



**CRITICAL AREA STUDY  
AND  
MITIGATION PLAN**

**FOR**

**ZAHRADNIK – BINDING SITE PLAN**  
***ARLINGTON, WA***

*Wetland Resources, Inc. Project #21251*

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## 1.0 INTRODUCTION

*Wetland Resources, Inc.* (WRI) conducted site investigations on July 10 and December 10, 2019, and March 4, 2020, to identify and evaluate jurisdictional wetlands, waterbodies, and fish and wildlife conservation areas on and in the vicinity of the property located northwest of the intersection of State Route 9 and 172<sup>nd</sup> Street NE (Highway 531) in Arlington, Washington. The 16.81-acre site consists of one parcel (Snohomish County Tax ID#: 31052400302000) and is accessed from the west via 85<sup>th</sup> Avenue Northeast. The Public Land Survey System (PLSS) locator for the property is Section 24, Township 31N, Range 5E, W.M. The subject property is located at the boundary of the Snohomish (WRIA 7) and Stillaguamish (WRIA 5) watersheds.

WRI also conducted a site investigation on February 4, 2022, to perform a wetland delineation at the proposed off-site mitigation property. This property consists of two tax parcels (31052400201300 and 31052400203100), located west of the intersection of Eaglefield Drive/Crown Ridge Blvd and State Route 9, approximately 0.6 mile north of the project site. The mitigation site is located in the same Township, Range, and Section as the project site. It is situated within the Armstrong Creek sub-basin in WRIA 5.



**Figure 1** -Aerial view of the subject property (not to scale).

## 1.1 SITE DESCRIPTION

The property is currently undeveloped. The northeastern portion is relatively flat with microtopographic undulations. The western portion slopes gently toward the west/southwest, and the southeastern portion has gently rolling topography. The southern part of the property has historically been disturbed for previous human use. Vegetation in this part of the site includes scrub-shrub vegetation composed primarily of Douglas' spirea (*Spiraea douglasii*) and Himalayan blackberry (*Rubus armeniacus*) as well as emergent vegetation composed of mixed grasses with Scotch broom (*Cytisus scoparius*). The northern part of the site is forested and is dominated by red alder (*Alnus rubra*), western red cedar (*Thuja plicata*), and salmonberry (*Rubus spectabilis*). Land use surrounding the subject property includes a mixture of high-density and low-density residential development and undeveloped land.

Four wetlands (Wetlands A, B, C, and D) were identified on the site. Pursuant to Arlington Municipal Code (AMC) 20.93.800(a), these wetlands were rated using the *Washington State Wetland Rating System for Western Washington* (Hruby, 2014). Wetlands A, B, C, and D are Category II wetlands with habitat scores of 6 to 7 and receive 110-foot protective buffers.

## 2.0 PROJECT DESCRIPTION

The applicant proposes to construct a mixed-use development on the property that includes townhomes along 85<sup>th</sup> Avenue NE, multi-family residential units in the central part of the property, commercial development along 172<sup>nd</sup> Street NE, and a pedestrian trail along the buffer of Wetlands C and D in the northern portion of the site. In order to achieve an economically viable development plan and to accommodate the commercial development component required by the City of Arlington, permanent impacts to Wetlands A and B (fill) are unavoidable. In total, 0.872 acres of wetland will be filled as part of the development plant. The only viable location on the site for commercial development is along 172<sup>nd</sup> Street NE. To compensate for the proposed wetland fill, the applicant proposes to purchase two parcels (Snohomish County parcel numbers 31052400201300 and 31052400203100) within the Portage Creek sub-basin for protection. These parcels contain a segment of Prairie Creek and part of an associated Category I wetland complex. Additionally, the applicant will purchase credits from the Skykomish Habitat Mitigation Bank to provide additional off-site mitigation for the proposed wetland impacts.

The majority of the area proposed for development (the southern and western portion of the site) has been disturbed by prior human uses. The northeastern portion of the site, which includes Wetlands C and D and the associated buffer areas, consists of forested habitat that is dominated by native species and is largely undisturbed. This portion of the site will be protected in perpetuity within a critical area tract. Per AMC 20.93.290(a), signs and fencing will be installed along the edge of the buffer.

### 3.0 REVIEW OF PUBLICLY AVAILABLE INFORMATION

Prior to conducting the site investigation, public resource information was reviewed to gather background information on the subject property and the surrounding area in regard to wetlands, streams, and other critical areas. These sources included the following:

- USDA/Natural Resources Conservation Service (NRCS) Web Soil Survey: The Web Soil Survey indicates that the subject property is underlain by Tokul gravelly medial loam, 0-8 percent slopes. This soil map unit is described as moderately well drained and contains inclusions of Norma (3 percent) and McKenna (2 percent), which are hydric soils typically found in drainageways and depressions.
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory: The NWI map identifies a wetland that extends onto the southwestern portion of the site, immediately north of the mapped location of Wetland A. A riverine feature is mapped approximately 180 feet southwest of the site.
- WA DNR Wetlands of High Conservation Value Map Viewer: No resources are depicted on or in the vicinity of the subject site.
- Washington Department of Fish and Wildlife (WDFW) SalmonScape Interactive Mapping System: The SalmonScape interactive map displays a Type Ns stream located approximately 180 feet southwest of the site. The depicted stream does not connect to any Type F waters.
- WDFW Priority Habitat and Species (PHS) Interactive Map: The PHS Interactive Map identifies the same wetland that is identified by PHS in the southwestern portion of the map. No other priority habitats are depicted in the vicinity of the site.
- Washington Department of Natural Resources (WA DNR) Forest Practices Application Mapping Tool: This resource maps a Type N stream approximately 400 feet northeast of the site. No other critical areas are mapped in the vicinity of the site.
- Snohomish County PDS Map Portal: The PDS Map Portal identifies a freshwater emergent wetland in the southwestern corner of the site in the same location as the wetland mapped by NWI and PHS. No other wetlands or streams are mapped in the vicinity of the site. This map shows the project site within the Quilceda Creek sub-basin of the Snohomish watershed.
- Washington Department of Ecology Coastal Atlas online mapping tool it is mapped within the Portage Creek sub-basin (which drains to the Stillaguamish River) but is shown within the boundary of the Snohomish watershed.

### 4.0 WETLAND AND STREAM DETERMINATION

#### 4.1 ORDINARY HIGH WATER MARK DETERMINATION METHODOLOGY

The ordinary high water mark (OHWM) of streams was determined using the methodology described in the Washington State Department of Ecology document *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et. al. 2016). Streams

are classified according to the water typing system provided in the Washington Administrative Code (WAC), section 222-16-030, AMC 20.93.100, and AMC 20.93.700.

## **4.2 WETLAND DETERMINATION METHODOLOGY**

Wetland conditions were evaluated and delineated using routine methodology described in the *Corps of Engineers Wetlands Delineation Manual (Final Report, January 1987)*, except where superseded by the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0, referred to as 2010 Regional Supplement)*. Our findings are consistent with these manuals. The following criteria descriptions were used in the boundary determination:

- 1.) Examination of the site for hydrophytic vegetation (species present and percent cover);
- 2.) Examination of the site for hydric soils;
- 3.) Determining the presence of wetland hydrology

### **4.2.1 Hydrophytic Vegetation Criteria**

The manuals define hydrophytic vegetation as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present. One of the most common indicators for hydrophytic vegetation is when more than 50 percent of a plant community consists of species rated “Facultative” and wetter on lists of plant species that occur in wetlands.

### **4.2.2 Soils Criteria**

The 2010 Regional Supplement (per the National Technical Committee for Hydric Soils) defines hydric soils as soils “that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.” Field indicators are used to determine whether a given soil meets the definition for hydric soils. Indicators are numerous and include, but are not limited to, presence of a histosol or histic epipedon, a sandy gleyed matrix, depleted matrix, and redoximorphic depressions.

### **4.2.3 Hydrology Criteria**

The 2010 Regional Supplement defines wetland hydrology as “areas that are inundated (flooded or ponded) or the water table is less than or equal to 12 inches below the soil surface for 14 or more consecutive days during the growing season at a minimum frequency of 5 years in 10.” During the early growing season, wetland hydrology determinations are made based on physical observation of surface water, a high water table, or saturation in the upper 12 inches. Outside of the early growing season, wetland hydrology determinations are made based on physical evidence of recent inundation or saturation (i.e. water marks, surface soil cracks, water-stained leaves).

### 4.3 BOUNDARY DETERMINATION FINDINGS

Four wetlands (Wetlands A-D) were identified on the project site. One wetland (Wetland E) was identified at the proposed mitigation site. Wetlands are classified under the Cowardin classification system (Cowardin et al. 1979) and under the Hydrogeomorphic classification system (Brinson, 1993). Pursuant to AMC 20.93.800, Wetlands were also rated according to the Department of Ecology *Washington State Wetland Rating System for Western Washington* (Hruby 2014).

#### 4.3.1 Wetland A

2014 DOE Rating: Category II, habitat score of 7

HGM Rating Classification: Depressional

Cowardin Classification: Palustrine, Forested Wetland, Broad-Leaved Deciduous, Saturated

City of Arlington Standard Buffer: 110 Feet

Wetland A is a depressional wetland located in the southwestern corner of the site and is 15,704 square feet in size. This wetland has no outlet. Vegetation within this wetland includes Himalayan blackberry (*Rubus armeniacus*; FAC), hardhack (*Spiraea douglasii*; FACW), cut-leaf blackberry (*Rubus laciniatus*; FACU), salmonberry (*Rubus spectabilis*; FAC), and reed canarygrass (*Phalaris arundinacea*; FACW). Dominant vegetation is rated as facultative (FAC) or wetter and therefore represents a hydrophytic plant community.

The top 11 inches of soil within Wetland A are very dark greyish brown (10YR 3/2) sandy loam with dark yellowish brown (10YR 4/6) redoximorphic concentrations present in the matrix. From 11 to 16 inches depth, the soil is grayish brown (10YR 5/2) and features dark yellowish brown (10YR 3/6) redoximorphic concentrations. These soils meet the criteria for the hydric soil indicator Redox Dark Surface (F6). Conditions meeting the criteria for the secondary hydrology indicators Geomorphic Position (D2) and Water-Stained Leaves (B9) were observed during the July 2019 site visit.

The presence of hydrophytic vegetation, hydric soils, and multiple secondary wetland hydrology indicators indicate that the area mapped as Wetland A is saturated or inundated long enough during the growing season to develop anaerobic conditions in the upper portion of the soil profile.

The US Army Corps of Engineers has determined that Wetland A is not a water of the U.S. A letter from the Department of the Army dated May 26, 2020 detailing the jurisdictional determination is available in Appendix D of this report.



**Figure 2** -Wetland A, western portion (facing northeast; December 2019).



**Figure 3** – Wetland A, eastern portion (facing northwest; July 2019).

### 4.3.2 Wetland B

2014 DOE Rating: Category II, habitat score of 6

HGM Rating Classification: Depressional

Cowardin Classification: Palustrine, Forested Wetland, Broad-Leaved Deciduous, Seasonally Flooded

City of Arlington Standard Buffer: 110 Feet

Wetland B is a depressional wetland located in the southeastern corner of the site and is 22,251 square feet in size. This wetland has no outlet. Vegetation within Wetland B includes red alder (*Alnus rubra*; FAC), Himalayan blackberry (*Rubus armeniacus*; FAC), salmonberry (*Rubus spectabilis*; FAC), hardhack (*Spiraea douglasii*; FACW), and slough sedge (*Carex obnupta*; OBL). Dominant vegetation is rated as facultative (FAC) or wetter and therefore represents a hydrophytic plant community. The northeastern two-thirds of Wetland B is forested with multiple vegetation strata. The southwestern third is scrub-shrub dominated by Himalayan blackberry.

The top 8 inches of soils within Wetland B feature a mixed matrix of very dark brown (10YR 2/2) and black (10YR 2/1) silt loam. Between 8 and 14 inches below the surface, soils are black (10YR 2/1) silty clay loam. From 14 to 18 inches below the surface soils are dark grayish brown (10YR 4/2) silty clay loam and features brownish yellow (10YR 6/6) redoximorphic concentrations within the matrix. The presence of a thick layer of dark soils underlain by a depleted matrix is indicative of prolonged saturation or inundation. Furthermore, there standing water was observed at multiple locations within Wetland B during the March 2020 site visit. These conditions meet the criteria for the wetland hydrology indicator Surface Water (A1).

The presence of hydrophytic vegetation, hydric soils, and wetland hydrology indicators indicate that the area mapped as Wetland B is saturated or inundated long enough during the growing season to develop anaerobic conditions in the upper portion of the soil profile.

The US Army Corps of Engineers has determined that Wetland B is not a water of the U.S. A letter from the Department of the Army dated October 1, 2020 detailing the jurisdictional determination of Wetlands B, C, and D is available in Appendix D of this report.



**Figure 4** -Wetland B. Left: forested portion (March 2020). Right: scrub-shrub portion (July 2019).

### 4.3.3 Wetland C

2014 DOE Rating: Category II, habitat score of 6

HGM Rating Classification: Depressional

Cowardin Classification: Palustrine, Forested Wetland, Broad-Leaved Deciduous, Seasonally Flooded

City of Arlington Standard Buffer: 110 Feet

Wetland C is a depressional wetland located in the eastern portion of the site and extends into the right-of-way for State Route 9 to the east. This wetland is approximately 25,386 square feet in size and outlets to the east via a culvert under State Route 9. Vegetation within Wetland C includes red alder (*Alnus rubra*; FAC), western red cedar (*Thuja plicata*; FAC), vine maple (*Acer circinatum*; FAC), salmonberry (*Rubus spectabilis*; FAC), hardhack (*Spiraea douglasii*; FACW), reed canarygrass (*Phalaris arundinacea*; FACW), skunk cabbage (*Lysichiton americanus*; OBL), and slough sedge (*Carex obnupta*; OBL). Dominant vegetation in this area is rated as facultative (FAC) or wetter and therefore represents a hydrophytic plant community.

The top 8 inches of soils within Wetland C are black (10YR 2/1) silt loam. Between 8 and 14 inches below the surface, soils are very dark grayish brown (10YR 3/2) silty clay loam. Between 14 and 18 inches below the surface soils are dark grayish brown (10YR 4/2) silty clay loam and features dark brown (7.5YR 3/4) redoximorphic concentrations within the matrix. The presence of a thick layer of dark soils underlain by a depleted matrix is indicative of prolonged saturation or inundation. Furthermore, there were several inches of standing water at multiple locations within Wetland C during the March 2020 site visit. These conditions meet the criteria for the wetland hydrology indicator Surface Water (A1).



**Figure 5** -Wetland C (March 2020).

The presence of hydrophytic vegetation, hydric soils, and wetland hydrology indicators indicate that the area mapped as Wetland C is saturated or inundated long enough during the growing season to develop anaerobic conditions in the upper portion of the soil profile.

#### **4.3.4 Wetland D**

2014 DOE Rating: Category II, habitat score of 6

HGM Rating Classification: Depressional

Cowardin Classification: Palustrine, Forested Wetland, Broad-Leaved Deciduous, Seasonally Flooded

City of Arlington Standard Buffer: 110 Feet

Wetland D is a depressional wetland located along the northern property boundary and is approximately 24,055 square feet in size. This wetland outlets to the east via a culvert under State Route 9. Vegetation within Wetland D includes red alder (*Alnus rubra*; FAC), western red cedar (*Thuja plicata*; FAC), vine maple (*Acer circinatum*; FAC), salmonberry (*Rubus spectabilis*; FAC), skunk cabbage (*Lysichiton americanus*; OBL), and slough sedge (*Carex obnupta*; OBL). Dominant vegetation in this area is rated as facultative (FAC) or wetter and therefore represents a hydrophytic plant community.

The top 2 inches of soils within Wetland D are dark brown (10YR 3/3) loam. Between 2 and 10 inches below the surface, soils are dark grayish brown (10YR 4/2) loam. From 10 to 12 inches below the surface soils are dark gray (10YR 4/1) silty clay loam and features dark brown (7.5YR 3/4) redoximorphic concentrations within the matrix. A restrictive layer is present at a depth of 12 inches. The presence of a thick layer of dark soils underlain by a depleted matrix is indicative of prolonged saturation or inundation. Furthermore, there were several inches of standing water at multiple locations within Wetland D during the March 2020 site visit. These conditions meet the criteria for the wetland hydrology indicator Surface Water (A1).



**Figure 6** -Wetland D (March 2020).

The presence of hydrophytic vegetation, hydric soils, and wetland hydrology indicators indicate that the area mapped as Wetland D is saturated or inundated long enough during the growing season to develop anaerobic conditions in the upper portion of the soil profile.

#### **4.3.5 Wetland E (Off-site mitigation wetland)**

2014 DOE Rating: Category I, habitat score of 8

HGM Rating Classification: Depressional

Cowardin Classification: Palustrine, Forested Wetland, Broad-Leaved Deciduous, Permanently Flooded

City of Arlington Standard Buffer: 225 Feet

Wetland E is an extensive wetland complex associated with Prairie Creek. The portion of the wetland on the proposed mitigation site includes forested, scrub-shrub, emergent, and aquatic bed vegetation. Species identified within Wetland E include western red cedar (*Thuja plicata*; FAC), salmonberry (*Rubus spectabilis*; FAC), vine maple (*Acer circinatum*; FAC), Douglas' spirea (*Spiraea douglasii*; FACW), water parsley (*Oenanthe sarmentosa*; OBL), slough sedge (*Carex obnupta*; OBL), reed canarygrass (*Phalaris arundinacea*; FACW), and small-fruited bulrush (*Scirpus microcarpus*; OBL).

Soils observed within Wetland E were black in the upper black (10YR 2/1) or very dark brown (10YR 2/2) in the upper 8 to 12 inches of the profile. Below this soils were dark grayish brown (10YR 4/2) to grayish brown (10YR 5/2) with redoximorphic concentrations in the matrix. Surface water, high water table, and saturation within the upper 12 inches were observed within the wetland.

The presence of hydrophytic vegetation, hydric soils, and wetland hydrology indicators indicate that the area mapped as Wetland E is saturated or inundated long enough during the growing season to develop anaerobic conditions in the upper portion of the soil profile.

#### **4.3.6 Non-Wetland Areas**

##### *Project site*

There are two distinct vegetative communities in the areas of the project site mapped as non-wetland. The southwestern portion of the property is dominated by dense shrub species including Himalayan blackberry (*Rubus armeniacus*; FAC), hardhack (*Spiraea douglasii*; FACW), and cut-leaf blackberry (*Rubus laciniatus*; FACU). Soils in this area are generally a very dark grayish brown (10YR 3/2) loam in the top 7 inches. The sublayer of soils extends to a depth of at least 16 inches and is generally dark brown (10YR 3/3) with strong brown (7.5YR 4/6) redoximorphic concentrations present in the matrix. Soils in this portion of the were dry during the July 2019 site visit.

The eastern and northern portions of the site are forested with a canopy that includes western hemlock (*Tsuga heterophylla*; FACU), red alder (*Alnus rubra*; FAC), and western red cedar (*Tsuga heterophylla*; FAC). The canopy is underlain by a dense understory that includes salmonberry (*Rubus spectabilis*; FAC), Himalayan blackberry (*Rubus armeniacus*; FAC), cut-leaf blackberry (*Rubus laciniatus*; FACU), osoberry (*Oemleria cerasiformis*; FACU), vine maple (*Acer circinatum*; FAC), salal (*Gaultheria shallon*; FACU), and swordfern (*Polystichum munitum*; FACU). Soils in these areas are very dark

brown (10YR 2/2 or 7.5YR 2.5/2) sandy loam in the top 7 to 8 inches. The sublayer of soils is generally dark yellowish brown (10YR 3/4 or 10YR 3/6) sandy loam and extends to a depth of about 13 inches. Beginning at 13 inches the soils are dark yellowish brown (10YR 4/4) sandy loam. The top 12 inches of soils were generally dry in these areas during the March 2020 site visit.

Dominant vegetation in the areas mapped as non-wetland is rated as facultative (FAC) or drier. Soils in these areas do not meet any hydric soil indicators. Wetland hydrology was generally absent, with the exception of areas immediately surrounding Wetland B during the March 4, 2020, site investigation. Precipitation in the period prior to this site visit was above the normal range and the vegetation and soils in these areas did not exhibit wetland indicators. Therefore, the areas mapped as non-wetland do not meet wetland criteria.

### *Mitigation Site*

Non-wetland areas on the mitigation site are forested and include big leaf maple (*Acer macrophyllum*; FACU), western red cedar (*Thuja plicata*; FAC), red alder (*Alnus rubra*; FAC), western hemlock (*Tsuga heterophylla*; FACU), salmonberry (*Rubus spectabilis*; FAC), Oregon grape (*Mahonia nervosa*; FACU), swordfern (*Polystichum munitum*; FACU). Soils in the non-wetland areas of the mitigation site are typically dark yellowish brown (10YR 3/6 to 10YR 4/4) to a depth of at least 16 inches and were dry at the time of the February 4, 2022, site investigation.

## **5.0 WILDLIFE**

The subject property is currently undeveloped. The northern portion of the site is forested with a shrub and herbaceous understory. Most of the southern portion of the site has previously been cleared and consists of a mix of emergent and scrub-shrub vegetation including native and non-native invasive species. The site provides resources that are beneficial to wildlife including forage resources, seasonal water sources, thermal and hiding cover in close proximity, and large, woody debris. Songbird activity was noted during site investigations.

Given the habitat available, mammalian species that are expected to utilize the site include: black-tailed deer (*Odocoileus hemionus ssp. columbianus*), coyote (*Canis latrans*), eastern cottontail rabbits (*Sylvilagus floridanus*), shrews (*Sorex spp.*), moles (*Scapanus spp.*), Douglas' squirrel (*Tamiasciurus douglasii*), eastern gray squirrel (*Sciurus carolinensis*), and deer mice (*Peromyscus maniculatus*).

Avian species expected to be found on the site include: American Crow (*Corvus brachyrhynchos*), Hairy Woodpecker (*Picoides villosus*), Downy Woodpecker (*Picoides pubescens*), Swainson's Thrush (*Catharus ustulatus*), American Robin (*Turdus migratorius*), House Finch (*Carpodacus mexicanus*), Black-capped Chickadee (*Poecile atricapillus*), Dark-eyed Junco (*Junco hyemalis*), and Bushtit (*Psaltriparus minimus*), Northern Flicker (*Colaptes auratus*).

Amphibians that may utilize the site include: pacific tree frog (*Hyla regilla*), northwestern salamander (*Ambystoma gracile*), and rough-skinned newt (*Taricha granulosa*).

These lists are not meant to be all-inclusive and may omit species that currently utilize or could utilize the site. The PHS online mapping tool does not identify any priority habitats or species on the subject site. No threatened or endangered species or species of local importance are known to be associated with the subject site.

## **6.0 OTHER ENVIRONMENTALLY CRITICAL AREAS**

In addition to wetlands, waterbodies, and fish and wildlife conservation areas, the City of Arlington regulates geologically hazardous areas and aquifer recharge areas under AMC 20.93. Snohomish County PDS Map Portal does not depict any aquifer recharge areas, erosion hazard areas, landslide hazard areas, seismic hazard areas, or steep slopes on the subject site. Further evaluation of these environmentally critical areas is outside the scope of this report.

