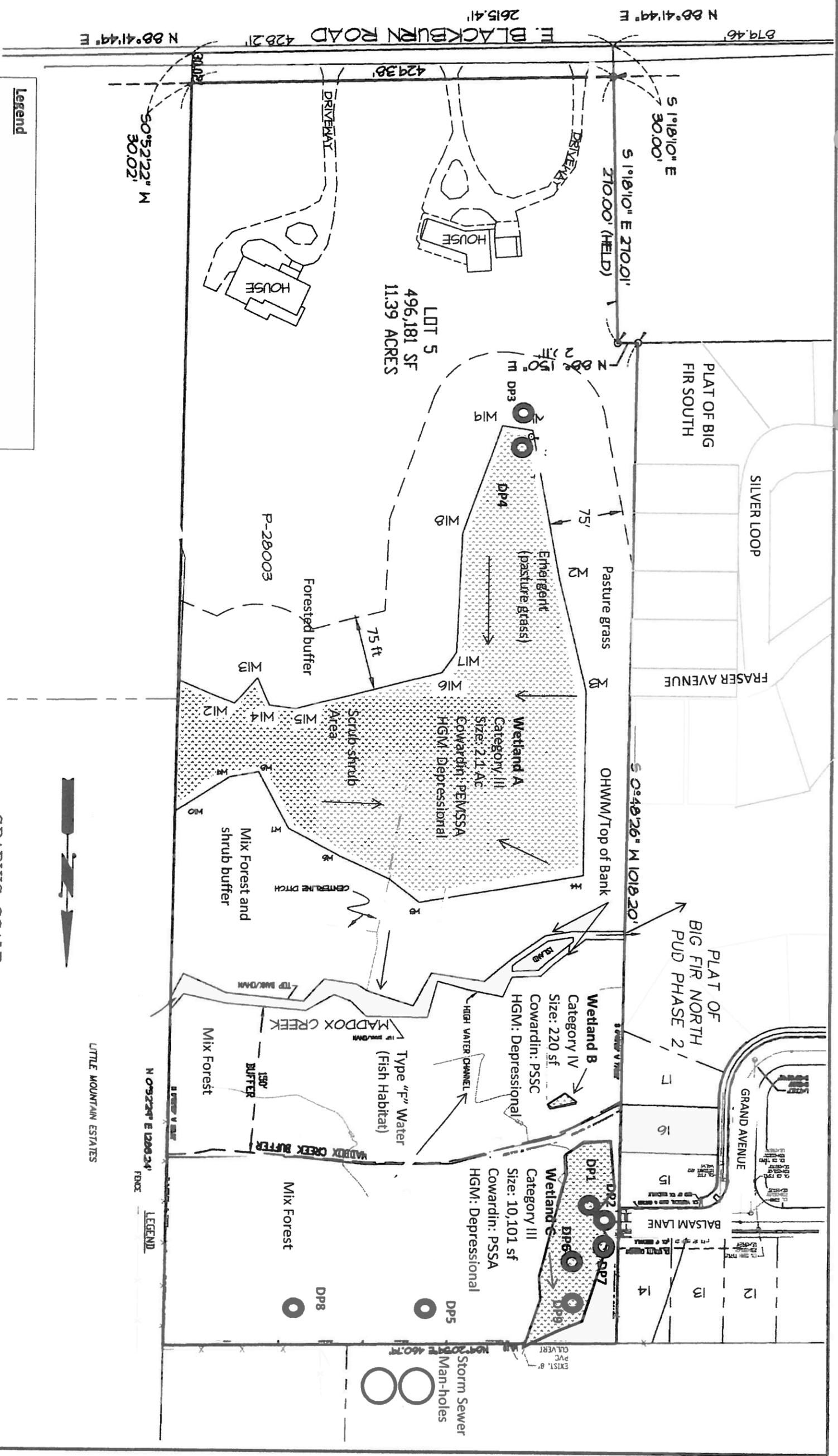
Water Table Present? Yes No Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes No Depth (inches): 6

Wetland Hydrology Present? Yes No

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

Remarks: Wetland hydrology indicators are met. Soil saturation is in the majority of the root zone.

