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**OPTIONAL DETERMINATION OF NON-SIGNIFICANCE (DNS) NOTICE MATERIALS**

The attached materials are being sent to you pursuant to the requirements for the Optional DNS Process (WAC 197-11-355). A DNS on the attached proposal is likely. This may be the only opportunity to comment on environmental impacts of the proposal. Mitigation measures from standard codes will apply. Project review may require mitigation regardless of whether an EIS is prepared. A copy of the subsequent threshold determination for this proposal may be obtained upon request.

File No. 13-112477-LO  
Project Name/Address: Bellefield Office Park Vegetation Management Plan  
1715 114<sup>th</sup> Ave SE  
Planner: David Pyle / dpyle@bellevuewa.gov  
Phone Number: 425-452-2973  
Minimum Comment Period: May 16, 2013

Materials included in this Notice:

- Blue Bulletin
- Checklist
- Vicinity Map
- Plans
- Other:

# BELLEFIELD OFFICE PARK Vegetation Management Plan

Prepared for



Talon Private Capital, LLC  
1800 9th Avenue, #1600  
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March 2013



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Watershed Company  
Reference No. 120710



## **VEGETATION MANAGEMENT PLAN**

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# Bellefield Office Park

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Construction Manager  
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**March 2013**

**The Watershed Company Reference Number:**  
120710

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**Cite this document as:**  
The Watershed Company. March 2013. Bellefield Office  
Park: Vegetation Management Plan.



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# VEGETATION MANAGEMENT PLAN

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## BELLEFIELD OFFICE PARK

### 1 INTRODUCTION

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The Bellefield Office Park is an approximately 65-acre office park built in the 1970's and 1980's within the historic boundaries of the Mercer Slough wetland area. It borders 112<sup>th</sup> Avenue SE to the west, SE 8<sup>th</sup> Street to the north, and areas of the Mercer Slough Nature Park to the east and south (see Figure 1). The main Mercer Slough channel is on the eastern edge of the office park, while the Mercer Slough Right Channel is on the north, west and south sides of the office park. With the exception of several buildings along SE 8<sup>th</sup> Street, the entirety of the office park is located between these two channels and essentially functions as an island accessed by two bridges. A total of 15 one- and two-story office buildings occupy the island, with additional associated drive aisles, parking lots, and landscaped areas making up the remainder of the land area. Pedestrian trails link the buildings and parking areas and otherwise provide recreational opportunities for tenants. Access to the park is via a bridge on 114<sup>th</sup> Avenue SE (taking access from SE 8<sup>th</sup> Street) and a second bridge on SE 15<sup>th</sup> Street (taking access from 112<sup>th</sup> Avenue SE). In addition to being located directly adjacent to the Mercer Slough, the Bellefield Office Park includes dozens of fragmented wetlands. As portions of the original fill have subsided over the years, small wetland areas have appeared in heavily manicured areas of the park as well as the more natural areas.

In 2008, when the global economy declined the ownership group of Bellefield Office Park began to see occupancy levels within the park decline. Occupancy in the first quarter of 2008 was 98% and declined to 64% by 2012. As result of the poorly performing asset the ownership group slashed operating budgets. Specifically, the landscape budget was cut by 62% between the years of 2010 and 2012. During this timeframe little to no landscape maintenance was performed on the property as evidenced by the budgets cuts. The ownership group officially defaulted on their loan in April of 2012 and Talon Portfolio Services was court appointed as the General Receiver. As the General Receiver, Talon Portfolio Services is tasked to return the asset to a Class A operated property.

Landscape and vegetation maintenance activities within the office park, including wetland areas, have recently come under scrutiny. After several years of limited to no landscape, recent activities aimed at returning the site to a maintenance level commensurate with pre-foreclosure conditions have resulted



constructed, with much of the north end developed prior to 1980 and the south end developed by 1990.

Due to the source of the historic, non-structural fill on the island, the Environmental Protection Agency completed a site assessment in 1986 and the Washington Department of Ecology eventually determined the site eligible for 'No Further Action' upon the recording of a Restrictive Covenant for the property. The covenant, still in place today, allows for any contaminated soils to remain in place until such time that substantial new improvements, which result in excavation of hazardous soils, occur. It is the intention of this VMP to comply with the covenant by proposing activities and actions that do not exceed any development threshold spelled out in the covenant.

## 3 CURRENT SITE DESCRIPTION

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### 3.1 Critical Areas

Bellefield Office Park was built within the historic extent of Mercer Slough and the area retains numerous wetland pockets, some of which are continuous with the adjacent City of Bellevue Mercer Slough Nature Park.

The Watershed Company completed a wetland delineation study for a southern portion of the site in August 2012; the remainder of the vegetation management area was evaluated at a reconnaissance level in February 2013. Delineated and approximated wetland areas are depicted on the map in Appendix B. All on-site wetlands and their respective buffers are regulated by the City of Bellevue's critical areas regulations (Chapter 20.25H of the Bellevue Land Use Code [LUC]).

### 3.2 Soils

According to Natural Resources Conservation Service (NRCS) soil maps, almost 90 percent of the vegetation management area is comprised of Seattle Muck (Sk). Sk is an organic poorly drained soil characterized by a high water table and frequent inundation. The remaining 10 percent of the area is mapped as Alderwood gravelly sandy loam; it is mapped along 112<sup>th</sup> Avenue on the west side of the site.

Site soils have been affected by the lowering of Lake Washington in 1916 and the placement of fill material in the 1970s (which is not reflected in the NRCS soils map). Today the site contains a mix of organic and imported mineral soils.

### 3.3 Vegetation

The vegetation management area contains a mix of native and ornamental plants. Landscaping areas around building entrances typically contain non-native ornamental shrubs and groundcovers. Native salal and Oregon grape are also common groundcover plants around buildings and within parking medians at the north end of the site. Birch trees are common and many areas are maintained as lawn.

Native wetland pockets vary in character. Forest cover commonly includes black cottonwood and Pacific willow. Wetland shrub areas are characterized by vine maple, red-osier dogwood, hardhack spirea, twinberry and willows. Emergent wetlands are characterized by cattails or lawn grass mixed with buttercup, sedges and rushes. Dense cattails extend up to the edge of parking lots and roads in areas, particularly at the south end of the site. Despite being a native species, cattail in this setting is demonstrating invasive qualities by growing as a monoculture and excluding other native plants. Native plants identified in the management area include, but are not limited to the species listed in Table 1.

Invasive weedy plant species within the vegetation management area are primarily English ivy and Himalayan blackberry. Locally-dominant patches of other weed species are also present. Table 2 below lists observed occurrences of invasive plants onsite. Onsite weed species are generally not regulated by King County because they are already widespread within the County. However, control is recommended where feasible to prevent widespread infestation and competition with more desirable species.

Table 1. Native plants observed within the management area by strata.

	Common Name	Botanical Name		Common Name	Botanical Name
<b>Trees</b>	Big-leaf maple	<i>Acer macrophyllum</i>	<b>Groundcovers</b>	American brooklime	<i>Veronica americana</i>
	Black cottonwood	<i>Populus balsamifera</i>		Arrowleaf	<i>Alisma trivale</i>
	Cascara	<i>Rhamnus purshiana</i>		Bracken fern	<i>Pteridium aquilinum</i>
	Douglas-fir	<i>Pseudotsuga menziesii</i>		Curly dock	<i>Rumex crispus</i>
	Hooker's willow	<i>Salix hookeriana</i>		Deer fern	<i>Blechnum spicant</i>
	Lodgepole pine	<i>Pinus contorta</i>		Field horsetail	<i>Equisetum arvense</i>
	Lombardy poplar	<i>Populus nigra</i>		Field mint	<i>Mentha arvensis</i>
	Pacific willow	<i>Salix lucida</i> ssp. <i>lasiandra</i>		Giant horsetail	<i>Equisetum telmateia</i>
	Paper birch	<i>Betula papyrifera</i>		Lady fern	<i>Athyrium filix-femina</i>
	Red alder	<i>Alnus rubra</i>		Lawn grasses	<i>Poa</i> sp.
	Sitka willow	<i>Salix sitchensis</i>		Miners lettuce	<i>Claytonia sibirica</i>
	Western hemlock	<i>Tsuga heterophylla</i>		Slough sedge	<i>Carex obnupta</i>

	Western red cedar	<i>Thuja plicata</i>		Small bedstraw	<i>Galium trifidum</i>
<b>Shrubs</b>	Beaked hazelnut	<i>Corylus cornuta</i>		Small fruited bulrush	<i>Scirpus microcarpus</i>
	Hardhack spirea	<i>Spiraea douglasii</i>		Soft rush	<i>Juncus effusus</i>
	Nootka rose	<i>Rosa nutkana</i>		Spike rush	<i>Eleocharis sp.</i>
	Red elderberry	<i>Sambucus racemosa</i>		Sword fern	<i>Polystichum munitum</i>
	Red huckleberry	<i>Vaccinium parvifolium</i>		Watson's willowherb	<i>Epilobium ciliatum</i>
	Red-osier dogwood	<i>Cornus sericea</i>		White clover	<i>Trifolium repens</i>
	Salal	<i>Gaultheria shallon</i>	<b>Vine</b>	Trailing blackberry	<i>Rubus ursinus</i>
	Salmonberry	<i>Rubus spectabilis</i>			
	Snowberry	<i>Symphoricarpos albus</i>			
	Tall Oregon grape	<i>Mahonia aquifolium</i>			
	Twinberry	<i>Lonicera involucrata</i>			
	Vine maple	<i>Acer circinatum</i>			

Table 2. Invasive weeds identified and the associated King County management status.

Common Name	Botanical Name	King County Status
Bindweed	<i>Convolvulus sp.</i>	weed of concern
Blackberry, Evergreen	<i>Rubus laciniatus</i>	non-regulated noxious weed
Blackberry, Himalayan	<i>R. armeniacus</i>	non-regulated noxious weed
Climbing nightshade	<i>Solanum dulcamara</i>	weed of concern
Creeping buttercup	<i>Ranunculus repens</i>	weed of concern
English holly	<i>Ilex aquifolium</i>	weed of concern
English ivy	<i>Hedera helix</i>	non-regulated noxious weed
English laurel	<i>Prunus laurocerasus</i>	weed of concern
European mountain ash	<i>Sorbus aucuparia</i>	weed of concern
Knotweed	<i>Polynonum sp.</i>	non-regulated noxious weed
Poison hemlock	<i>Conium maculatum</i>	non-regulated noxious weed
Reed canarygrass	<i>Phalaris arundinacea</i>	non-regulated noxious weed
Robert's geranium	<i>Geranium robertianum</i>	non-regulated noxious weed
Yellow-flag iris	<i>Iris pseudacorus</i>	non-regulated noxious weed

### 3.4 Habitat

The majority of the 65-acre vegetation management area is encircled by Mercer Slough and is adjacent to the Mercer Slough Nature Park to the south and east. As shown in the aerial overview below (Figure 2), the Bellefield Office Park is situated between the preserved natural areas of the Nature Park and the City of

Bellevue's urban core. Onsite, a fragmented mosaic of wetlands and maintained landscaping surrounds the existing buildings, access roads, and parking lots.

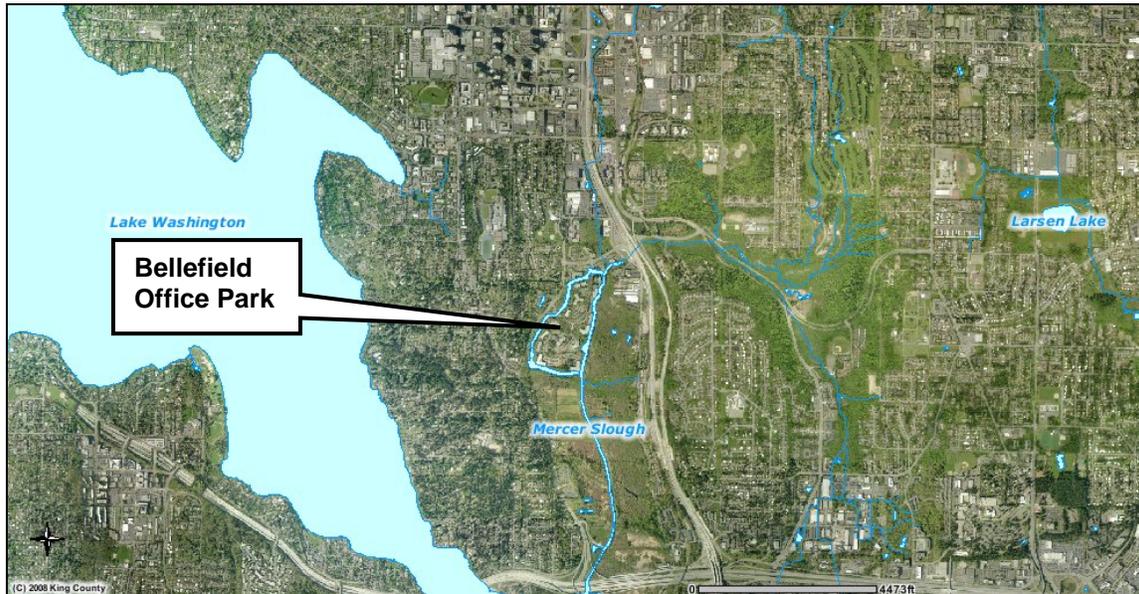


Figure 2. Bellefield Office Park landscape overview

The management area provides habitat for birds, herptiles, and small mammals. Highly mobile species such as birds are the most likely to cross the numerous breaks in the onsite habitat to reach and utilize the vegetated areas. The patches of native habitat may support herptile and small mammal species whose lifecycle needs can be met without the need to leave the site. However, these taxa are more likely to avoid unvegetated areas and roads, and they would face impediments to immigration from outside sources. Less mobile species and species requiring large home ranges are unlikely to utilize the property consistently, as the fragmented nature of the habitat patches is not conducive to supporting their needs for extended periods.

Habitat patches within developed urban areas are vital to urban bird conservation, although they don't support the species that larger forests on the outskirts of urbanizing areas can. Songbirds in particular are likely to use forested areas in the vegetation management area. Birds are better able than other wildlife species to travel among habitat fragments, such as those within the office park. As described above, some herptiles may have their entire life cycle requirements met in the office park wetlands and natural areas, particularly in areas of seasonal inundation, and native frogs were observed in many emergent wetlands at the south end of the property at the time of our August 2012 wetland delineation study. However, amphibians likely avoid migration across developed and highly used areas into and out of the adjacent Mercer Slough Nature Park. The park may provide a source of herptiles to onsite wetlands that

are contiguous with the park or separated by only narrow and lightly used breaks.

The diversity of plant species and structure throughout the site provides for many different food and cover opportunities for wildlife. Berry-producing plants within the vegetation management area, such as salmonberry and snowberry, provide a food source for songbirds, and other plants provide seeds, cones, and catkins for wildlife. Non-native blackberry brambles also provide a food source and refuge for birds and small mammals. A structurally diverse community of trees and shrubs provide perching and nesting opportunities, and cattails may attract specialized species such as red-winged blackbird and marsh wren.

Waterfowl frequent areas of seasonal and permanent inundation and may occasionally use the vegetation management area's wetlands. The presence of development and human disturbance probably would deter more sensitive species and limit use of the vegetation management area to synanthropic species such as Canada goose and mallard. However, a wider range of waterfowl species make use of the slough itself. Anadromous and resident fish utilize the surrounding Mercer Slough.

### **3.4.1 Species of Local Importance**

The City of Bellevue designates habitat associated with species of local importance as a critical area (LUC 20.25H.150.B). Species of local importance (LUC 20.25H.150.A) are listed in Table 3.

Considering onsite conditions and landscape position, the vegetation management area may provide habitat, primarily perching and foraging habitat, for the following species of local importance: red-tailed hawk, merlin, great blue heron, pileated woodpecker, Vaux's swift, and purple martin. Bald eagles and osprey commonly forage and nest next to large open waters and may pass through the office park. No raptor nests were noted during our fieldwork, but three bald eagle nests are mapped within a one-mile radius (WDFW, PHS on the Web). The eastern channel of Mercer Slough is mapped by King County as part of the Coho and Chinook salmon and steelhead trout distribution area; cutthroat trout and sockeye salmon are mapped within the entire slough channel. In general, wetland areas that are continuous with Mercer Slough and fringe wetlands tend to have the more intact habitat features than the maintained office park interior.

Table 3. Species of Local Importance as defined in LUC 20.25H.150.A.

Common name	Scientific name
Bald eagle	<i>Haliaeetus leucocephalus</i>
Peregrine falcon	<i>Falco peregrinus</i>
Common loon	<i>Gavia immer</i>
Pileated woodpecker	<i>Dryocopus pileatus</i>
Vaux's swift	<i>Chaetura vauxi</i>
Merlin	<i>Falco columbarius</i>
Purple martin	<i>Progne subis</i>
Western grebe	<i>Aechmophorus occidentalis</i>
Great blue heron	<i>Ardea herodias</i>
Osprey	<i>Pandion haliaetus</i>
Green heron	<i>Butorides striatus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Western big-eared bat	<i>Plecotus townsendii</i>
Keen's myotis	<i>Myotis keenii</i>
Long-legged myotis	<i>Myotis volans</i>
Long-eared myotis	<i>Myotis evotis</i>
Oregon spotted frog	<i>Rana pretiosa</i>
Western toad	<i>Bufo boreas</i>
Western pond turtle	<i>Clemmys marmorata</i>
Chinook salmon	<i>Oncorhynchus tshawytscha</i>
Bull trout	<i>Salvelinus confluentus</i>
Coho salmon	<i>Oncorhynchus kisutch</i>
River lamprey	<i>Lampetra ayresi</i>

## 4 LOCAL REGULATIONS

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Vegetation management activities within critical areas and critical area buffers in the City of Bellevue are regulated under the Critical Areas Overlay District regulations (LUC 20.25H) and are also subject to the Critical Areas Land Use Permit criteria found in LUC 20.30P. Applicable regulations from those Code sections are listed below (in italics) along with project-specific responses.

### **20.30P.140 Critical Areas Land Use Permit Decision Criteria**

*A. The proposal obtains all other permits required by the Land Use Code.*

Response: In addition to a Critical Areas Land Use Permit, the project applicant will apply for a Clear and Grade Permit from the City of Bellevue. No other City of Bellevue land use or construction permits will be required of this project.

*B. The proposal utilizes to the maximum extent possible the best available construction, design and development techniques which result in the least impact on the critical area and critical area buffer.*

Response: The proposed project involves the management of existing vegetation within the Bellefield Office Park. Management activities include removal of non-native/invasive vegetation, native restoration, tree-pruning, tree removal, and in-fill planting. All activities will be carried out utilizing best management practices for work in critical areas and critical area buffers. Overall, invasive removal, native restoration, and other vegetation activities are expected to maintain or improve net critical area functions and values within the vegetation management area.

*C. The proposal incorporates the performance standards of Part 20.25H LUC to the maximum extent applicable.*

Response: See the discussion of wetland and stream performance standards (per LUC 20.25H.080A and 100) below for compliance with all applicable performance standards.

*D. The proposal will be served by adequate public facilities including streets, fire protection, and utilities.*

Response: The proposed VMP will not alter existing utilities and it will not result in the need for additional public facilities.

*E. The proposal includes a mitigation or restoration plan consistent with the requirements of LUC 20.25H.210; except that a proposal to modify or remove vegetation pursuant to an approved Vegetation Management Plan under LUC 20.25H.055.C.3.i shall not require a mitigation or restoration plan.*

Response: As indicated, a mitigation or restoration plan is not required for proposals involving vegetation management plans.

*F. The proposal complies with other applicable requirements of this code.*

Response: The proposed VMP complies with all other applicable City of Bellevue Land Use Codes, including 20.25H and 23.76.

## **LUC 20.25H.055.C.3.i.vi – Vegetation Management Plan Requirements**

*(1) A description of existing site conditions, including existing critical area functions and values;*

- (2) *A site history;*
- (3) *A discussion of the plan objectives;*
- (4) *A description of all sensitive features;*
- (5) *Identification of soils, existing vegetation, and habitat associated with species of local importance present on the site;*
- (6) *Allowed work windows;*
- (7) *A clear delineation of the area within which clearing and other vegetation management practices are allowed under the plan; and*
- (8) *Short- and long-term management prescriptions, including characterization of trees and vegetation to be removed, and restoration and revegetation plans with native species, including native species with a lower growth habit. Such restoration and revegetation plans shall demonstrate that the proposed Vegetation Management Plan will not significantly diminish the functions and values of the critical area or alter the forest and habitat characteristics of the site over time.*

Response: This Vegetation Management Plan includes all of the above described components.

### **LUC 20.25H.080.A & 100, Stream and Wetland Performance Standards**

1. (A). *Lights shall be directed away from the stream (wetland).*

Response: No lights are proposed as part of the vegetation management project.

2. (B.) *Activity that generates noise such as parking lots, generators, and residential uses, shall be located away from the stream (wetland), or any noise shall be minimized through use of design and insulation techniques.*

Response: The proposed project will not generate any significant amounts of noise. The only new noise generated within the project area would be vegetation management activities (mowing, pruning, blowing). Activities would occur sporadically during weekday work hours and would be minimized to the maximum extent feasible. Noises are most likely to be incidental to adjacent office-related noise (primarily vehicular traffic). Adjacent critical area functionality is already impacted by the established land use and VMP activities are not expected to significantly alter the existing functions and values.

3. (C.) *Toxic runoff from new impervious area shall be routed away from the stream (wetlands).*

Response: No new impervious surfaces are proposed as part of the project.

4. (D.) *Treated water may be allowed to enter the stream (wetland) critical area buffer.*

Response: As indicated in the prior response, new impervious surfaces are not proposed and there is no proposed change in current drainage patterns. Therefore, water treatment is not necessary.

5. (E.) *The outer edge of the stream (wetland) critical area buffer shall be planted with dense vegetation to limit pet or human use.*

Response: Vegetation management activities are planned throughout areas of wetland, wetland buffer, and stream buffer. Areas of invasive species removal will be replanted with native vegetation.

6. (F.) *Use of pesticides, insecticides and fertilizers within 150 feet of the edge of the stream critical area buffer shall be in accordance with the City of Bellevue's "Environmental Best Management Practices," now or as hereafter amended. (Ord. 5680, 6-26-06, § 3)*

Response: All activities associated with vegetation management, including pesticide, insecticide and fertilizer usage, will be in compliance with the City of Bellevue's "Environmental Best Management Practices".

### **20.25H.160 Performance standards – Habitat Associated with Species of Local Importance**

*If habitat associated with species of local importance will be impacted by a proposal, the proposal shall implement the wildlife management plan developed by the Department of Fish and Wildlife for such species. Where the habitat does not include any other critical area or critical area buffer, compliance with the wildlife management plan shall constitute compliance with this part.*

Response: Vegetation management activities are not expected to impact habitat associated with species of local importance.

## **5 MANAGEMENT ZONES AND OBJECTIVES**

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Management of on-going vegetation activities within the Bellefield Office Park is the main objective of this VMP. Extensive fieldwork was undertaken prior to development of this plan. Fieldwork included a comprehensive wetland

delineation within the southern half of the office park and a wetland reconnaissance within the northern half. In addition to wetland delineation and reconnaissance, the completed fieldwork included a detailed inventory of existing vegetation within the office park. This information has been utilized to divide the entire office park into distinct and separate zones. All areas of the office park currently not occupied by buildings or impervious surfaces have been given a zone designation. Zones are based on several factors including, adjacency to buildings and paved areas, existing vegetation, presence or absence of wet conditions, past maintenance patterns, and future objectives. Based on these criteria, a total of six main zones were identified. In general, zones are listed in the order of level of maintenance or alteration allowed. Therefore, Zone 1 shall have the most flexibility while Zone 6 is essentially a 'no touch' zone. A detailed description of the zones is found below and a map of the zones can be found in Appendix C.

In general, objectives for each zone are to efficiently manage the office park in a fashion that allows for continued office use while protecting the abundant natural resources on the property. Vegetation management includes consideration of the following factors: existing infrastructure, sight distance, erosion control, water quality, stormwater infiltration, safety requirements, invasive species control, and vegetation and wildlife habitat preservation and enhancement.