## **7.0 BUFFER REQUIREMENTS**

Pursuant to AMC 20.93.830, the application of standard buffer widths requires the implementation of the measures to minimize the impacts of the adjacent land uses. The applicant will apply these measures as follows.

- Lights will be directed away from the on-site wetlands and buffers. Lighting in areas adjacent to the wetlands and buffers will be limited to the minimum necessary to ensure safe usage of these areas.
- The portions of the development that will generate the most noise are the commercial uses. These will be located along 172<sup>nd</sup> Street NE, on the far side of the property from Wetlands C and D and their buffer areas. Residential parking and the back side of multi-family residential buildings will be located closest to the wetlands and buffers. These will generate the least amount of noise as compared with other portions of the development.
- Per the stormwater drainage analysis, the drainage basin boundary is located within the open space outside of the buffer of Wetlands C and D. Dense native vegetation within the open space will be retained and continue to provide hydrologic and water quality benefits to Wetlands C and D. Additional runoff from the development will be directed away from Wetlands C and D, and hydrology of these wetlands will not be changed.
- Integrated pest management will be applied in open space areas adjacent to the buffer.
- Wetlands C and D and associated buffer areas will be placed in a separate tract.
- A split rail fence and critical area signs will be installed along the combined buffer of Wetlands C and D to discourage disturbance within the buffer. Additionally, the buffer and wetlands will be placed in a separate critical areas tract.
- Best management practices will be implemented during construction to control dust.
- The connection between the onsite critical areas will be maintained and protected. There are no corridors or connections to undisturbed off-site habitat.

Under AMC 20.93.830, the standard buffer widths assume that the buffer is vegetated with a native plant community appropriate for the ecoregion. If the buffer is unvegetated, sparsely vegetated, or vegetated with invasive species that do not perform needed functions, the buffer should either be planted to create the appropriate plant community or widened to ensure adequate buffer functions are provided. The buffer on Wetlands C and D is forested and is composed primarily of native species appropriate to the ecoregion. Therefore, no increase in buffer width is required.

## **8.0 BUILDING SETBACKS**

Pursuant to AMC 20.93.340, a building setback of 15 feet is required from the edge of any critical area buffer.

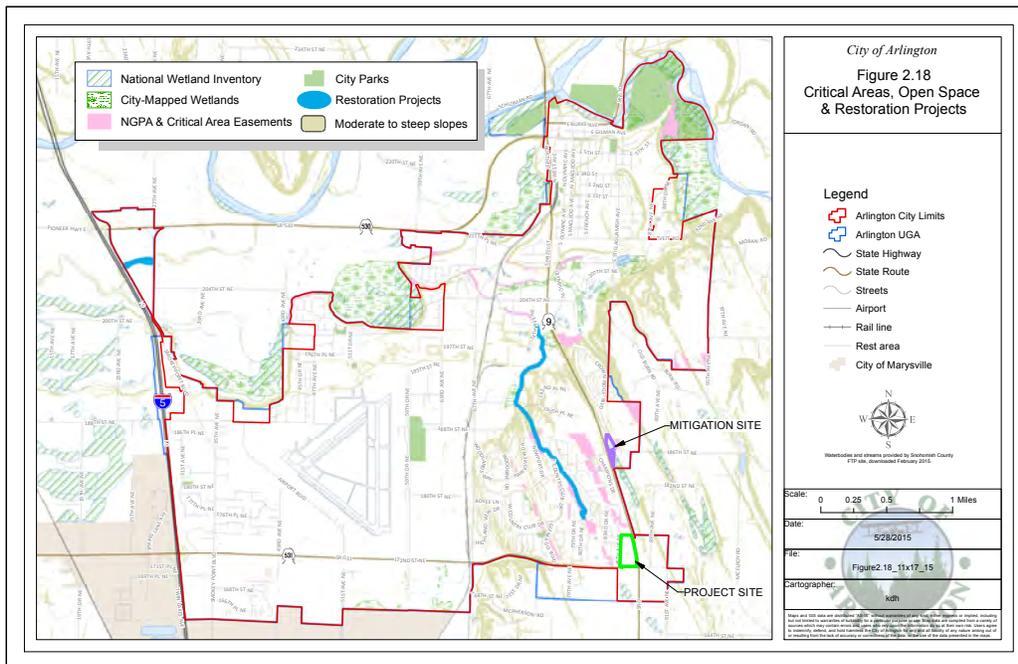
## **9.0 PROPOSED IMPACTS AND MITIGATION PLAN**

To achieve an economically viable development plan for the property and to accommodate the required commercial development component, which requires access from 172<sup>nd</sup> Street NE, permanent impacts to Wetlands A and B (fill) are unavoidable. Wetland A is 15,704 square feet (0.361 acres) in size and Wetland B is 22,251 square feet (0.511 acres) in size. Therefore, the total amount of permanent wetland impact proposed is 37,955 square feet (0.872 acres). Impacts to wetlands on the property have been minimized to the extent feasible, and Wetlands C and D and the associated buffer areas will be protected in perpetuity within a critical area tract.

Per AMC 20.93.840(c), “...*alternative compensatory mitigation within the watershed sub-basin that address limiting factors or identified critical needs for shoreline resource conservation based on watershed or comprehensive resource management plans applicable to the area of impact may be authorized.*” Per communication with the City of Arlington, the City has determined that the subject wetlands are to be included within the Portage Creek sub-basin of the Stillaguamish Basin. The City identified an off-site mitigation opportunity within the Portage Creek sub-basin that represents a critical need for protection of wetlands associated with the headwaters of Prairie Creek, a tributary of Portage Creek. The City of Arlington’s Adopted Comprehensive Plan (2017 Update) states that there are many critical areas within the Hilltop Subarea (in which the project site and the mitigation site are located) that need to be protected, as Prairie and Portage Creeks both have their headwaters here. Based on this guidance from the City, the applicant will purchase two parcels (Snohomish County parcel numbers 31052400201300 and 31052400203100), which include a segment of Prairie Creek (a Type F stream) and a portion of a large, associated riparian Category I wetland, for permanent protection as compensation for the proposed wetland impacts on the project site. The wetland rating form and figures for the mitigation wetland area included in Appendix B. This wetland provides excellent breeding habitat for amphibians and is utilized by a variety of other wildlife including beaver, songbirds, waterfowl, and raptors. The wetland and stream complex serves as a wildlife corridor and water resource for mammals and other terrestrial species. Dense vegetation in this wetland provides water quality improvement and hydrologic function by slowing surface water as it flows toward the stream, allowing sediments to settle out and attenuating flooding potential downstream. The dense vegetation also provides biofiltration function, removing pollutants from surface waters before they reach the stream. These functions are important in this

area as water quality in the basin is affected by the State Route 9 corridor and other development that introduces pollutants into surface water flows. By protecting this critical wetland area, the proposed mitigation will ensure no net loss of wetland functions and values in the sub-basin and will help to support healthy conditions for aquatic wildlife in Prairie Creek.

In total, preservation of the parcels will protect 2.12 acres of Category I wetland and 2.8 acres of associated buffer area. In addition to the off-site wetland preservation, the applicant is proposing to purchase 0.756 credits from the Skykomish Habitat Mitigation Bank. Purchasing these credits will supplement the benefits provided to the basin provided by the aforementioned off-site preservation. This mitigation plan has been authorized by the Washington Department of Ecology. The administrative order authorizing the mitigation plan is provided as Appendix E of this report.



**Figure 7** -City of Arlington Critical Areas, Open Space, & Restoration Projects Map (Adopted Comprehensive Plan, 2017 Update). Location of project site and proposed mitigation site added by WRI.

### 9.1 POST-MITIGATION FUNCTIONS AND VALUES

The proposed development requires the fill of Wetlands A and B, a total area of 37,955 square feet. To ensure that the functions and values provided by the wetlands are not lost from the basin in which they are contained, the applicant is proposing off-site mitigation through the preservation of two parcels and the purchasing of mitigation banking credits from the Skykomish Habitat Mitigation Bank. The preservation and enhancement of off-site wetland and buffer areas will improve water quality, hydrologic, and habitat functions available within the basin. Both off-site mitigation areas are located along fish-bearing streams. Improvement and preservation of stream corridors will provide a greater benefit to wildlife within the basin than improving isolated depressional wetland and buffer areas on-site.

The preservation and enhancement of off-site areas does not account for retaining hydrologic and water quality functions within the subject parcel and immediate vicinity. Wetlands A and B are isolated depressional wetlands without outlets. This allows them to trap hydrologic flows from within their respective basins. Trapped water filters through dense plant material and the soil which helps remove pollutants from the water column and prevents water from reaching downstream areas during peak flow events. To ensure that these on-site functions are retained, the proposed development will include a stormwater detention and filtration system. The stormwater system will filter pollutants from the water column and release water in a controlled manner to the municipal stormwater system; thus avoiding the potential of flooding during peak flow events. Therefore, the hydrologic and water quality functions provided by Wetlands A and B will be retained following the development.

## **10.0 SIGNS AND FENCING**

Per AMC 20.93.290(a), permanent fencing and signage will be installed along the edge of the buffer/critical area tract. Signs and fencing shall conform to the required City of Arlington standards.

## **11.0 USE OF THIS REPORT**

This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

The laws applicable to critical areas are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

The work for this report has conformed to the standard of cares employed by wetland ecologists. No other representation or warranty is made concerning the work or this report and any implied representation or warranty is disclaimed.

*Wetland Resources, Inc.*



Joie Goodman  
*Senior Ecologist, PWS #3296*

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**APPENDIX A:  
WETLAND DETERMINATION DATA FORMS**

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

Project/Site: 21251 Grandview North City/County: Snohomish County Sampling Date: 7/10/2019  
 Applicant/Owner: Grandview North LLC State: WA Sampling Point: S1  
 Investigator(s): JG, EC Section, Township, Range: S24, T31N, R5E, W.M.  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 2%  
 Subregion (LRR): LRR-A Lat: 48° 9'12.04"N Long: 122° 6'54.27"W Datum: NAD83  
 Soil Map Unit Name: Tokul gravelly medial loam, 0-8 percent 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: Climatic conditions were drier than normal at the time of sampling.	

## VEGETATION – Use scientific names of plants.

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	
<u>Tree Stratum</u>	<u>(Plot size: 5m<sup>2</sup>)</u>				
1.					
2.					
3.					
4.					
		<u>0</u>	= Total Cover		
<u>Sapling/Shrub Stratum</u>	<u>(Plot size: 3m<sup>2</sup>)</u>				
1.	<u>Spiraea douglasii</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2.	<u>Rubus armeniacus</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
3.	<u>Rubus laciniatus</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4.					
5.					
		<u>110</u>	= Total Cover		
<u>Herb Stratum</u>	<u>(Plot size: 1m<sup>2</sup>)</u>				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
		<u>0</u>	= Total Cover		
<u>Woody Vine Stratum</u>	<u>(Plot size: 3m<sup>2</sup>)</u>				
1.					
2.					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____					

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
 Total Number of Dominant Species Across All Strata: 2 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by:  
 OBL species \_\_\_\_\_ x 1 = 0  
 FACW species \_\_\_\_\_ x 2 = 0  
 FAC species \_\_\_\_\_ x 3 = 0  
 FACU species \_\_\_\_\_ x 4 = 0  
 UPL species \_\_\_\_\_ x 5 = 0  
 Column Totals: 0 (A) 0 (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 Rapid Test for Hydrophytic Vegetation  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:



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

Project/Site: 21251 - Grandview North City/County: Snohomish County Sampling Date: 7/10/19  
 Applicant/Owner: Grandview North LLC State: WA Sampling Point: S2  
 Investigator(s): JG, EC Section, Township, Range: S24, T31N, R5E, W.M.  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR-A Lat: 48° 9'12.04"N Long: 122° 6'54.27"W Datum: NAD83  
 Soil Map Unit Name: Tokul gravelly medial loam, 0-8 percent 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: Wet A out (near flag WRA22). Climatic conditions were drier than normal at the time of sampling.	

## VEGETATION – Use scientific names of plants.

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>5m<sup>2</sup></u> )					
1. <u>Malus fusca</u>		<u>90</u>	<u>Y</u>	<u>FACW</u>	
2. _____		_____	_____	_____	
3. _____		_____	_____	_____	
4. _____		_____	_____	_____	
		<u>90</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>3m<sup>2</sup></u> )					
1. <u>Rubus spectabilis</u>		<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Spiraea douglasii</u>		<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Rubus laciniatus</u>		<u>Trace</u>	_____	<u>FACU</u>	
4. _____		_____	_____	_____	
5. _____		_____	_____	_____	
		<u>15</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>1m<sup>2</sup></u> )					
1. _____		_____	_____	_____	
2. _____		_____	_____	_____	
3. _____		_____	_____	_____	
4. _____		_____	_____	_____	
5. _____		_____	_____	_____	
6. _____		_____	_____	_____	
7. _____		_____	_____	_____	
8. _____		_____	_____	_____	
9. _____		_____	_____	_____	
10. _____		_____	_____	_____	
11. _____		_____	_____	_____	
		<u>0</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>3m<sup>2</sup></u> )					
1. _____		_____	_____	_____	
2. _____		_____	_____	_____	
		<u>0</u>	= Total Cover		
<b>% Bare Ground in Herb Stratum</b>		<u>100%</u>			

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)  
 Total Number of Dominant Species Across All Strata: 3 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by:  
 OBL species \_\_\_\_\_ x 1 = 0  
 FACW species \_\_\_\_\_ x 2 = 0  
 FAC species \_\_\_\_\_ x 3 = 0  
 FACU species \_\_\_\_\_ x 4 = 0  
 UPL species \_\_\_\_\_ x 5 = 0  
 Column Totals: 0 (A) 0 (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 Rapid Test for Hydrophytic Vegetation  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:

**SOIL**

Sampling Point: S2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-7	10YR 3/2	100					Loam	
7-16	10YR 3/3	98	7.5YR 4/6	2	C	M	Loam	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
--	---

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

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

Remarks:  
Dry

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
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"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> ) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)	
<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Project/Site: 21251 - Grandview North City/County: Snohomish County Sampling Date: 3/4/20  
 Applicant/Owner: Grandview North LLC State: WA Sampling Point: S3  
 Investigator(s): JG, EC Section, Township, Range: S24, T31N, R5E, W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): LRR-A Lat: 48.152544 Long: -122.113792 Datum: NAD83  
 Soil Map Unit Name: Tokul gravelly medial loam, 0-8 percent 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: Wet B in (near flag WRB25). Climatic conditions were wetter than normal at the time of sampling.	

### VEGETATION – Use scientific names of plants.

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>5m<sup>2</sup></u> )					
1. <u>Alnus rubra</u>		<u>60</u>	<u>Y</u>	<u>FAC</u>	
2. _____					
3. _____					
4. _____					
		<u>60</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>3m<sup>2</sup></u> )					
1. <u>Spiraea douglasii</u>		<u>70</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Rubus spectabilis</u>		<u>5</u>	<u>N</u>	<u>FAC</u>	
3. _____					
4. _____					
5. _____					
		<u>75</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>1m<sup>2</sup></u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
		<u>0</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>3m<sup>2</sup></u> )					
1. _____					
2. _____					
		<u>0</u>	= Total Cover		
<b>% Bare Ground in Herb Stratum</b>		<u>100</u>			

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
 Total Number of Dominant Species Across All Strata: 2 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by:  
 OBL species \_\_\_\_\_ x 1 = 0  
 FACW species \_\_\_\_\_ x 2 = 0  
 FAC species \_\_\_\_\_ x 3 = 0  
 FACU species \_\_\_\_\_ x 4 = 0  
 UPL species \_\_\_\_\_ x 5 = 0  
 Column Totals: 0 (A) 0 (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 Rapid Test for Hydrophytic Vegetation  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:

**SOIL**

Sampling Point: S3

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

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-8	10YR 2/2	80					Silt Loam	Organic content (charcoal)
	10YR 2/1	20						
8-14	10YR 2/1	100					Silty Clay Loam	
14-18	10YR 4/2	80	10YR 6/6	20	C	M	Silty Clay Loam	

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

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

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

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

<sup>3</sup>Indicators 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:

This soil does not meet the criteria for thick dark surface due to the presence of chroma-2 soils in the top layer, however the presence of a thick sublayer of 2/1 soils underlain by a depleted matrix with redoximorphic concentrations is indicative of prolonged saturation or inundation.

**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): 3  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

Wetland Hydrology Present? Yes  No

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

Remarks:

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

Project/Site: 21251 Grandview North City/County: Snohomish County Sampling Date: 3/4/20  
 Applicant/Owner: Grandview North LLC State: WA Sampling Point: S4  
 Investigator(s): JG, EC Section, Township, Range: S24, T31N, R5E, W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): LRR-A Lat: 48.152544 Long: -122.113792 Datum: NAD83  
 Soil Map Unit Name: Tokul gravelly medial loam, 0-8 percent slopes NWI classification: N/A

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 checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Wet B out (near flag WRB25). Climatic conditions were wetter than normal at the time of sampling.	

### VEGETATION – Use scientific names of plants.

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u>	<u>(Plot size: 5m<sup>2</sup>)</u>				
1. <u>Alnus rubra</u>		<u>90</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____					Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____					Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____					
		<u>90</u>	= Total Cover		
<u>Sapling/Shrub Stratum</u>	<u>(Plot size: 3m<sup>2</sup>)</u>				
1. <u>Oemleria cerasiformis</u>		<u>45</u>	<u>Y</u>	<u>FACU</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = _____
2. <u>Rubus spectabilis</u>		<u>15</u>	<u>Y</u>	<u>FAC</u>	
3. _____					
4. _____					
5. _____					
		<u>60</u>	= Total Cover		
<u>Herb Stratum</u>	<u>(Plot size: 1m<sup>2</sup>)</u>				
1. <u>Gaultheria shallon</u>		<u>85</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Polystichum munitum</u>		<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
		<u>0</u>	= Total Cover		
<u>Woody Vine Stratum</u>	<u>(Plot size: 3m<sup>2</sup>)</u>				
1. _____					<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>5</u>					

Remarks:

**SOIL**

Sampling Point: S4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-7	10YR 2/2	100					Sandy Loam	
7-10	10YR 3/6	100					Sandy Loam	
10-16	10YR 3/3	100					Sandy Loam	

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

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

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

**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 checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>11</u> Saturation Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>9</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Project/Site: 221251 Grandview North City/County: Snohomish County Sampling Date: 3/4/20  
 Applicant/Owner: Grandview North LLC State: WA Sampling Point: S5  
 Investigator(s): JG, EC Section, Township, Range: S24, T31N, R5E, W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): LRR-A Lat: 48.154498 Long: -122.114718 Datum: NAD83  
 Soil Map Unit Name: Tokul gravelly medial loam, 0-8 percent 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: Wet C in (near flag WRC27). Climatic conditions were wetter than normal at the time of sampling.	

### VEGETATION – Use scientific names of plants.

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>5m<sup>2</sup></u> )					
1. <u>Alnus rubra</u>		<u>60</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Thuja plicata</u>		<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. _____					
4. _____					
		<u>90</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>3m<sup>2</sup></u> )					
1. <u>Spiraea douglasii</u>		<u>25</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Rubus spectabilis</u>		<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Acer circinatum</u>		<u>10</u>	<u>N</u>	<u>FAC</u>	
4. _____					
5. _____					
		<u>55</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>1m<sup>2</sup></u> )					
1. <u>Carex obnupta</u>		<u>50</u>	<u>Y</u>	<u>OBL</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
		<u>50</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>3m<sup>2</sup></u> )					
1. _____					
2. _____					
		<u>0</u>	= Total Cover		
<b>% Bare Ground in Herb Stratum</b> <u>50</u>					

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)  
 Total Number of Dominant Species Across All Strata: 5 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by:  
 OBL species \_\_\_\_\_ x 1 = 0  
 FACW species \_\_\_\_\_ x 2 = 0  
 FAC species \_\_\_\_\_ x 3 = 0  
 FACU species \_\_\_\_\_ x 4 = 0  
 UPL species \_\_\_\_\_ x 5 = 0  
 Column Totals: 0 (A) 0 (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 Rapid Test for Hydrophytic Vegetation  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:

**SOIL**

Sampling Point: S5

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

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-8	10YR 2/1	100					Silt Loam	High Organic Content
8-14	10YR 3/2	100					Silty Clay Loam	
14-18	10YR 4/2	98	7.5YR 3/4	2	C	M	Silty Clay Loam	

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

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

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input checked="" type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup>Indicators 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:  
 Depleted layer beneath dark soil is indicative of prolonged saturation or inundation.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <sup>3</sup> _____
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____

**Wetland Hydrology Present?** Yes  No

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

Remarks:

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

Project/Site: 21251 Grandview North City/County: Snohomish County Sampling Date: 3/4/20  
 Applicant/Owner: Grandview North LLC State: WA Sampling Point: S6  
 Investigator(s): JG, EC Section, Township, Range: S24, T31N, R5E, W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): LRR-A Lat: 48.154498 Long: -122.114718 Datum: NAD83  
 Soil Map Unit Name: Tokul gravelly medial loam, 0-8 percent slopes NWI classification: N/A

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 type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Wet C out (near flag WRC27). Climatic conditions were wetter than normal at the time of sampling.	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status	
<u>Tree Stratum</u> (Plot size: <u>5m<sup>2</sup></u> )				<b>Dominance Test worksheet:</b>
1. <u>Thuja plicata</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. <u>Alnus rubra</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. <u>Tsuga heterophylla</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
4. _____				
	<u>80</u>	<u>= Total Cover</u>		<b>Prevalence Index worksheet:</b>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>3m<sup>2</sup></u> )				Total % Cover of: _____ Multiply by:
1. <u>Rubus spectabilis</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	OBL species _____ x 1 = <u>0</u>
2. _____				FACW species _____ x 2 = <u>0</u>
3. _____				FAC species _____ x 3 = <u>0</u>
4. _____				FACU species _____ x 4 = <u>0</u>
5. _____				UPL species _____ x 5 = <u>0</u>
	<u>20</u>	<u>= Total Cover</u>		Column Totals: <u>0</u> (A) <u>0</u> (B)
<u>Herb Stratum</u> (Plot size: <u>1m<sup>2</sup></u> )				Prevalence Index = B/A = _____
1. <u>Polystichum munitum</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b>
2. _____				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
3. _____				<input checked="" type="checkbox"/> Dominance Test is >50%
4. _____				<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
5. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
6. _____				<input type="checkbox"/> Wetland Non-Vascular Plants <sup>1</sup>
7. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
8. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
9. _____				
10. _____				
11. _____				
	<u>15</u>	<u>= Total Cover</u>		<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<u>Woody Vine Stratum</u> (Plot size: <u>3m<sup>2</sup></u> )				
1. _____				
2. _____				
	<u>0</u>	<u>= Total Cover</u>		
<u>% Bare Ground in Herb Stratum</u> <u>85</u>				
Remarks:				



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

Project/Site: 21251 Grandview North City/County: Snohomish County Sampling Date: 3/4/20  
 Applicant/Owner: Grandview North LLC State: WA Sampling Point: S7  
 Investigator(s): JG, EC Section, Township, Range: S24, T31N, R5E, W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): LRR-A Lat: 48.155227 Long: -122.115708 Datum: NAD83  
 Soil Map Unit Name: Tokul gravelly medial loam, 0-8 percent 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: Wet D out (near flag WRD16). Climatic conditions were wetter than normal at the time of sampling.	