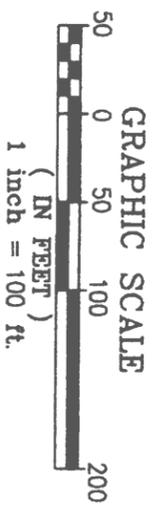


Legend

- DP = Data point
- ▨ Delineated Wetland

PSSA Palustrine scrub-shrub temporarily flooded
 PEMSSA = Palustrine emergent, scrub-shrub, temporarily flooded

→ Direction of slope/flow



Delineation Prepared by:
 Graham-Bunting Associates
 3643 Legg Rd. Bow, WA 98232
 Phone: 360.766.4441

Proposed Project: East Village Short Plat
 Site Address: 2437 Blackburn Road
 Applicant: Samish Bay Land Company
 Parcel No: 28003

Wetland Delineation and Existing Conditions

Site Plan

Date: December 21, 2016

**Wetland Rating Forms
Including Exhibits**

Attachment C

Wetland name or number A

sect 28, T34N, R4E

RATING SUMMARY – Western Washington

Name of wetland (or ID #): "A" PRUTZMAN/WALLACE Date of site visit: 5/22/09 to 6/1/09
1/25/16

Rated by Pat Bunting Trained by Ecology? Yes No Date of training 9-30-14

HGM Class used for rating Depressional Wetland has multiple HGM classes? Y N

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

Source of base aerial photo/map imap - Skagit County, Google Earth
CITY OF MOUNT VERNON - 2000 INVENTORY

OVERALL WETLAND CATEGORY III (based on functions or special characteristics)

1. Category of wetland based on FUNCTIONS

Category I – Total score = 23 - 27

Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
	Circle the appropriate ratings									
Site Potential	H	M	(L)	H	(M)	L	H	(M)	L	
Landscape Potential	(H)	M	L	H	(M)	L	H	M	(L)	
Value	(H)	M	L	H	(M)	L	H	(M)	L	
Score Based on Ratings	7			6			5			TOTAL 18

Score for each function based on three ratings (order of ratings is not important)

- 9 = H,H,H
- 8 = H,H,M
- 7 = H,H,L
- 7 = H,M,M
- 6 = H,M,L
- 6 = M,M,M
- 5 = H,L,L
- 5 = M,M,L
- 4 = M,L,L
- 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number _____

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

all maps attached at 1.6
Pages 18-21

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

Slope Wetlands

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

Wetland name or number A

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?

The wetland is on a slope (*slope can be very gradual*),

The water flows through the wetland in one direction (*unidirectional*) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

The water leaves the wetland **without being impounded**.

NO - go to 5

YES - The wetland class is **Slope**

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

5. Does the entire wetland unit meet all of the following criteria?

The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

The overbank flooding occurs at least once every 2 years.

Wetland name or number A

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 being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional ✓
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as 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.

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3	<i>side pin</i>	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 ✓		
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1		2
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1		
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 (No = 0)		
0		
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):		
Wetland has persistent, ungrazed, plants > 95% of area points = 5	<i>Site 1</i>	
Wetland has persistent, ungrazed, plants > 1/2 of area points = 3		
Wetland has persistent, ungrazed plants > 1/10 of area points = 1 ✓	<i>mowed field > 1/2</i>	1
Wetland has persistent, ungrazed plants < 1/10 of area points = 0		
D 1.4. Characteristics of seasonal ponding or inundation:		
<i>Hydroperiods</i> This is the area that is ponded for at least 2 months. See description in manual.		
Area seasonally ponded is > 1/2 total area of wetland points = 4		
Area seasonally ponded is > 1/4 total area of wetland ✓ points = 2 ✓		2
Area seasonally ponded is < 1/4 total area of wetland points = 0		
Total for D 1		5

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

D 2.0. Does the landscape have the potential to support the water quality function of the site?		
D 2.1. Does the wetland unit receive stormwater discharges? <i>1 km poly at area</i>	Yes = 1 No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0	1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source _____	Yes = 1 (No = 0)	0
Total for D 2		3

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

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

Rating of Value If score is: X 2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

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

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

D 4.1. Characteristics of surface water outflows from the wetland:

- Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4
- Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2
- Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1
- Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.

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

D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.

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

Total for D 4

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

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0

D 5.2. Is more than 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0

Total for D 5

Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Add the points in the boxes above
Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.

- The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):
 - Flooding occurs in a sub-basin that is immediately down-gradient of unit points = 2
 - Surface flooding problems are in a sub-basin farther down-gradient. points = 1
- Flooding from groundwater is an issue in the sub-basin. points = 1
- The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ points = 0
- There are no problems with flooding downstream of the wetland. points = 0

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0

Total for D 6

Rating of Value If score is: 2-4 = H 1 = M 0 = L Add the points in the boxes above
Record the rating on the first page

Wetland name or number A

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 1/4 ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- Aquatic bed
 - Emergent
 - Scrub-shrub (areas where shrubs have > 30% cover)
 - Forested (areas where trees have > 30% cover)
- 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

4 structures or more: points = 4
 3 structures: points = 2
 2 structures: points = 1 ✓
 1 structure: points = 0

1

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 1/4 ac to count (*see text for descriptions of hydroperiods*).