## 5.1 Zone 1 – Building Entrances and Monuments

Description: This zone includes all areas within the immediate vicinity of building entrances and monument sign locations at street intersections. In general, these areas have been maintained in the most ornamental fashion of all areas of the office park. The entrance areas are adjacent to walkways, drive aisles, and building doors. Common vegetation found in these areas includes invasive English ivy, salal, and ornamental shrubs. The monument sign locations include areas of ornamental or highly manicured native vegetation surrounding signs indicating building names.

Maintenance activities in Zone 1 are likely to include landscaping conversions (new plantings or plant replacements), mowing, pruning, invasive removal, leaf-litter removal, and mulch applications.

Objectives: This VMP is intended to provide flexible management prescriptions for maintaining and improving these highly altered and extremely visible areas of the office park. These areas will be updated from time-to-time, to remain current and to help attract tenants, and this plan intends to provide the flexibility for this to occur. Following Crime Prevention Through Environmental Design (CPTED) principles, the VMP seeks to establish and maintain clearly defined entries and visible monument signs.

## 5.2 Zone 2 – Access Roads - Shoulders and Sightlines

Description: While not including the paved portion of the roadways or sidewalks, this zone includes all areas immediately adjacent to the main roadways within the office park. This includes the road shoulders and areas within the vicinity of intersections. Maintenance activities in Zone 2 are likely to include mowing, pruning, landscaping conversions (new plantings or plant replacements), leaf-litter removal and mulch applications.

Objectives: The intent of this zone is to provide flexibility related to vehicular and pedestrian safety while also allowing for cohesion with adjacent zones.

## 5.3 Zone 3 – Maintained Semi-natural Areas

Description: This zone covers building perimeters and most vegetated areas in the office park interior. This zone is characterized by interior landscaping and parking lot medians, some of which contain densely vegetated wetland pockets. Vegetation in this zone commonly contains trees with mowed lawn understory, locally dominant shrub patches, and cattail monocultures. Invasive ivy surrounds the perimeter of several buildings within this zone and a few locally dominant patches of non-native blackberry are present. Any future conversion from paved surface to vegetated area shall be given a Zone 3 designation.

Activities in Zone 3 are likely to include mowing, pruning, landscaping conversions (new plantings or plant replacements), invasive weed removal, leaf-litter removal and mulch applications.

Objectives: The intent of this zone is to provide practical management prescriptions that allow reasonable maintenance of high-visibility, high-traffic areas to increase pedestrian safety and maintain an office park aesthetic. General principles of CPTED will guide maintenance decisions, such as improving site operations/controls and fostering natural surveillance by maximizing sight corridors.

## 5.4 Zone 4 – Limited Maintenance Natural Areas

Description: Relatively intact wetlands, vegetated primarily by native trees and shrubs, were selected for this zone designation. These wetland pockets, which are concentrated at the south end of the management area, are relatively large and have permanent and/or seasonal inundation hydroperiods.

Annual vegetation management in Zone 4 will be limited to the perimeter and primarily consist of pruning and mowing to manage encroachment into adjacent parking spaces and usable areas. New plantings or plant replacements, invasive weed removal, and hazard tree removal may also occur in this zone.

Objectives: Given the proximity to parking lots, access roads and buildings, some periodic maintenance of these wetland areas is necessary. Providing clear guidance on the limits of pruning and general maintenance to minimize critical area disturbance to the extent practicable is the intent of this zone.

## 5.5 Zone 5 - Trails

Description: This zone includes all existing trail areas within the Bellefield Office Park. Onsite trails are graveled and approximately 5 feet wide. Currently, vegetation on either side of the trail is mowed or cut back. The open space around trail segments varies, but is generally 3 feet from either trail edge at a minimum. Vegetation within this maintained zone is commonly grass lawn, but also includes shrubs and trees. Some picnic tables and benches lie along trail; the perimeter of those features will need to be maintained as well.

Maintenance activities in Zone 5 are restricted and will likely be limited to pruning and mowing in the short-term. Over the long-term, new plantings or plant replacements, invasive weed removal, and hazard tree removal may also occur in this zone.

Objectives: It is the intent of this zone to provide for continued safe pedestrian access throughout the office park while also protecting adjacent native vegetation.

## 5.6 Zone 6 – Mercer Slough Fringe

Description: This zone primarily includes those areas of the office park waterward of the perimeter trail zone. This area directly abuts the adjacent Mercer Slough and contains significant blocks of existing native vegetation. Existing native vegetation includes paper birch, black cottonwood, red alder, red-osier dogwood, red elderberry, and hardhack spirea. Locally dominant non-native blackberry patches occur throughout the zone. The fringe zone also contains mowed lawn, which extends up to the edge of the slough channel at several locations in the northern end of the site.

Allowed maintenance actions in Zone 6 are limited and primarily consist of invasive removal, hazard tree removal, and restoration planting. Since mowed lawn currently characterizes portions of this zone, mowing may continue until restoration planting is implemented.

Objectives: It is the intent of this zone to provide for preservation of existing native vegetation while allowing for restoration of degraded areas. Allowed maintenance in this zone is restricted to maintaining or improving existing conditions.

## 6 VEGETATION MANAGEMENT ACTIVITIES

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This section identifies specific vegetation management activities proposed under this VMP. As described below, activities are proposed to either occur in the short-term or long-term. Additionally, as described above in Section 5, activities are tied to specific and distinct zones throughout the office park. Appendix D includes a summary of allowed activities within each of the six zones.

### 6.1 Short term

Under the proposed VMP, vegetation management activities have been split into two distinct types of work – short term and long term. As described in this subsection, short term activities are related to returning landscaping within the office park to a maintenance level last seen prior to the lack of up-keep that occurred in recent years. Short term activities also involve actions intended to improve vehicular sight distance and tenant safety while also upgrading landscaping within the most visible portions of the office park. Short term activities can occur for a period not extending more than three years from the date this VMP is approved by the City of Bellevue. A summary of the short term activities are below.

#### 6.1.1 Clearing

As mentioned previously, foreclosure and subsequent change of ownership at the office park resulted in a lack of adequate landscape maintenance for a period of several years. The current owners are now ready to begin normal and routine maintenance activities while also seeking to remedy many areas of the park that were not adequately maintained in the recent past. In order to bring those areas of the park up to a current level of expected maintenance, three specific activities are proposed. These include sight distance clearing, hazard tree removal, and safety enhancements. A detailed description of each proposed activity, along with the general Best Management Practices (BMP) approach, is presented below.

##### **Sight Distance Clearing**

Description: Pruning, trimming or weeding undesirable vegetation that is limiting sight distance, limiting complete and safe use of the roadways within the office park, limiting the viewing of required signage, obstructing utilities, or preventing the ingress and egress for maintenance of such utilities.

BMP Approach: In general, the sight distance clearing activities should be limited to an established road shoulder width, sight-distance triangle, or view corridor as applicable. Sight distance clearing is expected to occur in Zones 2

through 4. The extent of clearing will be the minimum necessary to alleviate any of the above described sight distance obstructions.

Pruning of native trees and shrubs should be limited to the extent necessary to accomplish the objective, and should in no case endanger the plant or plants. Pruning that may be done any time of year with little impact to the living tree or shrub includes removal of diseased, broken, dying or dead limbs. Live branch pruning should be performed late in the dormant season or very early spring, before new buds form. Branch collars should not be removed or injured, and cut branches should not be painted. The definition of pruning does not include topping trees which is an inappropriate technique that can lead to increased risk of tree failure. Pruned materials should be placed so that they do not interfere with the growth of other vegetation, or should be disposed of off-site. All pruning should be done by a qualified professional in conformance with International Society of Arboriculture (ISA) standards. In general, pruning of landscaped areas should encourage and direct new growth, maintain plant health, maintain landscape visibility, and improve safety.

Weeding or removal of non-native plants that present an ongoing problem because of their growth patterns or prolificacy should be considered. Any removed vegetation must be replaced with appropriate native species, as identified in Appendix E.

### **Hazard Tree Removal**

Description: For the purposes of this activity, hazard trees include those significant trees (greater than 8-inches diameter, measured four feet above existing grade) that are at risk of failure (including branches) and that are an imminent threat to public safety or are posing an imminent risk of damage to an existing structure, roadway, parking area, walkway, or other permanent improvement. Hazard trees may include trees that are healthy but are growing in a fashion that puts their (or others) future health at risk (e.g., thinning in limited circumstances). Hazard trees may only be removed with the recommendation of a certified arborist.

Non-significant trees (less than 8-inches diameter, measured 4 feet above existing grade) may be managed without approval of an arborist. Removal of non-significant trees may only be done to reduce overcrowding of vegetation, to remove trees that, if left, will cause significant damage to sidewalks, parking areas, buildings, overhead wires or other structures, and to conform to the site distance clearing requirements outlined above in this section. Small tree removal shall be the minimum necessary to accomplish the tasks described above.

BMP Approach: Prior to removal, hazard tree(s) shall be evaluated by a certified arborist to determine the hazard level and appropriate mitigation actions. Removal of significant trees will be mitigated through replanting at a 4:1 ratio with appropriate native species (see Appendix E). A certified arborist shall select species (Appendix E should be used as a guide) that will likely not require similar future remediation at the same location. If an arborist determines that conditions are not favorable to tree replacement in the same location, native shrubs and/or groundcover can be substituted and tree replacement can occur elsewhere on the property at a 4:1 ratio.

Alternatively, if it would not cause an ongoing hazard or negatively impact habitat, it may be more beneficial to leave a snag rather than entirely remove the tree. In this case, an arborist shall be consulted regarding whether leaving a snag is appropriate under existing conditions, whether on-site tree replacement is advised, and if so, in what ratio. Cut hazard trees should generally be left on-site to function as habitat features unless otherwise advised by an arborist. Written approval from arborists (see Appendix F) shall be kept on-file with the property manager.

### **Safety Enhancements**

Description: The final type of short-term clearing activity is related to safety. Specifically, vegetation removal in those areas posing a risk to pedestrian/tenant safety. This primarily includes heavily overgrown vegetation immediately adjacent to parking areas and walkways. Dense and tall vegetation within some parking medians has resulted in secluded and unsafe conditions within the office park campus. Safety enhancements will be employed to address these concerns. Those enhancements may include pruning, trimming, weeding, and plant replacements.

BMP Approach: The extent of clearing will be the minimum necessary to alleviate any of the above described safety concerns. Since safety improvement tasks are similar to sight distance clearing and hazard tree removal, those BMPs, listed in the sub-sections above, are applicable to safety enhancements.

Safety enhancements include natural surveillance improvements, such as the establishment of view corridors. Selective pruning should be employed to improve visibility in these discrete areas and maximize campus safety. Plant replacement may be allowed where pruning alone cannot achieve sufficient visibility. Plant replacement BMPs described in Section 6.2.4 below should be followed in those instances.

## 6.1.2 Building Entrance Improvements

Description: In order to remedy past inadequate maintenance activities and also to upgrade the most highly visible areas of the office park, improvements are proposed at the entrances to each office building as well as each monument sign location. These activities are limited exclusively to Zone 1.

Building entrance and monument sign improvements will entail pruning, weeding, and landscaping conversions or plant removal followed by installation of new plants. In some circumstances building entrance improvements will include ADA upgrades that may entail grading and/or building activities. Grading and building activities are not covered by this VMP; although vegetation alterations and enhancements associated with grading or building would be covered by this VMP.

BMP Approach: Prior to the start of work, wetland and non-wetland areas as approximated on the figure in Appendix B should be reviewed. Vegetation changes or improvements must take into account plant tolerance for wetland or non-wetland conditions as applicable. The plant species guidelines in Appendix E shall be consulted prior to species selection.

Soil disturbance during replanting should be the minimum necessary to complete installation. Care must be taken to leave soils intact and maintain the existing grade.

Any pruning or weeding activities should follow BMPs listed in the clearing section above (Section 6.1.1).

## 6.1.3 Landscaping conversions

Description: Within Zones 1, 2 and 3, it is proposed that some areas be converted from one general type of vegetation to another. This would primarily consist of a shift from lawn to native trees and shrubs or a converse shift from trees and shrubs to lawn. The general goal is a consolidation of lawn into fewer and larger areas, while installing native plantings in smaller landscape areas. This approach results in simplified maintenance by directing mowing activities to fewer and larger areas of lawn, while improving vegetation quality within the more fragmented areas of the office park.

BMP Approach: The following considerations should guide landscaping conversions. 1) Lawn areas that are difficult to mow due to variable grade or moisture conditions are good candidates for conversion to a low-maintenance planting plan. Lawn areas may be replanted with emergent plants, such as rushes, that do not require mowing, or trees and shrubs. 2) Landscaped plant

beds that are high-maintenance and not well suited to the surrounding land use may be converted to lawn or replanted with more suitable plant species.

Landscaping conversions must either maintain or improve the existing condition of native vegetation within wetland and wetland buffer areas. Known wetland areas (as documented in Appendix B) that are vegetated by native trees and shrubs may not be converted to mowed lawn.

Prior to the start of work, wetland and non-wetland areas as approximated on the figure in Appendix B should be reviewed. Vegetation changes or improvements must take into account plant tolerance for wetland or non-wetland conditions as applicable. The plant species guidelines in Appendix E shall be consulted prior to species selection.

Soil disturbance during replanting should be the minimum necessary to complete installation. Care must be taken to leave soils intact and maintain the existing grade.

Any pruning or weeding activities should follow BMPs listed in the clearing section above (Section 6.1.1).

## **6.2 Long-term**

The long-term vegetation management activities for the office park generally involve routine landscape maintenance activities that can occur anytime following approval of the VMP. These activities may also continue indefinitely into the future or until a time at which the City indicates an expiration of this VMP. This section describes in detail each of the routine long-term maintenance activities covered under this VMP.

### **6.2.1 Invasive Species Removal**

Description: The removal of non-native species for the purposes of promoting the successful establishment of native plantings that might otherwise have difficulty competing with aggressive invasive plants. Site-wide locally dominant patches of invasive weeds will be targeted for eradication. Weeds listed on the King County or Washington State Noxious Weeds List will be selectively removed over time.

BMP Approach: The landscape contractor selected to complete this work must be familiar with native and non-native plant species in our region to ensure inadvertent native plant damage is avoided.

An integrated pest management (IPM) approach should be used to control invasive weeds throughout the management area. IPM is a sustainable approach

to weed control that considers budget restrictions, environmental impacts, and health risks. IPM employs cultural, mechanical, biological, and chemical modes of control. A qualified site manager or crew leader should determine when pesticide use (chemical control) is appropriate. Chemical control should be the last option after trying all reasonable and cost effective non-chemical control options. Manual removal is the preferred control method for invasive weeds.

Any pesticides (herbicide, insecticide, fungicide) must be applied by a State licensed applicator in accordance with the product labeling. Due to the prevalence of onsite wetlands and proximity to Mercer Slough, any herbicide product used at this site should be limited to those approved for aquatic-areas.

Invasive plant species observed in the management area and recommended control measures are listed in the table below.

Table 4. Invasive weeds in the VMP and recommended control measures.

Common Name	Botanical Name	Control Measures*
Bindweed	<i>Convolvulus sp.</i>	Loosen soil and grub out vines by the root.
Blackberry, Evergreen	<i>Rubus laciniatus</i>	Manual control is recommended. Cut vines back, then grub out by the root. Repeat as new sprouts emerge. Pesticide may be applied to large/problematic infestations.
Blackberry, Himalayan	<i>Rubus armeniacus</i>	
Climbing nightshade	<i>Solanum dulcamara</i>	Loosen soil and grub out vines by the root.
Creeping buttercup	<i>Ranunculus repens</i>	Manually dig out, removing roots and runners.
English holly	<i>Ilex aquifolium</i>	Small plants: grub out by the root. Large plants: cut at the base and apply herbicide to the base to control resprouting.
English ivy	<i>Hedera helix</i>	Manual removal is highly effective. Loosen soil with a shovel or weed fork and pull vines out by the roots. Dispose of uprooted plant material off-site. Repeat as new sprouts emerge.
English laurel	<i>Prunus laurocerasus</i>	Small plants: grub out by the root. Large plants: cut at the base and apply herbicide to the base to control resprouting.
European mountain ash	<i>Sorbus aucuparia</i>	Small plants: grub out by the root. Large plants: cut at the base and apply herbicide to the base to control resprouting.
Knotweed	<i>Polynonum sp.</i>	Small patches can be removed by manually digging up roots. Cutting, covering and herbicide stem injections are also viable IPM control methods. All knotweed plant material must be disposed of in the garbage. This plant spreads vegetatively and by seed.
Poison hemlock	<i>Conium maculatum</i>	Pull up or dig out individual plants by the root. Wear protective gear. Dispose of plant material and seed heads off-site.

Reed canarygrass	<i>Phalaris arundinacea</i>	Cut back and keep shaded.
Robert's geranium	<i>Geranium robertianum</i>	Pull out by the root.
Yellow-flag iris	<i>Iris psuedacorus</i>	IPM control methods include manual rhizome removal, covering, and pesticide applications.

\*Manual control is the primary methodology; other cultural, biological or chemical controls may be used on a case-by-case basis at the direction of the site manager or crew leader.

When invasive weed removal results in significant patches of bare ground, new plants shall be installed to replace them. See Appendix E for a list of appropriate species for the site. Native plants are preferred site-wide. The recommended plant densities for replanting are listed in the table below.

Table 5. Recommended planting densities.

Plant type	Spacing (triangular on-center)
Trees	9-feet
Shrubs	6-feet
Emergent groundcovers	3-feet
Stakes (e.g. willow)	1-foot

## 6.2.2 Hazard Tree Removal

Description: Periodic management of significant trees that have become a hazard will be a necessary part of long-term site management. Removal of significant trees (greater than 8-inches diameter, measured 4 feet above existing grade) requires approval from a certified arborist. Depending on the arborist's recommendations, hazard tree management may involve pruning, complete removal, or snag creation.

Non-significant trees (less than 8-inches diameter, measured 4 feet above existing grade) may be managed without approval of an arborist. Removal of non-significant trees may only be done to reduce overcrowding of vegetation, to remove trees that, if left, will cause significant damage to sidewalks, parking areas, buildings, overhead wires or other structures, and to conform to the site distance clearing requirements outlined elsewhere in this VMP. Small tree removal shall be the minimum necessary to accomplish the tasks described above.

BMP Approach: Grounds inspections should be conducted periodically by the landscape contractor or property manager. Monitoring should occur on a recurring basis. Upon a determination that a significant tree poses a hazard as outlined in Section 6.1.1, an arborist shall be consulted to confirm the hazard level and determine mitigation actions. Mitigation actions shall be consistent with those described in Section 6.1.1.

### 6.2.3 Vegetation Pruning

Description: Maintaining vegetation management zones will require pruning on an annual or bi-annual basis over the long-term. Some zones, such as Zone 5, may only require periodic maintenance to control potential hazards. However, constant maintenance will be necessary to maintain sight distances, parking medians, building entrances and pedestrian trails.

BMP Approach: Pruning of native trees and shrubs should be limited to the extent necessary to accomplish the objective, and should in no case endanger the plant or plants. Pruning that may be done any time of year with little impact to the living tree or shrub includes removal of diseased, broken, dying or dead limbs. Live branch pruning should be performed late in the dormant season or very early spring, before new buds form. Branch collars should not be removed or injured, and cut branches should not be painted. The definition of pruning does not include topping trees which is an inappropriate technique that can lead to increased risk of tree failure. Pruned materials shall be placed so that they do not interfere with the growth of other vegetation, or should be disposed of off-site. All pruning shall be done by a qualified professional in conformance with ISA standards. In general, pruning of landscaped areas should encourage and direct new growth, maintain plant health, maintain landscape visibility, and improve safety.

### 6.2.4 Plant Replacement

Description: Plant replacements are anticipated over the long-term to maintain a healthy landscape. To maintain the grounds, dead or dying plants may be replaced over time. Additionally, plants that are not suitable in their current location due to VMP zone objectives or general site conditions may be replaced with one or more alternate plants. This includes trees less than 8 inches in diameter. Pruning options will be considered before selecting plants for removal and replacement.

BMP Approach: Prior to the start of work, wetland and non-wetland areas as approximated on the figure in Appendix B should be reviewed. Replacement plants must take into account plant tolerance for wetland or non-wetland conditions as applicable. The plant species guidelines in Appendix E shall be consulted prior to species selection. In general, removed plants and replacement plants should be of equivalent size when a 1:1 ratio is used. Otherwise, the replacement plant ratio should be increased to account for any reduction in plant size.

Soil disturbance during replanting should be the minimum necessary to complete installation. Care must be taken to leave soils intact and maintain the existing grade.

### **6.2.5 New Plantings**

Description: New trees, shrubs and herbaceous plants may be installed over time. New plantings are likely to occur over the long-term as part of future restoration within Zones 4 and 6.

BMP Approach: Prior to the start of work, wetland and non-wetland areas as approximated on the figure in Appendix B should be reviewed. New plant selections must take into account plant species tolerance for wetland or non-wetland conditions as applicable. The plant species guidelines in Appendix E shall be consulted prior to species selection.

Soil disturbance during replanting should be the minimum necessary to complete installation. Care must be taken to leave soils intact and maintain the existing grade.

### **6.2.6 Soil Amendment/Mulch**

Description: Site soils are generally nutrient-rich and soil amendments are not needed in most cases. Any soil amendments would entail incorporation of compost to improve plant health and vigor. A mulch-layer or mulch-rings may be applied as needed to suppress weed growth and retain soil moisture. It is the intent of this VMP to limit soil/mulch activities to those practices that do not trigger the need for permit coverage from either the U.S. Army Corps of Engineers or the Washington Department of Ecology.

BMP Approach: Prior to the start of work, wetland and non-wetland areas as approximated on the figure in Appendix B should be reviewed. Soil amendments should not be placed in wetland areas. Care must be taken to leave wetland soils intact and maintain the existing grade.

Arborist wood chips (chipped woody material, approximately one- to three-inch pieces) are the recommended mulch material. Mulch applications should be three to four inches deep. An 18-inch diameter is recommended for mulch rings. Compost and mulch should be free of weed seeds, garbage, or other contaminants.

### **6.2.7 Pesticide Usage**

Description: As described under the long-term vegetation management objectives (Section 6.2.1), where manual invasive weed control efforts are unsuccessful, pesticide use may be permitted. The term pesticides, includes

herbicides and fungicides. Any pesticide applications would target specific species and/or problem areas following an IPM approach, which is described in Section 6.2.1.

BMP Approach: As per the sustainable IPM strategy, non-chemical controls should be used where feasible to limit or avoid pesticide use. A qualified site manager or crew leader should determine when pesticide use (chemical control) is appropriate. Any pesticide application must be administered by a State licensed applicator in accordance with product label application rates and provisions. Any herbicide product used within the vegetation management area shall be limited to those approved for aquatic-areas.

### **6.2.8 Utility Maintenance and Repair**

Description: Organic peat soils that underlie fill throughout the office park continue to subside. This disrupts utility connections and warrants periodic maintenance and repair. Utilities are primarily located along the perimeter of each building. Utilities repairs will occur on an as-needed basis and will involve limited and temporary soil disturbance. Vegetation impacts are expect to be minimal, since most utility connections are concentrated in narrow non-vegetated or sparsely vegetated strips within the building setbacks.

BMP Approach: Prior to the start of work, wetland and non-wetland areas as approximated on the figure in Appendix B should be reviewed. If the utility work lies within a wetland, then the protocol should be reviewed to determine if local, state and/or federal permits are required. If the work will occur in non-wetland, then work may proceed following the BMPs listed below.

The area of temporary disturbance should be the minimum necessary to complete the maintenance or repair task. Disturbed soils should be replaced upon completion of work to restore the pre-existing grade. Any disturbed vegetation should be restored to the pre-existing condition through seeding or replanting as appropriate. Any material stockpiles should be stored outside of wetlands and buffers. All debris should be hauled away upon completion of work.