### VEGETATION – Use scientific names of plants.

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>5m<sup>2</sup></u> )					
1. <u>Alnus rubra</u>		<u>50</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Thuja plicata</u>		<u>5</u>	<u>N</u>	<u>FAC</u>	
3. _____					
4. _____					
		<u>55</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>3m<sup>2</sup></u> )					
1. <u>Acer circinatum</u>		<u>60</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Rubus spectabilis</u>		<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. _____					
4. _____					
5. _____					
		<u>80</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>1m<sup>2</sup></u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
		<u>0</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>3m<sup>2</sup></u> )					
1. _____					
2. _____					
		<u>0</u>	= Total Cover		
<b>% Bare Ground in Herb Stratum</b>		<u>100</u>			

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)  
 Total Number of Dominant Species Across All Strata: 3 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by:  
 OBL species \_\_\_\_\_ x 1 = 0  
 FACW species \_\_\_\_\_ x 2 = 0  
 FAC species \_\_\_\_\_ x 3 = 0  
 FACU species \_\_\_\_\_ x 4 = 0  
 UPL species \_\_\_\_\_ x 5 = 0  
 Column Totals: 0 (A) 0 (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 Rapid Test for Hydrophytic Vegetation  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:

**SOIL**

Sampling Point: S7

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

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-2	10YR 3/3	100					Loam	
2-10	10YR 4/2	100					Loam	
10-12	10YR 4/1	98	7.5YR 3/4	2	C	M	Sandy Clay Loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): <sup>12</sup> \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:  
 These soils are close to meeting the criteria for Depleted Matrix, however a restrictive surface did not allow for a complete view of the soil profile. It is assumed that the sublayer continues below the observed death.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <sup>3</sup> _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	

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

Remarks:

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

Project/Site: 21251 Grandview North City/County: Snohomish County Sampling Date: 3/4/20  
 Applicant/Owner: Grandview North LLC State: WA Sampling Point: S8  
 Investigator(s): JG, EC Section, Township, Range: S24, T31N, R5E, W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): LRR-A Lat: 48.155227 Long: -122.115708 Datum: NAD83  
 Soil Map Unit Name: Tokul gravelly medial loam, 0-8 percent slopes NWI classification: N/A

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: Wet D out (near flag WRD16). Climatic conditions were wetter than normal at the time of sampling.	

## VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>5m<sup>2</sup></u> )					
1. <u>Alnus rubra</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> 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. <u>Thuja plicata</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>		
3. _____					
4. _____					
5. _____					
<u>75</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>3m<sup>2</sup></u> )					
1. <u>Acer circinatum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>		
2. <u>Rubus spectabilis</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
3. _____					
4. _____					
5. _____					
<u>35</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>1m<sup>2</sup></u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
<b>Woody Vine Stratum</b> (Plot size: <u>3m<sup>2</sup></u> )					
1. _____					
2. _____					
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
<b>% Bare Ground in Herb Stratum</b> <u>100</u>					

Remarks:

**SOIL**

Sampling Point: S8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-3	7.5YR 2.5/2	100					Sandy Loam	
3-13	10YR 3/4	100					Sandy Loam	
13-17	10YR 4/4	100					Sandy Loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: _____	

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

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

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

**APPENDIX B:  
WETLAND RATING FORMS**

Wetland name or number A

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): 21251 - Wetland A Date of site visit: 7-11-19

Rated by JG, EC Trained by Ecology?  Yes  No Date of training 9-15/10-18

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 Snohomish County

**OVERALL WETLAND CATEGORY II** (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 <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	
Landscape Potential	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	
Value	<input checked="" type="checkbox"/> M L	<input checked="" type="checkbox"/> M L	<input checked="" type="checkbox"/> M L	<b>TOTAL</b>
<b>Score Based on Ratings</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>21</b>

**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	<input checked="" type="checkbox"/>

Wetland name or number A

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	A1
Hydroperiods	D 1.4, H 1.2	A1
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	A1
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	A1
Map of the contributing basin	D 4.3, D 5.3	A2
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	A2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	A3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	A3

### Riverine Wetlands

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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> 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	<input type="checkbox"/>	Riverine
Slope + Depressional	<input type="checkbox"/>	Depressional
Slope + Lake Fringe	<input type="checkbox"/>	Lake Fringe
Depressional + Riverine along stream within boundary of depression	<input type="checkbox"/>	Depressional
Depressional + Lake Fringe	<input type="checkbox"/>	Depressional
Riverine + Lake Fringe	<input type="checkbox"/>	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	<input type="checkbox"/>	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

<b>DEPRESSIONAL AND FLATS WETLANDS</b>		
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>		
<b>D 1.0. Does the site have the potential to improve water quality?</b>		
D 1.1. <b>Characteristics of surface water outflows from the wetland:</b>		
<input checked="" type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3		<b>3</b>
<input type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2		
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1		
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1		
D 1.2. <b>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</b> Yes = 4 <b>No = 0</b>		<b>0</b>
D 1.3. <b>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</b>		
<input checked="" type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5		<b>5</b>
<input type="checkbox"/> Wetland has persistent, ungrazed, plants > ½ of area points = 3		
<input type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1		
<input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0		
D 1.4. <b>Characteristics of seasonal ponding or inundation:</b> <i>This is the area that is ponded for at least 2 months. See description in manual.</i>		
<input type="checkbox"/> Area seasonally ponded is > ½ total area of wetland points = 4		<b>0</b>
<input type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland points = 2		
<input checked="" type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland points = 0		
<b>Total for D 1</b>	Add the points in the boxes above	<b>8</b>

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

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 <b>No = 0</b>	<b>0</b>
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	<b>Yes = 1</b> No = 0	<b>1</b>
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 <b>No = 0</b>	<b>0</b>
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 <b>No = 0</b>	<b>0</b>
<b>Total for D 2</b>	Add the points in the boxes above	<b>1</b>

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

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
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 <b>No = 0</b>	<b>0</b>
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	<b>Yes = 1</b> No = 0	<b>1</b>
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)?	<b>Yes = 2</b> No = 0	<b>2</b>
<b>Total for D 3</b>	Add the points in the boxes above	<b>3</b>

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

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Wetland name or number A**DEPRESSIONAL AND FLATS WETLANDS****Hydrologic Functions** - Indicators that the site functions to reduce flooding and stream degradation

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
<input checked="" type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4		<b>4</b>
<input type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2		
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1		
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0		
<b>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.</b>		
<input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7		<b>0</b>
<input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5		
<input type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3		
<input type="checkbox"/> The wetland is a "headwater" wetland points = 3		
<input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water points = 1		
<input checked="" type="checkbox"/> Marks of ponding less than 0.5 ft (6 in) points = 0		
<b>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.</b>		
<input type="checkbox"/> The area of the basin is less than 10 times the area of the unit points = 5		<b>3</b>
<input checked="" type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit points = 3		
<input type="checkbox"/> The area of the basin is more than 100 times the area of the unit points = 0		
<input type="checkbox"/> Entire wetland is in the Flats class points = 5		
<b>Total for D 4</b>	<b>Add the points in the boxes above</b>	<b>7</b>

**Rating of Site Potential** If score is: 12-16 = H  6-11 = M 0-5 = L

Record the rating on the first page

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

**Rating of Landscape Potential** If score is: 3 = H  1 or 2 = M 0 = L

Record the rating on the first page

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>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.</b> 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):		
<input checked="" type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2		<b>2</b>
<input type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient. points = 1		
<input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin. points = 1		
<input type="checkbox"/> 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		
<input type="checkbox"/> There are no problems with flooding downstream of the wetland. points = 0		
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>		
	Yes = 2 <input type="checkbox"/> No = <input type="checkbox"/>	<b>0</b>
<b>Total for D 6</b>	<b>Add the points in the boxes above</b>	<b>2</b>

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

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 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

**2**

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**

**1**

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

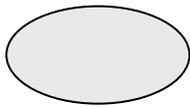
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

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

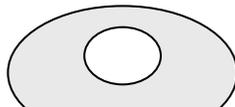
**1**

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.*



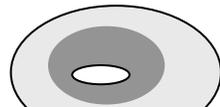
**None = 0 points**



**Low = 1 point**

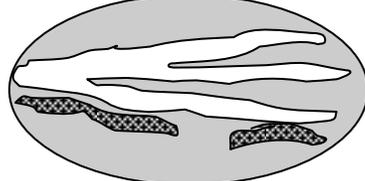
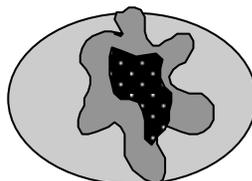
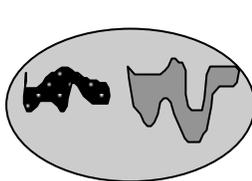


**Moderate = 2 points**



**2**

All three diagrams in this row are **HIGH = 3points**



Wetland name or number A

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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 (&gt; 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 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>)</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>		<b>1</b>
Total for H 1	Add the points in the boxes above	<b>7</b>

**Rating of Site Potential** If score is:  15-18 = H  7-14 = 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>1</u> + [(% moderate and low intensity land uses)/2] <u>1</u> = <u>2</u> %</p> <p>If total accessible habitat is:</p> <p><input type="checkbox"/> &gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p><input type="checkbox"/> 20-33% of 1 km Polygon points = 2</p> <p><input type="checkbox"/> 10-19% of 1 km Polygon points = 1</p> <p><input checked="" type="checkbox"/> &lt; 10% of 1 km Polygon points = 0</p>		<b>0</b>
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>32</u> + [(% moderate and low intensity land uses)/2] <u>21</u> = <u>53</u> %</p> <p><input checked="" type="checkbox"/> Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and &gt; 3 patches points = 1</p> <p><input type="checkbox"/> Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>		<b>3</b>
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p><input type="checkbox"/> &gt; 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p><input checked="" type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0</p>		<b>0</b>
Total for H 2	Add the points in the boxes above	<b>3</b>

**Rating of Landscape Potential** If score is:  4-6 = H  1-3 = M  < 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> <p><input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><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> <p><input type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p><input type="checkbox"/> Site does not meet any of the criteria above points = 0</p>		<b>2</b>

**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
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt Yes – Go to <b>SC 1.1</b> <b>No = Not an estuarine wetland</b>	
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 = <b>Category I</b> No - Go to <b>SC 1.2</b>	<b>Cat. I</b>
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> 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) <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = <b>Category I</b> No = <b>Category II</b>	<b>Cat. I</b>  <b>Cat. II</b>
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> 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 <b>SC 2.2</b> <b>No – Go to SC 2.3</b> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = <b>Category I</b> <b>No = Not a WHCV</b> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b> No = <b>Not a WHCV</b> 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 = <b>Category I</b> No = <b>Not a WHCV</b>	<b>Cat. I</b>
<b>SC 3.0. Bogs</b> 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 <b>SC 3.3</b> <b>No – Go to SC 3.2</b> 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 <b>SC 3.3</b> <b>No = Is not a bog</b> 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 = <b>Is a Category I bog</b> No – Go to <b>SC 3.4</b> <b>NOTE:</b> 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 = <b>Is a Category I bog</b> No = <b>Is not a bog</b>	<b>Cat. I</b>

Wetland name or number A

<p><b>SC 4.0. Forested Wetlands</b></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? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (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.</p> <p><input type="checkbox"/> <b>Mature forests</b> (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> <p style="text-align: right;">Yes = <b>Category I</b>    <b>No = Not a forested wetland for this section</b></p>	<b>Cat. I</b>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 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> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>    <b>No = Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>    <b>No = not an interdunal wetland for rating</b></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 = <b>Category I</b>    No – Go to <b>SC 6.2</b></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 = <b>Category II</b>    No – Go to <b>SC 6.3</b></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 = <b>Category III</b>    No = <b>Category IV</b></p>	<b>Cat I</b>  <b>Cat. II</b>  <b>Cat. III</b>  <b>Cat. IV</b>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<b>N/A</b>

Wetland name or number \_\_\_\_\_

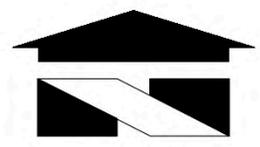
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GRANDVIEW NORTH  
WETLAND RATING FIGURE 1 - WETLAND A

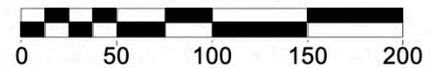


**LEGEND**

- SCRUB-SHRUB
- EMERGENT VEGETATION
- FORESTED VEGETATION
- SATURATED ONLY
- SEASONALLY FLOODED
- 150' FROM WL BOUNDARY



Scale 1" = 100'



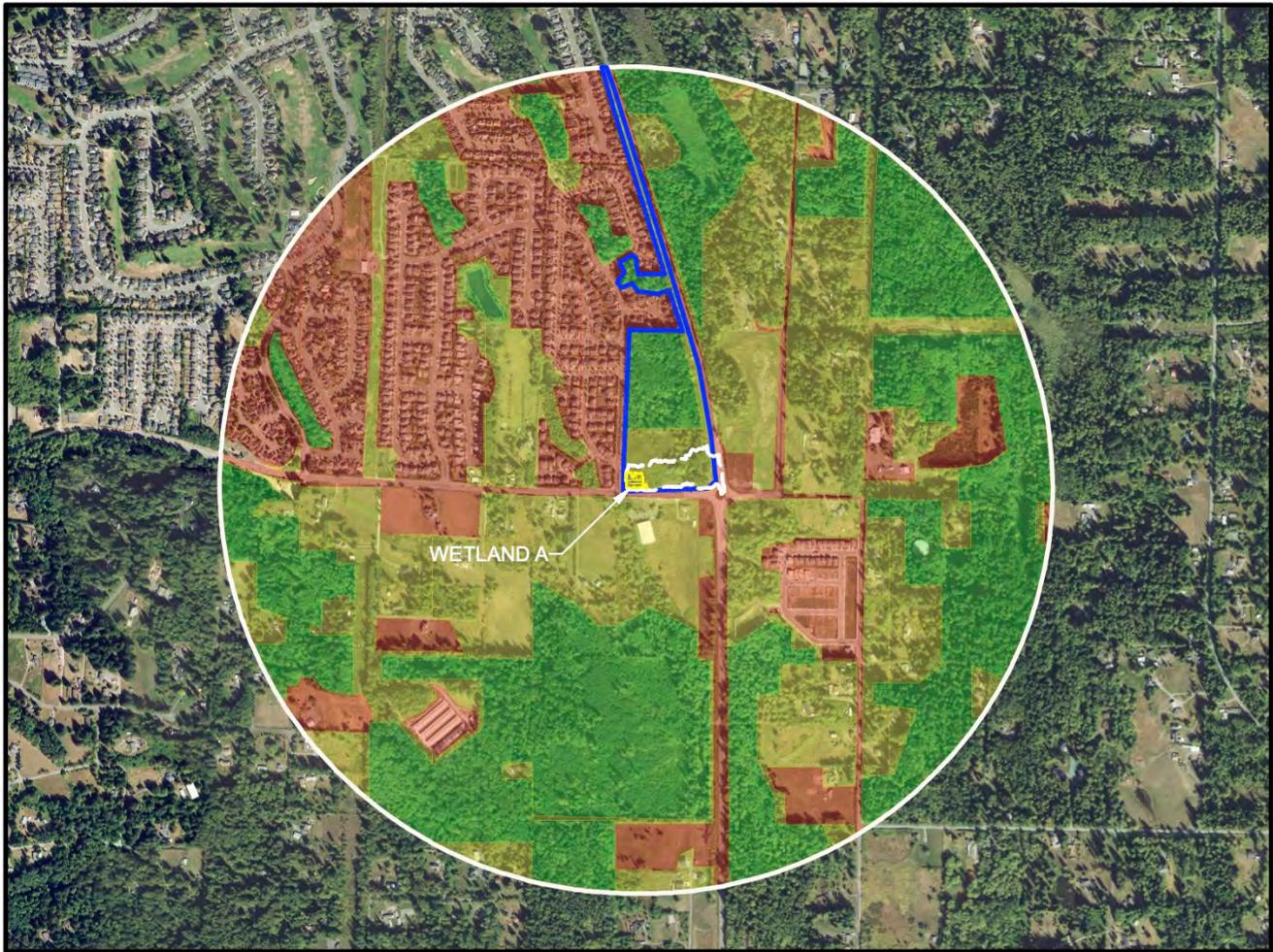
*Wetland Resources, Inc.*  
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland A**

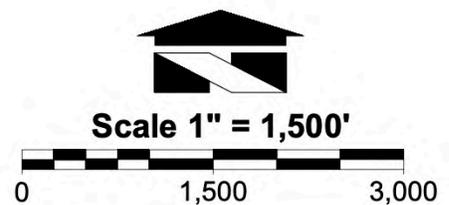
Grandview North, LLC  
 Attn: Scott Wammack  
 PO Box 159  
 Arlington, WA 98223

Figure A-1  
 WRI Job # 21251  
 Rated by: JG/EC

GRANDVIEW NORTH  
WETLAND RATING FIGURE 2 - WETLAND A



**CONTRIBUTING BASIN  
AREA RELATIVE TO  
WETLAND UNIT IS 11.53:1**



**LEGEND**

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

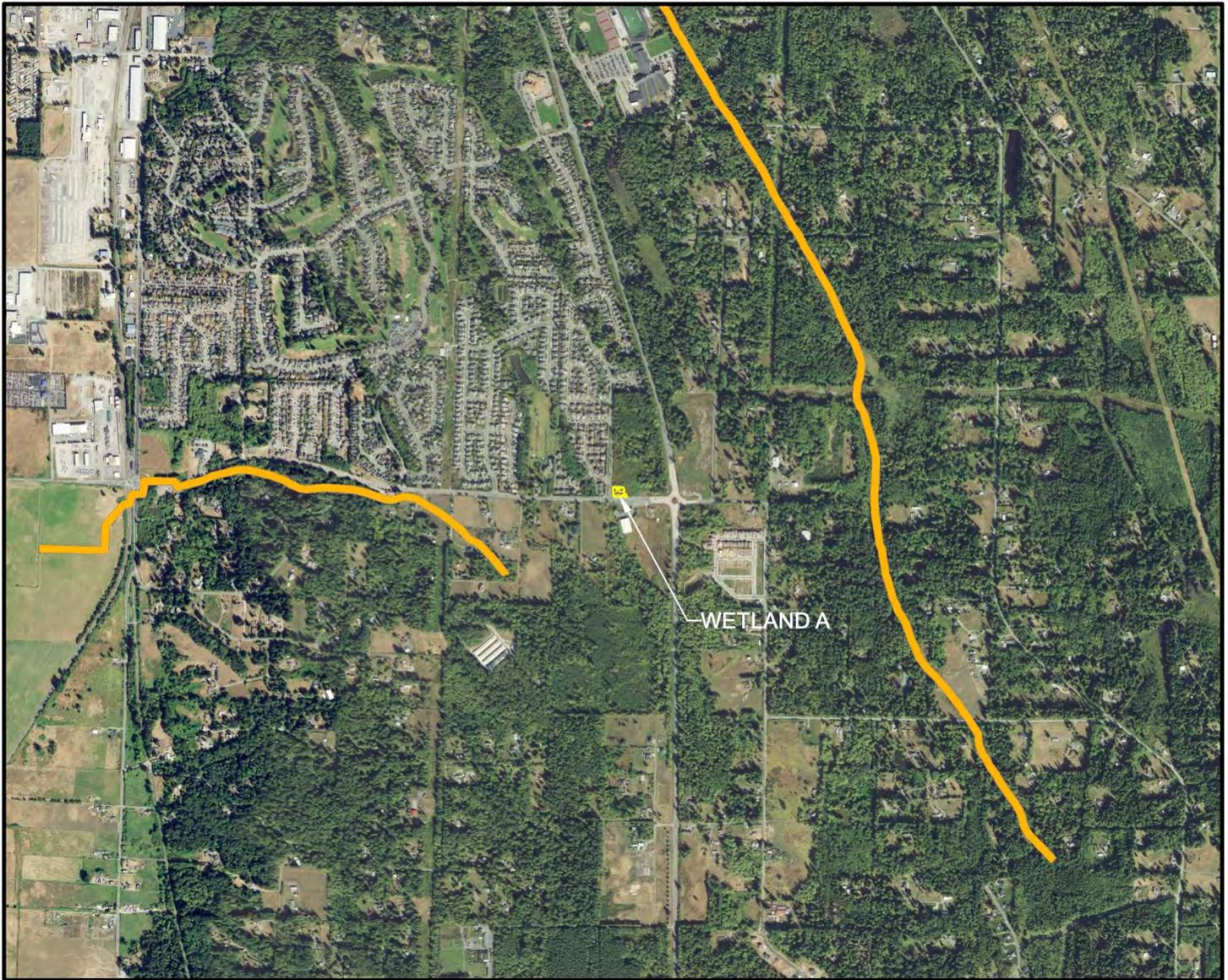
*Wetland Resources, Inc.*  
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**WETLAND RATING  
Wetland A**

Grandview North, LLC  
 Attn: Scott Wammack  
 PO Box 159  
 Arlington, WA 98223

Figure A-2  
 WRI Job # 21251  
 Rated by: JG/EC

GRANDVIEW NORTH  
WETLAND RATING FIGURE 3 - WETLAND A



**LEGEND**



WETLAND



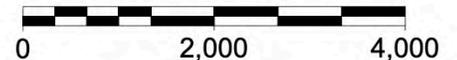
AQUATIC RESOURCES  
ON THE 303(d) LIST



TMDL RESOURCES  
ON THE 303(d) LIST



Scale 1" = 2,000'



*Wetland Resources, Inc.*  
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
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Fax: (425) 337-3045  
Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland A**

Grandview North, LLC  
Attn: Scott Wammack  
PO Box 159  
Arlington, WA 98223

Figure A-3  
WRI Job # 21251  
Rated by: JG/EC

Wetland name or number B

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): 21251 - Wetland B Date of site visit: 3-4-20

Rated by JG, EC Trained by Ecology?  Yes  No Date of training 9-15/10-18

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 Snohomish County

**OVERALL WETLAND CATEGORY II** (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 <input type="checkbox"/> <input checked="" type="checkbox"/> L	<input checked="" type="checkbox"/> M L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	
Landscape Potential	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	
Value	<input checked="" type="checkbox"/> M L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	<b>TOTAL</b>
<b>Score Based on Ratings</b>	<b>7</b>	<b>7</b>	<b>6</b>	<b>20</b>

**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	<input checked="" type="checkbox"/>

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	B1
Hydroperiods	D 1.4, H 1.2	B1
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	B1
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	B1
Map of the contributing basin	D 4.3, D 5.3	B2
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	B2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	B3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	B3

### Riverine Wetlands

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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> 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 **B**\_\_\_\_\_

## 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	<input type="checkbox"/>	Riverine
Slope + Depressional	<input type="checkbox"/>	Depressional
Slope + Lake Fringe	<input type="checkbox"/>	Lake Fringe
Depressional + Riverine along stream within boundary of depression	<input type="checkbox"/>	Depressional
Depressional + Lake Fringe	<input type="checkbox"/>	Depressional
Riverine + Lake Fringe	<input type="checkbox"/>	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	<input type="checkbox"/>	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