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

4 or more types present: points = 3
 3 types present: points = 2
 2 types present: points = 1 ✓
 1 type present: points = 0

1

2 points
 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 the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

- If you counted:
- > 19 species
 - 5 - 19 species ✓
 - < 5 species

points = 2
 points = 1 ✓
 points = 0

1

H 1.4. Interspersion of habitats

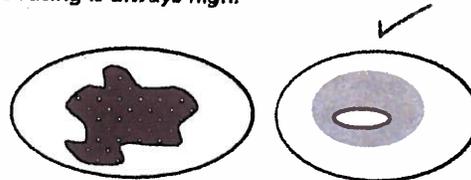
Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



None = 0 points



Low = 1 point

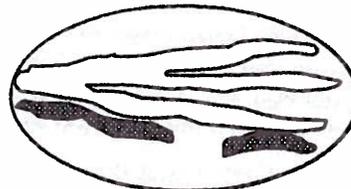
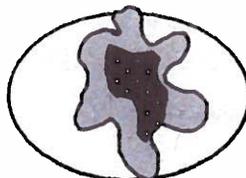
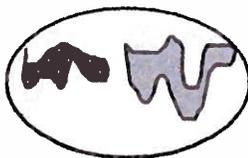


Moderate = 2 points



2

All three diagrams in this row are HIGH = 3points



Wetland name or number A

<p>H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (dbh > 4 in) within the wetland</p> <p><input type="checkbox"/> 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)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input checked="" type="checkbox"/> At least 1/4 ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		3
Add the points in the boxes above		8
Total for H 1		

Rating of Site Potential If score is: 15-18 = H 8-14 = M 0-6 = L *Record the rating on the first page*

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

Rating of Landscape Potential If score is: 4-6 = H 1-3 = M X < 1 = L *Record the rating on the first page*

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <ul style="list-style-type: none"> <input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW priority species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> 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 <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m <input checked="" type="checkbox"/> points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>		1
Add the points in the boxes above		
Total for H 3		

Rating of Value If score is: 2 = H ✓ 1 = M 0 = L *Record the rating on the first page*

Wetland name or number A

WDFW Priority Habitats

Priority habitats listed by WDFW (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.

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<p><i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i></p>	
<p>SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt</p>	
<p>Yes - Go to SC 1.1 No = Not an estuarine wetland</p>	
<p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category I No - Go to SC 1.2</p> <p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25) — At least 1/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category I No = Category II</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p>
<p>SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes - Go to SC 2.2 No - Go to SC 2.3</p> <p>SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = Not a WHCV</p> <p>SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes - Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV</p> <p>SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV</p>	<p>Cat. I</p>
<p>SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i></p> <p>SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes - Go to SC 3.3 No - Go to SC 3.2</p> <p>SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - Go to SC 3.3 No = Is not a bog</p> <p>SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No - Go to SC 3.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</p> <p>SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = Is a Category I bog No = Is not a bog</p>	<p>Cat. I</p>

Wetland name or number A

<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p style="text-align: right;">Yes = Category I <input checked="" type="radio"/> No = Not a forested wetland for this section</p>	<p>Cat. I</p>
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <p style="text-align: right;">Yes – Go to SC 5.1 <input checked="" type="radio"/> No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than 1/10 ac (4350 ft²) <p style="text-align: right;">Yes = Category I No = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 <p style="text-align: right;">Yes – Go to SC 6.1 <input checked="" type="radio"/> No = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p>	<p>Cat. I</p> <p>Cat. II</p> <p>Cat. III</p> <p>Cat. IV</p>
<p>Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p>NA</p>





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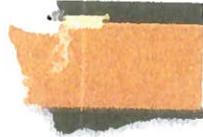
- Home
- Water Quality & Supply
- Waste & Toxics
- Air & Climate
- Cleanup & Spills

Water Quality Improvement Projects (TMDLs)

[Water Quality Improvement](#) > [Water Quality Improvement Projects by County](#) > Skagit County

Skaagit County projects

The following table lists overview information and links to specific water quality improvement projects (including total maximum daily loads, or TMDLs) for this county. Please use links (where available) for more information on a project.



To get additional information about the water bodies in Skagit County please use the [Water Quality Assessment Query Tool](#).

WRIAs in Skagit County

- [WRIA 1](#) - Nooksack
- [WRIA 3](#) - Lower Skagit-Samish
- [WRIA 4](#) - Upper Skagit
- [WRIA 5](#) - Stillaguamish

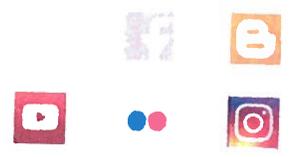
Water-body Name	Pollutants	Status	TMDL Leads
Campbell Lake	Total Phosphorus	EPA approved	Tricia Shoblom 425-649-7288
Erie Lake	Total Phosphorus	EPA approved	Tricia Shoblom 425-649-7288
Padilla Bay	Fecal Coliform	Under development	Danielle DeVoe 425-649-7036
Samish Watershed	Fecal Coliform	EPA approved Has an implementation plan	Danielle DeVoe 425-649-7036
Skaagit Basin	Fecal Coliform	EPA approved Has an implementation plan	Danielle DeVoe 425-649-7036
Stillaguamish River	Temperature Arsenic Dissolved Oxygen Fecal Coliform Mercury pH Temperature	EPA approved Has an implementation plan	Ralph Svrcek 425-649-7165



last updated September 2015

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- Русский | Russian
- Jobs
- Public input & events
- Español | Spanish
- Staff only
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- Accessibility