### **6.2.9 Parking Lot Maintenance**

Description: The open parking lots continue to subside, which causes asphalt cracks and flood hazards. To maintain the parking lots and associated access roads as functional amenities, periodic repaving is necessary. Additionally, dense and overhanging vegetation in parking lot medians encroaches into parking spaces and obscures sightlines. In addition to repaving, parking lot maintenance, as it relates to vegetation activities, includes conversion of

pavement to pervious vegetated areas and temporary disturbance of buffer areas associated with repaving.

BMP Approach: Prior to the start of work, wetland and non-wetland areas as approximated on the figure in Appendix B should be reviewed. Since wetland conditions extend up to the edge of existing paving in many locations, care must be taken to limit repaving work to the existing developed footprint. The contractor must have a Certified Erosion and Sediment Control Lead (CESCL) on-staff and appropriate temporary protection measures should be taken during construction. Any material stockpiles should be stored outside of wetlands and (vegetated) buffers. All debris should be hauled away upon completion of work. In those instances that pavement is converted to a pervious surface, a Zone 3 designation shall be applied and the new pervious area shall be restored according to the planting guidelines in Appendix E.

### 6.3 Prohibitions

The following actions are not authorized under this vegetation management plan. Under no circumstances can the following occur:

- No change of grade or significant soil disturbance is allowed within wetland areas
- No topping of trees (excluding snag creation from hazard trees)
- No excessive pruning of shrubs (such as topping) unless it will promote healthy new growth in accordance with ISA standards
- No cutting of significant trees without hazard tree removal approval from a certified arborist
- No heavy equipment use or stockpiling within wetland areas
- No debris disposal in wetlands or wetland buffers (excluding woody debris generated by hazard tree removal)

## 7 CONTINGENCY PLAN

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This section outlines procedures to follow in instances of inadvertent or unforeseen critical area or critical area buffer impacts that may occur, which are not covered in this VMP. During these instances, as soon as an impact is identified, all work will stop except that which is needed to immediately stabilize the site for safety or erosion control concerns. A qualified professional wetland biologist shall be contacted to make an immediate site inspection. During the inspection, the following information will be collected by the wetland biologist:

1. The extent of the impact will be sketched onto an appropriate site plan or map of the area.

2. The impact area will be photographed from several locations and perspectives sufficient to capture the nature and extent.
3. The nature and extent of the impact will be summarized in writing.
4. A short term plan for stabilization, erosion control, etc. will be developed, if needed.

Following the site visit, the wetland biologist shall furnish a summary of the impact in memorandum format to the property manager or owner for distribution to the City. The memo may contain recommendations for repair or mitigation. However, the final plan for rectifying the impact will require approval from the City prior to implementation. Once the City has approved the general strategy for repair or mitigation, the professional shall develop a draft repair/mitigation plan and distribute to the property manager/owner and the City.

## 8 FUNCTIONAL ASSESSMENT

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It is the intention of this VMP to ensure that no significant diminishment in critical area and critical area buffer functions and values results from future landscape maintenance activities at the Bellefield Office Park. The activities covered under this VMP provide the opportunity to couple routine maintenance with habitat management and enhancement. It is the goal of this document for BMPs to maintain the site in a manner consistent with the established land use and critical area protections. The following paragraphs describe how the methods outlined in this document accomplish this goal.

VMP Zones and clear BMPs for maintenance tasks will focus and restrict vegetation maintenance to maximize critical area protections amidst the existing development at this unique site.

BMPs designed for hazard tree removal include retention of standing and downed wood. These are valuable habitat features for wildlife, including birds, herptiles, and small mammals. When safety dictates the removal of a hazard tree, the VMP prescribes replanting ratios to off-set the loss and snag creation where feasible. Enhancing a proximate critical area with native species designed to meet future safety needs preserves habitat function by promoting a low-maintenance landscape that require less intrusion for ongoing maintenance.

Invasive weed control following an IPM approach is a long-term goal for the vegetation management area. Controlling and removing localized weed patches will improve the natural character of the site and allow more native plants to become established. Left untended, invasive plants common to the site, such as

English ivy and non-native blackberry, would continue to spread. Controlling these weeds will benefit existing native plants, reduce further losses, and make the vegetation more sustainable.

Additionally, any invasive weed removal that results in bare ground will be accompanied by installation of replacement plants in the form of native species. Not only is this likely to result in denser, more complex vegetative structure than the existing infestation, and provide an aesthetic visual screen, but the resultant native plant community will represent an improvement from a wildlife perspective. Limiting the use of herbicides further protects the functions of buffers and critical areas.

Landscaping conversions should reduce or consolidate mowed areas throughout the office park. Several small wetland pockets in parking lot medians will likely be replanted with an emergent plant community that doesn't require mowing or a shrub/tree community. This will improve water quality functions within those wetlands. Consolidating high-maintenance areas, such as grass lawn, is intended to reduce site disturbance overall. Additionally, installing the right plant in the right place minimizes maintenance for the long-term and creates a more sustainable landscape.

Following this VMP will also foster a more diverse habitat designed to enhance not only habitat function, but other buffer functions such as stormwater flow attenuation, and water quality improvement.

Landscaping conversions, plant replacement, and restoration activities will include wetland and buffer enhancements. Successful and well-planned enhancement by definition results in buffer and critical area improvement. This VMP promotes enhancement where feasible, particularly in the Mercer Slough Fringe (Zone 6).

This VMP recognizes the need for expedient and unrestrictive maintenance. Provisions for short- and long-term activities allow the office park to be returned to its pre-foreclosure status while concurrently making improvements that benefit the office park and embedded critical areas. Careful adherence to this VMP should result in a functional and professional office park with a selectively managed landscape that at a minimum maintains, and over the long-term improves, existing critical area functions and values.



## **APPENDIX A**

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# Site Photos – Existing Conditions

**(Photos taken December 2012 and February 2013)**



Photo 1. Zone 1 – Building entrance (Maplewood building)



Photo 2. Zone 1 – Building entrance (Alderwood building)



Photo 3. Zone 1 – Building entrance and monument (Woodridge building)



Photo 4. Zone 1 – Building monument (Conference Center)



Photo 5. Zone 2 – Access road shoulders



Photo 6. Zone 2 – Access road shoulders and sightlines



Photo 7. Zone 3 – Maintained semi-natural area, southern end of site.



Photo 8. Zone 3 - Maintained semi-natural area at northern end of site.

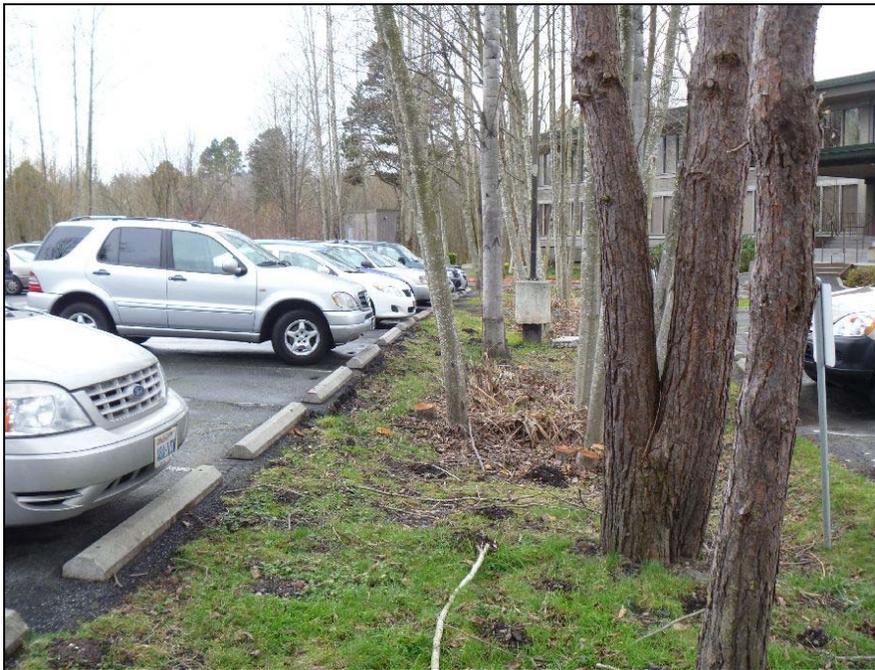


Photo 9. Zone 4 – Natural area, limited maintenance



Photo 10. Zone 4 – Natural area, limited maintenance



Photo 11. Zone 5 - Trails.



Photo 12. Zone 5 - Trails.



Photo 13. Zone 6 – Mercer Slough fringe (looking south from east of buildings)

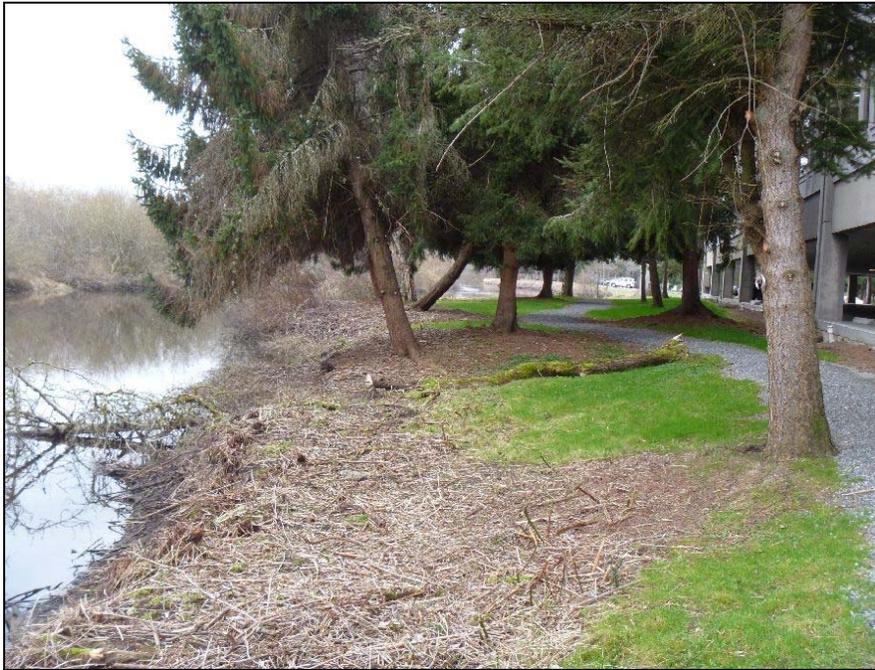


Photo 14. Zone 6 – Mercer Slough fringe (looking south from west of buildings)





**APPENDIX B**

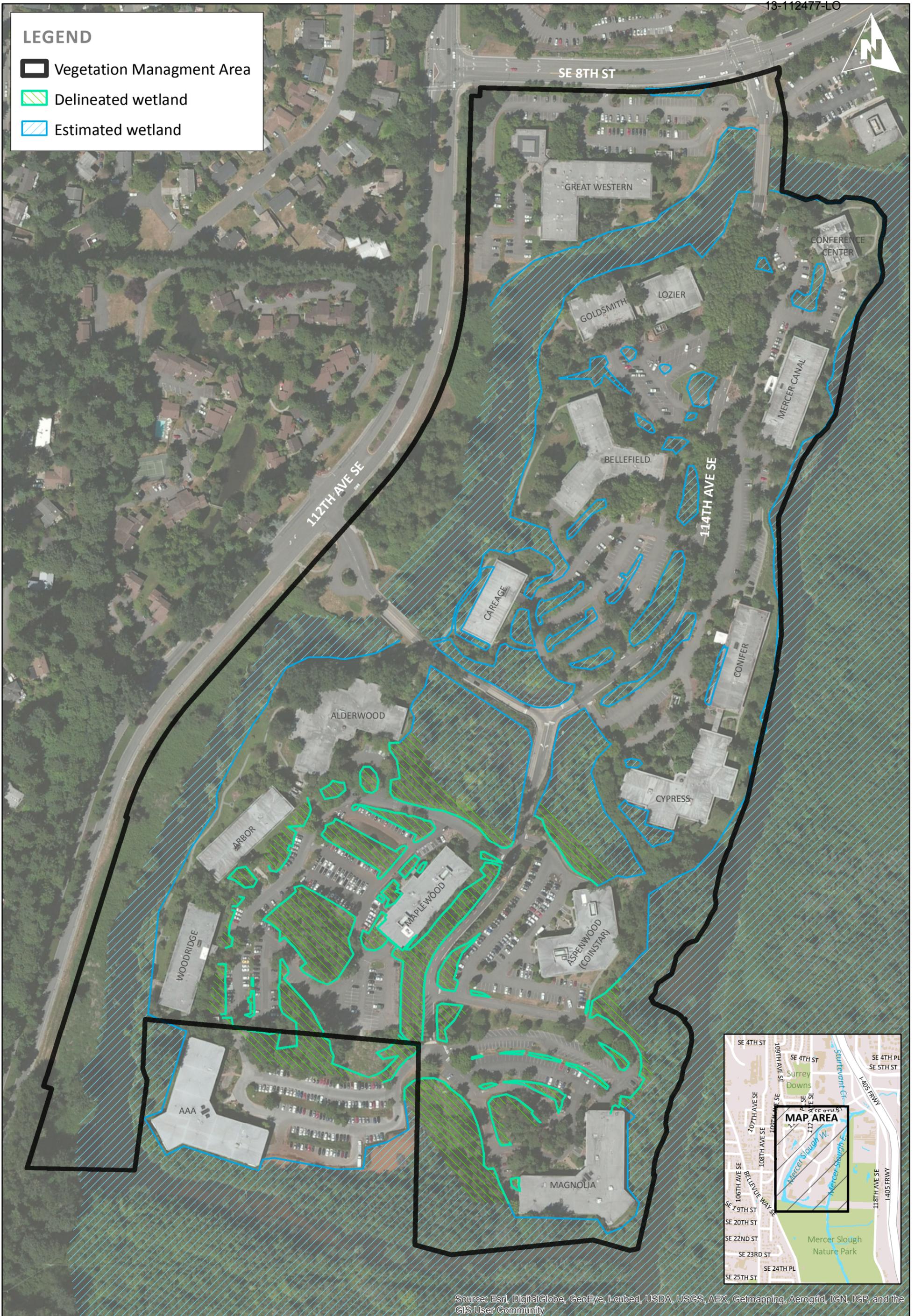
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Existing Conditions – Wetland Map



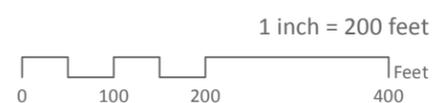
**LEGEND**

-  Vegetation Management Area
-  Delineated wetland
-  Estimated wetland



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

**BELLEFIELD OFFICE COMPLEX - VEGETATION MANAGEMENT PLAN**  
**Approximate Extent of Wetlands**



Project No. 120710 - 2/25/2013

**APPENDIX C**

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Map of Vegetation Management  
Zones

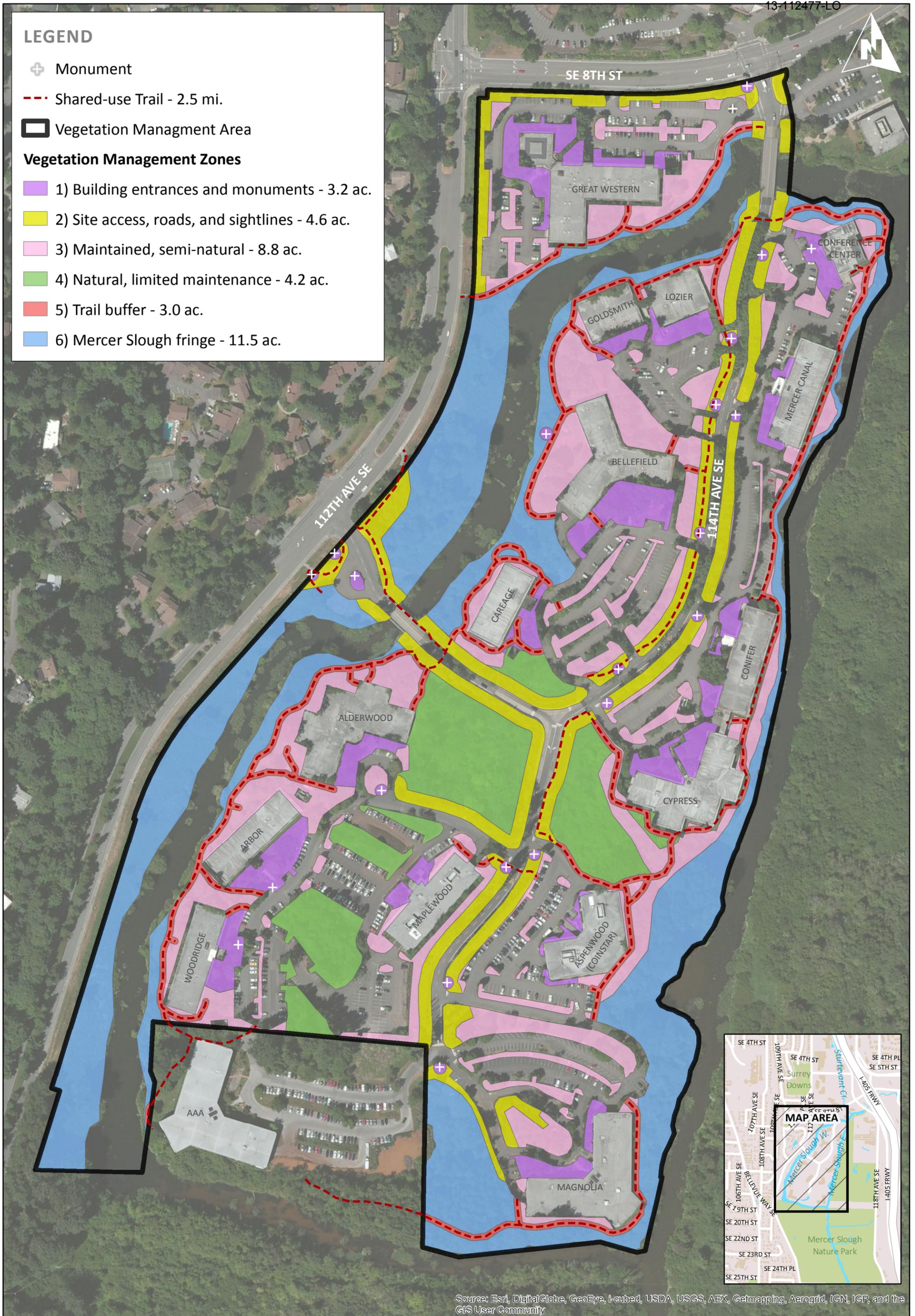


**LEGEND**

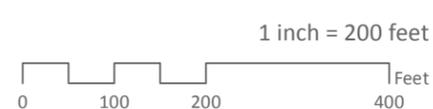
-  Monument
-  Shared-use Trail - 2.5 mi.
-  Vegetation Management Area

**Vegetation Management Zones**

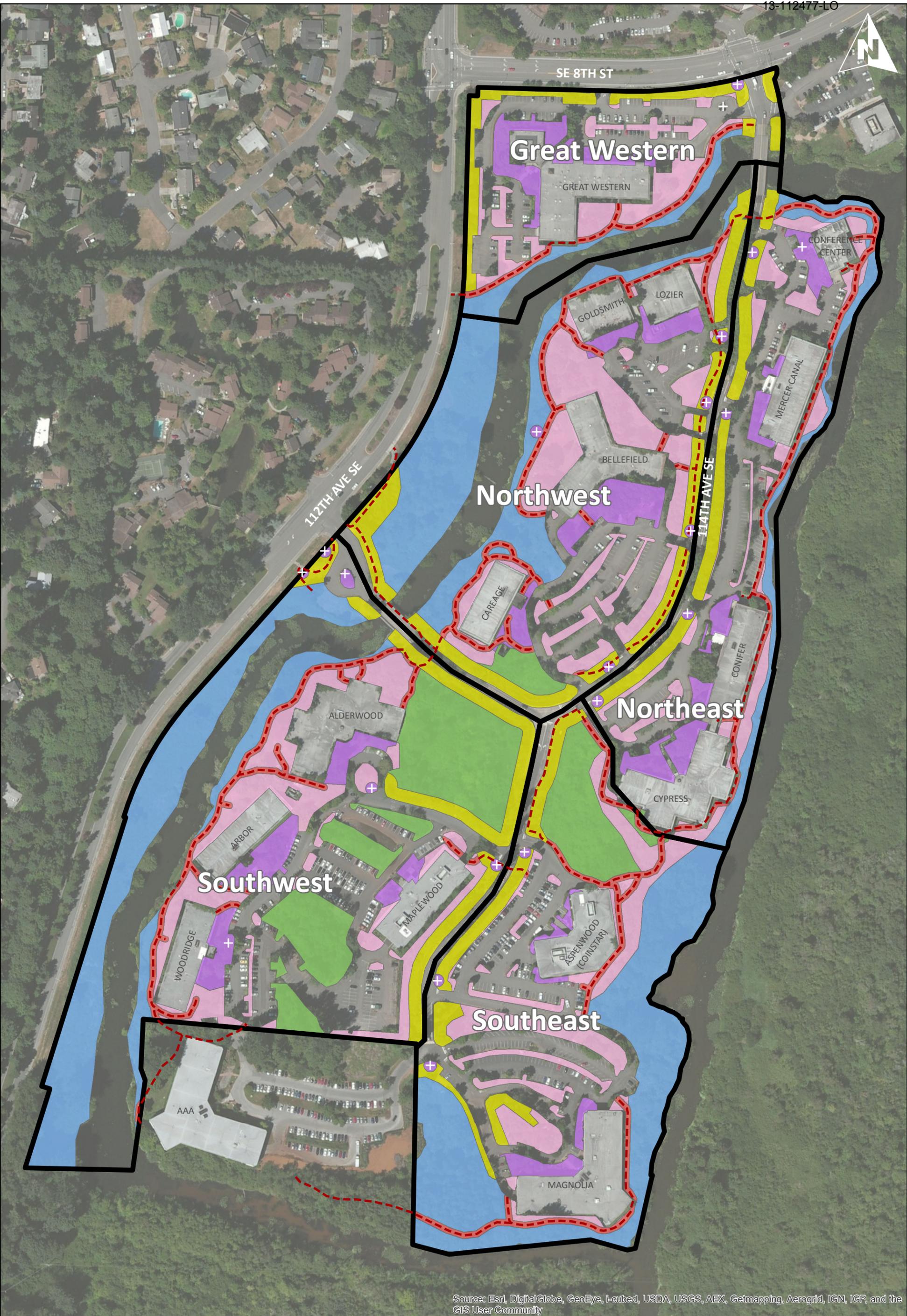
-  1) Building entrances and monuments - 3.2 ac.
-  2) Site access, roads, and sightlines - 4.6 ac.
-  3) Maintained, semi-natural - 8.8 ac.
-  4) Natural, limited maintenance - 4.2 ac.
-  5) Trail buffer - 3.0 ac.
-  6) Mercer Slough fringe - 11.5 ac.