<b>DEPRESSIONAL AND FLATS WETLANDS</b>		
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>		
<b>D 1.0. Does the site have the potential to improve water quality?</b>		
D 1.1. <u>Characteristics of surface water outflows from the wetland:</u>		
<input checked="" type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3		<b>3</b>
<input type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2		
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1		
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1		
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 <input type="checkbox"/> No = 0		<b>0</b>
D 1.3. <u>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</u>		
<input checked="" type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5		<b>5</b>
<input type="checkbox"/> Wetland has persistent, ungrazed, plants > ½ of area points = 3		
<input type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1		
<input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0		
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i>		
<input type="checkbox"/> Area seasonally ponded is > ½ total area of wetland points = 4		<b>2</b>
<input checked="" type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland points = 2		
<input type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland points = 0		
Total for D 1	Add the points in the boxes above	<b>10</b>

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

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 <input type="checkbox"/> No = 0	<b>0</b>
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	<input checked="" type="checkbox"/> Yes = 1 No = 0	<b>1</b>
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 <input type="checkbox"/> No = 0	<b>0</b>
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 <input type="checkbox"/> No = 0	<b>0</b>
Total for D 2	Add the points in the boxes above	<b>1</b>

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

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
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 <input type="checkbox"/> No = 0	<b>0</b>
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	<input checked="" type="checkbox"/> Yes = 1 No = 0	<b>1</b>
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)?	<input checked="" type="checkbox"/> Yes = 2 No = 0	<b>2</b>
Total for D 3	Add the points in the boxes above	<b>3</b>

**Rating of Value** If score is:  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

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
<input checked="" type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4		<b>4</b>
<input type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2		
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1		
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0		
<b>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.</b>		
<input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7		<b>3</b>
<input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5		
<input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3		
<input type="checkbox"/> The wetland is a "headwater" wetland points = 3		
<input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water points = 1		
<input type="checkbox"/> Marks of ponding less than 0.5 ft (6 in) points = 0		
<b>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.</b>		
<input checked="" type="checkbox"/> The area of the basin is less than 10 times the area of the unit points = 5		<b>5</b>
<input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit points = 3		
<input type="checkbox"/> The area of the basin is more than 100 times the area of the unit points = 0		
<input type="checkbox"/> Entire wetland is in the Flats class points = 5		
<b>Total for D 4</b>		<b>12</b>

Add the points in the boxes above

**Rating of Site Potential** If score is:  12-16 = H  6-11 = M  0-5 = L

Record the rating on the first page

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

Add the points in the boxes above

**Rating of Landscape Potential** If score is:  3 = H  1 or 2 = M  0 = L

Record the rating on the first page

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>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.</b> 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):		
<input type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2		<b>1</b>
<input checked="" type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient. points = 1		
<input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin. points = 1		
<input type="checkbox"/> 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		
<input type="checkbox"/> There are no problems with flooding downstream of the wetland. points = 0		
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>		
	Yes = 2 <input type="checkbox"/> No = 0	<b>0</b>
<b>Total for D 6</b>		<b>1</b>

Add the points in the boxes above

**Rating of Value** If score is:  2-4 = H  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 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

**2**

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**

**1**

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

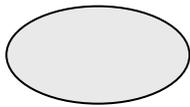
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

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

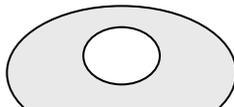
**1**

H 1.4. Interspersion of habitats

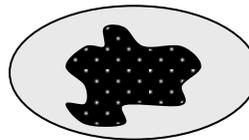
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



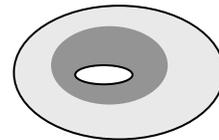
None = 0 points



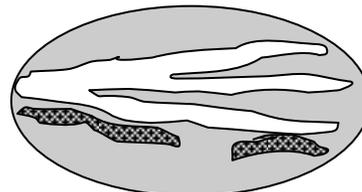
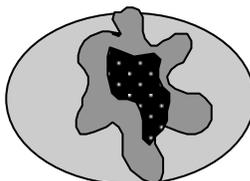
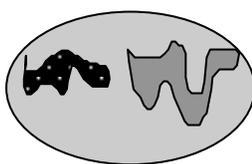
**Low = 1 point**



Moderate = 2 points



All three diagrams in this row are **HIGH** = 3points



**1**

Wetland name or number B

<p>H 1.5. Special habitat features:</p> <p>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 (&gt; 4 in diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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 (&gt; 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 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>)</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>		<b>2</b>
Total for H 1	Add the points in the boxes above	<b>7</b>

**Rating of Site Potential** If score is: 15-18 = H  7-14 = 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>1</u> + [(% moderate and low intensity land uses)/2] <u>1</u> = <u>2</u> %</p> <p>If total accessible habitat is:</p> <p><input type="checkbox"/> &gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p><input type="checkbox"/> 20-33% of 1 km Polygon points = 2</p> <p><input type="checkbox"/> 10-19% of 1 km Polygon points = 1</p> <p><input checked="" type="checkbox"/> &lt; 10% of 1 km Polygon points = 0</p>		<b>0</b>
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>39</u> + [(% moderate and low intensity land uses)/2] <u>19</u> = <u>58</u> %</p> <p><input checked="" type="checkbox"/> Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and &gt; 3 patches points = 1</p> <p><input type="checkbox"/> Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>		<b>3</b>
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p><input type="checkbox"/> &gt; 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p><input checked="" type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0</p>		<b>0</b>
Total for H 2	Add the points in the boxes above	<b>3</b>

**Rating of Landscape Potential** If score is: 4-6 = H  1-3 = M < 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> <p><input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><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> <p><input checked="" type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p><input type="checkbox"/> Site does not meet any of the criteria above points = 0</p>		<b>1</b>

**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
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> <b>No= Not an estuarine wetland</b>	
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 = <b>Category I</b> No - Go to <b>SC 1.2</b>	<b>Cat. I</b>
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> 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) <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = <b>Category I</b> No = <b>Category II</b>	<b>Cat. I</b>  <b>Cat. II</b>
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> 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 <b>SC 2.2</b> <b>No – Go to SC 2.3</b> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = <b>Category I</b> <b>No = Not a WHCV</b> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b> No = <b>Not a WHCV</b> 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 = <b>Category I</b> No = <b>Not a WHCV</b>	<b>Cat. I</b>
<b>SC 3.0. Bogs</b> 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 <b>SC 3.3</b> <b>No – Go to SC 3.2</b> 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 <b>SC 3.3</b> <b>No = Is not a bog</b> 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 = <b>Is a Category I bog</b> No – Go to <b>SC 3.4</b> <b>NOTE:</b> 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 = <b>Is a Category I bog</b> No = <b>Is not a bog</b>	<b>Cat. I</b>

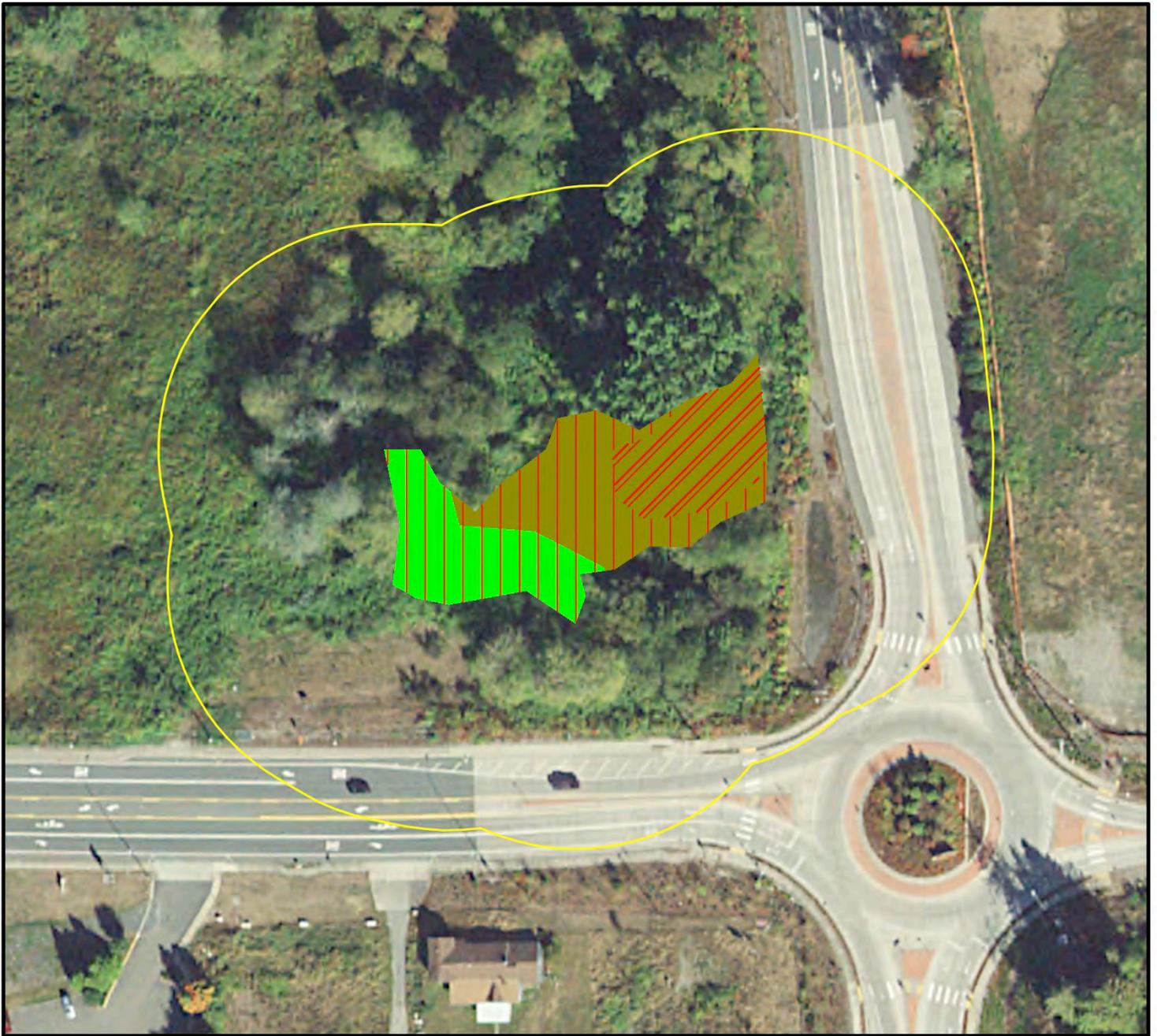
Wetland name or number B

<p><b>SC 4.0. Forested Wetlands</b></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? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (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.</p> <p><input type="checkbox"/> <b>Mature forests</b> (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> <p style="text-align: right;">Yes = <b>Category I</b>      <b>No = Not a forested wetland for this section</b></p>	<b>Cat. I</b>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 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> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>      <b>No = Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p style="text-align: right;">Yes = <b>Category I</b>      No = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>      <b>No = not an interdunal wetland for rating</b></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 = <b>Category I</b>      No – Go to <b>SC 6.2</b></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 = <b>Category II</b>      No – Go to <b>SC 6.3</b></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 = <b>Category III</b>      No = <b>Category IV</b></p>	<b>Cat I</b>  <b>Cat. II</b>  <b>Cat. III</b>  <b>Cat. IV</b>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<b>N/A</b>

Wetland name or number \_\_\_\_\_

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GRANDVIEW NORTH  
WETLAND RATING FIGURE 1 - WETLAND B

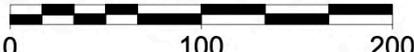


**LEGEND**

-  SCRUB-SHRUB
-  FORESTED VEGETATION
-  SATURATED ONLY
-  SEASONALLY FLOODED
-  150' FROM WL BOUNDARY



**Scale 1" = 100'**



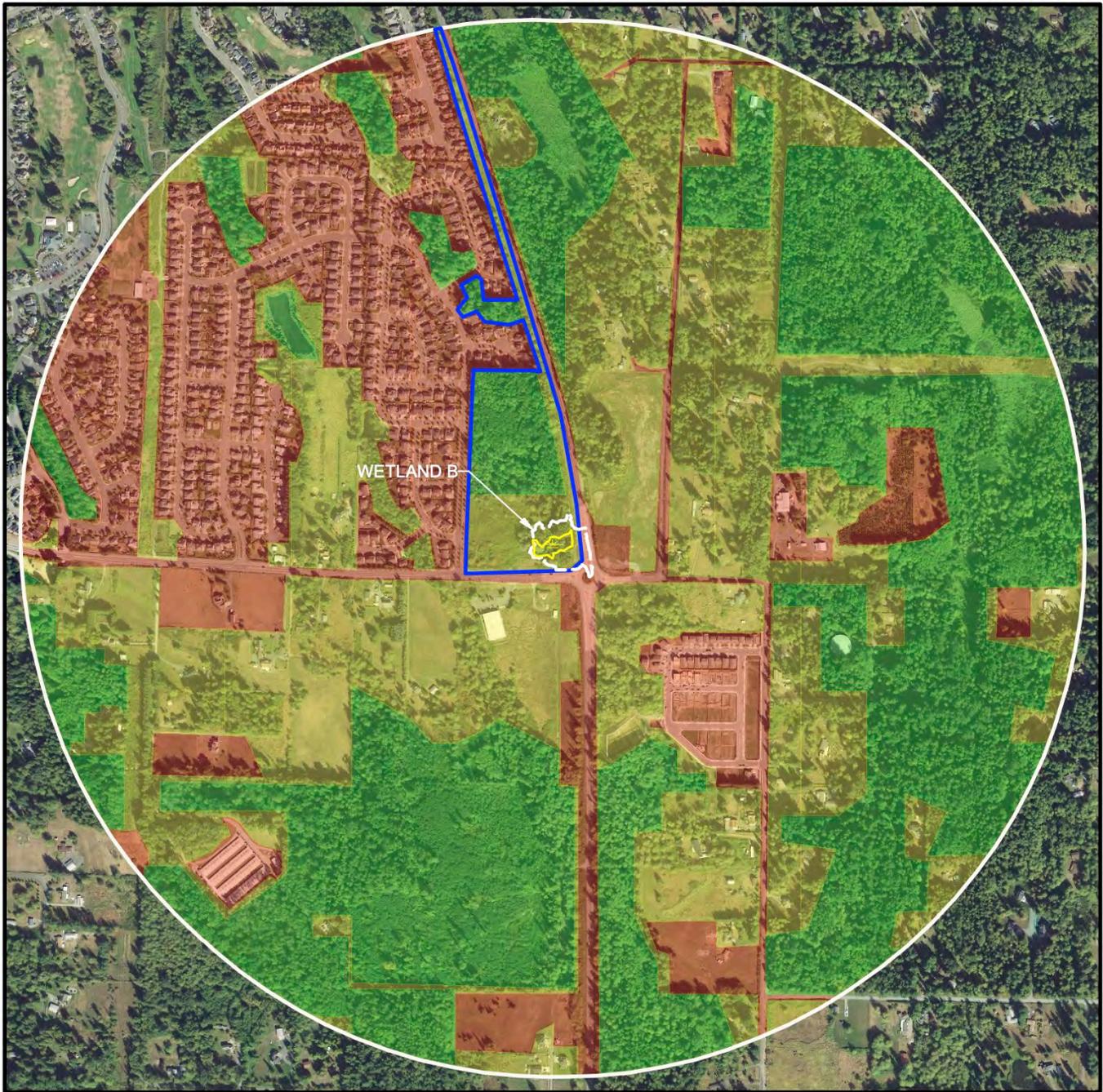
*Wetland Resources, Inc.*  
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland B**

Grandview North, LLC  
 Attn: Scott Wammack  
 PO Box 159  
 Arlington, WA 98223

Figure B-1  
 WRI Job # 21251  
 Rated by: JG/EC

GRANDVIEW NORTH  
WETLAND RATING FIGURE 2 - WETLAND B

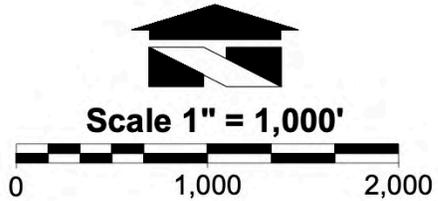


WETLAND B

**LEGEND**

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

**CONTRIBUTING BASIN  
AREA RELATIVE TO  
WETLAND UNIT IS 2.9:1**



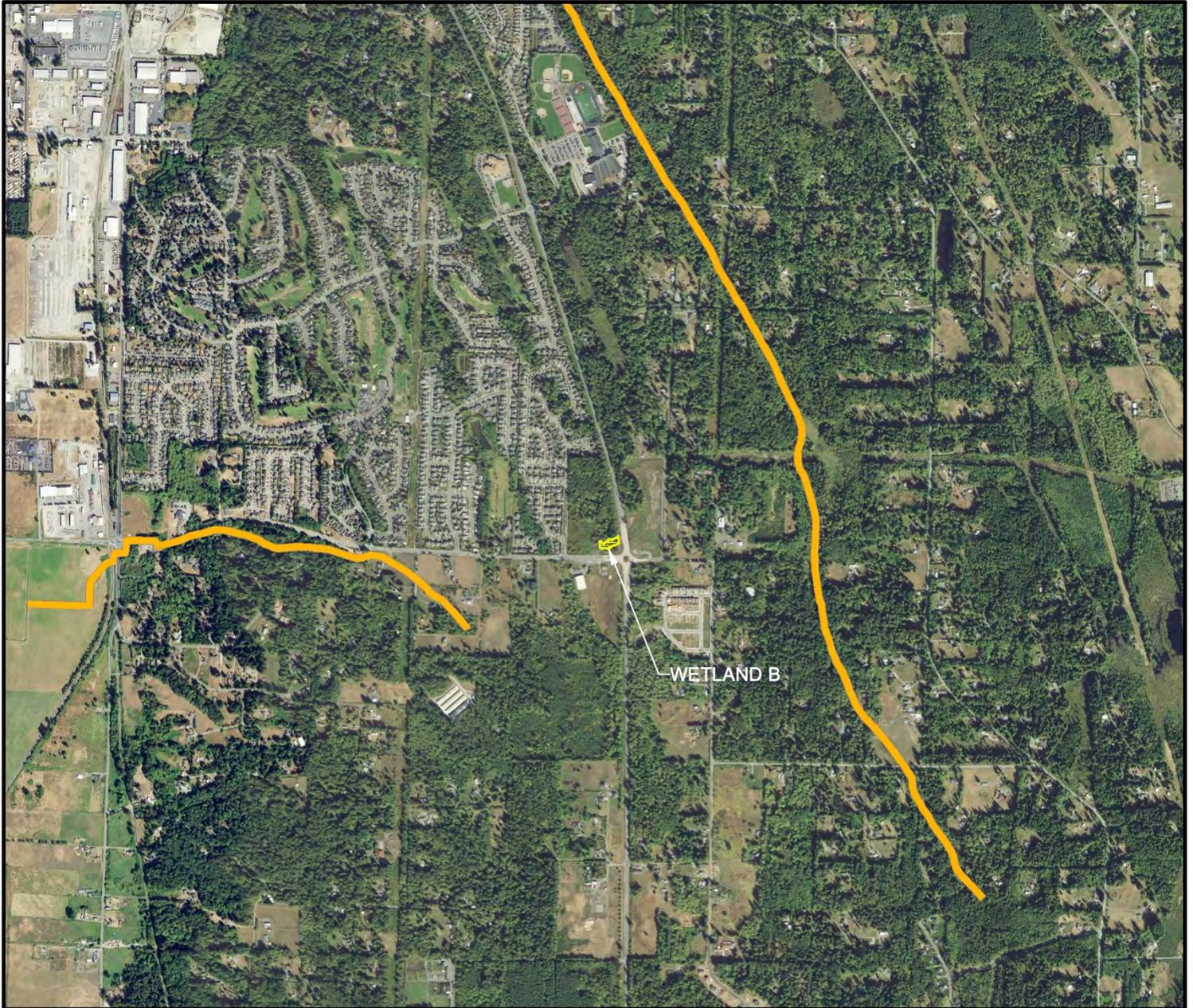
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**WETLAND RATING  
Wetland B**

Grandview North, LLC  
 Attn: Scott Wammack  
 PO Box 159  
 Arlington, WA 98223

Figure B-2  
 WRI Job # 21251  
 Rated by: JG/EC

GRANDVIEW NORTH  
WETLAND RATING FIGURE 3 - WETLAND B

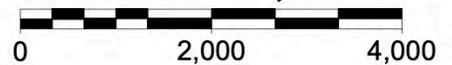


**LEGEND**

-  WETLAND
-  AQUATIC RESOURCES WITH TMDL LISTING
-  AQUATIC RESOURCES ON THE 303(d) LIST



Scale 1" = 2,000'



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 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING  
Wetland B**

Grandview North, LLC  
 Attn: Scott Wammack  
 PO Box 159  
 Arlington, WA 98223

Figure B-3  
 WRI Job # 21251  
 Rated by: JG/EC

Wetland name or number C

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): 21251 - Wetland C Date of site visit: 3-4-20

Rated by EC/JG Trained by Ecology?  Yes  No Date of training 10-18/9-15

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 Snohomish County

**OVERALL WETLAND CATEGORY II** (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 <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> L	
Landscape Potential	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	
Value	<input checked="" type="checkbox"/> M L	<input checked="" type="checkbox"/> M L	<input checked="" type="checkbox"/> M L	<b>TOTAL</b>
Score Based on Ratings	<b>7</b>	<b>7</b>	<b>6</b>	<b>20</b>

**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	<input checked="" type="checkbox"/>

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	C1
Hydroperiods	D 1.4, H 1.2	C1
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	C1
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	C1
Map of the contributing basin	D 4.3, D 5.3	C2
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	C2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	C3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	C3

### Riverine Wetlands

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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> 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 C

## 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  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	<input type="checkbox"/>	Riverine
Slope + Depressional	<input type="checkbox"/>	Depressional
Slope + Lake Fringe	<input type="checkbox"/>	Lake Fringe
Depressional + Riverine along stream within boundary of depression	<input type="checkbox"/>	Depressional
Depressional + Lake Fringe	<input type="checkbox"/>	Depressional
Riverine + Lake Fringe	<input type="checkbox"/>	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	<input type="checkbox"/>	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

<b>DEPRESSIONAL AND FLATS WETLANDS</b>			
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>			
<b>D 1.0. Does the site have the potential to improve water quality?</b>			
D 1.1. <u>Characteristics of surface water outflows from the wetland:</u>			
<input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3		<b>2</b>	
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2			
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1			
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1			
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 <input type="checkbox"/> No = 0		<b>0</b>	
D 1.3. <u>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</u>			
<input type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5		<b>3</b>	
<input checked="" type="checkbox"/> Wetland has persistent, ungrazed, plants > ½ of area points = 3			
<input type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1			
<input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0			
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i>			
<input checked="" type="checkbox"/> Area seasonally ponded is > ½ total area of wetland points = 4		<b>4</b>	
<input type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland points = 2			
<input type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland points = 0			
Total for D 1		Add the points in the boxes above	<b>9</b>

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

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>			
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 <input type="checkbox"/> No = 0	<b>0</b>	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	<input type="checkbox"/> Yes = 1 No = 0	<b>1</b>	
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 <input type="checkbox"/> No = 0	<b>0</b>	
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 <input type="checkbox"/> No = 0	<b>0</b>	
Total for D 2		Add the points in the boxes above	<b>1</b>

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

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>			
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 <input type="checkbox"/> No = 0	<b>0</b>	
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	<input type="checkbox"/> Yes = 1 No = 0	<b>1</b>	
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)?	<input type="checkbox"/> Yes = 2 No = 0	<b>2</b>	
Total for D 3		Add the points in the boxes above	<b>3</b>