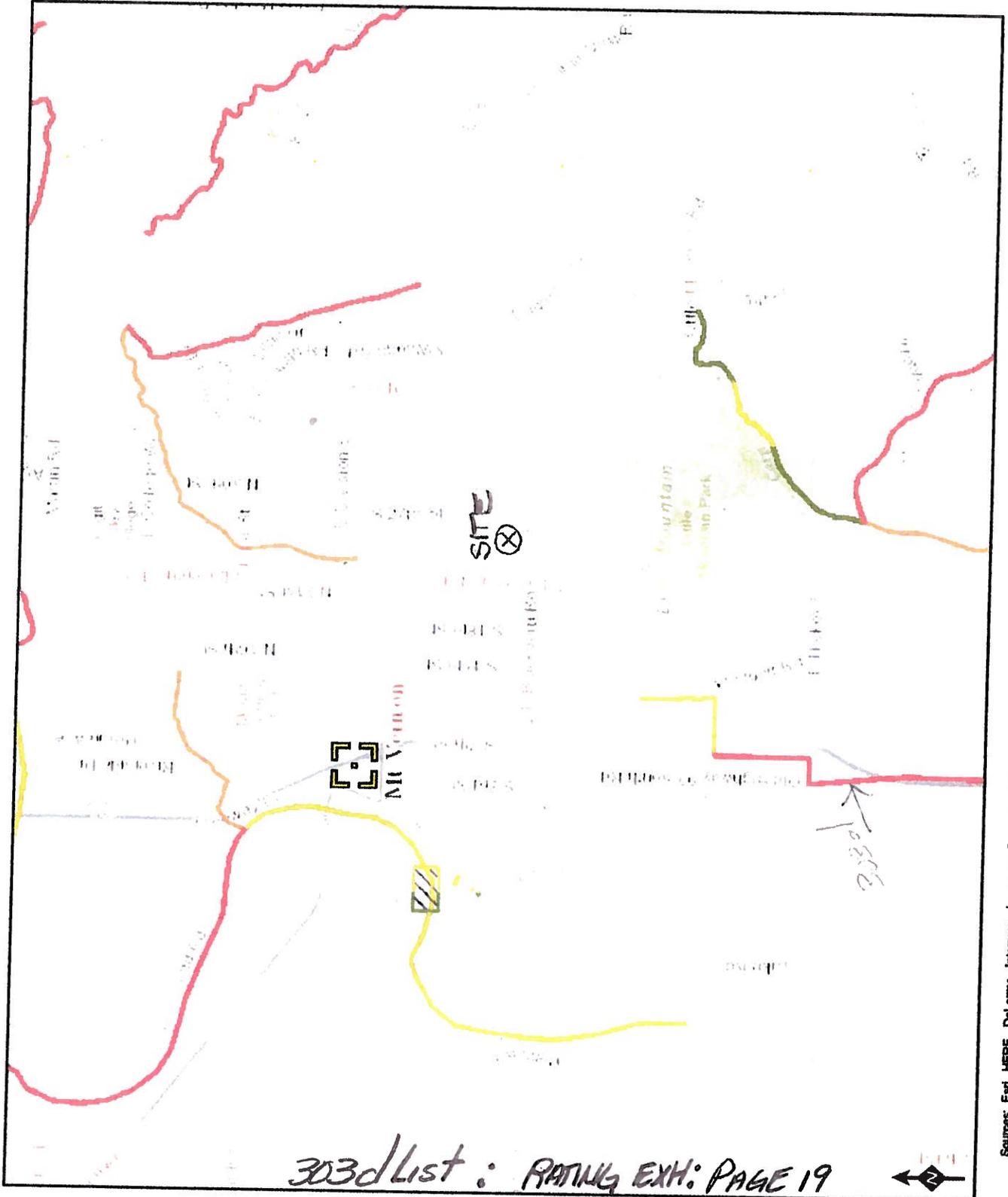
TMDL-LIST
RATING-PAGE 18



Water Quality Atlas Map

Assessed Waters/Sediment

- Water**
- Category 5 - 303d
 - Category 4C
 - Category 4B
 - Category 4A
 - Category 2
 - Category 1
- Sediment**
- Category 5 - 303d
 - Category 4C
 - Category 4B
 - Category 4A
 - Category 2
 - Category 1