**BELLEFIELD OFFICE COMPLEX - VEGETATION MANAGEMENT PLAN**  
**Vegetation Management Zones**



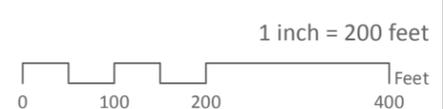
Project No. 120710 - 2/25/2013



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

# BELLEFIELD OFFICE COMPLEX - VEGETATION MANAGEMENT PLAN

## Field Map Index



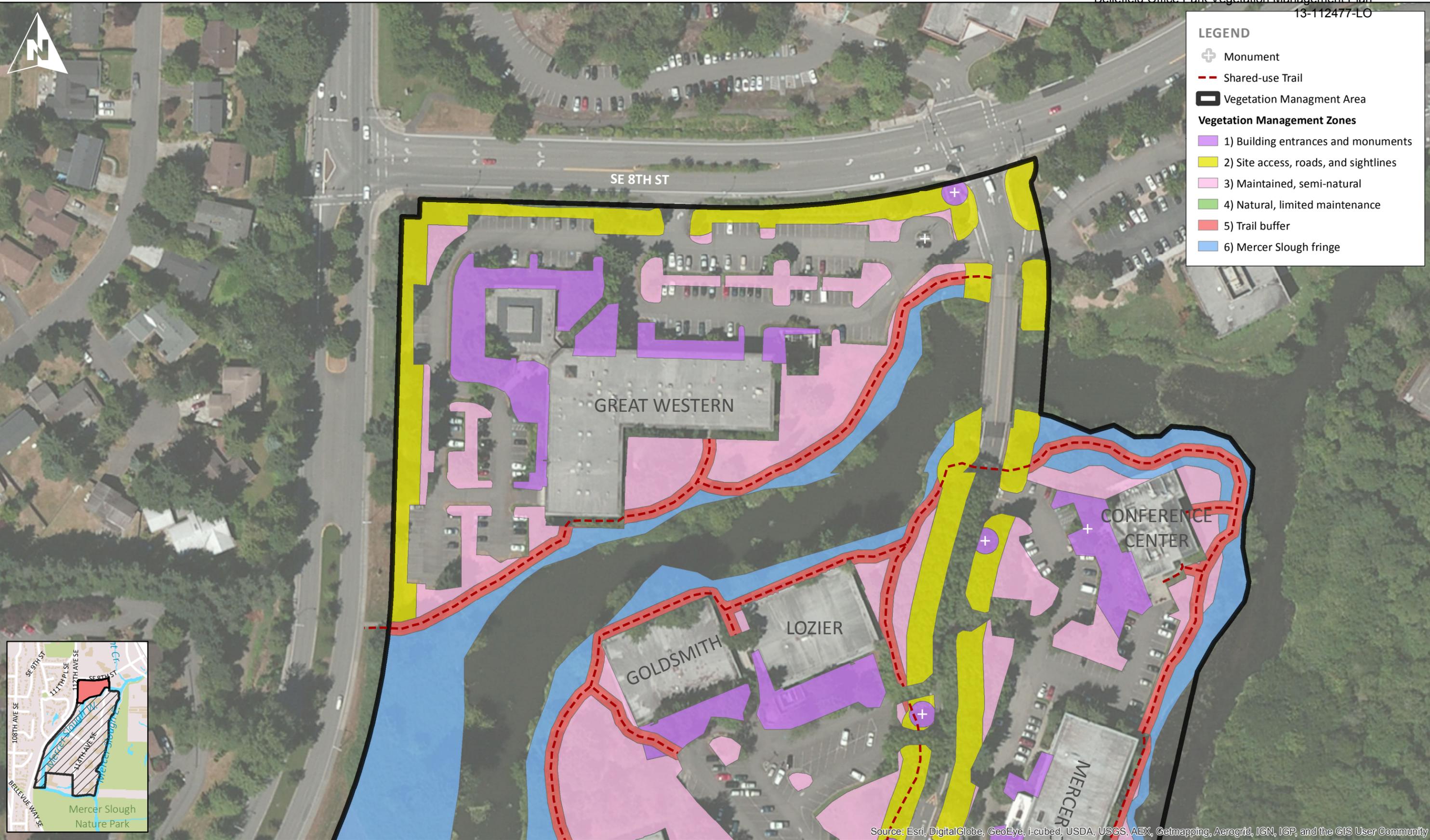


**LEGEND**

- Monument
- Shared-use Trail
- Vegetation Management Area

**Vegetation Management Zones**

- 1) Building entrances and monuments
- 2) Site access, roads, and sightlines
- 3) Maintained, semi-natural
- 4) Natural, limited maintenance
- 5) Trail buffer
- 6) Mercer Slough fringe



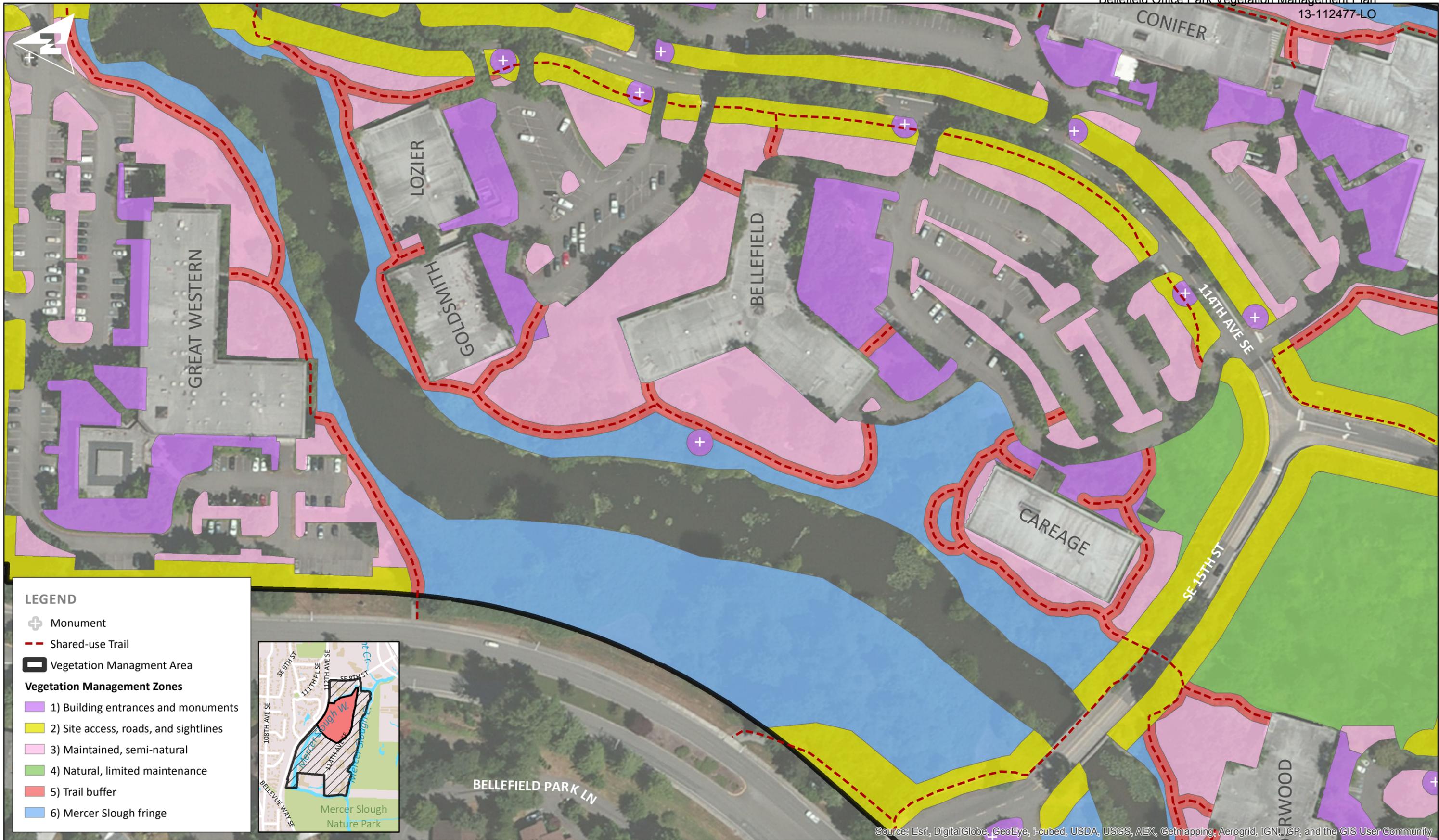
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

### BELLEFIELD OFFICE COMPLEX - VEGETATION MANAGEMENT PLAN

## Field Map 1: Great Western

1 inch = 100 feet





**LEGEND**

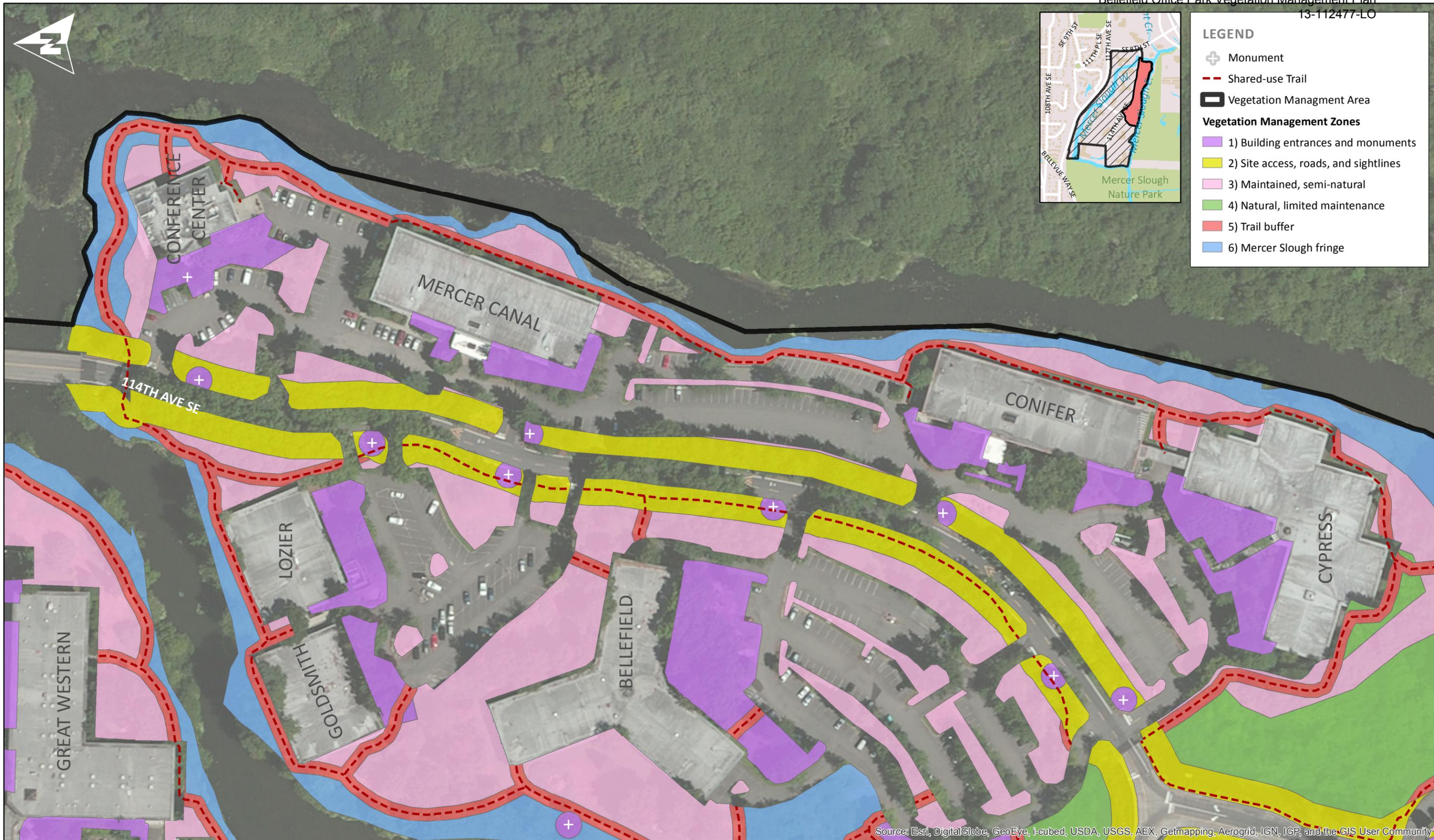
- Monument
- Shared-use Trail
- Vegetation Management Area
- Vegetation Management Zones**
- 1) Building entrances and monuments
- 2) Site access, roads, and sightlines
- 3) Maintained, semi-natural
- 4) Natural, limited maintenance
- 5) Trail buffer
- 6) Mercer Slough fringe



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

**BELLEFIELD OFFICE COMPLEX - VEGETATION MANAGEMENT PLAN**  
**Field Map 2: Northwest**





**LEGEND**

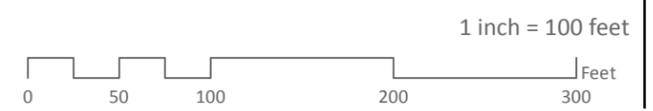
- Monument
- Shared-use Trail
- Vegetation Management Area

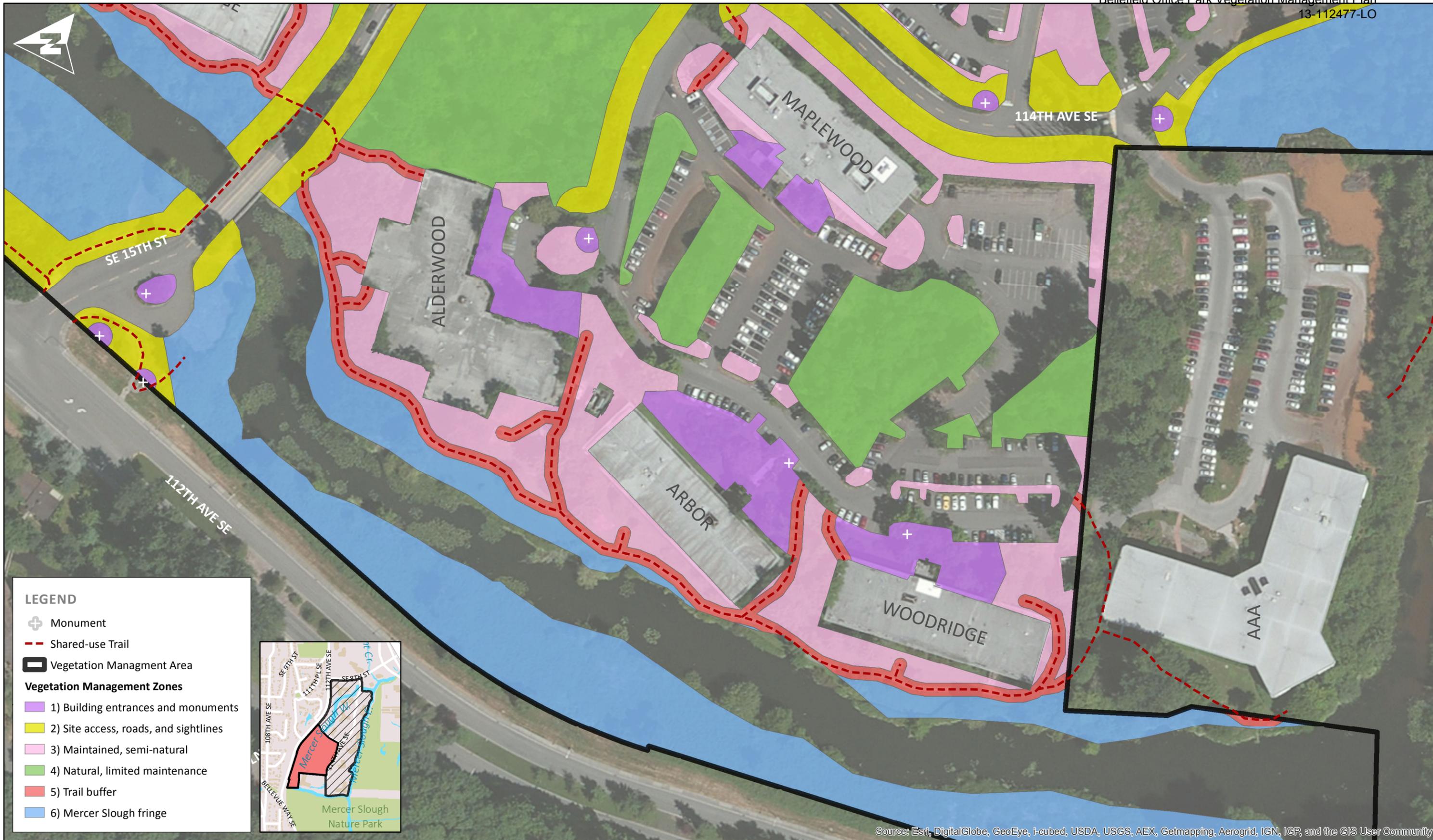
**Vegetation Management Zones**

- 1) Building entrances and monuments
- 2) Site access, roads, and sightlines
- 3) Maintained, semi-natural
- 4) Natural, limited maintenance
- 5) Trail buffer
- 6) Mercer Slough fringe

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

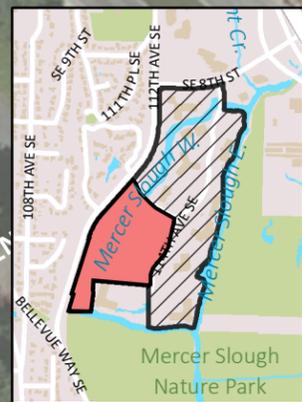
BELLEFIELD OFFICE COMPLEX - VEGETATION MANAGEMENT PLAN  
**Field Map 3: Northeast**





**LEGEND**

- Monument
  - Shared-use Trail
  - Vegetation Management Area
- Vegetation Management Zones**
- 1) Building entrances and monuments
  - 2) Site access, roads, and sightlines
  - 3) Maintained, semi-natural
  - 4) Natural, limited maintenance
  - 5) Trail buffer
  - 6) Mercer Slough fringe



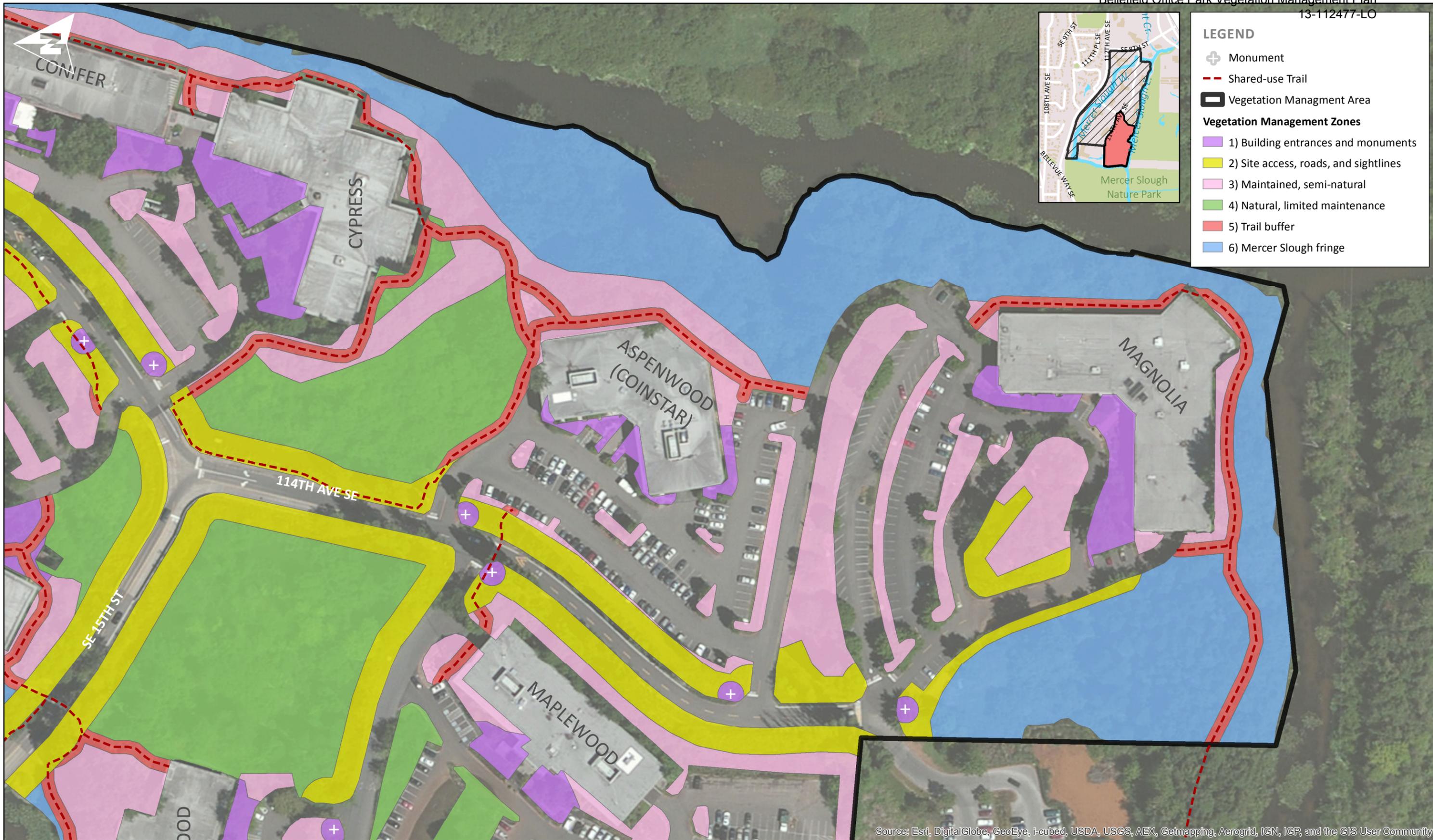
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

**BELLEFIELD OFFICE COMPLEX - VEGETATION MANAGEMENT PLAN**

**Field Map 4: Southwest**

1 inch = 100 feet





**LEGEND**

- Monument
- Shared-use Trail
- Vegetation Management Area

**Vegetation Management Zones**

- 1) Building entrances and monuments
- 2) Site access, roads, and sightlines
- 3) Maintained, semi-natural
- 4) Natural, limited maintenance
- 5) Trail buffer
- 6) Mercer Slough fringe

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

BELLEFIELD OFFICE COMPLEX - VEGETATION MANAGEMENT PLAN  
**Field Map 5: Southeast**



**APPENDIX D**

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Zone Activity Summary



## Zone Activity Summary

<b>Short Term Management Activities</b>					
Zones	Clearing			Building Entrance/ Monument Improvements	Landscaping Conversions
	Sight Distance	Hazard Tree Removal	Safety Enhancements		
Zone 1 – Building Entrances and Monuments	Allowed (1, 2, 3, 4, 7)	Allowed (5)	Allowed (2, 3, 4, 7)	Allowed (7)	Allowed (8)
Zone 2 – Access Road – Shoulders & Sightlines	Allowed (1, 2, 3, 4, 7)	Allowed (5)	Allowed (2, 3, 4, 7)	Not Permitted	Allowed (8)
Zone 3 – Maintained Semi-natural Areas	Allowed (1, 2, 3, 4, 7)	Allowed (5)	Allowed (2, 3, 4, 7)	Not Permitted	Allowed (8)
Zone 4 – Limited Maintenance Natural Areas	Not Permitted	Allowed (5, 6)	Allowed (2, 3, 4, 7)	Not Permitted	Not Permitted
Zone 5 – Trail	Not Permitted	Allowed (5, 6)	Allowed (2, 3, 4, 7)	Not Permitted	Not Permitted
Zone 6 – Mercer Slough Fringe	Not Permitted	Allowed (5, 6)	Not Permitted	Not Permitted	Not Permitted

1. Sight distance clearing can occur in those areas of restricted vehicular sight-lines, as determined by the property manager or owner's representative. See Section 6.1.1.
2. Pruning or trimming must be the minimum necessary to alleviate the safety concern.
3. Live branch pruning shall be performed late in the dormant season or very early spring; no tree topping may occur.
4. Plant replacement is allowed when pruning can not achieve the desired result.
5. Tree removal may occur in any zone pursuant to the restrictions and mitigation requirements of the VMP and only after written approval by a qualified arborist (see Appendix F).
6. Tree removal within Zones 4, 5, and 6 is only allowed in instances of imminent threat to public safety or imminent risk of damage to an existing structure or other permanent improvement.
7. Grading/filling/soil amendments within wetlands are not authorized under this VMP.
8. Known wetland areas (see Appendix B) may not be converted to lawn.