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

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Wetland name or number C**DEPRESSIONAL AND FLATS WETLANDS****Hydrologic Functions** - Indicators that the site functions to reduce flooding and stream degradation

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
<input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	<b>2</b>
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	
<b>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.</b>		
<input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	<b>3</b>
<input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
<input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
<input type="checkbox"/> The wetland is a "headwater" wetland	points = 3	
<input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water	points = 1	
<input type="checkbox"/> Marks of ponding less than 0.5 ft (6 in)	points = 0	
<b>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.</b>		
<input checked="" type="checkbox"/> The area of the basin is less than 10 times the area of the unit	points = 5	<b>5</b>
<input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit	points = 3	
<input type="checkbox"/> The area of the basin is more than 100 times the area of the unit	points = 0	
<input type="checkbox"/> Entire wetland is in the Flats class	points = 5	
<b>Total for D 4</b>	<b>Add the points in the boxes above</b>	<b>10</b>

**Rating of Site Potential** If score is: 12-16 = H  6-11 = M 0-5 = L

Record the rating on the first page

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

**Rating of Landscape Potential** If score is: 3 = H  1 or 2 = M 0 = L

Record the rating on the first page

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>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.</b> 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):		
<input checked="" type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	<b>2</b>
<input type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
<input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin.	points = 1	
<input type="checkbox"/> 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	
<input type="checkbox"/> There are no problems with flooding downstream of the wetland.	points = 0	
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>		
	Yes = 2 <input type="checkbox"/> No = <input type="checkbox"/>	<b>0</b>
<b>Total for D 6</b>	<b>Add the points in the boxes above</b>	<b>2</b>

**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.*

- |  |  |          |
|--|--|----------|
| <input type="checkbox"/> Aquatic bed   | 4 structures or more: points = 4   | <b>1</b> |
| <input type="checkbox"/> Emergent  | 3 structures: points = 2   |          |
| <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover)   | <span style="border: 1px solid black; padding: 2px;">2 structures: points = 1</span> |          |
| <input checked="" type="checkbox"/> Forested (areas where trees have > 30% cover)  | 1 structure: points = 0  |          |
| <i>If the unit has a Forested class, check if:</i>   |  |          |
| <input checked="" type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon |  |          |

H 1.2. Hydroperiods

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

- |  |   |          |
|--|---|----------|
| <input type="checkbox"/> Permanently flooded or inundated                                    | 4 or more types present: points = 3   | <b>1</b> |
| <input checked="" type="checkbox"/> Seasonally flooded or inundated                          | 3 types present: points = 2   |          |
| <input type="checkbox"/> Occasionally flooded or inundated                                   | <span style="border: 1px solid black; padding: 2px;">2 types present: points = 1</span> |          |
| <input checked="" type="checkbox"/> Saturated only   | 1 type present: points = 0  |          |
| <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland |   |          |
| <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland           |   |          |
| <input type="checkbox"/> <b>Lake Fringe wetland</b>  | <b>2 points</b>   |          |
| <input type="checkbox"/> <b>Freshwater tidal wetland</b>                                     | <b>2 points</b>   |          |

H 1.3. Richness of plant species

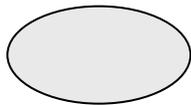
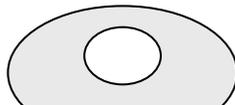
Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

*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   | <b>1</b> |
| <span style="border: 1px solid black; padding: 2px;">5 - 19 species</span> | <span style="border: 1px solid black; padding: 2px;">points = 1</span> |          |
| < 5 species  | points = 0   |          |

H 1.4. Interspersion of habitats

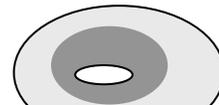
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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

None = 0 points

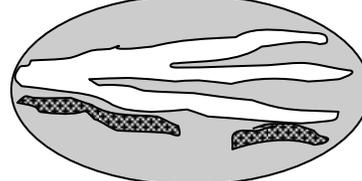
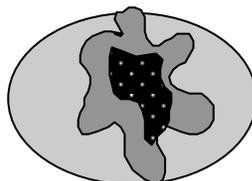
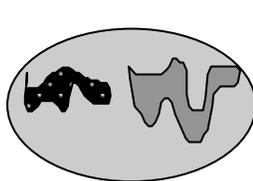
Low = 1 point



Moderate = 2 points

**0**

All three diagrams in this row are **HIGH** = 3points



Wetland name or number C

<p>H 1.5. Special habitat features:</p> <p>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 (&gt; 4 in diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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 (&gt; 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 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>)</p> <p><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>)</p>		<b>3</b>
Total for H 1	Add the points in the boxes above	<b>6</b>

**Rating of Site Potential** If score is: 15-18 = H 7-14 = 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>1</u> + [(% moderate and low intensity land uses)/2] <u>1</u> = <u>2</u> %</p> <p>If total accessible habitat is:</p> <p><input type="checkbox"/> &gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p><input type="checkbox"/> 20-33% of 1 km Polygon points = 2</p> <p><input type="checkbox"/> 10-19% of 1 km Polygon points = 1</p> <p><input checked="" type="checkbox"/> &lt; 10% of 1 km Polygon points = 0</p>		<b>0</b>
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>33</u> + [(% moderate and low intensity land uses)/2] <u>20</u> = <u>53</u> %</p> <p><input checked="" type="checkbox"/> Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and &gt; 3 patches points = 1</p> <p><input type="checkbox"/> Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>		<b>3</b>
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p><input type="checkbox"/> &gt; 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p><input checked="" type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0</p>		<b>0</b>
Total for H 2	Add the points in the boxes above	<b>3</b>

**Rating of Landscape Potential** If score is: 4-6 = H  1-3 = M < 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> <p><input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><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> <p><input type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p><input type="checkbox"/> Site does not meet any of the criteria above points = 0</p>		<b>2</b>

**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>	
<b>SC 1.0. Estuarine wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> <b>No= Not an estuarine wetland</b>	
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 = <b>Category I</b> No - Go to <b>SC 1.2</b>	<b>Cat. I</b>
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> 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) <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = <b>Category I</b> No = <b>Category II</b>	<b>Cat. I</b>  <b>Cat. II</b>
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> 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 <b>SC 2.2</b> <b>No – Go to SC 2.3</b> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = <b>Category I</b> <b>No = Not a WHCV</b> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b> No = <b>Not a WHCV</b> 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 = <b>Category I</b> No = <b>Not a WHCV</b>	<b>Cat. I</b>
<b>SC 3.0. Bogs</b> 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 <b>SC 3.3</b> <b>No – Go to SC 3.2</b> 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 <b>SC 3.3</b> <b>No = Is not a bog</b> 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 = <b>Is a Category I bog</b> No – Go to <b>SC 3.4</b> <b>NOTE:</b> 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 = <b>Is a Category I bog</b> No = <b>Is not a bog</b>	<b>Cat. I</b>

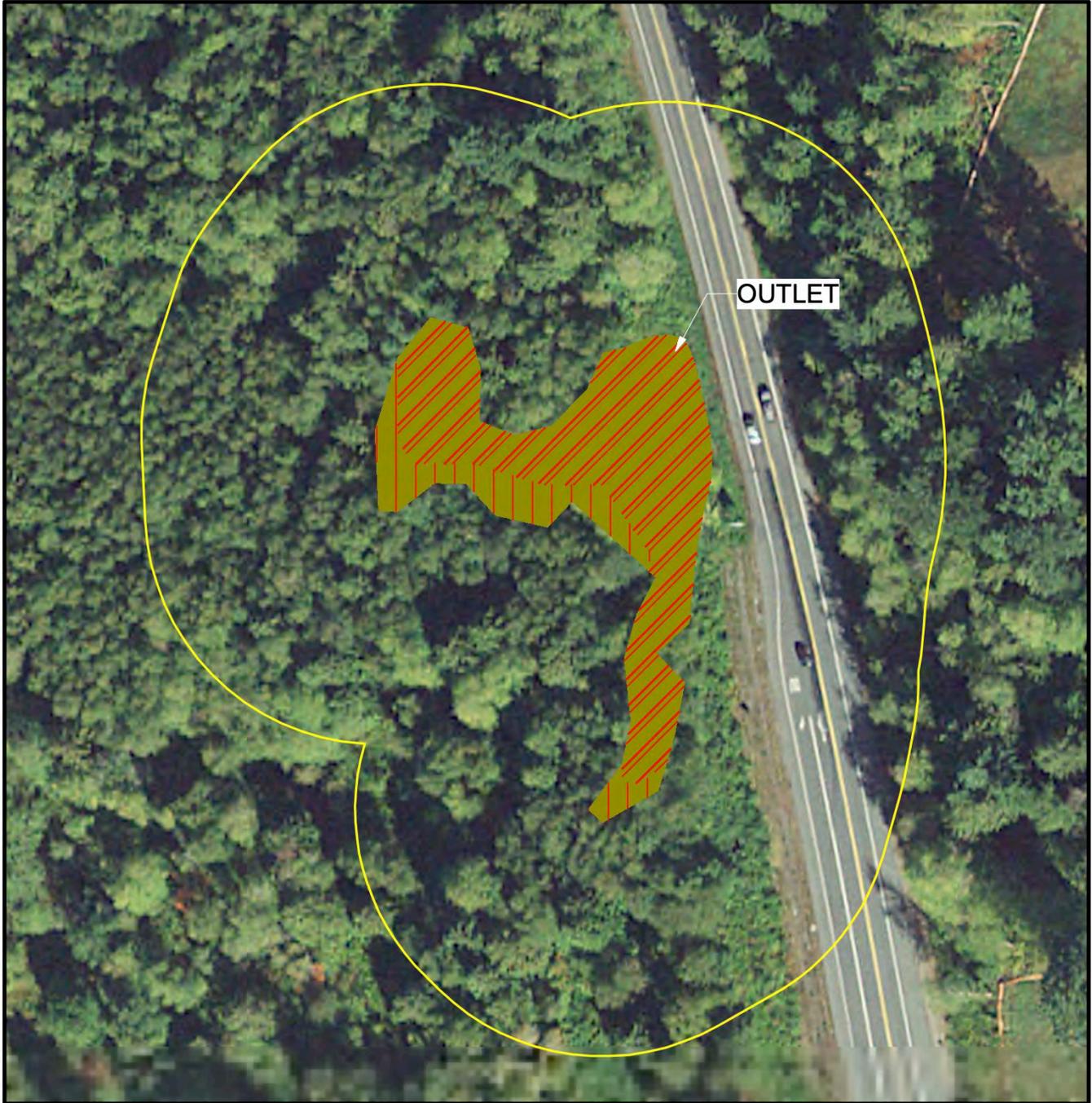
Wetland name or number C

<p><b>SC 4.0. Forested Wetlands</b></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? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (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.</p> <p><input type="checkbox"/> <b>Mature forests</b> (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> <p style="text-align: right;">Yes = <b>Category I</b>    <b>No = Not a forested wetland for this section</b></p>	<b>Cat. I</b>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 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> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>    <b>No = Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>    <b>No = not an interdunal wetland for rating</b></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 = <b>Category I</b>    No – Go to <b>SC 6.2</b></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 = <b>Category II</b>    No – Go to <b>SC 6.3</b></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 = <b>Category III</b>    No = <b>Category IV</b></p>	<b>Cat I</b>  <b>Cat. II</b>  <b>Cat. III</b>  <b>Cat. IV</b>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<b>N/A</b>

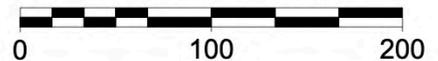
Wetland name or number \_\_\_\_\_

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GRANDVIEW NORTH  
WETLAND RATING FIGURE 1 - WETLAND C



Scale 1" = 100'



**LEGEND**

-  FORESTED VEGETATION
-  SEASONALLY FLOODED
-  SATURATED ONLY
-  150' FROM WL BOUNDARY

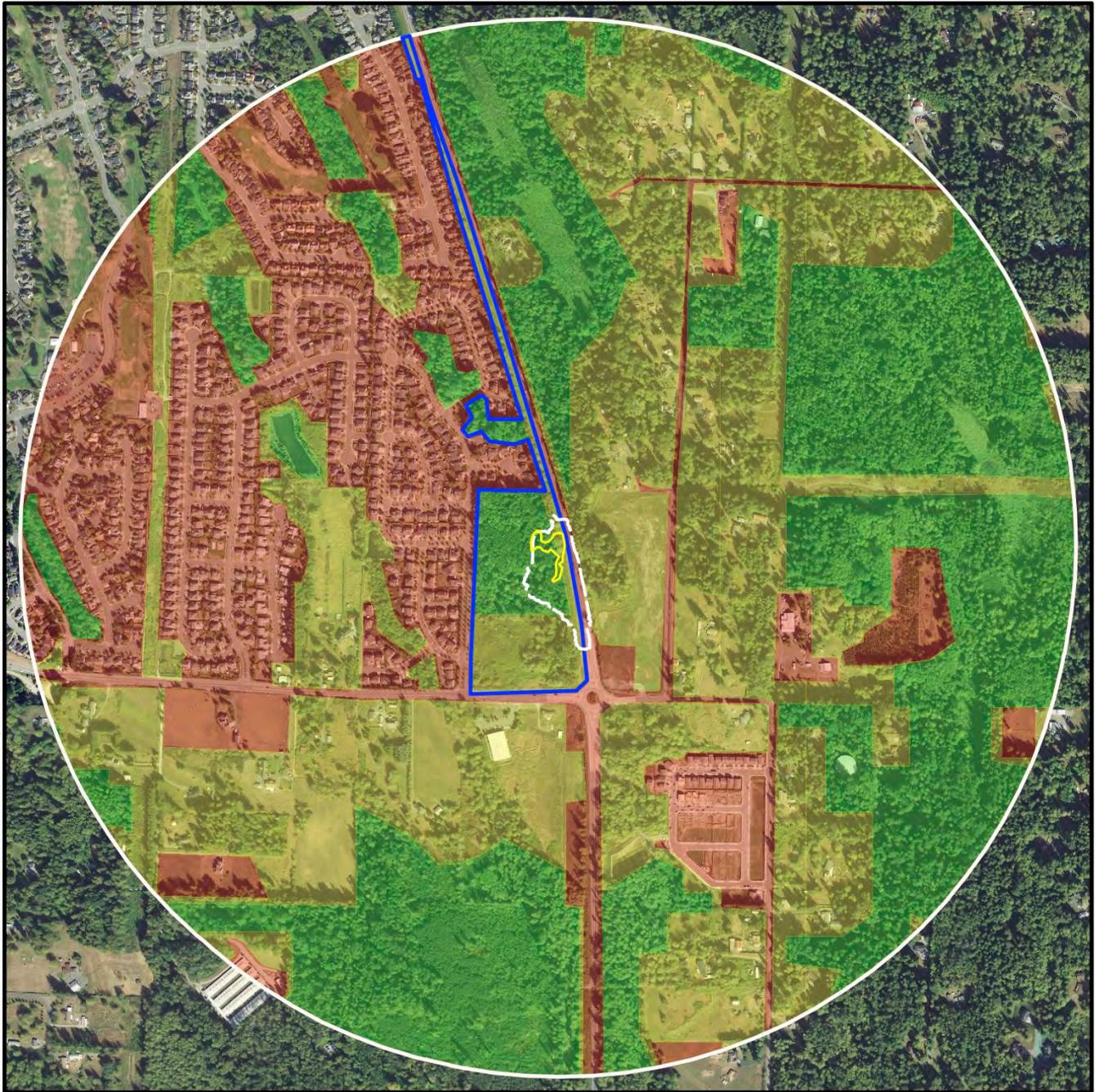
*Wetland Resources, Inc.*  
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland C**

Grandview North, LLC  
 Attn: Scott Wammack  
 PO Box 159  
 Arlington, WA 98223

Figure C-1  
 WRI Job # 21251  
 Rated by: JG/EC

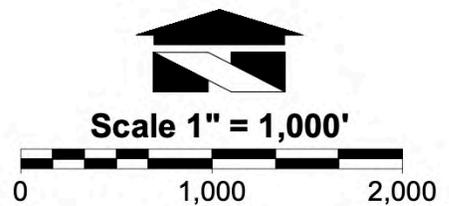
GRANDVIEW NORTH  
WETLAND RATING FIGURE 2 - WETLAND C



**LEGEND**

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

**CONTRIBUTING BASIN  
AREA RELATIVE TO  
WETLAND UNIT IS 8.0:1**



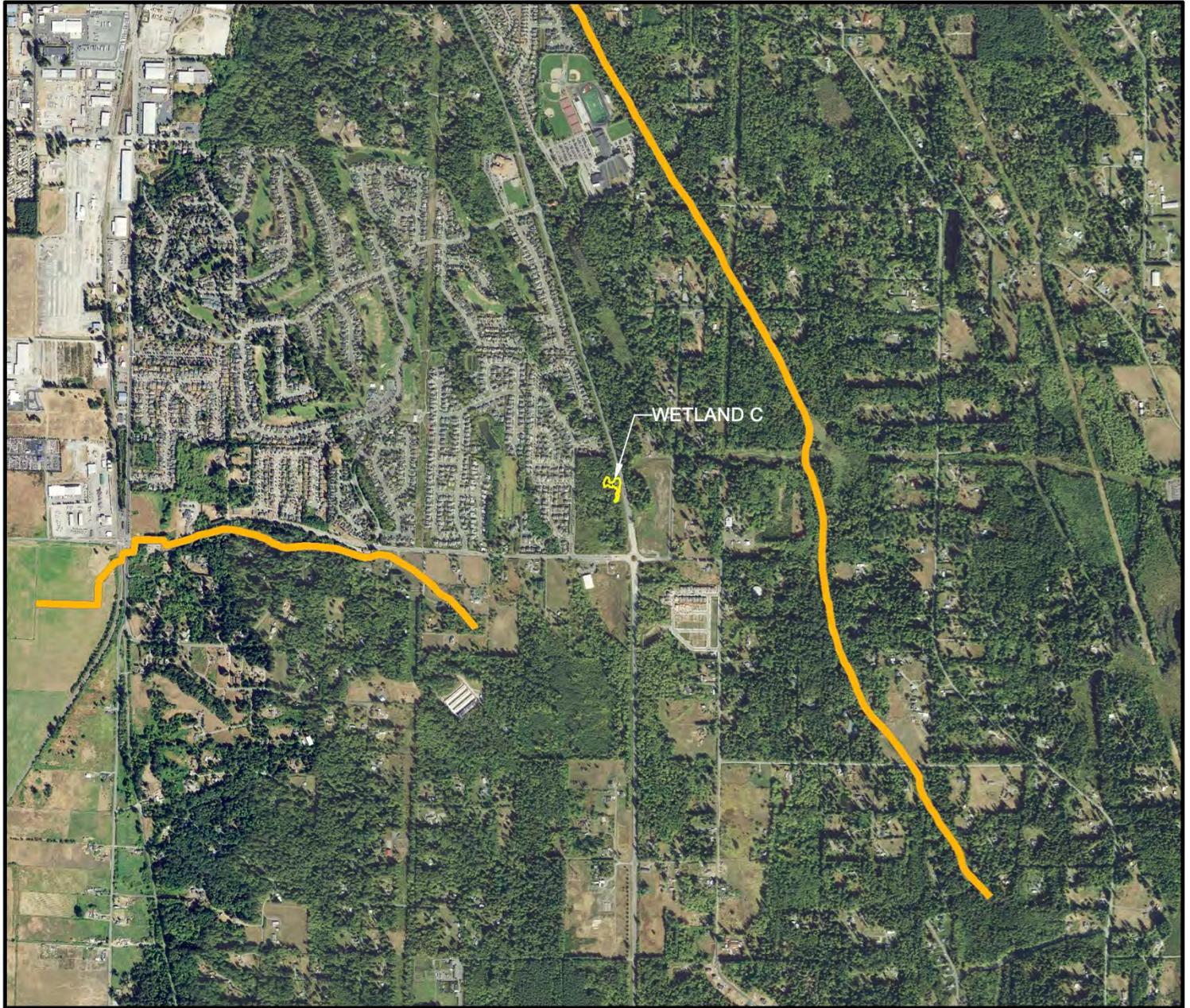
*Wetland Resources, Inc.*  
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**WETLAND RATING  
Wetland C**

Grandview North, LLC  
 Attn: Scott Wammack  
 PO Box 159  
 Arlington, WA 98223

Figure C-2  
 WRI Job # 21251  
 Rated by: JG/EC

GRANDVIEW NORTH  
WETLAND RATING FIGURE 3 - WETLAND C



**LEGEND**



WETLAND



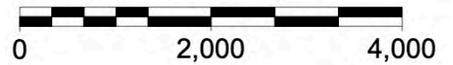
AQUATIC RESOURCES  
WITH TMDL LISTING



AQUATIC RESOURCES  
ON THE 303(d) LIST



Scale 1" = 2,000'



*Wetland Resources, Inc.*  
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
Phone: (425) 337-3174  
Fax: (425) 337-3045  
Email: mailbox@wetlandresources.com

**WETLAND RATING  
Wetland C**

Grandview North, LLC  
Attn: Scott Wammack  
PO Box 159  
Arlington, WA 98223

Figure C-3  
WRI Job # 21251  
Rated by: JG/EC

Wetland name or number D

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): 21251 - Wetland D Date of site visit: 3-4-20

Rated by JG, EC Trained by Ecology?  Yes  No Date of training 9-15/10-18

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 Snohomish County

**OVERALL WETLAND CATEGORY II** (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 <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> L	
Landscape Potential	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	
Value	<input checked="" type="checkbox"/> M L	<input checked="" type="checkbox"/> M L	<input checked="" type="checkbox"/> M L	<b>TOTAL</b>
Score Based on Ratings	<b>7</b>	<b>7</b>	<b>6</b>	<b>20</b>

**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	<input checked="" type="checkbox"/>

Wetland name or number D

## 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	D1
Hydroperiods	D 1.4, H 1.2	D1
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	D1
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	D1
Map of the contributing basin	D 4.3, D 5.3	D2
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	D2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	D3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	D3

### Riverine Wetlands

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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> 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 D

## 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  D **NO** – go to 6**YES** – The wetland class is **Riverine****NOTE:** The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

NO – go to 7

**YES** – The wetland class is **Depressional**

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

NO – go to 8

**YES** – The wetland class is **Depressional**

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

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

HGM classes within the wetland unit being rated		HGM class to use in rating
Slope + Riverine	<input type="checkbox"/>	Riverine
Slope + Depressional	<input type="checkbox"/>	Depressional
Slope + Lake Fringe	<input type="checkbox"/>	Lake Fringe
Depressional + Riverine along stream within boundary of depression	<input type="checkbox"/>	Depressional
Depressional + Lake Fringe	<input type="checkbox"/>	Depressional
Riverine + Lake Fringe	<input type="checkbox"/>	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	<input type="checkbox"/>	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 D

<b>DEPRESSIONAL AND FLATS WETLANDS</b>		
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>		
<b>D 1.0. Does the site have the potential to improve water quality?</b>		
<b>D 1.1. Characteristics of surface water outflows from the wetland:</b> <input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 <input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 <input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 <input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1		<b>2</b>
<b>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</b>		<b>0</b>
<b>D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</b> <input type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5 <input checked="" type="checkbox"/> Wetland has persistent, ungrazed, plants > ½ of area points = 3 <input type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1 <input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0		<b>3</b>
<b>D 1.4. Characteristics of seasonal ponding or inundation:</b> <i>This is the area that is ponded for at least 2 months. See description in manual.</i> <input checked="" type="checkbox"/> Area seasonally ponded is > ½ total area of wetland points = 4 <input type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland points = 2 <input type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland points = 0		<b>4</b>
<b>Total for D 1</b>		<b>9</b>