303d List : RATING EXT: PAGE 19

303d list

RATING 1919

Sources: Esri, HERE, DeLorme, Intermap, Increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, MapmyIndia, ©







Applicant: Dave Prutzman
 Site Address: 2437 Blackburn
 Mount Vernon, WA 98237

Proposed East Village Short Plat

Flow Vector Map

Wetland name or number B 220 sf: size

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Prutman - E. Village S.P. Date of site visit: Jan. 8 April 2016
 Rated by Pat Bunting PWS - GBA Trained by Ecology? Yes No Date of training 9-30-2014
 HGM Class used for rating Depressional Wetland has multiple HGM classes? Y N

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

OVERALL WETLAND CATEGORY IV (based on functions or special characteristics)

1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
Circle the appropriate ratings										
Site Potential	H	M	(L)	H	M	(L)	H	M	(L)	
Landscape Potential	H	(M)	L	H	(M)	L	H	M	(L)	
Value	(H)	M	L	H	(M)	L	H	(M)	L	TOTAL
Score Based on Ratings	6			5			4			15

Score for each function based on three ratings (order of ratings is not important)

- 9 = H,H,H
- 8 = H,H,M
- 7 = H,H,L
- 7 = H,M,M
- 6 = H,M,L
- 6 = M,M,M
- 5 = H,L,L
- 5 = M,M,L
- 4 = M,L,L
- 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number B

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

All exhibits are attached to WETA Rating as pages 18-21

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

Slope Wetlands

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

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?

The wetland is on a slope (*slope can be very gradual*),

The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

The water leaves the wetland **without being impounded**.

NO - go to 5

YES - The wetland class is Slope

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

5. Does the entire wetland unit meet all of the following criteria?

The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

The overbank flooding occurs at least once every 2 years.

Wetland name or number B

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

Wetland name or number B

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

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

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

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

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

Rating of Value If score is: ~~X~~ 2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number B

DEPRESSIONAL AND FLATS WETLANDS

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

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

D 4.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	0
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0 ✓	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.		
Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
The wetland is a "headwater" wetland	points = 3	
Wetland is flat but has small depressions on the surface that trap water	points = 1	
Marks of ponding less than 0.5 ft (6 in)	points = 0 ✓	0
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.		
The area of the basin is less than 10 times the area of the unit	points = 5	
The area of the basin is 10 to 100 times the area of the unit	points = 3	
The area of the basin is more than 100 times the area of the unit ✓	points = 0 ✓	0
Entire wetland is in the Flats class	points = 5	
Total for D 4	Add the points in the boxes above	0

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

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0 ✓	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	Yes = 1 No = 0	1
Total for D 5	Add the points in the boxes above	2

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

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.		
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):		
• Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	
• Surface flooding problems are in a sub-basin farther down-gradient.	points = 1 ✓	
Flooding from groundwater is an issue in the sub-basin.	points = 1	1
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____	points = 0	
There are no problems with flooding downstream of the wetland.	points = 0	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?		
	Yes = 2 No = 0 ✓	0
Total for D 6	Add the points in the boxes above	1

Rating of Value If score is: 2-4 = H X 1 = M 0 = L Record the rating on the first page

Wetland name or number B

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 1/4 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
 - Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ✓
 - Forested (areas where trees have > 30% cover) 1 structure: points = 0
- If the unit has a Forested class, check if:*
- The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

1

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 1/4 ac to count (*see text for descriptions of hydroperiods*).

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- 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

0

H 1.3. Richness of plant species

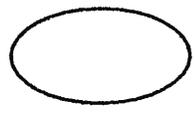
Count the number of plant species in the wetland that cover at least 10 ft². *Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

- If you counted:
- > 19 species points = 2
 - 5 - 19 species ✓ points = 1 ✓
 - < 5 species points = 0

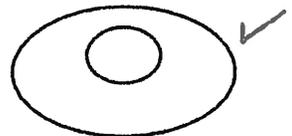
1

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.*



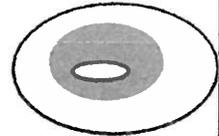
None = 0 points



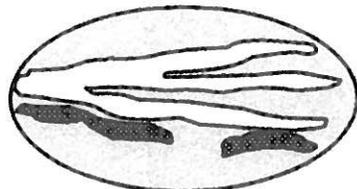
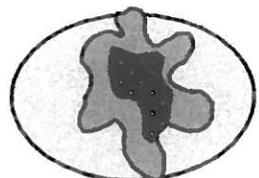
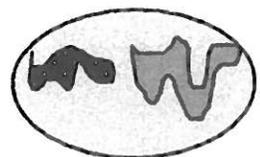
Low = 1 point



Moderate = 2 points



All three diagrams in this row are HIGH = 3 points



1

Wetland name or number B

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> <input type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). <input type="checkbox"/> Standing snags (dbh > 4 in) within the wetland <input type="checkbox"/> 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) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) <input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) <input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)		1
Total for H 1	Add the points in the boxes above	4

Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). <i>Calculate:</i> % undisturbed habitat $\frac{10}{10} + [(\% \text{ moderate and low intensity land uses})/2]$ $\frac{5}{10} = 15\%$ If total accessible habitat is: $\frac{19 \Delta \text{ of } 104}{10} = 10\%$ $\frac{10}{12}$ > 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 ← 1 < 10% of 1 km Polygon points = 0		
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> % undisturbed habitat $\frac{10}{10} + [(\% \text{ moderate and low intensity land uses})/2]$ $\frac{5}{10} = 15\%$ $\frac{10}{12}$ 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 ← 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 = H 1-3 = M < 1 = L *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated. Site meets ANY of the following criteria: points = 2 <input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW priority species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> 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 <input checked="" type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m ✓ points = 1 ← 1 Site does not meet any of the criteria above points = 0		

Rating of Value If score is: 2 = H 1 = M 0 = L *Record the rating on the first page*

Wetland name or number B

WDFW Priority Habitats

Priority habitats listed by WDFW (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.

Wetland name or number B

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<p><i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i></p>	
<p>SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt</p>	
<p>Yes - Go to SC 1.1 No = Not an estuarine wetland</p> <p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?</p>	<p>Cat. I</p>
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25) — At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p>	<p>Cat. I Cat. II</p>
<p>SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes - Go to SC 2.2 No - Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes - Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV</p>	<p>Cat. I</p>
<p>SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes - Go to SC 3.3 No - Go to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - Go to SC 3.3 No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No - Go to SC 3.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = Is a Category I bog No = Is not a bog</p>	<p>Cat. I</p>

Wetland name or number B

<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p style="text-align: right;">Yes = Category I No = Not a forested wetland for this section</p>	<p>Cat. I</p>
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <p style="text-align: right;">Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than $\frac{1}{10}$ ac (4350 ft²) <p style="text-align: right;">Yes = Category I No = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 <p style="text-align: right;">Yes – Go to SC 6.1 No = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p>	<p>Cat I</p> <p>Cat. II</p> <p>Cat. III</p> <p>Cat. IV</p>
<p>Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p>NA</p>

Wetland name or number C

10,000 sq.

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Prutzman, Dave P. Date of site visit: 1-23-16
4-7-16
 Rated by Pat Bunting, PWS, GBA Trained by Ecology? Yes ___ No Date of training ___
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ___ Y N

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

OVERALL WETLAND CATEGORY III (based on functions or special characteristics ___)

1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <u>M</u> L	H M <u>L</u>	H M <u>L</u>	
Landscape Potential	H <u>M</u> L	<u>H</u> M L	H M <u>L</u>	
Value	<u>H</u> M L	H <u>M</u> L	H <u>M</u> L	TOTAL
Score Based on Ratings	7	6	4	17

Score for each function based on three ratings (order of ratings is not important)

- 9 = H,H,H
- 8 = H,H,M
- 7 = H,H,L
- 7 = H,M,M ✓
- 6 = H,M,L ✓
- 6 = M,M,M
- 5 = H,L,L
- 5 = M,M,L
- 4 = M,L,L ✓
- 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number C

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

all exhibits are attached to WETA Rating as pages 18-21

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

Slope Wetlands

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

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 Riverline wetlands. If it is Saltwater Tidal Fringe it is an Estuarine wetland and is not scored. This method cannot be used to score functions for estuarine wetlands.

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

NO - go to 3

YES - The wetland class is **Flats**

If your wetland can be classified as a Flats wetland, use the form for Depressional wetlands.

3. Does the entire wetland unit meet all of the following criteria?

- The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
- At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO - go to 4

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

4. Does the entire wetland unit meet all of the following criteria?

- The wetland is on a slope (*slope can be very gradual*),
- The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
- The water leaves the wetland **without being impounded**.

NO - go to 5

YES - The wetland class is **Slope**

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

5. Does the entire wetland unit meet all of the following criteria?

- The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
- The overbank flooding occurs at least once every 2 years.