<b>Long Term Management Activities</b>									
Zones	Invasive Species Removal	Hazard Tree Removal	Vegetation Pruning	Plant Replacement	New Plantings	Soil Amendment/ Mulch	Pesticide/ Herbicide/ Fertilizer Practices	Utility Maintenance and Repair	Parking Lot Maintenance
Zone 1 – Building Entrances and Monuments	Allowed (1)	Allowed	Allowed (4, 5)	Allowed	Allowed	Allowed (9)	Allowed (10)	Allowed (9, 11)	Allowed (12)
Zone 2 – Access Road – Shoulders & Sightlines	Allowed (1)	Allowed	Allowed (4, 5)	Allowed	Allowed	Allowed (9)	Allowed (10)	Allowed (9, 11)	Allowed (12)
Zone 3 – Maintained Semi-natural Areas	Allowed (1)	Allowed	Allowed (4, 5)	Allowed	Allowed	Allowed (9)	Allowed (10)	Allowed (9, 11)	Allowed (12)
Zone 4 – Limited Maintenance Natural Areas	Allowed (1)	Allowed (2, 3)	Allowed (4, 5, 6)	Allowed (7)	Allowed (8)	Allowed (9)	Allowed (10)	Allowed (9, 11)	Allowed (12)
Zone 5 – Trail	Allowed (1)	Allowed (2, 3)	Allowed (4, 5, 6)	Allowed (7)	Allowed (8)	Allowed (9)	Allowed (10)	Allowed (9, 11)	Not Permitted
Zone 6 – Mercer Slough Fringe	Allowed (1)	Allowed (2, 3)	Not Permitted	Not Permitted	Allowed (8)	Not Permitted	Not Permitted	Allowed (9, 11)	Not Permitted

1. Invasive removal that results in bare ground shall include the planting of species as outlined in Appendix E.
2. Tree removal may occur in any zone pursuant to the restrictions and mitigation requirements of the VMP and only after written approval by a qualified arborist (see Appendix F).
3. Tree removal within Zones 4, 5, and 6 is only allowed in instances of imminent threat to public safety or imminent risk of damage to an existing structure or other permanent improvement.
4. Pruning or trimming must be the minimum necessary to alleviate the safety concern.
5. Live branch pruning shall be performed late in the dormant season or very early spring; no tree topping may occur.
6. Vegetation pruning within Zones 4 and 5 limited to safety and sight distance clearing.
7. Only permitted in those circumstances where a sight distance or safety concern warrants a different plant species.
8. Allowed only as in-fill plantings of native species for enhancement purposes or for replacement of invasive species.
9. Within wetlands, activities are restricted to avoid any wetland fill. No grade change is allowed within a wetland.
10. Allowed in limited circumstances for invasive removal in accordance with an IPM approach; applications must be done by a State licensed applicator.
11. Work within a wetland (see Appendix B) may require state/federal permits. Disturbed soils shall be replaced and replanted as outlined in Appendix E.
12. Temporary impacts to adjacent vegetated areas should be restored upon completion of parking lot maintenance. New wetland impacts are not authorized under this VMP.

**APPENDIX E**

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Planting Guidelines



Planting within Zone 1 shall abide by the following standards:

- Wetland mapping in Appendix B shall be consulted prior to plant selection.
- Puget Sound lowland native plants are recommended.
- Ornamental plants are allowed, when the following criteria are met:
  - Plants must be non-invasive. Plants on the King County Noxious Weed list, in any class, are not allowed.
  - Plants must be non-aggressive and non-spreading, such that they will not spread out of their designated planting areas.
  - In general, large trees and shrubs should not be used near buildings, or in any area where they would grow to a size that would need future thinning or removal.
- Ornamental plants should reflect the overall character of the Bellefield site.

Based upon the above standards, the following recommended plant list for Zone 1 has been developed. However, the list is not inclusive of all the potential plants that can be used in Zone 1. Provided the above standards are met, additional plantings can also be utilized.

**Zone 1. Recommend Plant List (all Zone 6 species are also recommended)**

	<b>Trees</b>	<b>Shrubs</b>	<b>Groundcover</b>
<b>Drier</b>	<p><i>Arbutus menzeisii</i> / Pacific Madrone <i>Malus fusca</i> / Western Crabapple <i>Psuedotsuga menzeisii</i> / Douglas-fir</p>	<p><i>Holodiscus discolor</i> / Oceanspray <i>Hydrangea quercifolia</i> / Oakleaf Hydrangea <i>Mahonia x media</i> 'Charity' Hybrid Mahonia <i>Philadelphus spp.</i> / Mock Orange <i>Ribes spp.</i> / Gooseberries and Currants</p>	<p><i>Arctostaphylos uva-ursi</i> / Kinnikinnick <i>Arunucus sylvester</i> / Goatsbeard <i>Epimedium spp.</i> / Bishop's Hat <i>Gaultheria shallon</i> / Salal <i>Mahonia aquifolium</i> / Tall Oregon Grape</p>
<b>Moist</b>	<p><i>Cratageus douglasii</i> / Black Hawthorn <i>Populus tremula</i> 'Erecta' / Swedish Columnar Aspen</p>	<p><i>Callicarpa bodinieri var. giraldii</i> 'Profusion' / Beautyberry <i>Sambucus nigra</i> 'Eva' Black Lace / Purple Cutleaf Elderberry <i>Spiraea spp.</i> / Spirea <i>Vaccinium ovatum</i> / Evergreen Huckleberry <i>Viburnum nudum</i> 'Brandywine' / Brandywine Viburnum <i>Viburnum edule</i> / Squashberry Shrub roses <i>Symphoricarpos albus</i> / Snowberry</p>	<p><i>Ajuga spp.</i> / Bugle <i>Heuchera spp.</i> / Coral bells <i>Miscanthus spp.</i> / Fountaingrass <i>Oxalis spp.</i> / Sorrel Ornamental grasses <i>Polystichum munitum</i> / Sword fern <i>Blechnum spicant</i> / Deer Fern</p>
<b>Wetter</b>	<p><i>Betula papyrifera</i> / Paper Birch <i>Betula utilis var. jacquemontii</i> / Whitebarked Himalayan birch <i>Pinus contorta</i> / Shore Pine <i>Picea sitchensis</i> / Sitka Spruce* <i>Fraxinus latifolia</i> / Oregon Ash* *Do not plant near buildings or infrastructure.</p>	<p><i>Cornus sanguinea</i> 'Midwinter Fire' / Bloodtwig Dogwood <i>Cornus sericea</i> 'Flaviramea' / Yellow Dogwood <i>Physocarpus spp.</i> 'Center glow,' 'Coppertina,' 'Diablo,' etc. / Ornamental Ninebarks</p>	<p><i>Juncus spp.</i> / Rush Grasses <i>Carex spp.</i> / Sedges** <i>Scirpus microcarpus</i> / Small-flowered Bulrush** <i>Scirpus validus</i> / Soft-stem Bullrush** <i>Athyrium filix-femina</i> / Lady fern** **For areas of seasonal ponding</p>

The following tables establish the recommended plant lists for Zones 2 through 6. The plant list for each zone is sub-divided by general tolerances for dry, moist or wet soil conditions. This is intended to guide plant selection. These plant lists are not intended to be all inclusive. Other plant species, such as those on the King County 'go native' plant lists, may be used as well.

**Zone 2 – Access Roads – Shoulders and Sightlines (all Zone 6 species can also be used)**

	<b>Trees</b>	<b>Shrubs</b>	<b>Groundcover</b>
<b>Drier</b>	<i>Malus fusca</i> / Western Crabapple <i>Psuedotsuga menzeisii</i> / Douglas-fir	<i>Holodiscus discolor</i> / Oceanspray <i>Ribes sanguineum</i> / Red Flowering Currant <i>Symphoricarpos albus</i> / Snowberry	<i>Arctostaphylos uva-ursi</i> / Kinnikinnick <i>Aruncus sylvester</i> / Goatsbeard <i>Epimedium spp.</i> / Bishop's Hat <i>Gaultheria shallon</i> / Salal <i>Mahonia aquifolium</i> / Hollyleaved Barberry
<b>Moist</b>	<i>Arbutus menzeisii</i> / Pacific Madrone <i>Betula papyrifera</i> / Paper Birch <i>Cratageus douglasii</i> / Black Hawthorn <i>Picea sitchensis</i> / Sitka Spruce	<i>Philadelphus lewisii</i> / Mock Orange <i>Vaccinium ovatum</i> / Evergreen Huckleberry <i>Viburnum edule</i> / Squashberry	<i>Lupinus polyphyllus</i> / Bigleaf Lupine
<b>Wetter</b>	<i>Betula papyrifera</i> / Paper Birch <i>Pinus contorta</i> / Shore Pine	<i>Cornus sericea</i> 'Flaviramea' / Yellow Dogwood <i>Spiraea douglasii</i> / Hardhack	<i>Juncus effusus</i> / Soft rush <i>Juncus ensifolius</i> / Daggerleaf rush <i>Juncus tenuis</i> / Slender rush <i>Scirpus microcarpus</i> / Small-flowered Bulrush <i>Scirpus validus</i> / Soft-stem Bullrush

**Zone 3 – Maintained, Semi-natural Areas (all Zone 6 species can also be used)**

	<b>Trees</b>	<b>Shrubs</b>	<b>Groundcover</b>
<b>Drier</b>	<i>Acer macrophyllum</i> / Bigleaf maple <i>Malus fusca</i> / Western Crabapple <i>Psuedotsuga menzeisii</i> / Douglas-fir	<i>Holodiscus discolor</i> / Oceanspray <i>Symphoricarpos albus</i> / Snowberry <i>Vaccinium ovatum</i> / Evergreen Huckleberry	<i>Aruncus sylvester</i> / Goatsbeard
<b>Moist</b>	<i>Arbutus menzeisii</i> / Pacific Madrone <i>Cratageus douglasii</i> / Black Hawthorn <i>Picea sitchensis</i> / Sitka Spruce	<i>Philadelphus lewisii</i> / Mock Orange <i>Ribes sanguineum</i> / Red Flowering Currant <i>Viburnum edule</i> / Squashberry	<i>Lupinus polyphyllus</i> / Bigleaf Lupine
<b>Wetter</b>	<i>Betula papyrifera</i> / Paper Birch <i>Pinus contorta</i> / Shore Pine <i>Picea sitchensis</i> / Sitka Spruce	<i>Cornus sericea</i> 'Flaviramea' / Yellow Dogwood <i>Spiraea douglasii</i> / Hardhack	<i>Juncus effusus</i> / Soft rush <i>Juncus ensifolius</i> / Daggerleaf rush <i>Juncus tenuis</i> / Slender rush <i>Scirpus microcarpus</i> / Small-flowered Bulrush <i>Scirpus validus</i> / Soft-stem Bullrush

**Zone 4 – Limited Maintenance Natural Areas (all Zone 6 species can also be used)**

	<b>Trees</b>	<b>Shrubs</b>	<b>Groundcover</b>
<b>Drier</b>	<i>Psuedotsuga menzeisii</i> / Douglas-fir	<i>Corylus cornuta</i> / Hazelnut	<i>Aruncus sylvester</i> / Goatsbeard
<b>Moist</b>	<i>Cratageus douglasii</i> / Black Hawthorn <i>Picea sitchensis</i> / Sitka Spruce	<i>Acer circinatum</i> / Vine Maple	<i>Lupinus polyphyllus</i> / Bigleaf Lupine
<b>Wetter</b>	<i>Betula papyrifera</i> / Paper Birch <i>Pinus contorta</i> / Shore Pine	<i>Cornus sericea</i> / Red-osier Dogwood	<i>Carex obnupta</i> / Slough sedge

**Zone 5 – Trails (all Zone 6 species can also be used)**

	<b>Trees</b>	<b>Shrubs</b>	<b>Groundcover</b>
<b>Drier</b>	<i>Malus fusca</i> / Western Crabapple <i>Psuedotsuga menzeisii</i> / Douglas-fir	<i>Symphoricarpos albus</i> / Snowberry <i>Vaccinium ovatum</i> / Evergreen Huckleberry	<i>Aruncus diocius</i> / Goatsbeard
<b>Moist</b>	<i>Arbutus menzeisii</i> / Pacific Madrone <i>Cratageus douglasii</i> / Black Hawthorn <i>Picea sitchensis</i> / Sitka Spruce	<i>Philadelphus lewisii</i> / Mock Orange <i>Viburnum edule</i> / Squashberry	<i>Lupinus polyphyllus</i> / Bigleaf Lupine
<b>Wetter</b>	<i>Pinus contorta</i> / Shore Pine <i>Picea sitchensis</i> / Sitka Spruce	<i>Cornus sericea</i> / Red-osier Dogwood <i>Cornus sericea</i> 'Flaviramea' / Yellow Dogwood	<i>Carex obnupta</i> / Slough sedge <i>Juncus effusus</i> / Soft rush

**Zone 6 – Mercer Slough Fringe – Listed species are acceptable in all zones.**

	<b>Trees</b>	<b>Shrubs</b>	<b>Groundcover</b>
<b>Drier</b>	<i>Acer macrophyllum</i> / Bigleaf maple <i>Psuedotsuga menzeisii</i> / Douglas-fir <i>Pyrus fusca</i> / Pacific Crabapple	<i>Corylus cornuta</i> / Hazelnut <i>Oemleria cerasiformis</i> / Indian Plum	<i>Aruncus sylvester</i> / Goatsbeard
<b>Moist</b>	<i>Betula papyrifera</i> / Paper Birch <i>Thuja plicata</i> / Western Red Cedar	<i>Acer circinatum</i> / Vine Maple <i>Ribes divaricatum</i> / Coast Black Gooseberry <i>Ribes lacustre</i> / Prickly Currant <i>Ribes sanguineum</i> / Red Flowering Currant <i>Rosa nutkana</i> / Nootka Rose <i>Rubus spectabilis</i> / Salmonberry <i>Sambucus racemosa</i> / Red Elderberry	<i>Achillea millefolium</i> / Western Yarrow <i>Athyrium filix-femina</i> / Lady Fern <i>Dryopteris austriaca</i> / Spreading Wood Fern <i>Gaultheria shallon</i> / Salal <i>Polystichum munitum</i> / Sword Fern <i>Pteridium aquilinum</i> / Bracken Fern
<b>Wetter</b>	<i>Fraxinus latifolia</i> / Oregon Ash <i>Pinus contorta</i> / Shore Pine <i>Salix lucida</i> / Pacific Willow <i>Salix scouleriana</i> / Scouler Willow <i>Salix sitchensis</i> / Sitka Willow <i>Picea sitchensis</i> / Sitka Spruce	<i>Cornus sericea</i> / Red-osier Dogwood <i>Lonicera involucrata</i> / Twinberry <i>Physocarpus capitata</i> / Ninebark	<i>Carex canescens</i> / Silvery sedge <i>Carex deweyana</i> / Dewey's sedge <i>Carex obnupta</i> / Slough sedge <i>Carex pachystachya</i> / Pachystachy sedge <i>Carex stipata</i> / Sawbeak sedge



**APPENDIX F**

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Tree Evaluation Form





**TREE HAZARD EVALUATION FORM**

International Society of Arboriculture  
A Photographic Guide to the Evaluation of  
Hazard Trees in Urban Areas, 2<sup>nd</sup> Edition

Site/Address: \_\_\_\_\_  
Map/Location: \_\_\_\_\_  
Owner public private unknown other: \_\_\_\_\_  
Date: \_\_\_\_\_ Arborist: \_\_\_\_\_ ISA#: \_\_\_\_\_  
Date of last inspection: \_\_\_\_\_

**HAZARD RATING:**  
\_\_\_\_ + \_\_\_\_ + \_\_\_\_ = \_\_\_\_  
Failure Size of Target Hazard  
potential part rating rating  
  
\_\_\_\_ **Immediate action needed**  
\_\_\_\_ **Needs further inspection**  
\_\_\_\_ **Dead tree**

**TREE CHARACTERISTICS**

Tree #: \_\_\_\_\_ Species: \_\_\_\_\_  
DBH: \_\_\_\_\_ # of trunks: \_\_\_\_\_ Height: \_\_\_\_\_ Spread: \_\_\_\_\_  
Form: generally symmetric minor asymmetry stump sprout stag-headed  
Crown Class: dominant co-dominant intermediate suppressed  
Live crown ratio: \_\_\_\_\_% Age class: young semi-mature mature overmature/senescent  
Pruning History: crown cleaned excessively thinned topped crown raised pollarded crown reduced flush cuts cabled/braced  
none multiple pruning events Approx. dates: \_\_\_\_\_  
Special Value: specimen heritage/historic wildlife unusual street tree screen shade indigenous protected by govt. agency

**TREE HEALTH**

Foliage Cover: normal chronic necrotic Epicormic? yes no Growth obstructions:  
Foliage Density: normal sparse Leaf size: normal small stakes wire/ties signs cables  
Annual shoot growth: excellent average poor Twig dieback? yes no curb/pavement guards  
Woundwood development: excellent average poor none other \_\_\_\_\_  
Vigor class: excellent average fair poor  
Major pests/diseases: \_\_\_\_\_

**SITE CONDITIONS**

Site character: residence commercial industrial park open space natural woodland/forest  
Landscape type: parkway raised bed container mound lawn shrub border wind break  
Irrigation: none adequate inadequate excessive trunk wetted  
Recent site disturbance yes no construction soil disturbance grade change line clearing site clearing  
% dripline paved 0% 10-25% 25-50% 50-75% 75-100% Pavement Lifted? yes no  
% dripline w/ fill soil 0% 10-25% 25-50% 50-75% 75-100%  
%dripline grade lowered 0% 10-25% 25-50% 50-75% 75-100%  
Soil problems: drainage shallow compacted droughty saline alkaline acidic small volume disease center history of fail  
clay expansive slope \_\_\_\_\_ aspect: \_\_\_\_\_  
Obstructions: lights signage line-of-sight view overhead lines underground utilities traffic adjacent veg \_\_\_\_\_  
Exposure to wind: single tree below canopy above canopy recently exposed windward, canopy edge area prone to windthrow  
Prevailing wind direction \_\_\_\_\_ Occurrence of snow/ice storms: never seldom regularly

**TARGET**

Use Under Tree: building parking traffic pedestrian recreation landscape hardscape small features utility lines  
Can target be moved? Yes No Can use be restricted? Yes No  
Occupancy: occasional use intermittent use frequent use constant use

**TREE DEFECTS**

*ROOT DEFECTS:*

**Suspected root rot:** Yes No Mushroom/conk/bracket present Yes No ID: \_\_\_\_\_  
**Exposed roots:** severe moderate low **Undermined:** severe moderate low  
**Root pruned:** \_\_\_\_\_ **Root area affected:** \_\_\_\_\_ % **Buttress wounded:** Yes No **When:** \_\_\_\_\_  
**Restricted root area:** severe moderate low **Potential for root failure:** severe moderate low  
**LEAN:** \_\_\_\_\_ Deg. From vertical natural unnatural self-corrected **Soil heaving:** Yes No  
**Decay in plane of lean:** Yes No **Roots Broken:** Yes No **Soil cracking:** Yes No  
**Compounding factors:** \_\_\_\_\_ **Lean severity:** severe moderate low

*CROWN DEFECTS:* Indicate presence of individual defects and rate their severity (s=severe, m=moderate, l=low)

DEFECT	ROOT CROWN	TRUNK	SCAFFOLDS	BRANCHES
Poor taper				
Bow, sweep				
Codominant/forks				
Multiple attachments				
Included bark				
Excessive end weight				
Cracks/splits				
Hangers				
Girdling				
Wounds/seams				
Decay				
Cavity				
Conks/mushrooms/brackets				
Bleeding/sap flow				
Loose/cracked bark				
Nesting hold/bee hive				
Deadwood/stubs				
Borers/termites/ants				
Cankers/galls/burls				
Previous failure				

**HAZARD RATING**

Tree part most likely to fail: \_\_\_\_\_  
 Inspection period: \_\_\_\_\_ Annual \_\_\_\_\_ Biannual \_\_\_\_\_ Other \_\_\_\_\_  
 Failure Potential + Size of Part + Target Rating = Hazard Rating  
 \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Failure potential: 1-low; 2-medium; 3-high; 4-severe  
 Size of part: 1-<6" 2 - 6-18" (15-45 cm);  
 3 - 18-30" (45-75 cm); 4 - >30" (75 cm)  
 Target rating: 1 - occasional use; 2 - intermittent use;  
 3 - frequent use; 4 - constant use

**HAZARD ABATEMENT**

**Prune:** remove defective part reduce end weight crown clean thin raise canopy crown reduce restructure shape  
**Cable/Brace:** \_\_\_\_\_ **Inspect Further?** root crown decay aerial monitor  
**Remove tree?** YES NO **Replace?** YES NO **Move Target?** YES NO Other: \_\_\_\_\_  
**Effect on adjacent trees:** none evaluate  
**Notification:** owner manager governing agency Date: \_\_\_\_\_

**COMMENTS**

City of Bellevue Submittal Requirements	<b>27</b>
<b>ENVIRONMENTAL CHECKLIST</b>	
12/21/00	
<i>Thank you in advance for your cooperation and adherence to these procedures. If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call the Permit Center (425-452-6864) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Our TTY number is 425-452-4636.</i>	
<p><b>INTRODUCTION</b></p> <p><b>Purpose of the Checklist:</b></p> <p>The State Environmental Policy Act (SEPA), chapter 43.21c RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the City of Bellevue identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the City decide whether an EIS is required.</p> <p><b>Instructions for Applicants:</b></p> <p>This environmental checklist asks you to describe some basic information about your proposal. Answer the questions briefly, with the most precise information known, or give the best description you can. You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.</p> <p>Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the Planner in the Permit Center can assist you. The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. Include references to any reports or studies that you are aware of which are relevant to the answers you provide. The City may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impacts.</p> <p><b>Use of a Checklist for Nonproject Proposals:</b> <i>A nonproject proposal includes plans, policies, and programs where actions are different or broader than a single site-specific proposal.</i></p> <p>For nonproject proposals, complete the Environmental Checklist even though you may answer "does not apply" to most questions. In addition, complete the Supplemental Sheet for Nonproject Actions available from Permit Processing.</p> <p>For nonproject actions, the references in the checklist to the words <i>project</i>, <i>applicant</i>, and <i>property</i> or <i>site</i> should be read as <i>proposal</i>, <i>proposer</i>, and <i>affected geographic area</i>, respectively.</p> <p><b>Attach an 8½" x 11" vicinity map which accurately locates the proposed site.</b></p>	

City of Bellevue Submittal Requirements	<b>27a</b>
<b>ENVIRONMENTAL CHECKLIST</b>	
12/21/00	
If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call the Permit Center (425-452-6864) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Our TTY number is 425-452-4636.	
<b>BACKGROUND INFORMATION</b>	
Property Owner: <b>Talon Portfolio Services, LLC, a Washington limited liability company, as General Receiver for W2007 Seattle Office Bellefield Office Park Realty, LLC, a Delaware limited liability company, King County Case No. 12-2-21253-8-SEA</b>	
Proponent: <b>Charlie Foushée Talon Portfolio Services, LLC 1800 Ninth Avenue, Suite 1600 Seattle, WA 98101</b>	
Contact Person: <b>Kenny Booth, The Watershed Company</b> (If different from the owner. All questions and correspondence will be directed to the individual listed.)	
Address: <b>750 Sixth Street South, Kirkland, WA 98033</b>	
Phone: <b>(425) 822-5242</b>	
Proposal Title:	
<b>Vegetation Management Plan: Bellefield Office Park</b>	
Proposal Location (Street address and nearest cross street or intersection) Provide a legal description if available:	
<b>The Vegetation Management Plan would apply to an approximately 65-acre area in the City of Bellevue generally bounded by 112<sup>th</sup> Ave SE to the west, SE 8<sup>th</sup> Street to the north, the main Mercer Slough channel to the east, and the Mercer Slough Right Channel to the south. Please see the map included in the Vegetation Management Plan for a graphic depiction of the subject area.</b>	
<b>Parcels at least partially located in the subject area include the following: 052405UNKN, 066287UNKN, 0662870020, 0662870060, 0662870070, 0662870110, 066288TRCT, 0662880010, 0662880020, 0662880030, 0662880040.</b>	
Please attach an 8½" X 11" vicinity map that accurately locates the proposal site.	