Add the points in the boxes above

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

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
<b>D 2.1. Does the wetland unit receive stormwater discharges?</b> Yes = 1 No = 0		<b>0</b>
<b>D 2.2. Is &gt; 10% of the area within 150 ft of the wetland in land uses that generate pollutants?</b> Yes = 1 No = 0		<b>1</b>
<b>D 2.3. Are there septic systems within 250 ft of the wetland?</b> Yes = 1 No = 0		<b>0</b>
<b>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?</b> Source <u>trash from adjacent residences</u> Yes = 1 No = 0		<b>1</b>
<b>Total for D 2</b>		<b>2</b>

Add the points in the boxes above

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

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
<b>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?</b> Yes = 1 No = 0		<b>0</b>
<b>D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?</b> Yes = 1 No = 0		<b>1</b>
<b>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)?</b> Yes = 2 No = 0		<b>2</b>
<b>Total for D 3</b>		<b>3</b>

Add the points in the boxes above

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

Wetland name or number D**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:		<b>2</b>
<input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	
D 4.2. <u>Depth of storage during wet periods</u> : 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.		<b>3</b>
<input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	
<input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
<input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
<input type="checkbox"/> The wetland is a "headwater" wetland	points = 3	
<input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water	points = 1	
<input type="checkbox"/> Marks of ponding less than 0.5 ft (6 in)	points = 0	
D 4.3. <u>Contribution of the wetland to storage in the watershed</u> : Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.		<b>3</b>
<input type="checkbox"/> The area of the basin is less than 10 times the area of the unit	points = 5	
<input checked="" type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit	points = 3	
<input type="checkbox"/> The area of the basin is more than 100 times the area of the unit	points = 0	
<input type="checkbox"/> Entire wetland is in the Flats class	points = 5	
Total for D 4		<b>8</b>

Add the points in the boxes above

**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 <input type="checkbox"/> No = <input type="checkbox"/>	<b>0</b>
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
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 <input type="checkbox"/> No = <input type="checkbox"/>	<b>0</b>
Total for D 5		<b>1</b>

Add the points in the boxes above

**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):		<b>2</b>
<input checked="" type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	
<input type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
<input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin.	points = 1	
<input type="checkbox"/> 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	
<input type="checkbox"/> 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?		<b>0</b>
Yes = 2 <input type="checkbox"/> No = <input type="checkbox"/>		
Total for D 6		<b>2</b>

Add the points in the boxes above

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

Record the rating on the first page

Wetland name or number D**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.*

- |  |  |          |
|--|--|----------|
| <input type="checkbox"/> Aquatic bed   | 4 structures or more: points = 4   | <b>1</b> |
| <input type="checkbox"/> Emergent  | 3 structures: points = 2   |          |
| <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover)   | <span style="border: 1px solid black; padding: 2px;">2 structures: points = 1</span> |          |
| <input checked="" type="checkbox"/> Forested (areas where trees have > 30% cover)  | 1 structure: points = 0  |          |
| <i>If the unit has a Forested class, check if:</i>   |  |          |
| <input checked="" type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon |  |          |

H 1.2. Hydroperiods

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

- |  |   |          |
|--|---|----------|
| <input type="checkbox"/> Permanently flooded or inundated                                    | 4 or more types present: points = 3   | <b>1</b> |
| <input checked="" type="checkbox"/> Seasonally flooded or inundated                          | 3 types present: points = 2   |          |
| <input type="checkbox"/> Occasionally flooded or inundated                                   | <span style="border: 1px solid black; padding: 2px;">2 types present: points = 1</span> |          |
| <input checked="" type="checkbox"/> Saturated only   | 1 type present: points = 0  |          |
| <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland |   |          |
| <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland           |   |          |
| <input type="checkbox"/> <b>Lake Fringe wetland</b>  | <b>2 points</b>   |          |
| <input type="checkbox"/> <b>Freshwater tidal wetland</b>                                     | <b>2 points</b>   |          |

H 1.3. Richness of plant species

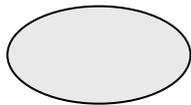
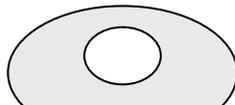
Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

*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*

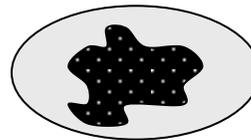
- |  |  |          |
|--|--|----------|
| If you counted: > 19 species   | points = 2   | <b>1</b> |
| <span style="border: 1px solid black; padding: 2px;">5 - 19 species</span> | <span style="border: 1px solid black; padding: 2px;">points = 1</span> |          |
| < 5 species  | points = 0   |          |

H 1.4. Interspersion of habitats

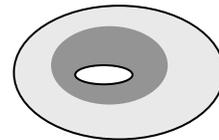
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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

None = 0 points

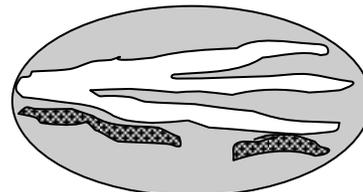
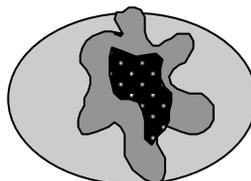
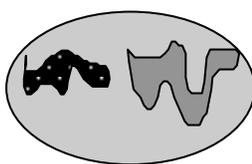
Low = 1 point



Moderate = 2 points

**0**

All three diagrams in this row are **HIGH** = 3points



Wetland name or number D

<p>H 1.5. Special habitat features:</p> <p>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 (&gt; 4 in diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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 (&gt; 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 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>)</p> <p><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>)</p>		<b>3</b>
Total for H 1	Add the points in the boxes above	<b>6</b>

**Rating of Site Potential** If score is: 15-18 = H 7-14 = 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>1</u> + [(% moderate and low intensity land uses)/2] <u>1</u> = <u>2</u> %</p> <p>If total accessible habitat is:</p> <p><input type="checkbox"/> &gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p><input type="checkbox"/> 20-33% of 1 km Polygon points = 2</p> <p><input type="checkbox"/> 10-19% of 1 km Polygon points = 1</p> <p><input checked="" type="checkbox"/> &lt; 10% of 1 km Polygon points = 0</p>		<b>0</b>
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>30</u> + [(% moderate and low intensity land uses)/2] <u>20</u> = <u>50</u> %</p> <p><input checked="" type="checkbox"/> Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and &gt; 3 patches points = 1</p> <p><input type="checkbox"/> Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>		<b>3</b>
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p><input type="checkbox"/> &gt; 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p><input checked="" type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0</p>		<b>0</b>
Total for H 2	Add the points in the boxes above	<b>3</b>

**Rating of Landscape Potential** If score is: 4-6 = H  1-3 = M < 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> <p><input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><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> <p><input type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p><input type="checkbox"/> Site does not meet any of the criteria above points = 0</p>		<b>2</b>

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

Record the rating on the first page

Wetland name or number D

## 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 D**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>	
<b>SC 1.0. Estuarine wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> <b>No= Not an estuarine wetland</b>	
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 = <b>Category I</b> No - Go to <b>SC 1.2</b>	<b>Cat. I</b>
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> 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) <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = <b>Category I</b> No = <b>Category II</b>	<b>Cat. I</b>  <b>Cat. II</b>
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> 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 <b>SC 2.2</b> <b>No – Go to SC 2.3</b> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = <b>Category I</b> <b>No = Not a WHCV</b> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b> No = <b>Not a WHCV</b> 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 = <b>Category I</b> No = <b>Not a WHCV</b>	<b>Cat. I</b>
<b>SC 3.0. Bogs</b> 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 <b>SC 3.3</b> <b>No – Go to SC 3.2</b> 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 <b>SC 3.3</b> <b>No = Is not a bog</b> 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 = <b>Is a Category I bog</b> No – Go to <b>SC 3.4</b> <b>NOTE:</b> 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 = <b>Is a Category I bog</b> No = <b>Is not a bog</b>	<b>Cat. I</b>

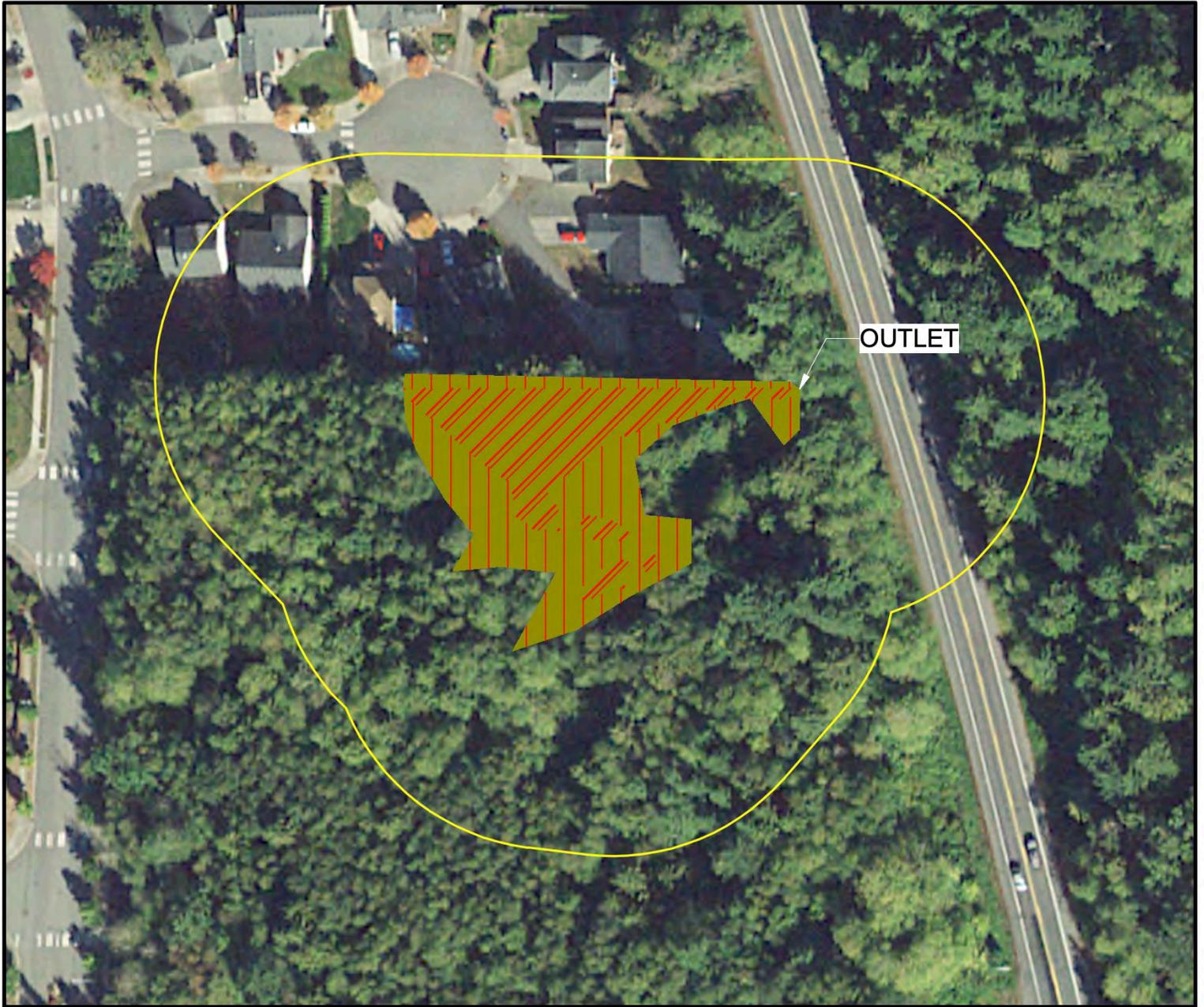
Wetland name or number D

<p><b>SC 4.0. Forested Wetlands</b></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? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (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.</p> <p><input type="checkbox"/> <b>Mature forests</b> (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> <p style="text-align: right;">Yes = <b>Category I</b>    <b>No = Not a forested wetland for this section</b></p>	<b>Cat. I</b>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 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> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>    <b>No = Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>    <b>No = not an interdunal wetland for rating</b></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 = <b>Category I</b>    No – Go to <b>SC 6.2</b></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 = <b>Category II</b>    No – Go to <b>SC 6.3</b></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 = <b>Category III</b>    No = <b>Category IV</b></p>	<b>Cat I</b>  <b>Cat. II</b>  <b>Cat. III</b>  <b>Cat. IV</b>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<b>N/A</b>

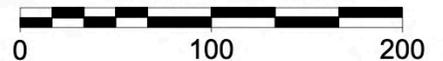
Wetland name or number \_\_\_\_\_

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GRANDVIEW NORTH  
WETLAND RATING FIGURE 1 - WETLAND D



Scale 1" = 100'



**LEGEND**

-  FORESTED VEGETATION
-  SATURATED ONLY
-  SEASONALLY FLOODED
-  150' FROM WL BOUNDARY

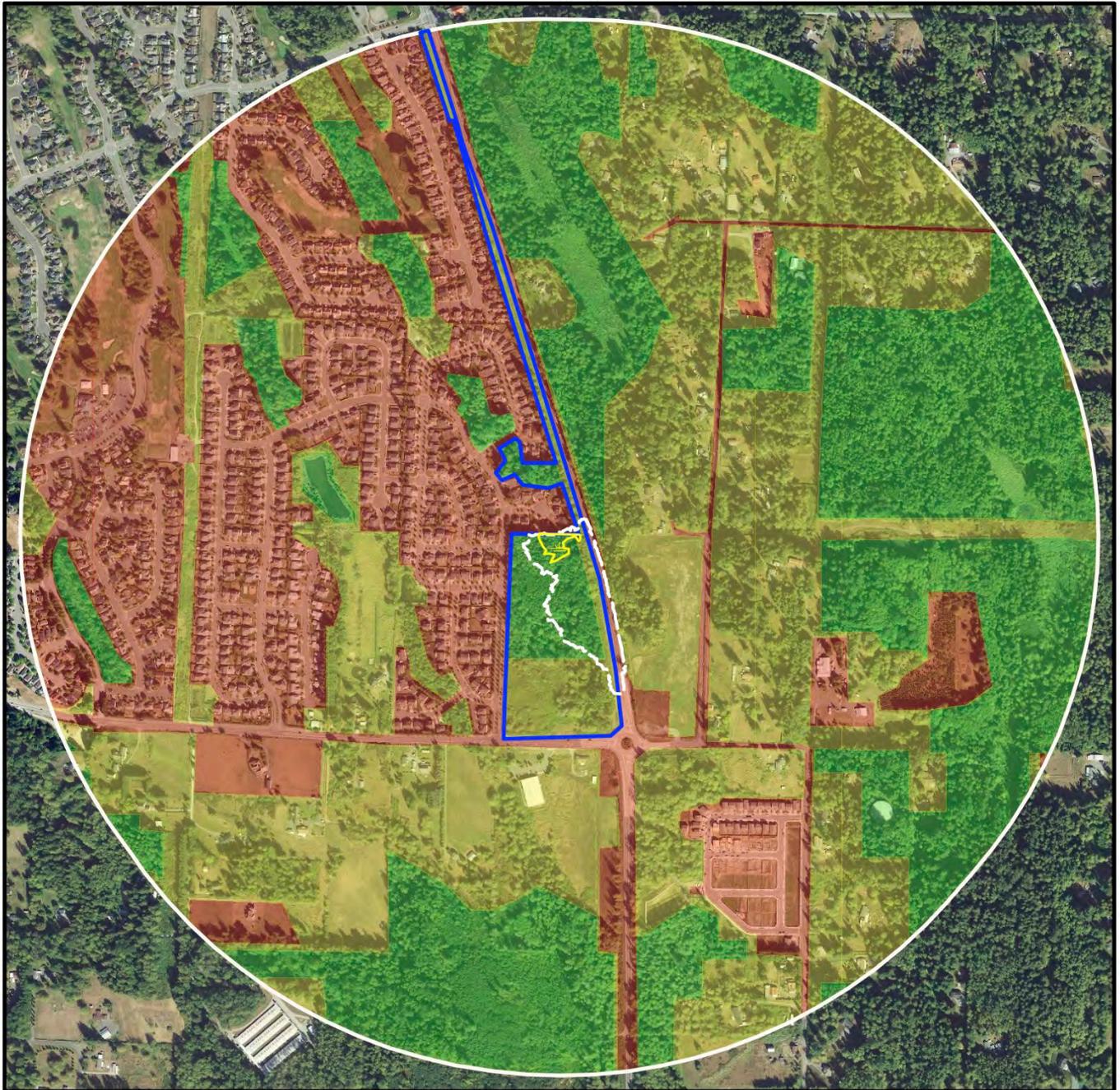
*Wetland Resources, Inc.*  
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING  
Wetland D**

Grandview North, LLC  
 Attn: Scott Wammack  
 PO Box 159  
 Arlington, WA 98223

Figure D-1  
 WRI Job # 21251  
 Rated by: JG/EC

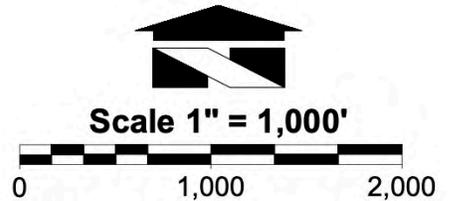
GRANDVIEW NORTH  
WETLAND RATING FIGURE 2 - WETLAND D



**LEGEND**

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

**CONTRIBUTING BASIN  
AREA RELATIVE TO  
WETLAND UNIT IS 19:1**



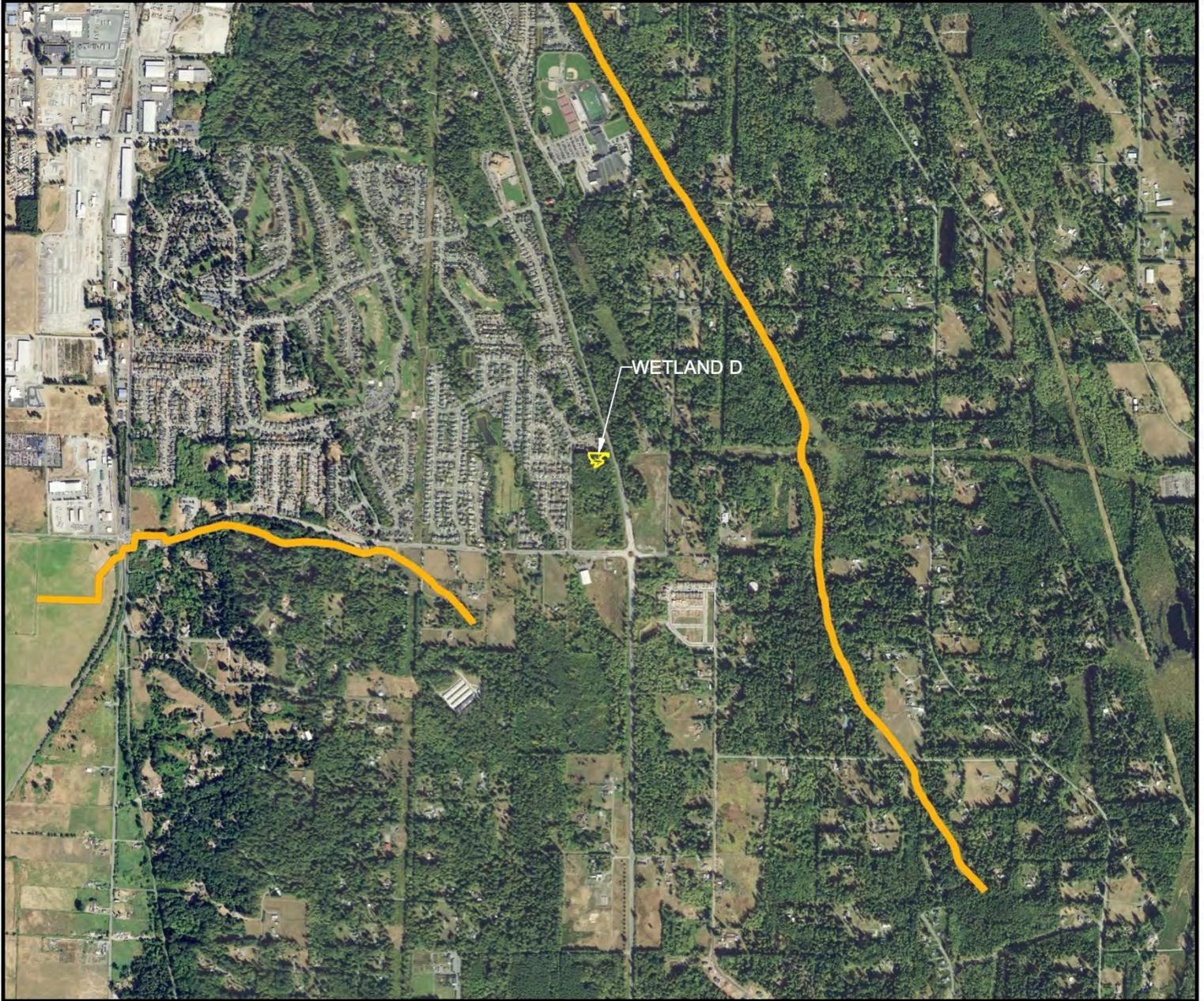
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Wetland D**

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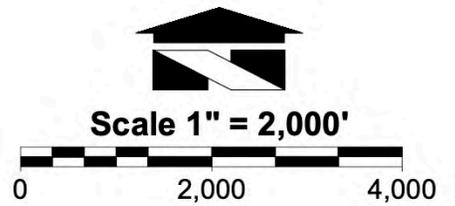
Figure D-2  
 WRI Job # 21251  
 Rated by: JG/EC

GRANDVIEW NORTH  
WETLAND RATING FIGURE 3 - WETLAND D



**LEGEND**

-  WETLAND
-  AQUATIC RESOURCES WITH TMDL LISTING
-  AQUATIC RESOURCES ON THE 303(d) LIST



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 Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland D**

Grandview North, LLC  
 Attn: Scott Wammack  
 PO Box 159  
 Arlington, WA 98223

Figure D-3  
 WRI Job # 21251  
 Rated by: JG/EC

Wetland name or number E

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): 21251 - Wetland E (Off-site Mitigation) Date of site visit: 2-3-22

Rated by MK/JG Trained by Ecology?  Yes  No Date of training 3-15/9-15

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 Snohomish County GIS

**OVERALL WETLAND CATEGORY I** (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 <input type="checkbox"/> <input checked="" type="checkbox"/> L	<input type="checkbox"/> M L	<input type="checkbox"/> M L	
Landscape Potential	<input type="checkbox"/> M L	H <input checked="" type="checkbox"/> L	H <input checked="" type="checkbox"/> L	
Value	<input type="checkbox"/> M L	<input type="checkbox"/> M L	<input type="checkbox"/> M L	<b>TOTAL</b>
<b>Score Based on Ratings</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>24</b>

**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	<input checked="" type="checkbox"/>

Wetland name or number E

## 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	E1
Hydroperiods	D 1.4, H 1.2	E1
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	E1
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	E1
Map of the contributing basin	D 4.3, D 5.3	E2
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	E2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	E3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	E3

### Riverine Wetlands

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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> 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 E

## 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 E**NO** – go to 6**YES** – The wetland class is **Riverine****NOTE:** The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