Wetland name or number C

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

Wetland name or number C

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3		
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2		
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 ✓		1
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1		
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0 ✓		0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):		
Wetland has persistent, ungrazed, plants > 95% of area points = 5 ✓		5
Wetland has persistent, ungrazed, plants > 1/2 of area points = 3		
Wetland has persistent, ungrazed plants > 1/10 of area points = 1		
Wetland has persistent, ungrazed plants < 1/10 of area points = 0		
D 1.4. Characteristics of seasonal ponding or inundation:		
<i>This is the area that is ponded for at least 2 months. See description in manual.</i>		
Area seasonally ponded is > 1/2 total area of wetland points = 4		
Area seasonally ponded is > 1/4 total area of wetland points = 2		
Area seasonally ponded is < 1/4 total area of wetland points = 0 ✓		0
Total for D 1	Add the points in the boxes above	6

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

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

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

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

Rating of Value If score is: X 2-4 = H 1 = M 0 = L Record the rating on the first page

1212131 / 10,000 SF = 121
 Basin of unit
 1:121 Ratio

Wetland name or number C

DEPRESSIONAL AND FLATS WETLANDS

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

D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	0
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0 ✓	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.		
Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	0
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
The wetland is a "headwater" wetland	points = 3	
Wetland is flat but has small depressions on the surface that trap water	points = 1	
Marks of ponding less than 0.5 ft (6 in)	points = 0 ✓	
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.		
The area of the basin is less than 10 times the area of the unit	points = 5	0
The area of the basin is 10 to 100 times the area of the unit	points = 3	
The area of the basin is more than 100 times the area of the unit ✓	points = 0 ✓	
Entire wetland is in the Flats class	points = 5	
Total for D 4	Add the points in the boxes above	0

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

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	Yes = 1 No = 0	1
Total for D 5	Add the points in the boxes above	3

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

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.		
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):		
• Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	1
• Surface flooding problems are in a sub-basin farther down-gradient.	points = 1 ✓	
Flooding from groundwater is an issue in the sub-basin.	points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____	points = 0	1
There are no problems with flooding downstream of the wetland.	points = 0	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?		
	Yes = 2 No = 0 ✓	0
Total for D 6	Add the points in the boxes above	1

Rating of Value If score is: 2-4 = H ~~1 = M~~ 0 = L Record the rating on the first page

Wetland name or number C

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
 - 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

0

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- 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

0

H 1.3. Richness of plant species

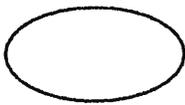
Count the number of plant species in the wetland that cover at least 10 ft². *Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

- If you counted: > 19 species points = 2
- 5 - 19 species points = 1
- < 5 species points = 0

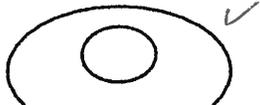
1

H 1.4. Interspersion of habitats

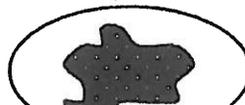
Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



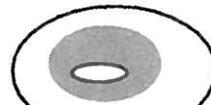
None = 0 points



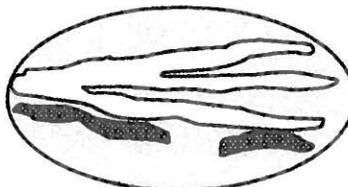
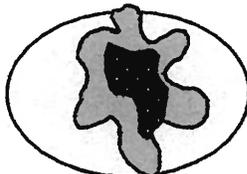
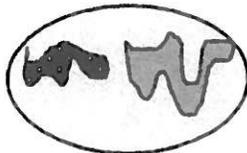
Low = 1 point



Moderate = 2 points



All three diagrams in this row are HIGH = 3points



1

Wetland name or number C

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). <input checked="" type="checkbox"/> Standing snags (dbh > 4 in) within the wetland <input type="checkbox"/> 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) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) <input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)		2
Total for H 1	Add the points in the boxes above	4

Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> % undisturbed habitat <u>10</u> + [(% moderate and low intensity land uses)/2] <u>5</u> = <u>15</u> % If total accessible habitat is: <i>10/2</i> > 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 points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> % undisturbed habitat <u>10</u> + [(% moderate and low intensity land uses)/2] <u>5</u> = <u>15</u> % 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) ≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2	Add the points in the boxes above

Rating of Landscape Potential If score is: 4-6 = H 1-3 = M < 1 = L *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i> 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 = 1 Site does not meet any of the criteria above points = 0	

Rating of Value If score is: 2 = H 1 = M 0 = L *Record the rating on the first page*

Wetland name or number C

WDFW Priority Habitats

Priority habitats listed by WDFW (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.