Give an accurate, brief description of the proposal's scope and nature:

1. General description: **The proposed Vegetation Management Plan involves the management of existing vegetation within the Bellefield Office Park. Management activities include removal of non-native/invasive vegetation, native restoration, tree-pruning, tree removal, and in-fill planting.**
2. Acreage of site: **Approximately 65 acres.**
3. Number of dwelling units/buildings to be demolished: **Not applicable.**
4. Number of dwelling units/buildings to be constructed: **Not applicable.**
5. Square footage of buildings to be demolished: **Not applicable.**
6. Square footage of buildings to be constructed: **Not applicable.**
7. Quantity of earth movement (in cubic yards): **No significant earth movement is proposed in connection with the Vegetation Management Plan. Limited ground disturbance could occur incidental to some vegetation management activities (such as plant replacement); however, any disturbed soils would be replaced and existing grades maintained.**
8. Proposed land use: **The current land use is Office (O). No change in land use is proposed.**
9. Design features, including building height, number of stories, and proposed exterior materials: **Not applicable.**
10. Other **Not applicable.**

Estimated date of completion of the proposal or timing of phasing:

**The Vegetation Management Plan would begin to be implemented after all required approvals are obtained and would continue indefinitely into the future or until a time at which the City indicates expiration of the Vegetation Management Plan. Activities are expected to occur year round; however, all activities must comply with the rainy season provisions as established in Chapter 23.76 of the Bellevue Land Use Code.**

Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

**The Vegetation Management Plan is expected to cover all routine vegetation management activities within the office park. Activities not covered by the standards established in the Vegetation Management Plan would be subject to individual permit requirements with the City of Bellevue.**

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

**Bellefield Office Park Vegetation Management Plan, prepared by The Watershed Company (March 2013).**

**Talon Bellefield Office Park Property – Wetland Delineation Study, prepared by The Watershed Company (September 4, 2012).**

Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. List dates applied for and file numbers, if known.

**The following permit applications are currently under review by the City of Bellevue. Listed permits pertain to a proposal to repair portions of the existing paved parking lot within the office park.**

**13-132747-GC  
12-132748-BW  
13-132748-UE  
13-106654-WD**

**Additionally, a stop work order has been placed on the property by the City of Bellevue. The stop work order (13-103857-EA) pertains to unauthorized vegetation removal within critical areas and critical area buffers.**

List any government approvals or permits that will be needed for your proposal, if known. If permits have been applied for, list application date and file numbers, if known.

**The proposal requires a Critical Areas Land Use Permit as well as a Clearing and Grading Permit from the City of Bellevue. State and/or federal permits are not anticipated for work covered by the Vegetation Management Plan.**

Please provide one or more of the following exhibits, if applicable to your proposal. **Not applicable.**  
(Please check appropriate box(es) for exhibits submitted with your proposal):

- Land Use Reclassification (rezone)  
Map of existing and proposed zoning
- Preliminary Plat or Planned Unit Development  
Preliminary plat map
- Clearing & Grading Permit  
Plan of existing and proposed grading  
Development plans
- Building Permit (or Design Review)  
Site plan  
Clearing & grading plan
- Shoreline Management Permit  
Site plan

A. ENVIRONMENTAL ELEMENTS

1. EARTH

a. General description of the site (circle one):  Flat Rolling Hilly Steep slopes Mountains Other:

b. What is the steepest slope on the site (approximate percent slope)?

**The steepest slope on the site is approximately 20 percent.**

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

**According to Natural Resources Conservation Service (NRCS) soil maps, almost 90 percent of the subject area is comprised of Seattle Muck (Sk). The remaining 10 percent of the subject area is mapped as Alderwood gravelly sandy loam; it is mapped along 112<sup>th</sup> Avenue on the west side of the site. Site soils have been affected by the lowering of Lake Washington in 1916 and placement of fill material in the 1970s (which is not reflected in the NRCS soils map). Today the site contains a mix of organic and imported mineral soils.**

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

**Site soils have been affected by the lowering of Lake Washington in 1916 and placement of fill material in the 1970s. Today the site contains a mix of organic and imported mineral soils. Portions of the original fill have subsided over the years.**

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

**No significant filling or grading is proposed in connection with the Vegetation Management Plan. Limited ground disturbance could occur incidental to some vegetation management activities (such as plant replacement); however, any disturbed soils would be replaced and existing grades maintained.**

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

**Limited erosion could occur due to vegetation clearing. However, appropriate temporary erosion control BMPs would be employed as needed.**

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

**The proposed Vegetation Management Plan does not include the placement of any new permanent impervious surfaces.**

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

**Temporary erosion control BMPs would be employed as needed.**

## 2. AIR

- a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

**During Vegetation Management Plan implementation, emissions to the air including equipment exhaust and dust could result from landscaping equipment. These emissions would be temporary and rapidly dissipated.**

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

**There are no known off-site sources of emissions or odor that may affect the proposal.**

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

**Standard methods of reducing impacts to air would be employed, including managing exposed soils.**

## 3. WATER

- a. Surface:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

**Yes. The subject area is surrounded by Mercer Slough, which flows in to Lake Washington. Several wetlands are also located in the subject area. For further details on wetlands in the subject area, please refer to the Vegetation Management Plan and the Talon Bellefield Office Park Property – Wetland Delineation Study, prepared by The Watershed Company (September 4, 2012).**

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

**Yes, some vegetation management activities could occur within wetlands and also within 200 feet of Mercer Slough.**

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

**No filling will occur within the Mercer Slough. Work within wetlands would be limited to plant replacement and mulch placement.**

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

**No.**

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

**Yes, some Vegetation Management Plan activities could occur within areas designated as 100-year floodplain. However, these activities will not impact flood storage capacity or alter the floodplain in any way.**

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

**No intentional discharges of waste materials to surface waters would occur during vegetation management activities. All appropriate BMPs would be implemented to prevent such discharges.**

b. Ground

1. Will ground water be withdrawn, or will water be discharged to ground water? Give a general description, purpose, and approximate quantities if known.

**There will be no withdrawal of, or discharge to, ground water associated with implementation of the Vegetation Management Plan.**

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

**There will be no waste material from septic tanks or other sources discharged into the ground as part of the vegetation management activities.**

c. Water runoff (including stormwater):

1. Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

**No new sources of water runoff are proposed as part of the Vegetation Management Plan. Runoff quantities and flow patterns are not expected to change markedly; however, in some cases, landscaping conversions and/or restoration plantings may decrease the overall quantity of runoff from the subject area.**

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

**During vegetation management activities, fuel, lubricant or other material spills from equipment could enter ground or surface waters. However, spill cleanup equipment would be present on site during vegetation management activities.**

- d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

**Temporary erosion control BMPs would be employed as needed.**

#### 4. PLANTS

- a. Check types of vegetation found on the site and circle appropriate measurements or list species:

deciduous tree:  alder,  maple, aspen,  other

- evergreen tree:  fir,  cedar,  pine,  other
- shrubs
- pasture
- crop or grain
- wet soil plants:  cattail,  buttercup,  bulrush, skunk cabbage,  other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

**The site contains an extensive list of vegetation species. For details regarding the vegetation found in the subject area, please see the Bellefield Office Park Vegetation Management Plan prepared by The Watershed Company (March 2013).**

- b. What kind and amount of vegetation will be removed or altered?

**Invasive vegetation to be removed includes bindweed, evergreen blackberry, Himalayan blackberry, climbing nightshade, creeping buttercup, English holly, English ivy, English laurel, European mountain ash, knotweed, poison hemlock, reed canarygrass, Robert's geranium, and yellow-flag iris. Tree removal will be limited to hazard trees. Shrub removal will occur only when necessary for access or maintenance activities or as part of landscaping conversions. All areas cleared of vegetation will be replanted.**

- c. List threatened or endangered species known to be on or near the site.

**No known threatened or endangered plant species have been documented in the City of Bellevue.**

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

**Vegetation management activities include removal of non-native/invasive vegetation, native restoration, tree-pruning, tree removal, and in-fill planting. All activities will be carried out utilizing best management practices for work in critical areas and critical area buffers. Overall, invasive removal, native restoration, and other vegetation activities are expected to maintain or improve net critical area functions and values within the subject area.**

## 5. ANIMALS

- a. Circle any birds and animals that have been observed on or near the site or are known to be on or near the site:

birds:  hawk,  heron,  eagle,  songbirds, other:

mammals: deer, bear, elk, beaver, other:

fish: bass,  salmon,  trout, herring, shellfish, other:

- b. List any threatened or endangered species known to be on or near the site.

**Adult and juvenile chinook salmon and steelhead trout, both listed as Threatened under the federal Endangered Species Act (ESA), migrate through Lake Washington and into Mercer Slough. Adults migrate upstream to reach spawning grounds; juveniles migrate downstream from their natal streams to reach the ocean. Lake Washington and Mercer Slough potentially contain bull trout, a salmonid listed as Threatened under the federal ESA. Lake Washington and Mercer Slough also contain coho salmon, a Species of Concern under the federal ESA.**

**Bald eagles, listed as Species of Concern under the federal ESA, commonly forage and nest next to large open waters and may pass through the office park. No raptor nests were noted during project fieldwork, but three bald eagle nests are mapped (on Washington Department of Fish and Wildlife's PHS on the Web) within a one-mile radius.**

- c. Is the site part of a migration route? If so, explain.

**Adult and juvenile salmon migrate up and downstream, respectively, through Mercer Slough. Migrating waterfowl may use the slough as resting and foraging areas during spring and fall migrations.**

- d. Proposed measures to preserve or enhance wildlife, if any:

**All significant trees will be preserved, with the exception of hazard trees. Cut trees will be retained as wildlife snags where possible, and cut and pruned material will be left onsite, where appropriate. Invasive removal, native restoration, and other vegetation activities are expected to maintain or improve net critical area functions and values within the subject area.**

## 6. ENERGY AND NATURAL RESOURCES

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

**The types of energy likely to be used to implement the proposed Vegetation Management Plan include gas-powered vehicles and hand-held equipment.**

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

**No.**

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

**No such features are proposed.**

## 7. ENVIRONMENTAL HEALTH

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

**Typical environmental health hazards related to landscaping could occur during implementation of the Vegetation Management Plan.**

- 1) Describe special emergency services that might be required.

**Special emergency services are not anticipated to be required. In the unlikely event that an accident (spill, fire, other exposure) were to occur involving toxic chemicals or hazardous wastes, the local fire department's hazardous materials team would respond. If necessary, local medical services might also be required. Safety and accident response supplies would be on-site.**

- 2) Proposed measures to reduce or control environmental health hazards, if any:

**Standard precautions would be taken to ensure the safety of work crews. A crew supervisor would be contacted by a crew member immediately upon discovery of a spill. The crew supervisor would then ensure that the spill is cleaned up in an appropriate manner and would contact the appropriate authorities, if necessary.**

b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

**Because some Vegetation Management Plan activities are likely to occur within or adjacent to roads and parking lots, noise associated with vehicular traffic is expected. However, such noise would not affect Vegetation Management Plan activities.**

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

**Noises that would be created or associated with implementation of the Vegetation Management Plan, on both a short- and long-term basis, include those typically associated with vegetation management activities, such as noises that emanate from mowing equipment or blowers. These noises would only occur in a given area periodically and would be of limited duration. Noise would be limited to normal daytime working hours pursuant to Bellevue City Code 9.18.**

- 3) Proposed measures to reduce or control noise impacts, if any:

**Noises associated with implementation of the Vegetation Management Plan would only occur in a given area periodically and would be of limited duration. Noise would be limited to normal daytime working hours pursuant to Bellevue City Code 9.18.**

## 8. LAND AND SHORELINE USE

- a. What is the current use of the site and adjacent properties?

**The site is currently used as an office park. The office park is situated between the preserved natural areas of the Mercer Slough Nature Park and the City of Bellevue's urban core.**

- b. Has the site been used for agriculture? If so, describe.

**Yes. The Bellefield Office Park was built within the historic extent of Lake Washington and Mercer Slough. Prior to the lowering of Lake Washington in 1916 as a result of the construction of the Hiram Chittenden Locks, the subject area was underwater and formed part of Lake Washington. Following the lowering of the lake level, the area emerged as a peat bog wetland that was subsequently used for agriculture.**

- c. Describe any structures on the site.

**A total of 15 one- and two-story office buildings occupy the subject area.**

- d. Will any structures be demolished? If so, what?

**No.**

- e. What is the current zoning classification of the site?

**Office (O).**

- f. What is the current comprehensive plan designation of the site?

**Office (O).**

- g. If applicable, what is the current shoreline master program designation of the site?

**Unclassified.**

- h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

**The on-site wetlands and Mercer Slough have been classified as "environmentally sensitive" areas. Additionally, Mercer Slough is within the mapped 100-year floodplain.**

- i. Approximately how many people would reside or work in the completed project?

**Not applicable.**

- j. Approximately how many people would the completed project displace?

**Not applicable.**

- k. Proposed measures to avoid or reduce displacement impacts, if any:

**Not applicable.**

- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

**Proposed Vegetation Management Plan activities would not affect existing land use.**

## 9. HOUSING

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

**Not applicable.**

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

**Not applicable.**

- c. Proposed measures to reduce or control housing impacts, if any:

**No such measures are necessary.**

## 10. AESTHETICS

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

**No structures are proposed as part of the Vegetation Management Plan.**

- b. What views in the immediate vicinity would be altered or obstructed?

**Views in the immediate vicinity may be minimally altered as a result of implementing the Vegetation Management Plan. Management activities include removal of non-native/invasive vegetation, native restoration, tree-pruning, tree removal, and in-fill planting.**

- c. Proposed measures to reduce or control aesthetic impacts, if any:

**Development of the Vegetation Management Plan included consideration of aesthetics, including sight distances. Additionally, areas of invasive species removal will be replanted with native vegetation.**

## 11. LIGHT AND GLARE

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

**No light or glare will be produced by the proposed Vegetation Management Plan activities.**

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

**No.**

- c. What existing off-site sources of light or glare may affect your proposal?

**Proposed Vegetation Management Plan activities would not be affected by off-site sources of light or glare.**

- d. Proposed measures to reduce or control light and glare impacts, if any:

**No such measures are necessary.**

## 12. RECREATION

- a. What designated and informal recreational opportunities are in the immediate vicinity?

**Mercer Slough Nature Park is located to the south and east of the subject area. The waters of Mercer Slough that surround the subject area are part of the Mercer Slough Water Trail.**

- b. Would the proposed project displace any existing recreational uses? If so, describe.

**No.**

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

**No such measures are necessary.**

## 13. HISTORIC AND CULTURAL PRESERVATION

- a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

**According to the Department of Archeology and Historic Preservation's (DAHP) WISAARD (Washington Information System for Architectural and Archaeological Records Data) website, the Frederick W. Winters House (Washington Heritage Register and National Register) is next to the site on the grounds of the Mercer Slough Nature Park, situated approximately 1,000 feet from the subject area.**

- b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

**No such landmarks or evidence is known to be on or next to the site.**

- c. Proposed measures to reduce or control impacts, if any:

**Should historic, archeological, scientific or culturally significant items be encountered during implementation of maintenance activities, work would be temporarily stopped while the appropriate agencies are notified.**

#### 14. TRANSPORTATION

- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

**Access to the site is via a bridge on 114<sup>th</sup> Avenue SE (taking access from SE 8<sup>th</sup> Street) and a second bridge on SE 15<sup>th</sup> Street (taking access from 112<sup>th</sup> Avenue SE).**

- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

**The nearest King County Metro transit stop is located at the entrance to the office park (corner of 112<sup>th</sup> Avenue SE and SE 15<sup>th</sup> Street).**

- c. How many parking spaces would the completed project have? How many would the project eliminate?

**It is not anticipated that the proposed Vegetation Management Plan would create or eliminate parking spaces. However, the plan does allow for restoration of existing paved surfaces with vegetation. This could result in a loss of parking spaces. However, any removal of parking spaces would be reviewed under a separate permit application.**

- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

**No.**

- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

**The project will not use, or occur in the immediate vicinity of, water, rail, or air transportation.**

- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

**Traffic generation would not change as result of the proposed project.**

- g. Proposed measures to reduce or control transportation impacts, if any:

**No such measures are necessary.**

**15. PUBLIC SERVICES**

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

**No.**

- b. Proposed measures to reduce or control direct impacts on public services, if any.

**No such measures are necessary.**

**16. UTILITIES**

- a. Circle utilities currently available at the site: **electricity**, **natural gas**, **water**, **refuse service**, **telephone**, **sanitary sewer**, septic system, other.

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

**No additional utilities are proposed as part of the Vegetation Management Plan.**

**Signature**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature

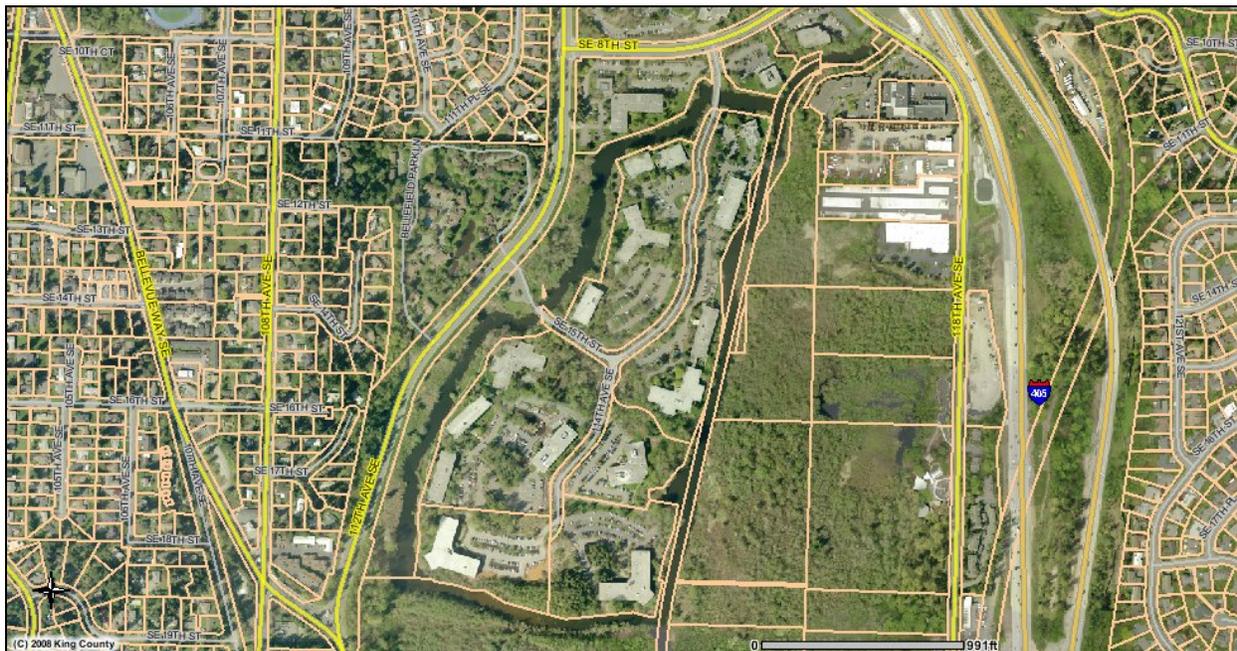
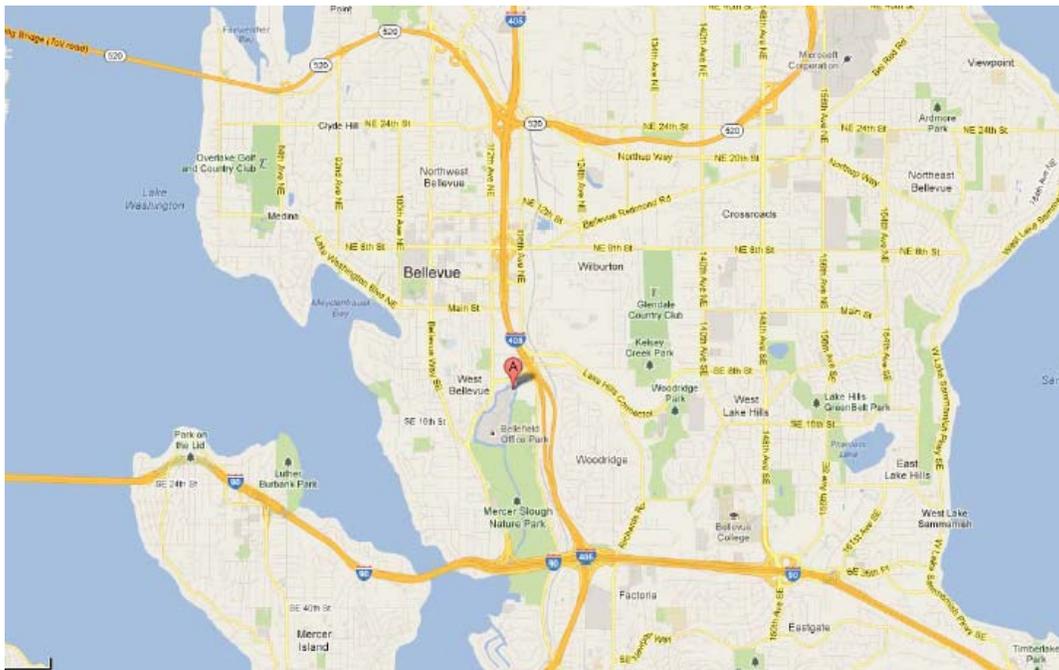


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Kenny Booth, AICP  
Associate Planner  
The Watershed Company

Date Submitted: \_\_\_\_\_

**Vicinity Map** from Google Maps (top) and iMAP (bottom)





## Construction Stormwater Pollution Prevention Plan (CSWPPP) Short Form for Small Construction Projects

The Bellevue clearing and grading code (BCC 23.76.090) allows sites with land disturbing activities totaling less than 7,000 square feet and grading less than 100 cubic yards to prepare a simpler CSWPPP consisting of a checklist (short form) and a site plan. The purpose of the short form is to outline the actions that will be implemented on smaller construction sites as part of the construction activity to reduce or eliminate discharge of sediment and other pollutants into receiving waters.

### Background Information

Property Owner: \_\_\_\_\_

Contact Person: \_\_\_\_\_

(If different from the owner. All questions and correspondence will be directed to the individual listed as contact person.)

Address of Contact Person: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project Title: \_\_\_\_\_

Site Address: \_\_\_\_\_

Parcel Number: \_\_\_\_\_

Give an accurate, brief description of the proposed project's scope and nature:

1. General description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Area of site (square feet or acres): \_\_\_\_\_

3. Proposed area of land disturbance (square feet or acres): \_\_\_\_\_

4. Proposed quantity of excavation (cubic yards): \_\_\_\_\_

5. Proposed quantity of fill (cubic yards): \_\_\_\_\_

6. Square footage of buildings to be constructed: \_\_\_\_\_

7. Description of adjacent areas which may be affected by site disturbance (i.e. streams, lakes, wetlands, residential areas, roads) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. Description of critical areas that are on or adjacent to the site. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. Describe potential erosion problems on site. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Required Elements - Construction Stormwater Pollution Prevention Plan**

Check BMPs to be used for each element. If site conditions render an element unnecessary, check "other" and describe why it is not needed.