**NO** – go to 7**YES** – The wetland class is **Depressional**

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

**NO** – go to 8**YES** – The wetland class is **Depressional**

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

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

HGM classes within the wetland unit being rated		HGM class to use in rating
Slope + Riverine	<input type="checkbox"/>	Riverine
Slope + Depressional	<input type="checkbox"/>	Depressional
Slope + Lake Fringe	<input type="checkbox"/>	Lake Fringe
Depressional + Riverine along stream within boundary of depression	<input checked="" type="checkbox"/>	<b>Depressional</b>
Depressional + Lake Fringe	<input type="checkbox"/>	Depressional
Riverine + Lake Fringe	<input type="checkbox"/>	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	<input type="checkbox"/>	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 E

<b>DEPRESSIONAL AND FLATS WETLANDS</b>			
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>			
<b>D 1.0. Does the site have the potential to improve water quality?</b>			
D 1.1. <u>Characteristics of surface water outflows from the wetland:</u>			
<input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3		<b>2</b>	
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2			
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1			
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1			
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 <input type="checkbox"/> No = 0		<b>0</b>	
D 1.3. <u>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</u>			
<input type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5		<b>3</b>	
<input checked="" type="checkbox"/> Wetland has persistent, ungrazed, plants > ½ of area points = 3			
<input type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1			
<input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0			
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i>			
<input type="checkbox"/> Area seasonally ponded is > ½ total area of wetland points = 4		<b>2</b>	
<input checked="" type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland points = 2			
<input type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland points = 0			
Total for D 1		Add the points in the boxes above	<b>7</b>

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

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>			
D 2.1. Does the wetland unit receive stormwater discharges?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
D 2.3. Are there septic systems within 250 ft of the wetland?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
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 <u>Garbage</u>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
Total for D 2		Add the points in the boxes above	<b>4</b>

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

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>			
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 <input type="checkbox"/> No = 0	<b>0</b>	
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
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)?	<input type="checkbox"/> Yes = 2 <input type="checkbox"/> No = 0	<b>2</b>	
Total for D 3		Add the points in the boxes above	<b>3</b>

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

--

Wetland name or number E**DEPRESSIONAL AND FLATS WETLANDS****Hydrologic Functions** - Indicators that the site functions to reduce flooding and stream degradation

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
<input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	<b>2</b>
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	
<b>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.</b>		
<input checked="" type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	<b>7</b>
<input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
<input type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
<input type="checkbox"/> The wetland is a "headwater" wetland	points = 3	
<input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water	points = 1	
<input type="checkbox"/> Marks of ponding less than 0.5 ft (6 in)	points = 0	
<b>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.</b>		
<input type="checkbox"/> The area of the basin is less than 10 times the area of the unit	points = 5	<b>3</b>
<input checked="" type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit	points = 3	
<input type="checkbox"/> The area of the basin is more than 100 times the area of the unit	points = 0	
<input type="checkbox"/> Entire wetland is in the Flats class	points = 5	
<b>Total for D 4</b>		<b>12</b>

Add the points in the boxes above

**Rating of Site Potential** If score is:  12-16 = H  6-11 = M  0-5 = L

Record the rating on the first page

<b>D 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>		
<b>D 5.1. Does the wetland receive stormwater discharges?</b>	Yes = 1 No = 0	<b>1</b>
<b>D 5.2. Is &gt;10% of the area within 150 ft of the wetland in land uses that generate excess runoff?</b>	Yes = 1 No = 0	<b>1</b>
<b>D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at &gt;1 residence/ac, urban, commercial, agriculture, etc.)?</b>	Yes = 1 No = 0	<b>0</b>
<b>Total for D 5</b>		<b>2</b>

Add the points in the boxes above

**Rating of Landscape Potential** If score is:  3 = H  1 or 2 = M  0 = L

Record the rating on the first page

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>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.</b> 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):		
<input checked="" type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	<b>2</b>
<input type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
<input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin.	points = 1	
<input type="checkbox"/> 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	
<input type="checkbox"/> There are no problems with flooding downstream of the wetland.	points = 0	
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>		
	Yes = 2 No = 0	<b>0</b>
<b>Total for D 6</b>		<b>2</b>

Add the points in the boxes above

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

Record the rating on the first page

Wetland name or number E

**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

**4**

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**

**2**

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

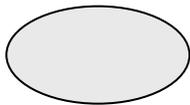
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

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

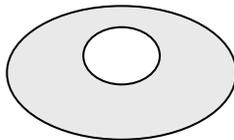
**2**

H 1.4. Interspersion of habitats

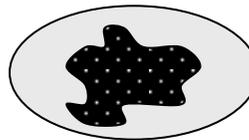
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



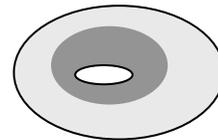
**None = 0 points**



**Low = 1 point**



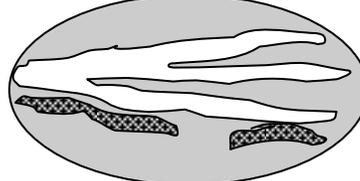
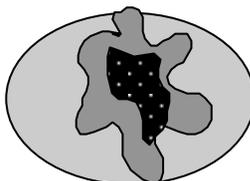
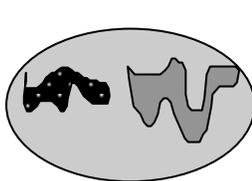
**Moderate = 2 points**



**0**

All three diagrams in this row are

**HIGH = 3 points**



Wetland name or number E

<p>H 1.5. Special habitat features:</p> <p>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 (&gt; 4 in diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input checked="" type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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 checked="" type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 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 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>)</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>		<b>5</b>
Total for H 1	Add the points in the boxes above	<b>13</b>

**Rating of Site Potential** If score is:  15-18 = H  7-14 = 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>11</u> + [(% moderate and low intensity land uses)/2] <u>6</u> = <u>17</u> %</p> <p>If total accessible habitat is:</p> <p><input type="checkbox"/> &gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p><input type="checkbox"/> 20-33% of 1 km Polygon points = 2</p> <p><input checked="" type="checkbox"/> 10-19% of 1 km Polygon points = 1</p> <p><input type="checkbox"/> &lt; 10% of 1 km Polygon points = 0</p>		<b>1</b>
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>26</u> + [(% moderate and low intensity land uses)/2] <u>19</u> = <u>45</u> %</p> <p><input type="checkbox"/> Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p><input checked="" type="checkbox"/> Undisturbed habitat 10-50% and &gt; 3 patches points = 1</p> <p><input type="checkbox"/> Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>		<b>1</b>
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p><input type="checkbox"/> &gt; 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p><input checked="" type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0</p>		<b>0</b>
Total for H 2	Add the points in the boxes above	<b>2</b>

**Rating of Landscape Potential** If score is:  4-6 = H  1-3 = M  < 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> <p><input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><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> <p><input type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p><input type="checkbox"/> Site does not meet any of the criteria above points = 0</p>		<b>2</b>

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

Record the rating on the first page

Wetland name or number E

## 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 E**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>	
<b>SC 1.0. Estuarine wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> <b>No= Not an estuarine wetland</b>	
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 = <b>Category I</b> No - Go to <b>SC 1.2</b>	<b>Cat. I</b>
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> 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) <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = <b>Category I</b> No = <b>Category II</b>	<b>Cat. I</b>  <b>Cat. II</b>
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> 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 <b>SC 2.2</b> <b>No – Go to SC 2.3</b> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = <b>Category I</b> <b>No = Not a WHCV</b> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b> No = <b>Not a WHCV</b> 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 = <b>Category I</b> No = <b>Not a WHCV</b>	<b>Cat. I</b>
<b>SC 3.0. Bogs</b> 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 <b>SC 3.3</b> <b>No – Go to SC 3.2</b> 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 <b>SC 3.3</b> <b>No = Is not a bog</b> 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 = <b>Is a Category I bog</b> No – Go to <b>SC 3.4</b> <b>NOTE:</b> 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 = <b>Is a Category I bog</b> No = <b>Is not a bog</b>	<b>Cat. I</b>

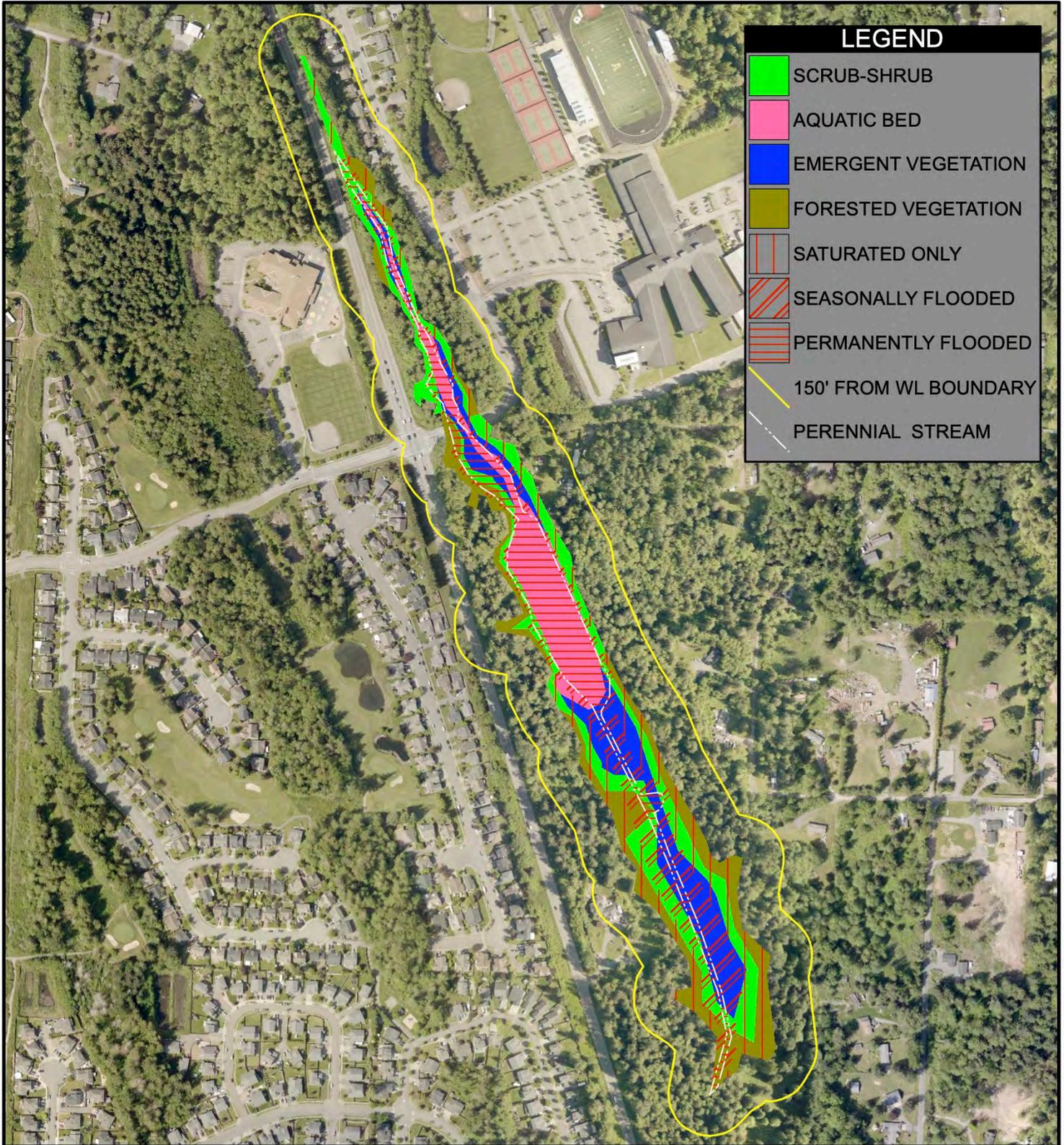
Wetland name or number E

<p><b>SC 4.0. Forested Wetlands</b></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? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (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.</p> <p><input type="checkbox"/> <b>Mature forests</b> (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> <p style="text-align: right;">Yes = <b>Category I</b>    <b>No = Not a forested wetland for this section</b></p>	<b>Cat. I</b>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 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> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>    <b>No = Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>    <b>No = not an interdunal wetland for rating</b></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 = <b>Category I</b>    No – Go to <b>SC 6.2</b></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 = <b>Category II</b>    No – Go to <b>SC 6.3</b></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 = <b>Category III</b>    No = <b>Category IV</b></p>	<b>Cat I</b>  <b>Cat. II</b>  <b>Cat. III</b>  <b>Cat. IV</b>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<b>N/A</b>

Wetland name or number \_\_\_\_\_

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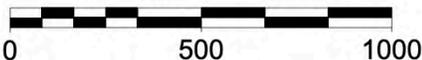
GRANDVIEW NORTH - OFF-SITE MITIGATION WETLAND  
 WETLAND RATING FIGURE 1- WETLAND E



LEGEND	
	SCRUB-SHRUB
	AQUATIC BED
	EMERGENT VEGETATION
	FORESTED VEGETATION
	SATURATED ONLY
	SEASONALLY FLOODED
	PERMANENTLY FLOODED
	150' FROM WL BOUNDARY
	PERENNIAL STREAM



Scale 1" = 500'



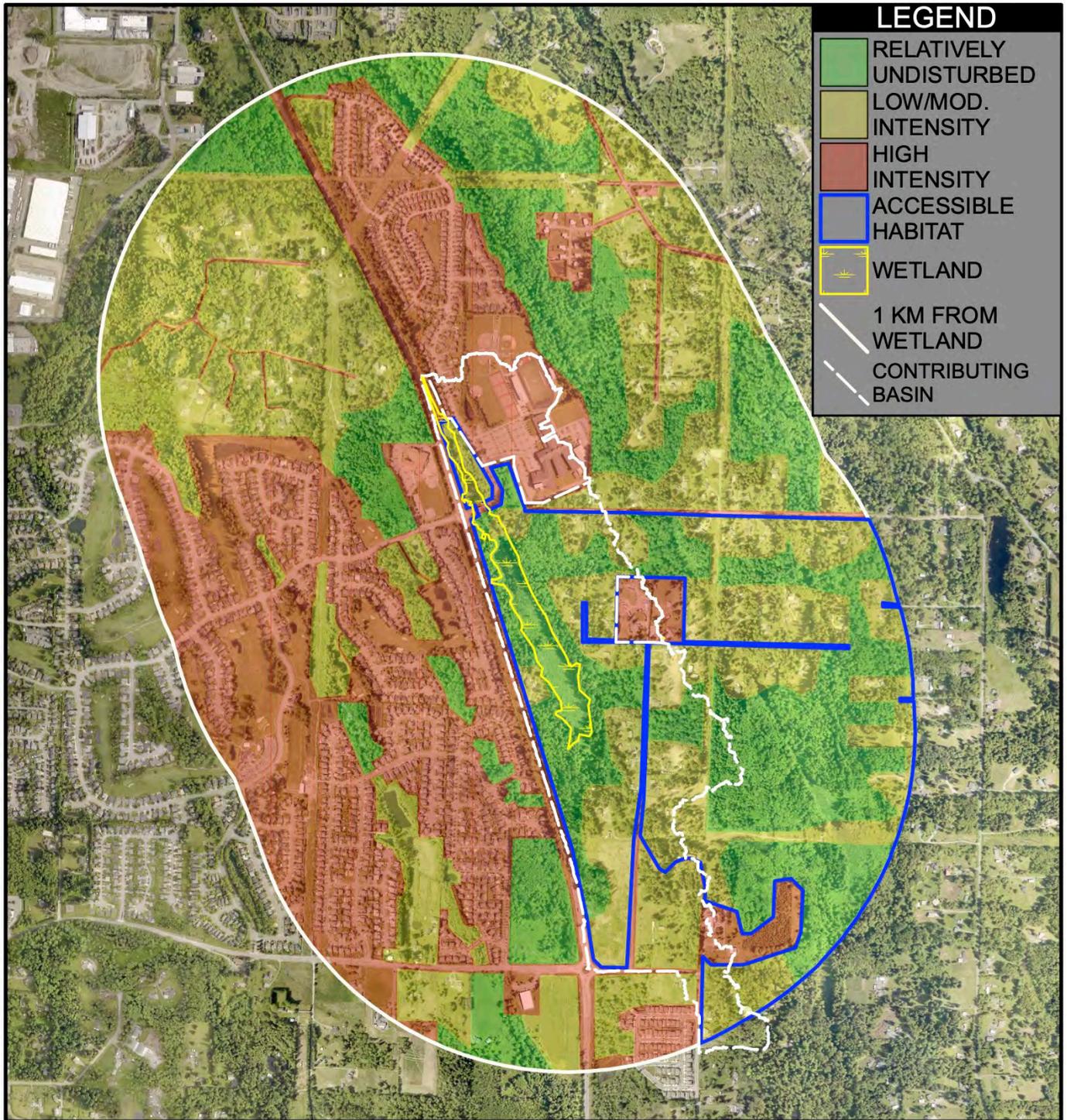
*Wetland Resources, Inc.*  
 Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland E**

Grandview North, LLC  
 Attn: Scott Wammack  
 PO Box 159  
 Arlington, WA 98223

Figure E-1  
 WRI Job # 21251  
 Rated by: JG

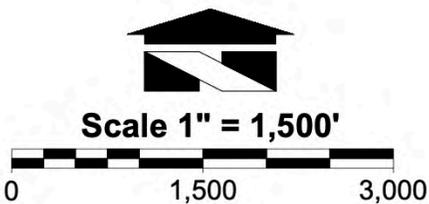
GRANDVIEW NORTH - OFF-SITE MITIGATION WETLAND  
 WETLAND RATING FIGURE 2- WETLAND E



**LEGEND**

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

**CONTRIBUTING BASIN  
 AREA RELATIVE TO  
 WETLAND UNIT IS 13:1**



*Wetland Resources, Inc.*  
 Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING  
 Wetland E**

Grandview North, LLC  
 Attn: Scott Wammack  
 PO Box 159  
 Arlington, WA 98223

Figure E-2  
 WRI Job # 21251  
 Rated by: JG

GRANDVIEW NORTH - OFF-SITE MITIGATION WETLAND  
WETLAND RATING FIGURE 3- WETLAND E



**LEGEND**



WETLAND



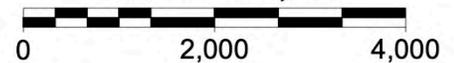
AQUATIC RESOURCES  
ON THE 303(d) LIST



AQUATIC RESOURCES  
WITH TMDL LISTINGS



Scale 1" = 2,000'



*Wetland Resources, Inc.*  
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
Phone: (425) 337-3174  
Fax: (425) 337-3045  
Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland E**

Grandview North, LLC  
Attn: Scott Wammack  
PO Box 159  
Arlington, WA 98223

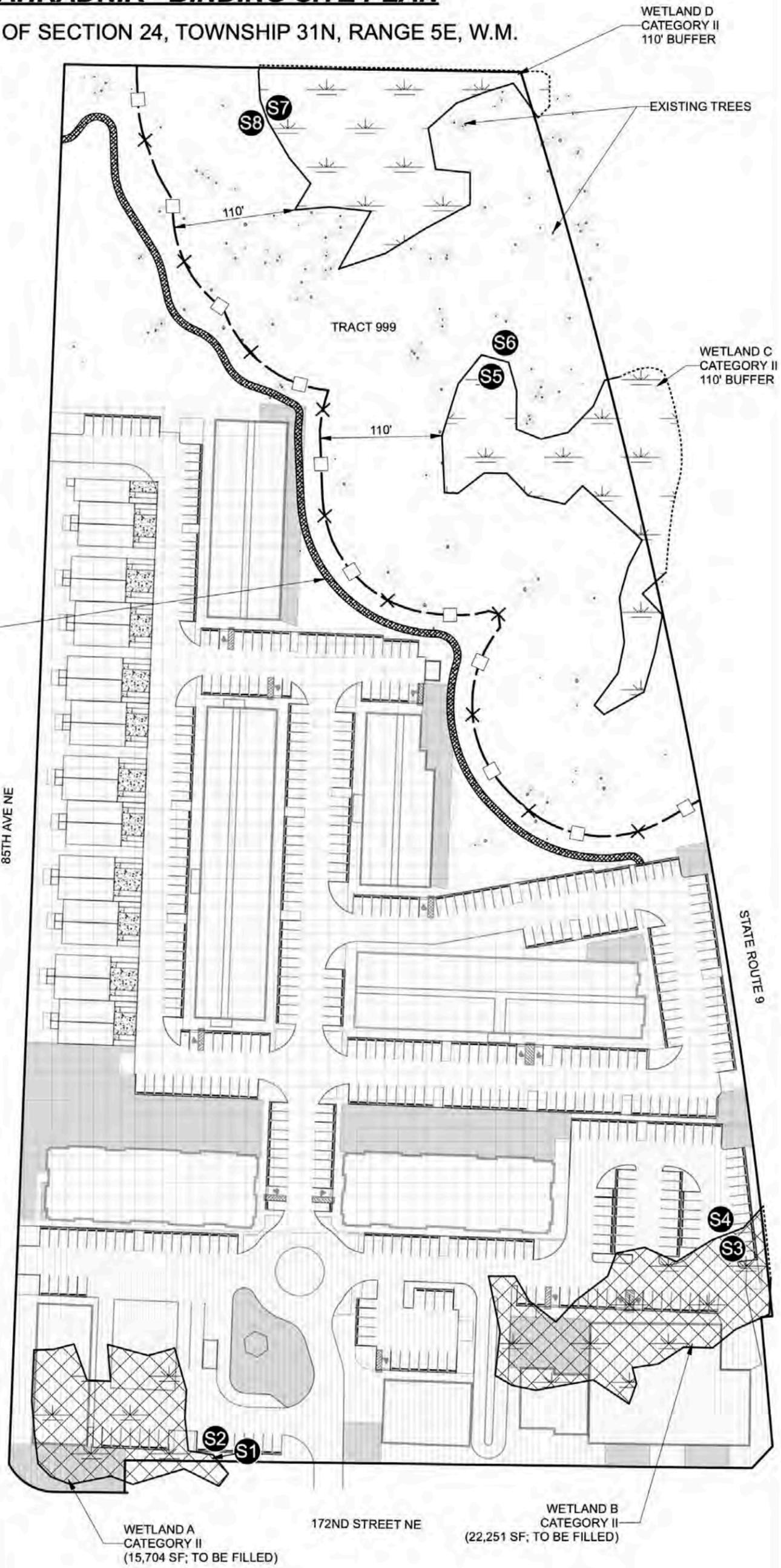
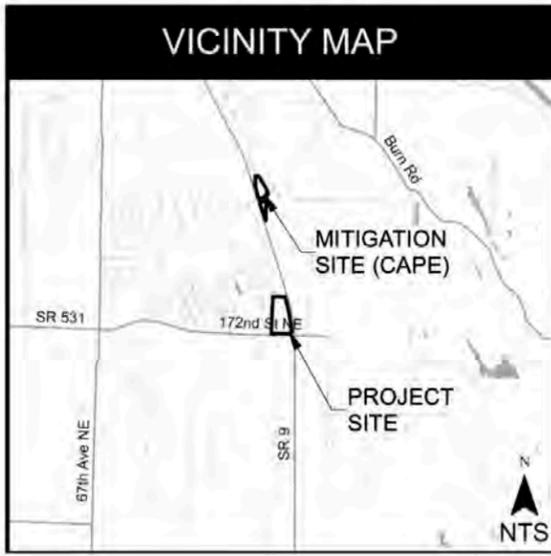
Figure E-3  
WRI Job # 21251  
Rated by: JG

**APPENDIX C:  
CRITICAL AREA STUDY & MITIGATION PLAN MAPS**

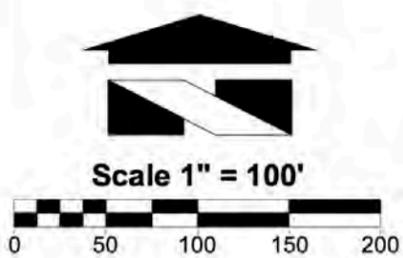
# CRITICAL AREA STUDY & MITIGATION PLAN MAP

## ZAHRADNIK - BINDING SITE PLAN

PORTION OF SECTION 24, TOWNSHIP 31N, RANGE 5E, W.M.