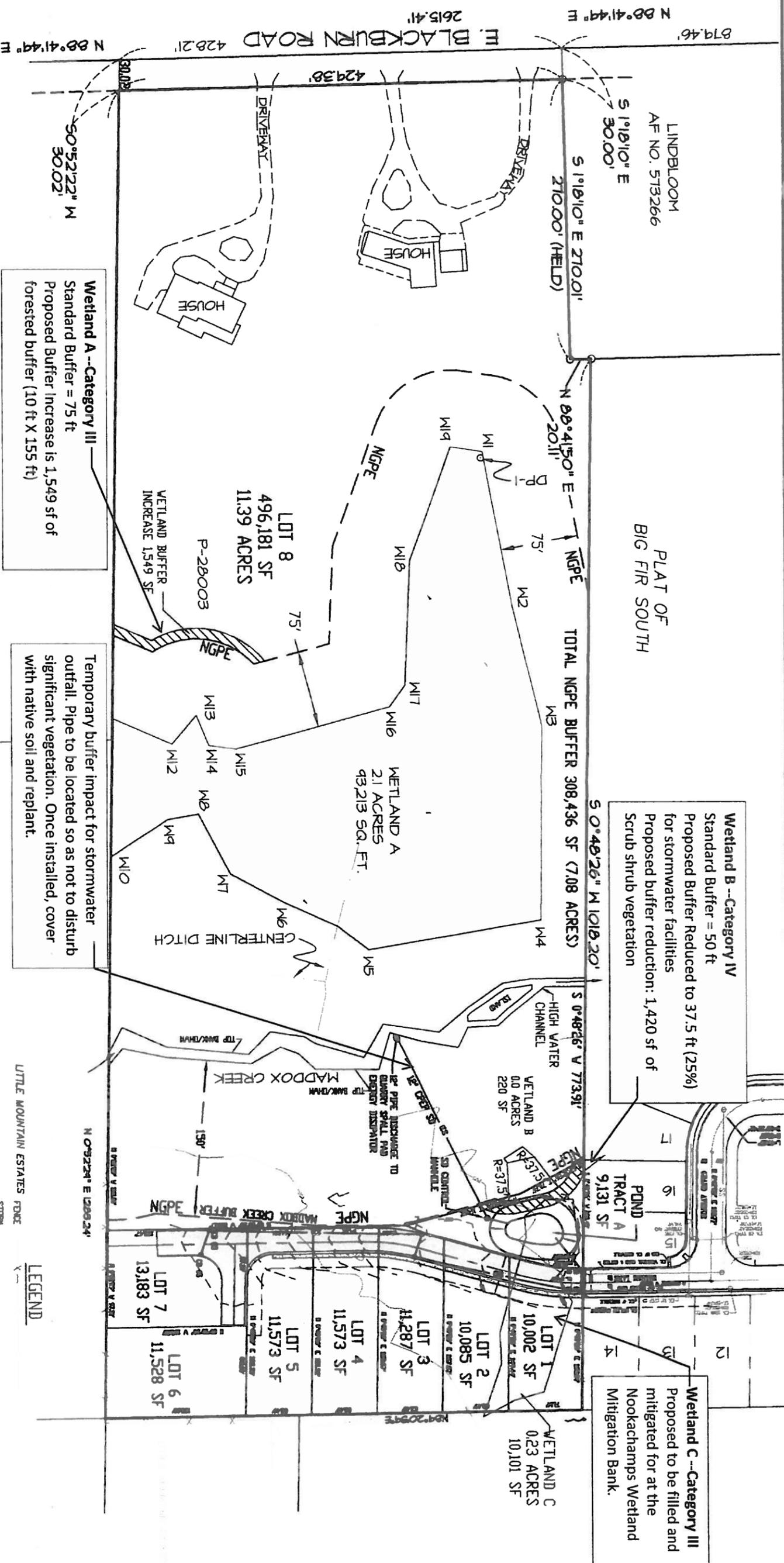
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 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.

Wetland name or number C

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p>SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt</p>	
<p>Yes – Go to SC 1.1 No = Not an estuarine wetland</p> <p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category I No - Go to SC 1.2</p>	<p>Cat. I</p>
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25) — At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p>	<p>Cat. I Cat. II</p>
<p>SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV</p>	<p>Cat. I</p>
<p>SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = Is a Category I bog No = Is not a bog</p>	<p>Cat. I</p>



Wetland A --Category III
 Standard Buffer = 75 ft
 Proposed Buffer Increase is 1,549 sf of forested buffer (10 ft X 155 ft)

Temporary buffer impact for stormwater outfall. Pipe to be located so as not to disturb significant vegetation. Once installed, cover with native soil and replant.

Wetland B --Category IV
 Standard Buffer = 50 ft
 Proposed Buffer Reduced to 37.5 ft (25%) for stormwater facilities
 Proposed buffer reduction: 1,420 sf of scrub shrub vegetation

Wetland C --Category III
 Proposed to be filled and mitigated for at the Nookachamps Wetland Mitigation Bank.

Buffer Averaging/Mitigation Notes:

1. Increase 1,549 sf of Category III forested buffer.
2. Decrease 1,420 sf of Category IV scrub-Shrub buffer.
3. Protect and Designate 9.0 +/- acres of combined wetlands, stream and buffers of a 13+/- acre site.
4. Temporary impact: On-site location of 12" pipe for pond outfall to avoid any significant vegetation. Replace native soil and vegetation.

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East Village Short Plat
 2457 Blackburn Road
 2016



LEGEND
 FENCE
 STORM SEWER
 LITTLE MOUNTAIN ESTATES

Buffer Averaging/Mitigation
Site Plan

Date: December 21, 2016