1. Mark Clearing Limits
  - Preserve existing vegetation – BMP C 101
  - High Visibility Plastic or Metal Fence – BMP C103
  - Stake and Wire Fence – BMP C104
  - Tree Protection During Construction – BMP T101
  - Other \_\_\_\_\_
  
2. Establish Construction Access
  - Stabilized Construction Entrance – BMP C105
  - Wheel Wash – BMP C106
  - Construction Road/Parking Area Stabilization – BMP C107
  - Other \_\_\_\_\_
  
3. Control Flow Rates
  - Sediment trap – BMP C240
  - Other \_\_\_\_\_
  
4. Install Sediment Controls
  - Vegetated strip – BMP C234
  - Silt Fence – BMP C233
  - Straw wattles – BMP C235
  - Other \_\_\_\_\_
  
5. Stabilize Soils
  - Mulching – BMP C121
  - Plastic Covering – BMP C123
  - Topsoiling – BMP C125
  - Sodding – BMP C124
  - Nets & blankets – BMP C122
  - Temporary & Permanent Seeding – BMP C120
  - Small project construction stormwater pollution prevention BMP C180
  - Other \_\_\_\_\_
  
6. Protect Slopes
  - Temporary & permanent seeding – BMP C120
  - Plastic covering – BMP C123
  - Interceptor dike and swale – BMP C200
  - Nets & blankets – BMP C122
  - Other \_\_\_\_\_
  
7. Protect Drain Inlets
  - Storm drain inlet protection – BMP C220
  - Other \_\_\_\_\_
  
8. Stabilize Channels and Outlets
  - Channel lining – BMP C202
  - Outlet protection – BMP C209
  - Other \_\_\_\_\_

9. Control Pollutants
- Concrete Handling – BMP C151
  - Sawcutting and Surfacing Pollution Prevention – C152
  - Material Delivery, Storage Containment – C153
  - Other \_\_\_\_\_
- 
10. Control De-Watering
- Level Spreader – BMP C206
  - Infiltration (Provide details)
  - Discharge to sanitary sewer (METRO and Bellevue Utilities permits required)
  - Other \_\_\_\_\_
- 
11. Maintain BMPs
- Maintain and repair in accordance with BMP specifications
  - Other \_\_\_\_\_
- 
12. Manage the Project
- Phase construction – describe \_\_\_\_\_
  - Limit work to the dry season \_\_\_\_\_
  - Inspect and monitor all BMPs \_\_\_\_\_
  - Pollution prevention contact list – attach a list to be posed at job site \_\_\_\_\_
  - Reporting and recordkeeping – Attach inspection forms and site log \_\_\_\_\_
  - Other \_\_\_\_\_

**Site Plan**

Attach a site plan (minimum 11" x 17") that includes the following:

- a. Legal description of subject property.
- b. North Arrow
- c. Property boundaries
- d. Boundaries of existing vegetation, e.g. tree lines, pasture areas, etc.
- e. Identify and label areas of potential erosion problems.
- f. Identify any on-site or adjacent surface waters, critical areas and associated buffers.
- g. Identify FEMA base flood boundaries and Shoreline Management boundaries (if applicable)
- h. Show existing and proposed contours.
- i. Delineate areas that are to be cleared and graded.
- j. Indicate location of BMPs and other required CSWPPP elements.
- k. Name and phone number of person(s) responsible for preparation and maintenance of the CSWPPP.

# CONSTRUCTION EMERGENCY CONTACT SHEET

Date \_\_\_\_\_

Project Name: \_\_\_\_\_

Project Address: \_\_\_\_\_

Type of Work: \_\_\_\_\_

-----  
**Developer:** \_\_\_\_\_

Contact: \_\_\_\_\_ Office: \_\_\_\_\_ 24-hr: \_\_\_\_\_

**General Contractor:** \_\_\_\_\_

Contact: \_\_\_\_\_ Office: \_\_\_\_\_ 24-hr: \_\_\_\_\_

**Utilities Sub-Contractor:** \_\_\_\_\_

President/Owner: \_\_\_\_\_

Office: \_\_\_\_\_ Home: \_\_\_\_\_ 24-hr : \_\_\_\_\_

Project Manager: \_\_\_\_\_

Office: \_\_\_\_\_ Home: \_\_\_\_\_ 24-hr : \_\_\_\_\_

Superintendent: \_\_\_\_\_

Office: \_\_\_\_\_ Home: \_\_\_\_\_ 24-hr : \_\_\_\_\_

Foreman: \_\_\_\_\_

Office: \_\_\_\_\_ Home: \_\_\_\_\_ 24-hr : \_\_\_\_\_

Erosion Control Lead: \_\_\_\_\_

Office: \_\_\_\_\_ Home: \_\_\_\_\_ 24-hr : \_\_\_\_\_

**City of Bellevue Inspectors**

Clearing & Grading Inspector: \_\_\_\_\_

Office: (425) 452-\_\_\_\_\_

Building Inspector: \_\_\_\_\_

Office: (425) 452-\_\_\_\_\_

## INJURY or FIRE– Call 911

Project Location or Address (If no address, describe the location of the construction access so that it can be relayed to emergency responders)

**SPILL** (Any hazardous materials including diesel fuel, gasoline, hydraulic fluid that enters the storm drain system or receiving waters)

- Call Washington State Department of Ecology (24 hrs) 425-649-7000
- Call Utilities Operations & Maintenance 425-452-7840
- Call Clearing & Grading Inspector or 425-452-4570

## FISH KILL OR DISTRESS

- Call Washington Department of Fish and Wildlife Area Habitat Biologist, Larry Fisher 425-313-5683
- Call Clearing & Grading Inspector or 425-452-4570

**WATER QUALITY IMPACTS** (Site stormwater runoff turbidity exceeds 250 ntu)

- Call Washington State Department of Ecology (24 hrs) 425-649-7000
- Call Clearing & Grading Inspector or 425-452-4570

## ARCHAEOLOGICAL FINDS

- Call Clearing & Grading Inspector or 425-452-4570
- Call Army Corps of Engineers, Seattle office, Lyz Ellis, 206-764-3634 (This is all you need to do under the permit)  
Or if there is no response and there is a need for immediate help, call  
Dr. Whitlam at the Washington State Office of Historic and Archaeological Program (OHAP), 360-407-0771

**CSWPPP  
SITE INSPECTION FORM**

Project \_\_\_\_\_ Permit No. \_\_\_\_\_

Inspector \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Inspection Type:  After a rain event     Weekly     Turbidity benchmark exceedance  
 Other – explain: \_\_\_\_\_

Weather: \_\_\_\_\_

Precipitation: Since last inspection \_\_\_\_\_ inches    In last 24 hours \_\_\_\_\_ inches

Description of General Site Conditions: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Will existing BMPs need to be modified or removed, or other BMPs installed?     YES     NO  
If YES, list the action items to be completed on the following table:

Actions to be Completed	Date Completed/ Initials
1.	
2.	
3.	
4.	
5.	

Was water quality sampling (turbidity and pH) part of this inspection?     YES     NO  
If yes, attach Turbidity & pH Monitoring Data Sheet

Is the site in compliance with the CSWPPP and the permit requirements?     YES     NO

- If no, indicate the tasks necessary to bring the site into compliance on the "Actions to be Completed" table above, and include dates each job will be completed.

• If no, has the non-compliance been reported to the City of Bellevue?     YES     NO

• If no, should the CSWPPP be modified?     YES     NO

I certify that this report is true, accurate, and complete, to the best of my knowledge and belief.

Name of Inspector (print) \_\_\_\_\_ Title/Qualification \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

## CSWPPP SITE INSPECTION FORM

Project \_\_\_\_\_ Permit No. \_\_\_\_\_

Inspector \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Site BMPs	Overall Condition	Need Repair?	Comments/Observations
<b>Element 1: Clearing Limits</b> <ul style="list-style-type: none"> <li>• Existing vegetation</li> <li>• Plastic or Metal Fence</li> <li>•</li> </ul>	G F P G F P G F P	Y N Y N Y N	
<b>Element 2: Construction Access</b> <ul style="list-style-type: none"> <li>• Stabilized Construction Entrance</li> <li>•</li> <li>•</li> </ul>	G F P G F P G F P	Y N Y N Y N	
<b>Element 3: Control Flow Rates</b> <ul style="list-style-type: none"> <li>• Sediment trap</li> <li>•</li> <li>•</li> </ul>	G F P G F P G F P	Y N Y N Y N	
<b>Element 4: Sediment Controls</b> <ul style="list-style-type: none"> <li>• Silt Fence</li> <li>• Straw wattles</li> <li>•</li> <li>•</li> </ul>	G F P G F P G F P G F P	Y N Y N Y N Y N	
<b>Element 5: Stabilize Soils</b> <ul style="list-style-type: none"> <li>• Mulch</li> <li>• Plastic Covering</li> <li>•</li> <li>•</li> </ul>	G F P G F P G F P G F P	Y N Y N Y N Y N	
<b>Element 6: Protect Slopes</b> <ul style="list-style-type: none"> <li>• Plastic covering</li> <li>• Seeding</li> <li>•</li> </ul>	G F P G F P G F P	Y N Y N Y N	
<b>Element 7: Protect Drain Inlets</b> <ul style="list-style-type: none"> <li>• Storm drain inlet protection</li> <li>•</li> <li>•</li> </ul>	G F P G F P G F P	Y N Y N Y N	
<b>Element 8: Stabilize Channels &amp; Outlets</b> <ul style="list-style-type: none"> <li>• Outlet protection</li> <li>•</li> <li>•</li> </ul>	G F P G F P G F P G F P	Y N Y N Y N Y N	
<b>Element 9: Control Pollutants</b> <ul style="list-style-type: none"> <li>• Concrete Handling</li> <li>• Material Delivery, Storage Containment</li> <li>•</li> </ul>	G F P G F P G F P G F P	Y N Y N Y N Y N	
<b>Element 10: Control Dewatering</b> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> </ul>	G F P G F P G F P	Y N Y N Y N	

G=Good, F=Fair, P=Poor    Y=Yes, N=No

## 4.1 Source Control BMPs

### BMP C101: Preserving Natural Vegetation

#### *Purpose*

The purpose of preserving natural vegetation is to reduce erosion wherever practicable. Limiting site disturbance is the single most effective method for reducing erosion. For example, conifers can hold up to about 50 percent of all rain that falls during a storm. Up to 20-30 percent of this rain may never reach the ground but is taken up by the tree or evaporates. Another benefit is that the rain held in the tree can be released slowly to the ground after the storm.

#### *Conditions of Use*

- Natural vegetation should be preserved on steep slopes, near perennial and intermittent watercourses or swales, and on building sites in wooded areas.
- As required by plat conditions, land use code, or land use approvals.

#### *Design and Installation Specifications*

Natural vegetation can be preserved in natural clumps or as individual trees, shrubs and vines.

The preservation of individual plants is more difficult because heavy equipment is generally used to remove unwanted vegetation. The points to remember when attempting to save individual plants are:

- Is the plant worth saving? Consider the location, species, size, age, vigor, and the work involved. Plat conditions or land use regulations may also require that natural vegetation and trees be saved.
- Fence or clearly mark areas around trees that are to be saved. It is preferable to keep ground disturbance away from the trees at least as far out as the dripline.

Plants need protection from three kinds of injuries:

- *Construction Equipment* - This injury can be above or below the ground level. Damage results from scarring, cutting of roots, and compaction of the soil. Placing a fenced buffer zone around plants to be saved prior to construction can prevent construction equipment injuries.
- *Grade Changes* - Changing the natural ground level will alter grades, which affects the plant's ability to obtain the necessary air, water, and minerals. Minor fills usually do not cause problems although sensitivity between species does vary and should be checked. Trees can tolerate fill of 6 inches or less. For shrubs and other plants, the fill should be less.

When there are major changes in grade, it may become necessary to supply air to the roots of plants. This can be done by placing a layer of gravel and a tile system over the roots before the fill is made. A tile

system protects a tree from a raised grade. The tile system should be laid out on the original grade leading from a dry well around the tree trunk. The system should then be covered with small stones to allow air to circulate over the root area.

Lowering the natural ground level can seriously damage trees and shrubs. The highest percentage of the plant roots are in the upper 12 inches of the soil and cuts of only 2-3 inches can cause serious injury. To protect the roots it may be necessary to terrace the immediate area around the plants to be saved. If roots are exposed, construction of retaining walls may be needed to keep the soil in place. Plants can also be preserved by leaving them on an undisturbed, gently sloping mound. To increase the chances for survival, it is best to limit grade changes and other soil disturbances to areas outside the dripline of the plant.

- *Excavations* - Protect trees and other plants when excavating for drainfields, power, water, and sewer lines. Where possible, the trenches should be routed around trees and large shrubs. When this is not possible, it is best to tunnel under them. This can be done with hand tools or with power augers. If it is not possible to route the trench around plants to be saved, then the following should be observed:

Cut as few roots as possible. When you have to cut, cut clean. Paint cut root ends with a wood dressing like asphalt base paint.

Backfill the trench as soon as possible.

Tunnel beneath root systems as close to the center of the main trunk to preserve most of the important feeder roots.

Some problems that can be encountered with a few specific trees are:

- Maple, Dogwood, Red alder, Western hemlock, Western red cedar, and Douglas fir do not readily adjust to changes in environment and special care should be taken to protect these trees.
- The windthrow hazard of Pacific silver fir and madronna is high, while that of Western hemlock is moderate. The danger of windthrow increases where dense stands have been thinned. Other species (unless they are on shallow, wet soils less than 20 inches deep) have a low windthrow hazard.
- Cottonwoods, maples, and willows have water-seeking roots. These can cause trouble in sewer lines and infiltration fields. On the other hand, they thrive in high moisture conditions that other trees would not.
- Thinning operations in pure or mixed stands of Grand fir, Pacific silver fir, Noble fir, Sitka spruce, Western red cedar, Western hemlock,

Pacific dogwood, and Red alder can cause serious disease problems. Disease can become established through damaged limbs, trunks, roots, and freshly cut stumps. Diseased and weakened trees are also susceptible to insect attack.

***Maintenance  
Standards***

- Inspect flagged and/or fenced areas regularly to make sure flagging or fencing has not been removed or damaged. If the flagging or fencing has been damaged or visibility reduced, it shall be repaired or replaced immediately and visibility restored.
- If tree roots have been exposed or injured, “prune” cleanly with an appropriate pruning saw or loppers directly above the damaged roots and recover with native soils. Treatment of sap flowing trees (fir, hemlock, pine, soft maples) is not advised as sap forms a natural healing barrier.

## **BMP C103: High Visibility Plastic or Metal Fence**

***Purpose*** Fencing is intended to: (1) restrict clearing to approved limits; (2) prevent disturbance of sensitive areas, their buffers, and other areas required to be left undisturbed; (3) limit construction traffic to designated construction entrances or roads; and, (4) protect areas where marking with survey tape may not provide adequate protection.

***Conditions of Use*** To establish clearing limits, plastic or metal fence may be used:

- At the boundary of sensitive areas, their buffers, and other areas required to be left uncleared.
- As necessary to control vehicle access to and on the site.

***Design and  
Installation  
Specifications***

- High visibility plastic fence shall be composed of a high-density polyethylene material and shall be at least four feet in height. Posts for the fencing shall be steel or wood and placed every 6 feet on center (maximum) or as needed to ensure rigidity. The fencing shall be fastened to the post every six inches with a polyethylene tie. On long continuous lengths of fencing, a tension wire or rope shall be used as a top stringer to prevent sagging between posts. The fence color shall be high visibility orange. The fence tensile strength shall be 360 lbs./ft. using the ASTM D4595 testing method.
- Metal fences shall be designed and installed according to the manufacturer's specifications.
- Metal fences shall be at least 3 feet high and must be highly visible.
- Fences shall not be wired or stapled to trees.

***Maintenance  
Standards***

- If the fence has been damaged or visibility reduced, it shall be repaired or replaced immediately and visibility restored.

## **BMP C121: Mulching**

### ***Purpose***

The purpose of mulching soils is to provide immediate temporary protection from erosion. Mulch also enhances plant establishment by conserving moisture, holding fertilizer, seed, and topsoil in place, and moderating soil temperatures. There is an enormous variety of mulches that can be used. Only the most common types are discussed in this section.

### ***Conditions of Use***

As a temporary cover measure, mulch should be used:

- On disturbed areas that require cover measures for less than 30 days.
- As a cover for seed during the wet season and during the hot summer months.
- During the wet season on slopes steeper than 3H:1V with more than 10 feet of vertical relief.
- Mulch may be applied at any time of the year and must be refreshed periodically.

### ***Design and Installation Specifications***

For mulch materials, application rates, and specifications, see Table 4.7. Note: Thicknesses may be increased for disturbed areas in or near sensitive areas or other areas highly susceptible to erosion.

Mulch used within the ordinary high-water mark of surface waters should be selected to minimize potential flotation of organic matter. Composted organic materials have higher specific gravities (densities) than straw, wood, or chipped material.

### ***Maintenance Standards***

- The thickness of the cover must be maintained.
- Any areas that experience erosion shall be remulched and/or protected with a net or blanket. If the erosion problem is drainage related, then the problem shall be fixed and the eroded area remulched.

**Table 4.7  
Mulch Standards and Guidelines**

<b>Mulch Material</b>	<b>Quality Standards</b>	<b>Application Rates</b>	<b>Remarks</b>
Straw	Air-dried; free from undesirable seed and coarse material.	2"-3" thick; 5 bales per 1000 sf or 2-3 tons per acre	Cost-effective protection when applied with adequate thickness. Hand-application generally requires greater thickness than blown straw. The thickness of straw may be reduced by half when used in conjunction with seeding. In windy areas straw must be held in place by crimping, using a tackifier, or covering with netting. Blown straw always has to be held in place with a tackifier as even light winds will blow it away. Straw, however, has several deficiencies that should be considered when selecting mulch materials. It often introduces and/or encourages the propagation of weed species and it has no significant long-term benefits. Straw should be used only if mulches with long-term benefits are unavailable locally. It should also not be used within the ordinary high-water elevation of surface waters (due to flotation).
Hydromulch	No growth inhibiting factors.	Approx. 25-30 lbs per 1000 sf or 1500 - 2000 lbs per acre	Shall be applied with hydromulcher. Shall not be used without seed and tackifier unless the application rate is at least doubled. Fibers longer than about ¾-1 inch clog hydromulch equipment. Fibers should be kept to less than ¾ inch.
Composted Mulch and Compost	No visible water or dust during handling. Must be purchased from supplier with Solid Waste Handling Permit (unless exempt).	2" thick min.; approx. 100 tons per acre (approx. 800 lbs per yard)	More effective control can be obtained by increasing thickness to 3". Excellent mulch for protecting final grades until landscaping because it can be directly seeded or tilled into soil as an amendment. Composted mulch has a coarser size gradation than compost. It is more stable and practical to use in wet areas and during rainy weather conditions.
Chipped Site Vegetation	Average size shall be several inches. Gradations from fines to 6 inches in length for texture, variation, and interlocking properties.	2" minimum thickness	This is a cost-effective way to dispose of debris from clearing and grubbing, and it eliminates the problems associated with burning. Generally, it should not be used on slopes above approx. 10% because of its tendency to be transported by runoff. It is not recommended within 200 feet of surface waters. If seeding is expected shortly after mulch, the decomposition of the chipped vegetation may tie up nutrients important to grass establishment.
Wood-based Mulch	No visible water or dust during handling. Must be purchased from a supplier with a Solid Waste Handling Permit or one exempt from solid waste regulations.	2" thick; approx. 100 tons per acre (approx. 800 lbs. per cubic yard)	This material is often called "hog or hogged fuel." It is usable as a material for Stabilized Construction Entrances (BMP C105) and as a mulch. The use of mulch ultimately improves the organic matter in the soil. Special caution is advised regarding the source and composition of wood-based mulches. Its preparation typically does not provide any weed seed control, so evidence of residual vegetation in its composition or known inclusion of weed plants or seeds should be monitored and prevented (or minimized).



September 4, 2012

Charlie Foushée  
Construction Manager  
Talon Private Capital, LLC  
1800 Ninth Avenue, #1600  
Seattle, WA 98101

**Re: Talon Bellefield Office Park Property - Wetland Delineation Study**  
The Watershed Company Reference Number: 120710

Dear Charlie:

On August 7, 8, 13 and 14, 2012 Watershed Company staff completed a wetland delineation study on a portion of the Bellefield office property located 114th Avenue SE in the City of Bellevue. The study area is depicted in Figure 1 below.



This letter summarizes the findings of this study and details applicable federal, state, and local regulations. The following attachments are included:

- Wetland Delineation Map (*pending survey*)
- Wetland Determination Data Forms
- Wetland Rating Forms

## Methods

Public-domain information on the subject properties was reviewed for this delineation study. These sources include USDA Natural Resources Conservation Service Soil maps, U.S. Fish and Wildlife Service National Wetland Inventory maps, Washington Department of Fish and Wildlife interactive mapping programs (PHS on the Web and SalmonScape), King County's GIS mapping website (iMAP), and City of Bellevue Drainage Basin maps.

The study area was evaluated for wetlands using methodology from the *Corps of Engineers Wetland Delineation Manual* (Manual) (U.S. Army Corps of Engineers [Corps] 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (Regional Supplement) Corps May 2010). Wetland boundary determinations are based on an examination of vegetation, soils, and hydrology. Soil, vegetation, and hydrologic parameters were sampled at several locations to determine wetland presence or absence. Data points on-site are marked with yellow- and black-striped flags. We recorded data at seven of these locations.

Areas meeting wetland parameters were marked with pink- and black-striped flags. In the study area, a total of 30 wetland units were marked with 509 flags. Delineated wetlands were classified using the *Western Washington Wetland Rating System* (Ecology, Aug 2004, version 2).

## Findings

The Bellefield Office Park was built within the historic extent of Mercer Slough. The four parcels in and around the study area were developed between 1974 and 1997. The west tributary of Mercer Slough surrounds the development. The entire study area is mapped by NRCS as Seattle Muck (Sk). Sk is an organic poorly drained soil characterized by a high water table and frequent inundation. Wetland conditions persist in most areas not covered by development. This results in numerous separate wetland units, several of which seasonally or permanently flood adjacent parking lots. Portions of the surface parking lots, drive lanes and adjoining landscaped areas are continuously subsiding, creating saturated and inundated conditions. Subsidence has also periodically caused service problems with underground utilities serving the buildings. A total of 30 wetlands were identified in the study area.

### *Wetlands ABU, F, I, M and O*

These are all relatively high functioning depressional wetland areas that are disconnected from the slough by the surrounding development. All of these wetland units has a palustrine forested vegetation class and most also have palustrine scrub-shrub and emergent classes. Poplar, Pacific willow, red alder, western red cedar, and paper birch characterize the forest canopy. Red-osier dogwood, hardhack spirea, pacific

twinberry and salmonberry are common in the scrub-shrub layer. Emergent cover is dominated by cattails, soft rush, small bedstraw, and spike rush. Sampled soils exhibit Redox Dark Surface (F6), a hydric soil indicator. The water table was at or near the soil surface at the time of our fieldwork and several areas were inundated. Large areas of seasonal ponding, dense persistent vegetation, and organic soils all contribute to high water quality functions in these wetlands. Depth of seasonal inundation and proximity to development contribute to moderate hydrologic functions. Vegetative structure, habitat interspersions, and proximity to priority habitats all contribute to high habitat functions.

**Wetland continuous with Mercer Slough**

*Wetland FF*

Wetland FF is continuous with Mercer Slough to the east. Multiple hydrogeomorphic classes comprise Mercer Slough. Therefore, under the Ecology rating guidance, it is characterized as a depressional wetland. Palustrine forested, scrub-shrub and emergent vegetation classes and open water are all present in Wetland FF. Organic soil and dense persistent vegetation contribute to high water quality functions. The depth of inundation, wetland size relative to the upstream basin, and proximity to development contribute to moderate hydrologic functions. Habitat functions are high due in part to high habitat interspersions, richness of plant species, special habitat features and landscape position.

**Wetlands not continuous with Mercer Slough**

*Wetlands D, G, J, L, R, S, T, V, W, Y, Z, CC*

These wetlands are all relatively small depressional features, which include palustrine forested and emergent vegetation classes. The forested class is characterized by one or more landscape trees. Mowed lawn mixed with small bedstraw and spike dominates palustrine emergent areas. Although, some of these wetlands, such as G and CC, include cattail stands. Sampled soil in these wetlands either met the criteria for Redox Dark Surface (F6) or Histosol (A1). Soils were saturated at or near the surface and a high water table was observed at the time of our fieldwork.

*Wetlands C, P, Q, DD, EE, GG*

These are all palustrine emergent wetlands. They are depressions with permanent or seasonal ponding. Cattails dominate wetlands C, P and Q. Wetlands DD and GG are characterized by lawn grass mixed with small bedstraw and spike rush. Volunteer alder sprouts and moss cover much of Wetland EE. Soils in these areas typically exhibited Redox Dark Surface (F6) hydric soil indicators. Soils were saturated at or near the surface. Some areas were inundated at the time of our fieldwork.

### *Wetlands H, K, X, BB*

These are depressional wetlands with a palustrine forested vegetation class. Forest cover is characterized by native trees, such as western red cedar and Oregon ash. The understory of Wetlands H, K and X contains native shrub species, including rose, dogwood and salmonberry. The understory of Wetland BB is mowed lawn mixed with spike rush and small bedstraw. Soils in these areas typically exhibited Redox Dark Surface (F6) hydric soil indicators. Soils were saturated at or near the surface.