LEGEND	
	WETLAND
	STANDARD BUFFER
	WETLAND IMPACT (FILL)
	PROPOSED COMMERCIAL
	PROPOSED RESIDENTIAL
	PROPOSED OPEN SPACE
	FINAL BUFFER & CRITICAL AREA TRACT BOUNDARY
	SPLIT-RAIL FENCE
	CRITICAL AREA SIGNS
	DATA SITES (8 TOTAL)



**Wetland Resources, Inc.**  
 Remediation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

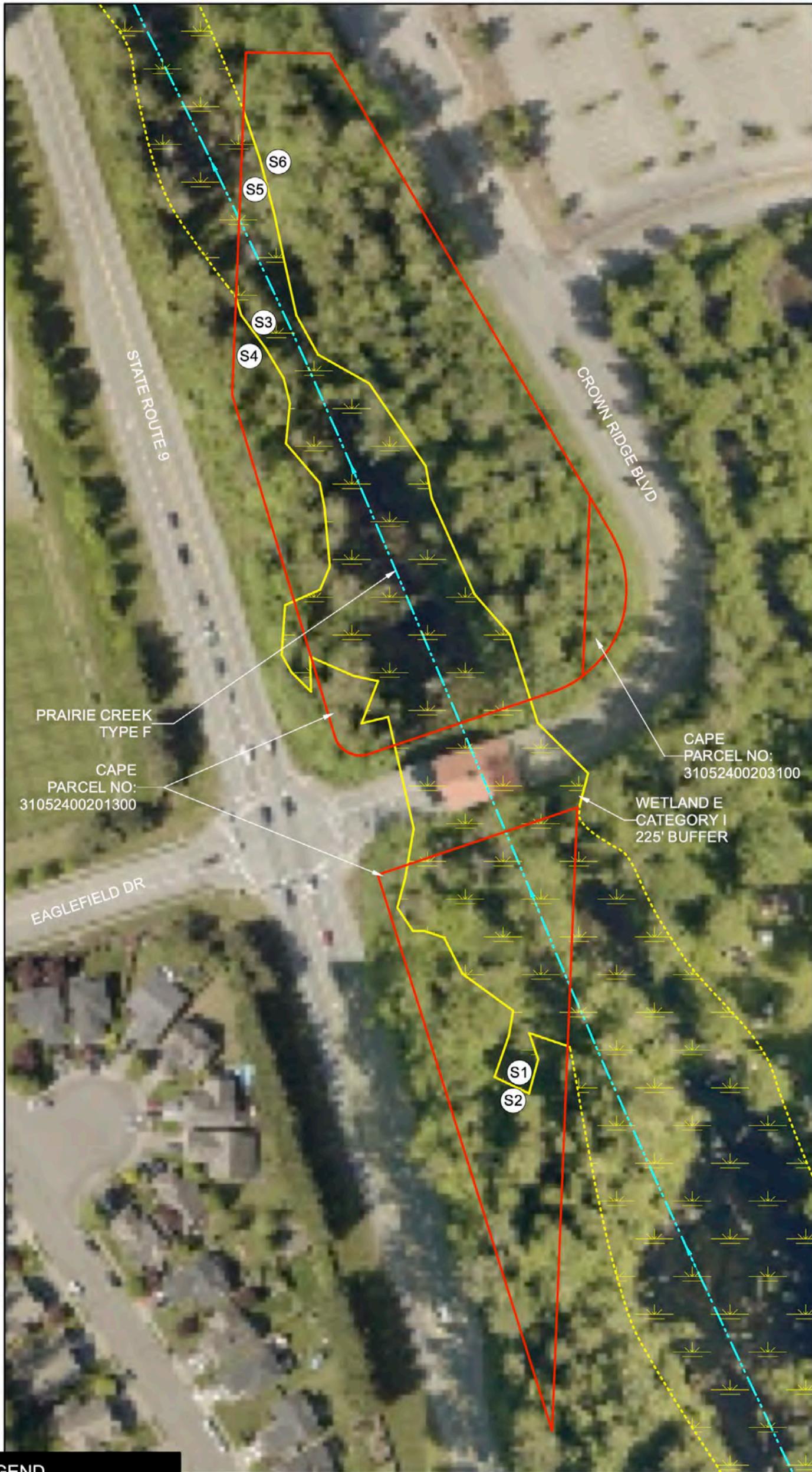
Critical Area Study & Mitigation Plan Map  
**Zahradnik - Binding Site Plan**  
 City of Arlington

Grandview North LLC  
 Attn: Scott Wammack  
 PO Box 159  
 Arlington, WA 98223

Sheet 1/2  
 Project Number: 21251  
 Drawn by: JG  
 Revision 1: July 26, 2022

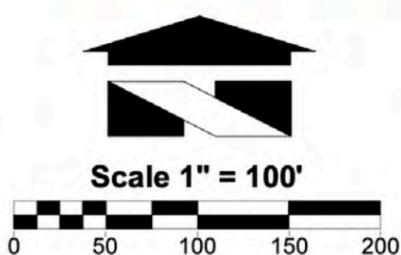
# OFFSITE MITIGATION MAP ZAHRADNIK - BINDING SITE PLAN

PORTION OF SECTION 24, TOWNSHIP 31N, RANGE 5E, W.M.



## LEGEND

- DELINEATED WETLAND BOUNDARY
- APPROX WETLAND BOUNDARY
- STREAM
- PROPERTY BOUNDARY
- DATA SITES (6 TOTAL)



**Wetland Resources, Inc.**  
Definition / Mitigation / Restoration / Habitat Creation / Permit Assistance  
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

OFFSITE MITIGATION MAP  
**ZAHRADNIK - BINDING SITE PLAN**  
 CITY OF ARLINGTON

Grandview North LLC Attn: Scott Wammack PO Box 159 Arlington, WA 98223	Sheet 2/2 WRI #: 21251 Drawn by: JG Revision 1: July 26, 2022
---	--

**APPENDIX D:**  
**JURISDICTIONAL DETERMINATION LETTERS**  
**FOR ON-SITE WETLANDS**



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, SEATTLE DISTRICT  
P.O. BOX 3755  
SEATTLE, WASHINGTON 98124-3755

Regulatory Branch

May 26, 2020

Mr. Scott Brainard  
Wetland Resources, Inc.  
9505 19<sup>th</sup> Avenue Southeast, Suite 106  
Everett, Washington 98208

Reference: NWS-2020-37  
Wetland Resources, Inc.  
(Zahradnick Property JD)

Dear Mr. Brainard:

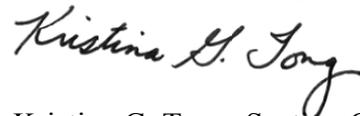
On April 2, 2020, we conducted a desk review of your Delineation Report for Zahradnick Property dated December 16, 2019, and your Memorandum dated March 26, 2020, for the property at Arlington, Washington in response to your request for verification of the jurisdictional limits of waters of the U.S. in the investigation area as shown on the enclosed drawings dated December 16, 2019. The U.S. Army Corps of Engineers has determined that Wetland A is not a water of the U.S. As such, work that would occur within this area does not require Department of the Army authorization under Section 404 of the Clean Water Act. This determination applies only to the review area. Other waters and wetlands that may occur on this property outside the review area are not the subject of this determination.

Other state and local regulations may still apply to this wetland. For example, the Washington State Department of Ecology (Ecology) may regulate this wetland. For information on how to obtain State approval for your project, you should contact Ecology's Federal Permit Coordinator at [ecyrefedpermits@ecy.wa.gov](mailto:ecyrefedpermits@ecy.wa.gov) or at (360) 407-6068. Information regarding State permitting requirements can also be found at the following website: <https://ecology.wa.gov/Water-Shorelines/Wetlands/Regulations>. We are sending a copy of this letter to Ecology and to the Environmental Protection Agency's Aquatic Resources Unit.

This approved jurisdictional determination is valid for a period of five years from the date of this letter unless new information warrants revisions of the determination. A copy of this jurisdictional determination, dated May 19, 2020, can be found on our website at [www.nws.usace.army.mil](http://www.nws.usace.army.mil) select "Regulatory Branch, Permit Information" and then "Jurisdictional Determinations". If you object to this determination, you may request an administrative appeal under our regulations (33 Code of Federal Regulations, Part 331) as described in the enclosed *Notification of Administrative Appeal Options and Process and Request for Appeal* form.

A copy of this jurisdictional determination will be furnished to Ms. Joie Goodman of Wetland Resources Inc. at [joie@wetlandresources.com](mailto:joie@wetlandresources.com). If you have any questions, please contact Ms. Amanda Barbieri at [amnda.barbieri@usace.army.mil](mailto:amnda.barbieri@usace.army.mil) or at (206) 316-3156.

Sincerely,

A handwritten signature in cursive script that reads "Kristina G. Tong".

Kristina G. Tong, Section Chief  
Regulatory Branch

Enclosures



**DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, SEATTLE DISTRICT  
P.O. BOX 3755  
SEATTLE, WASHINGTON 98124-3755**

Regulatory Branch

October 1, 2020

Mr. Scott Brainard  
Wetland Resources, Inc.  
9505 19<sup>th</sup> Avenue Southeast, Suite 106  
Everett, Washington 98208

Reference: NWS-2020-771  
Zahradnick Property  
(Wetlands B, C, and D)

Dear Mr. Brainard:

On September 3, 2020, we conducted a desk review of your Delineation Report for Zahradnick Property Wetlands B, C, and D, dated July 27, 2020, for the property at Arlington, Washington in response to your request for verification of the jurisdictional limits of waters of the U.S. in the review area (Investigation Area) as shown on the enclosed drawings dated July 27, 2020. The U.S. Army Corps of Engineers has determined that Wetland C and Wetland D are waters of the U.S. This determination applies only to the Investigation Area. Other waters and wetlands that may occur outside the Investigation Area are not the subject of this determination.

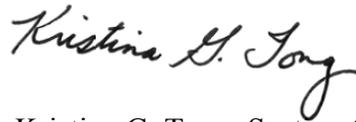
However, we have also determined that Wetland B is not a water of the U.S. because it is an excluded non-water of the U.S. per 33 CFR Part 328.3 (b). As such, work that would occur within this area does not require Department of the Army authorization under Section 404 of the Clean Water Act. Other state and local regulations may still apply to this wetland. For example, the Washington State Department of Ecology (Ecology) may regulate this wetland. For information on how to obtain State approval for your project, you should contact Ecology's Federal Permit Coordinator at [ecyrefedpermits@ecy.wa.gov](mailto:ecyrefedpermits@ecy.wa.gov) or at (360) 407-6068. Information regarding State permitting requirements can also be found at the following website: <https://ecology.wa.gov/Water-Shorelines/Wetlands/Regulations>. We are sending a copy of this letter to Ecology and to the Environmental Protection Agency's Aquatic Resources Unit.

This approved jurisdictional determination is valid for a period of five years from the date of this letter unless new information warrants revisions of the determination. A copy of this jurisdictional determination, dated September 21, 2020, can be found on our website at [www.nws.usace.army.mil](http://www.nws.usace.army.mil) select "Regulatory Branch, Permit Information" and then "Jurisdictional Determinations". If you object to this determination, you may request an administrative appeal under our regulations (33 Code of Federal Regulations, Part 331) as

described in the enclosed *Notification of Administrative Appeal Options and Process and Request for Appeal* form.

A copy of this letter with drawings will be furnished to Ms. Joie Goodman at [joie@wetlandresources.com](mailto:joie@wetlandresources.com) and Mr. Eric Scott at [erics@terravistanw.com](mailto:erics@terravistanw.com). If you propose to do any work in the areas identified to be waters of the U.S., you should contact our office prior to commencing work to determine permit requirements. Please note that conducting certain activities in waters of the U.S. without Department of the Army authorization would violate Federal law. If you have any questions, please contact Ms. Amanda Barbieri at [amanda.barbieri@usace.army.mil](mailto:amanda.barbieri@usace.army.mil) or at (206) 316-3156.

Sincerely,

A handwritten signature in black ink that reads "Kristina G. Tong". The signature is written in a cursive, flowing style.

Kristina G. Tong, Section Chief  
Regulatory Branch

Enclosures

**APPENDIX E:**  
**ADMINISTRATIVE ORDER FOR WETLAND MITIGATION**



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

Northwest Regional Office • PO Box 330316 • Shoreline, Washington 98133-9716 • (206) 594-0000  
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

May 6, 2022

Grandview North, LLC  
Attn: Scott Wammack  
P.O. Box 159  
Arlington, WA 98223

Re: Administrative Order **No. 21149** to permanently fill/impact 0.872 acres of non-federally regulated wetlands for the Zahradnik binding site plan in Snohomish County, Washington

Dear Scott Wammack:

The Department of Ecology (Ecology) received your Joint Aquatic Resources Permit Application (JARPA) on March 31, 2022 requesting an Administrative Order for proposed work in non-federally regulated wetlands. Ecology has determined that the proposed work, as conditioned by the enclosed Order, will comply with applicable provisions of Chapter 90.48 RCW and other applicable requirements of state law.

This approval is subject to the conditions contained in the enclosed Order. **You must familiarize yourself with and abide by the conditions in the Order, including all notification requirements.** If you have any questions, please contact Doug Gresham at (425) 429-1846 or by email at [Doug.Gresham@ecy.wa.gov](mailto:Doug.Gresham@ecy.wa.gov). The enclosed Order may be appealed by following the procedures described in the Order.

Sincerely,

A handwritten signature in black ink, appearing to read "Joe Burcar".

---

Joe Burcar, Section Manager  
Shorelands and Environmental Assistance Program  
Northwest Regional Office

Enclosure: Administrative Order

Sent via email to: [gv@grandviewinc.com](mailto:gv@grandviewinc.com)

Grandview North, LLC

May 6, 2022

Page 2 of 2

ecc: Amanda Nadjkovic U.S. Army Corps of Engineers  
Joie Goodman, Wetland Resources  
Doug Gresham, Department of Ecology  
ECY RE FED PERMITS

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

IN THE MATTER OF ISSUING AN ) ORDER No. 21149  
ADMINISTRATIVE ORDER TO ) Corps Ref. No. NWS-2020-771  
GRANDVIEW NORTH, LLC ) Zahradnik Binding Site Plan,  
Pursuant to RCW 90.48.120 and WAC 173-201A ) Wetlands, located in Snohomish County

TO: Grandview North, LLC  
Attn: Scott Wammack  
P.O. Box 159  
Arlington, WA 98223

This is an Administrative Order requiring Grandview North, LLC to comply with Chapter 90.48 RCW and the rules and regulations of the Department of Ecology (Ecology) by taking certain actions which are described below. RCW 90.48.120(2) authorizes Ecology to issue Administrative Orders requiring compliance whenever it determines that a person has violated or creates a substantial potential to violate any provision of Chapter 90.48 RCW.

The U.S. Army Corps of Engineers (Corps) issued jurisdictional determinations on May 26, 2020 and October 1, 2020, concluding that Wetlands A and B are not waters of the U.S. On March 31, 2022, Ecology received a request to impact 0.872 acres of non-federally regulated wetlands, which are waters of the state, to construct the Zahradnik binding site plan in Snohomish County. The project is located northwest of the State Route 9 and 172<sup>nd</sup> Street NE intersection in Snohomish County, Section 24, Township 31N., Range 5E., and WRIA 7-Snohomish.

This Administrative Order authorizes 0.872 acres of Category II wetland impacts at the project location. Mitigation for this impact involves: purchasing 0.756 credits from the Skykomish Habitat Mitigation Bank; and preserving 2.12 acres of Category I wetland and 2.8 acres of its associated buffer.

For purposes of this Order, the term “Applicant” shall mean Grandview North, LLC and its agents, assigns, and contractors.

In view of the foregoing and in accordance with RCW 90.48.120(2):

IT IS ORDERED that the Applicant shall comply with the following:

**A. General Conditions:**

1. The Applicant shall construct and operate the project in a manner consistent with the project description contained in the JARPA received by Ecology March 31, 2022 or as otherwise approved by Ecology.
2. For purposes of this Order, all submittals required by its conditions shall be sent to [fednotification@ecy.wa.gov](mailto:fednotification@ecy.wa.gov) and cc to [Doug.Gresham@ecy.wa.gov](mailto:Doug.Gresham@ecy.wa.gov). Any submittals shall reference Order No. 21149.
3. The Applicant shall provide access to the project site and preservation site upon request by Ecology.
4. Copies of this Order shall be kept on the job site and readily available for reference by Ecology personnel, the construction superintendent, construction managers and forepersons, and state and local government inspectors.
5. Nothing in this Order waives Ecology's authority to issue additional orders if Ecology determines further actions are necessary to implement the water quality laws of the state. Further, Ecology retains continuing jurisdiction to make modifications hereto through supplemental order, if additional impacts due to project construction or operation are identified (e.g., violations of water quality standards, downstream erosion, etc.), or if additional conditions are necessary to further protect the public interest.
6. The Applicant shall ensure that all appropriate project engineers and contractors at the project site have read and understand relevant conditions of this Order and all permits, approvals, and documents referenced in this Order.

**B. Notification Requirements:**

1. The Applicant shall provide written notification to Ecology in accordance with condition A.2. for the following activities:
  - a. Immediately following a violation of the state water quality standards or when the project is out of compliance with any condition of this Order.
  - b. At least seven (7) days prior to conducting work activities in wetlands.
  - c. Within seven (7) days of completing work activities in wetlands.

**C. Wetland Mitigation Conditions:**

1. The Applicant shall mitigate wetland impacts as described in the *Compensatory Mitigation Plan for Zahradnik Binding Site Plan* prepared by Wetland Resources, dated March 29, 2022 (hereafter called the “Mitigation Plan”), or as revised and approved by Ecology.
2. The Applicant shall notify and submit in writing to Ecology (see A.2) any proposed changes to the amount of wetland impacts or revisions to the mitigation plan before implementing the changes.
3. Until the Applicant has received written notice from Ecology that the Mitigation Plan has been fully implemented, the Applicant's obligation under Condition C.1 to mitigate for wetland impacts is not met.

**Preservation**

4. The Project Proponent shall follow the steps below to record a legal site protection mechanism for both the on-site wetland preservation areas for Wetlands C and D (critical area tract) and the off-site wetland preservation of a Category I wetland associated with Prairie Creek (dedicated to the City of Arlington for the purpose of mitigation):
  - a. Send draft site protection documents to Ecology for review prior to recording and make edits based on Ecology’s comments.
  - b. Record, on the mitigation site property deed, a description of the mitigation area identified in the final mitigation plan and a site map from the final wetland mitigation plan or as-built report showing the location of wetlands and their buffers.
  - c. Record these documents with the County Recording Office, Registrar of Deeds, or other official responsible for maintaining records for, or interest in, real property.
  - d. Submit proof of legal site protection to Ecology (per condition A.2) within 13 months of the date of this Order, unless otherwise approved by Ecology.

**Mitigation Bank Credits**

5. Prior to impacting wetlands, the Applicant shall submit to Ecology documentation from the bank sponsor verifying the purchase of 0.756 mitigation bank credits (credits) from the Skykomish Habitat Mitigation Bank. This documentation must

include the Ecology Order number, Order issuance date, impact acreage, the amount of credits required by the Order, and date of credit purchase.

6. The Applicant shall complete the purchase of credits before the impacts to wetlands occur, or Ecology may require additional compensation to account for temporal loss of wetland functions.
7. If the Applicant has not purchased credits within 13 months of the date of this Order, the Applicant shall inform Ecology, in writing, of the status of:
  - a. Zahradnik Binding Site Plan
  - b. When bank credits will be purchased

With the:

- c. Reason for the delay
- d. Expected date of completion

The Applicant shall submit an updated written notification every 12 months thereafter until the Zahradnik Binding Site Plan is complete and the required credits are purchased.

#### **D. Timing**

1. This Order will expire when all its conditions have been met.

Failure to comply with this Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce the terms of this Order.

#### **Your right to appeal**

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this Order:

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Grandview North, LLC  
Administrative Order No. 21149  
Page 5 of 7  
May 6, 2022

**Filing an appeal with the PCHB:**

**Mailing Address:**

Pollution Control Hearings Board  
PO Box 40903  
Olympia, WA 98504-0903

**Street Address:**

Pollution Control Hearings Board  
1111 Israel RD SW  
STE 301  
Tumwater, WA 98501

**Serving a copy of the appeal on Ecology:**

**Mailing Address:**

Department of Ecology  
Attn: Appeals Processing Desk  
PO Box 47608  
Olympia, WA 98504-7608

**Street Address:**

Department of Ecology  
Attn: Appeals Processing Desk  
300 Desmond Drive SE  
Lacey, WA 98503

## Contact Information

Please direct all questions about this Order to:

Doug Gresham  
Department of Ecology  
Northwest Regional Office  
(425) 429-1846  
[doug.gresham@ecy.wa.gov](mailto:doug.gresham@ecy.wa.gov)

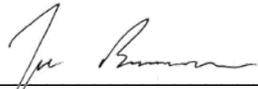
## More Information

- **Pollution Control Hearings Board Website**  
<http://www.eluho.wa.gov/Board/PCHB>
- **Chapter 43.21B RCW - Environmental and Land Use Hearings Office – Pollution Control Hearings Board**  
<http://app.leg.wa.gov/RCW/default.aspx?cite=43.21B>
- **Chapter 371-08 WAC – Practice And Procedure**  
<http://app.leg.wa.gov/WAC/default.aspx?cite=371-08>
- **Chapter 34.05 RCW – Administrative Procedure Act**  
<http://app.leg.wa.gov/RCW/default.aspx?cite=34.05>
- **Chapter 90.48 RCW – Water Pollution Control**  
<http://app.leg.wa.gov/RCW/default.aspx?cite=90.48>
- **Chapter 173.204 WAC – Sediment Management Standards**  
<http://apps.leg.wa.gov/WAC/default.aspx?cite=173-204>
- **Chapter 173-200 WAC – Water Quality Standards for Ground Waters of the State of Washington**  
<http://apps.leg.wa.gov/WAC/default.aspx?cite=173-200>
- **Chapter 173-201A WAC – Water Quality Standards for Surface Waters of the State of Washington**  
<http://apps.leg.wa.gov/WAC/default.aspx?cite=173-201A>

Grandview North, LLC  
Administrative Order No. 21149  
May 6, 2022  
Page 7 of 7

**SIGNATURE**

Dated this 6 day of May, 2022 at the Department of Ecology, Shoreline, Washington



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Joe Burcar, Section Manager  
Shorelands and Environmental Assistance Program  
Northwest Regional Office