### **Local Regulations**

In Bellevue, wetlands are regulated under the Critical Areas Ordinance. According to LUC 20.25H.095, wetland buffer widths are determined based on wetland category, individual functions scores using Ecology's Western Washington Rating System, site condition (developed or undeveloped), and wetland size. Wetland summaries including vegetation classes, Ecology rating scores, classifications, and buffer widths under the City Code are presented in the table below.

Bellevue also requires that there be a structure setback of 20 feet beyond the buffer of a Category II wetland and 15 feet beyond the buffer of a Category III wetland. Structure setback modification may be allowed if the applicant demonstrates that water quality won't be adversely affected, vegetation or wildlife habitat in the critical area will not be disturbed, and enhancement planting between the structure and critical area will reduce impacts (LUC 20.25H.095.D).

Standard buffer widths listed in the summary table below are required for undeveloped sites. Even developed properties are treated as undeveloped under the City code if there is no prior record of a Native Growth Protection Area on the property title (LUC 20.25H.095.C.1.a.i).

The buffer and setback on sites with existing development with a primary structure legally established prior to August 1, 2006, "*the critical area buffer and/or structure setback shall be modified to exclude the footprint of the existing primary structure*" (LUC 20.25H.095.C.1.b). Since all of the Bellefields buildings predate 2006, standard buffers would be modified to exclude these structures per this code section.

### *Allowed Uses*

Repair and maintenance of existing private roads, surface parking, and driveways are allowed under LUC 20.25H.055 pursuant to LUC 20.25H.055.C.1 and LUC 20.25H.100. The allowed use conditions require the applicant: to conduct repairs in a manner consistent with City Code; retain all significant trees; and restore areas of temporary disturbance under an approved restoration plan. Additionally, the project should incorporate the following performance standards as applicable: direct lights away from the wetland; minimize noise, such as parking lots, adjacent to the wetland; direct

toxic runoff away from the wetland; plant the outer buffer with dense native vegetation to limit access; do not use pesticides.

Wetland Unit	Cowardin Classes	Wetland Rating					Buffer (ft)
		WQ	Hydro.	Hab.	Total	Category	
ABU	PFO, PSS, PEM	32	14	18	64	II	75
C	PEM	24	14	9	47	III	60
D	PFO, PEM	24	14	12	50	III	60
E	PSS	24	14	10	48	III	60
F	PFO, PSS, PEM, open water	20	14	18	52	II	75
G	PFO, PEM	20	14	16	50	III	60
H	PFO	24	14	11	49	III	60
I	PSS, PEM	20	14	23	57	II	110
J	PFO, PEM	24	8	11	43	III	60
K	PFO	32	8	10	50	III	60
L	PFO, PEM	16	8	12	36	III	60
M	PFO	24	14	15	53	II	75
N	PSS, PEM	20	14	12	46	III	60
O	PFO, PSS, PEM	26	10	22	58	II	110
P	PEM	24	14	12	50	III	60
Q	PEM	20	14	14	48	III	60
R	PFO, PEM	24	8	12	44	III	60
S	PFO, PEM	28	8	12	48	III	60
T	PFO, PEM	28	8	11	47	III	60
V	PFO, PEM	20	8	12	40	III	60
W	PFO, PEM	20	8	12	40	III	60
X	PFO	32	8	10	50	III	60
Y	PFO, PEM	24	8	14	46	III	60
Z	PFO, PEM	24	8	13	45	III	60
BB	PFO	16	8	14	38	III	60
CC	PFO, PEM	20	14	11	45	III	60
DD	PEM	22	8	7	37	III	60
EE	PEM	16	8	11	35	III	60
FF	PFO, PSS, PEM	20	12	29	61	II	225
GG	PEM	18	8	11	37	III	60

Cowardin Classes: PFO = palustrine forested; PSS = palustrine scrub-shrub; PEM = palustrine emergent.

### State and Federal Regulations

Wetlands are also regulated by the U.S. Army Corps of Engineers (Corps) under section 404 of the Clean Water Act. Any filling of Waters of the State, including wetlands

(except isolated wetlands), would require notification and permits from the Corps. The subject wetlands would likely not be considered isolated. A formal isolated status inquiry can be requested from the Corps through the Jurisdictional Determination process. Federally permitted actions that could affect endangered species (i.e. salmon or bull trout) may also require a biological assessment study and consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from Ecology.

In general, neither the Corps nor Ecology regulates wetland buffers, unless direct impacts are proposed. When direct impacts are proposed, mitigated wetlands may be required to employ buffers based on Corps and Ecology joint regulatory guidance.

The information contained in this letter or report is based on the application of technical guidelines currently accepted as the best available science and in conjunction with the manuals and criteria outlined in the methods section. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available to us at the time the study was conducted. All work was completed within the constraints of budget, scope, and timing. The findings of this report are subject to verification and agreement by the appropriate local, State and Federal regulatory authorities. No other warranty, expressed or implied, is made.

Please call if you have any questions or if we can provide you with any additional information.

Sincerely,



Nell Lund, PWS  
Ecologist

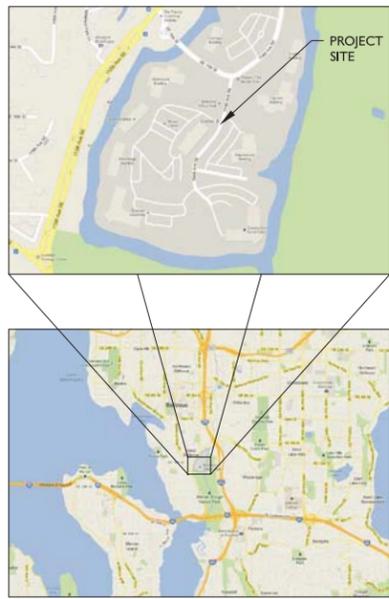
Enclosures



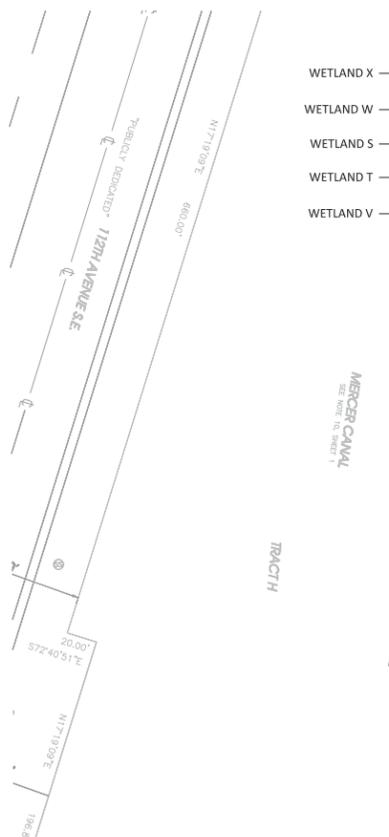
750 Sixth Street South  
Kirkland WA 98033  
p 425.822.5242 f 425.827.8136  
www.watershedco.com  
Science & Design

**BELLEFIELD OFFICE PARK**  
**WETLAND DELINEATION FIGURE**  
**1715 114TH AVE SE**  
**BELLEVUE, WA 98006**

Prepared for: CHARLIE FOUSHEE, TALON PROPERTIES



VICINITY MAPS



**LEGEND**

- EXISTING WETLANDS
- WETLAND BUFFER
- DATA POINTS

**WETLAND DELINEATION FIGURE**

SCALE: 1" = 60'-0"



SUBMITTALS & REVISIONS	
NO.	DATE
1	12-20-12
	REVIEW SET

**SHEET SIZE:**  
ORIGINAL PLAN IS 22" x 34"  
SCALE ACCORDINGLY.

**PROJECT MANAGER:** KB  
**DESIGNED:** MG  
**DRAFTED:** AR  
**CHECKED:** MG, KB  
**JOB NUMBER:** 120710

**SHEET NUMBER:** 1 OF 1

PRINTED BY: AMBER PATYSON  
DATE: 12/20/12  
FILENAME: 120710 BELLEFIELD\_VEG\_MTI BASE.DWG

Project Site: <b>Bellefield Office Park</b>			Sampling Date: <b>August 8, 2012</b>		
Applicant/Owner: <b>Charlie Foushee / Talon Private Capital LLC</b>			Sampling Point: <b>DP- 1</b>		
Investigator: <b>N. Lund, R, Kahlo</b>			City/County: <b>Bellevue/King</b>		
Sect., Township, Range: <b>S 5 T 24N R 5E</b>			State: <b>WA</b>		
Landform (hillslope, terrace, etc): <b>Depression</b>		Slope (%): <b>&lt;2%</b>	Local relief (concave, convex, none): <b>concave</b>		
Subregion (LRR): <b>A</b>	Lat:	Long:	Datum:	NWI classification: <b>None</b>	
Soil Map Unit Name: <b>Seattle Muck (Sk)</b>			NWI classification: <b>None</b>		
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			(If no, explain in remarks.)		
Are "Normal Circumstances" present on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?					
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this Sampling Point within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks:	

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

Tree Stratum (Plot size 5m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet																					
1.				Number of Dominant Species that are OBL, FACW, or FAC: <b>2</b> (A) Total Number of Dominant Species Across All Strata: <b>2</b> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <b>100</b> (A/B)																					
2.																									
3.																									
4.																									
_____ = Total Cover																									
Sapling/Shrub Stratum (Plot size 3m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet																					
1.				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Total % Cover of</th> <th>Multiply by</th> </tr> <tr> <td>OBL species</td> <td></td> <td>x 1 =</td> </tr> <tr> <td>FACW species</td> <td></td> <td>x 2 =</td> </tr> <tr> <td>FAC species</td> <td></td> <td>x 3 =</td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> </tr> <tr> <td>UPL species</td> <td></td> <td>x 5 =</td> </tr> <tr> <td>Column totals</td> <td>(A)</td> <td>(B)</td> </tr> </table>	Total % Cover of		Multiply by	OBL species		x 1 =	FACW species		x 2 =	FAC species		x 3 =	FACU species		x 4 =	UPL species		x 5 =	Column totals	(A)	(B)
Total % Cover of		Multiply by																							
OBL species		x 1 =																							
FACW species		x 2 =																							
FAC species		x 3 =																							
FACU species		x 4 =																							
UPL species		x 5 =																							
Column totals	(A)	(B)																							
2.																									
3.																									
4.																									
5.																									
_____ = Total Cover																									
Herb Stratum (Plot size 1m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet																					
1. <i>Iris pseudacorus</i>	<b>55</b>	<b>Y</b>	<b>OBL</b>	Prevalence Index = B / A =																					
2. <i>Galium trifidum</i>	<b>50</b>	<b>Y</b>	<b>FACW</b>																						
3. <i>Poa sp.</i>	<b>2</b>	<b>N</b>	<b>FAC</b>																						
4.																									
5.				<b>Hydrophytic Vegetation Indicators</b> yes    Dominance test is > 50% Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supporting data in remarks or on a separate sheet) Wetland Non-Vascular Plants * Problematic Hydrophytic Vegetation * (explain)																					
6.																									
7.																									
8.																									
9.																									
10.																									
11.																									
<b>107</b> = Total Cover																									
Woody Vine Stratum (Plot size )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?																					
1.				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																					
2.																									
_____ = Total Cover																									
% Bare Ground in Herb Stratum																									
Remarks:																									

**SOIL**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 2/2	100					Clay loam	
8-14	10YR 2/2	88	2.5Y 5/2 2.5YR 2.5/4	10 2	D C	M PL	Clay loam	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup> Loc: 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)			<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(except MLRA 1)</b> <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<b>Indicators for Problematic Hydric Soils<sup>3</sup></b> <input type="checkbox"/> 2cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks:								

**HYDROLOGY**

Wetland Hydrology Indicators:			
<i>Primary Indicators (minimum of one required: check all that apply):</i>			
<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 <b>(except MLRA 1, 2, 4A &amp; 4B)</b> (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" 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)	<i>Secondary Indicators (2 or more required):</i> <input type="checkbox"/> Water-Stained Leaves (B9) <b>(MLRA 1, 2, 4A &amp; 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	
<b>Field Observations</b>			
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth (in): _____ Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth (in): _____ Saturation Present? (includes capillary fringe) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth (in): _____	Wetland Hydrology Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: <b>Moist, not saturated.</b> <b>Oxidized rhizospheres</b>			



**WETLAND DETERMINATION DATA FORM**  
 Western Mountains, Valleys, and Coast Supplement to the  
 1987 COE Wetlands Delineation Manual

750 Sixth Street South  
 Kirkland, Washington 98033  
 425-822-5242  
 watershedco.com

DP- 2

Project Site: <b>Bellefield Office Park</b>			Sampling Date: <b>August 8, 2012</b>		
Applicant/Owner: <b>Charlie Foushee / Talon Private Capital LLC</b>			Sampling Point: <b>DP- 2</b>		
Investigator: <b>N. Lund, R, Kahlo</b>			City/County: <b>Bellevue/King</b>		
Sect., Township, Range: <b>S 5 T 24N R 5E</b>			State: <b>WA</b>		
Landform (hillslope, terrace, etc): <b>Depression</b>		Slope (%): <b>&lt;2%</b>	Local relief (concave, convex, none): <b>concave</b>		
Subregion (LRR): <b>A</b>	Lat	Long	Datum		
Soil Map Unit Name: <b>Seattle Muck (Sk)</b>			NW1 classification: <b>None</b>		
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			(If no, explain in remarks.)		
Are "Normal Circumstances" present on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?					
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is this Sampling Point within a Wetland?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks:		

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

Tree Stratum (Plot size 5m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. <b><i>Populus balsamifera</i></b>	<b>20</b>	<b>Y</b>	<b>FAC</b>	Number of Dominant Species that are OBL, FACW, or FAC: <b>5</b> (A)	
2. <b><i>Salix hookeriana</i></b>	<b>20</b>	<b>Y</b>	<b>FACW</b>	Total Number of Dominant Species Across All Strata: <b>5</b> (B)	
3.				Percent of Dominant Species that are OBL, FACW, or FAC: <b>100</b> (A/B)	
4.	<b>40</b>	= Total Cover			
<b>Sapling/Shrub Stratum (Plot size 3m diam. )</b>				<b>Prevalence Index Worksheet</b>	
1. <b><i>Alnus rubra</i></b>	<b>15</b>	<b>Y</b>	<b>FAC</b>	Total % Cover of	
2. <b><i>Salix lucida</i> spp. <i>lasianдра</i></b>	<b>20</b>	<b>Y</b>	<b>FACW</b>	Multiply by	
3.				OBL species	x 1 =
4.				FACW species	x 2 =
5.				FAC species	x 3 =
	<b>35</b>	= Total Cover		FACU species	x 4 =
				UPL species	x 5 =
				Column totals	(A) (B)
<b>Herb Stratum (Plot size 1m diam. )</b>				Prevalence Index = B / A =	
1. <b><i>Scirpus microcarpus</i></b>	<b>30</b>	<b>Y</b>	<b>OBL</b>	<b>Hydrophytic Vegetation Indicators</b>	
2.				<b>yes</b>	Dominance test is > 50%
3.					Prevalence test is ≤ 3.0 *
4.					Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)
5.					Wetland Non-Vascular Plants *
6.					Problematic Hydrophytic Vegetation * (explain)
7.				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
8.					
9.					
10.					
11.					
	<b>30</b>	= Total Cover		<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
<b>Woody Vine Stratum (Plot size )</b>					
1.					
2.					
% Bare Ground in Herb Stratum					
Remarks:					

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 2/2	100					Sandy clay loam	
3-12	2.5Y 3/1	85	2.5Y 4/4	15	C	M	Gravelly sandy clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains      <sup>2</sup>Loc: 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 checked="" 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>

- 2cm Muck (A10)
- Red Parent Material (TF2)
- 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:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required):

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 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

Field Observations

- |  |   |  |             |         |
|--|---|--|-------------|---------|
| Surface Water Present?                             | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | Depth (in): |         |
| Water Table Present?                               | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | Depth (in): | 6"      |
| Saturation Present?<br>(includes capillary fringe) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | Depth (in): | surface |

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 Supplement to the  
 1987 COE Wetlands Delineation Manual

750 Sixth Street South  
 Kirkland, Washington 98033  
 (425) 822-5242  
 watershedco.com

**DP- 3**

Project Site: <b>Bellefield Office Park</b>			Sampling Date: <b>August 8, 2012</b>		
Applicant/Owner: <b>Charlie Foushee / Talon Private Capital LLC</b>			Sampling Point: <b>DP- 3</b>		
Investigator: <b>N. Lund, R, Kahlo</b>			City/County: <b>Bellevue/King</b>		
Sect., Township, Range: <b>S 5 T 24N R 5E</b>			State: <b>WA</b>		
Landform (hillslope, terrace, etc)	<b>Slop</b>	Slope (%)	<b>2-5%</b>		Local relief (concave, convex, none)
			<b>none</b>		
Subregion (LRR)	<b>A</b>	Lat	Long	Datum	
Soil Map Unit Name	<b>Seattle Muck (Sk)</b>		NWI classification	<b>None</b>	
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			(If no, explain in remarks.)		
Are "Normal Circumstances" present on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Are Vegetation <input type="checkbox"/> , Soil, <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?					
Are Vegetation <input type="checkbox"/> , Soil, <input type="checkbox"/> , or Hydrology <input type="checkbox"/> 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?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>Is this Sampling Point within a Wetland?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Hydric Soils Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No			
Wetland Hydrology Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No			
Remarks:					

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

Tree Stratum (Plot size 5m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test Worksheet</b>	
1.				Number of Dominant Species that are OBL, FACW, or FAC: <b>2</b> (A)	
2.				Total Number of Dominant Species Across All Strata: <b>2</b> (B)	
3.				Percent of Dominant Species that are OBL, FACW, or FAC: <b>100</b> (A/B)	
4.					
_____ = Total Cover					
Sapling/Shrub Stratum (Plot size 3m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index Worksheet</b>	
1.				Total % Cover of	
2.				Multiply by	
3.				OBL species	x 1 =
4.				FACW species	x 2 =
5.				FAC species	x 3 =
_____ = Total Cover				FACU species	x 4 =
				UPL species	x 5 =
				Column totals	(A) (B)
				Prevalence Index = B / A =	
Herb Stratum (Plot size 1m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators</b>	
1. <b>Trifolium repens</b>	<b>40</b>	<b>Y</b>	<b>FAC</b>	yes	
2. <b>Lawn grass</b>	<b>70</b>	<b>Y</b>	<b>FAC*</b>	Dominance test is > 50%	
3. <b>Ranunculus repens</b>	<b>5</b>	<b>N</b>	<b>FACW</b>	Prevalence test is ≤ 3.0 *	
4.				Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)	
5.				Wetland Non-Vascular Plants *	
6.				Problematic Hydrophytic Vegetation * (explain)	
7.					
8.					
9.					
10.					
11.					
<b>115</b> = Total Cover				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
Woody Vine Stratum (Plot size )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b>	
1.				Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/>
2.					
_____ = Total Cover					
% Bare Ground in Herb Stratum					
Remarks: <b>*lawn grass presumed facultative (FAC).</b>					

**SOIL**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-2	10YR 2/2	100					Sandy loam	
2-6	10YR 4/1	100					Gravelly sandy loam	Fill layer

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Loc: 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>**

- 2cm Muck (A10)
- Red Parent Material (TF2)
- 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: **Compact fill, could not dig below 6 inch depth.**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (2 or more required):

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 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

**Field Observations**

- |   |                              |  |             |
|---|------------------------------|--|-------------|
| Surface Water Present?                          | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Depth (in): |
| Water Table Present?                            | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Depth (in): |
| Saturation Present? (includes capillary fringe) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Depth (in): |

Wetland Hydrology Present?

Yes

No

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

Remarks: **dry**

Project Site: <b>Bellefield Office Park</b>		Sampling Date: <b>August 8, 2012</b>	
Applicant/Owner: <b>Charlie Foushee / Talon Private Capital LLC</b>		Sampling Point: <b>DP- 4</b>	
Investigator: <b>N. Lund, R, Kahlo</b>		City/County: <b>Bellevue/King</b>	
Sect., Township, Range: <b>S 5 T 24N R 5E</b>		State: <b>WA</b>	
Landform (hillslope, terrace, etc): <b>Parking lot median</b>	Slope (%): <b>2-5%</b>	Local relief (concave, convex, none): <b>concave</b>	
Subregion (LRR): <b>A</b>	Lat:	Long:	Datum:
Soil Map Unit Name: <b>Seattle Muck (Sk)</b>	NW1 classification: <b>None</b>		
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		(If no, explain in remarks.)	
Are "Normal Circumstances" present on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Are Vegetation <input type="checkbox"/> , Soil, <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?			
Are Vegetation <input type="checkbox"/> , Soil, <input type="checkbox"/> , or Hydrology <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this Sampling Point within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: <b>Typical parking lot median</b>	

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

Tree Stratum (Plot size 5m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet																					
1.				Number of Dominant Species that are OBL, FACW, or FAC: <b>1</b> (A)																					
2.																									
3.																									
4.																									
_____ = Total Cover				Total Number of Dominant Species Across All Strata: <b>1</b> (B)																					
				Percent of Dominant Species that are OBL, FACW, or FAC: <b>100</b> (A/B)																					
Sapling/Shrub Stratum (Plot size 3m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet																					
1.				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Total % Cover of</th> <th>Multiply by</th> </tr> <tr> <td>OBL species</td> <td></td> <td>x 1 =</td> </tr> <tr> <td>FACW species</td> <td></td> <td>x 2 =</td> </tr> <tr> <td>FAC species</td> <td></td> <td>x 3 =</td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> </tr> <tr> <td>UPL species</td> <td></td> <td>x 5 =</td> </tr> <tr> <td>Column totals</td> <td>(A)</td> <td>(B)</td> </tr> </table>	Total % Cover of		Multiply by	OBL species		x 1 =	FACW species		x 2 =	FAC species		x 3 =	FACU species		x 4 =	UPL species		x 5 =	Column totals	(A)	(B)
Total % Cover of		Multiply by																							
OBL species		x 1 =																							
FACW species		x 2 =																							
FAC species		x 3 =																							
FACU species		x 4 =																							
UPL species		x 5 =																							
Column totals	(A)	(B)																							
2.																									
3.																									
4.																									
5.																									
_____ = Total Cover																									
Herb Stratum (Plot size 1m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet																					
1. <b>Lawn grasses</b>	<b>100</b>	<b>Y</b>	<b>FAC*</b>	Prevalence Index = B / A =																					
2. <b>Trifolium pretense</b>	<b>5</b>	<b>N</b>	<b>FACU</b>																						
3. <b>Lotus corniculatus</b>	<b>5</b>	<b>N</b>	<b>FAC</b>																						
4. <b>Convolvulus sp.</b>	<b>2</b>	<b>N</b>	<b>NI</b>																						
5.				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Hydrophytic Vegetation Indicators</th> </tr> <tr> <td>yes</td> <td>Dominance test is &gt; 50%</td> </tr> <tr> <td></td> <td>Prevalence test is ≤ 3.0 *</td> </tr> <tr> <td></td> <td>Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)</td> </tr> <tr> <td></td> <td>Wetland Non-Vascular Plants *</td> </tr> <tr> <td></td> <td>Problematic Hydrophytic Vegetation * (explain)</td> </tr> <tr> <td colspan="2">* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic</td> </tr> </table>	Hydrophytic Vegetation Indicators		yes	Dominance test is > 50%		Prevalence test is ≤ 3.0 *		Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)		Wetland Non-Vascular Plants *		Problematic Hydrophytic Vegetation * (explain)	* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic								
Hydrophytic Vegetation Indicators																									
yes	Dominance test is > 50%																								
	Prevalence test is ≤ 3.0 *																								
	Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)																								
	Wetland Non-Vascular Plants *																								
	Problematic Hydrophytic Vegetation * (explain)																								
* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																									
6.																									
7.																									
8.																									
9.																									
10.																									
11.																									
<b>112</b> = Total Cover																									
Woody Vine Stratum (Plot size )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?																					
1.				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																					
2.																									
_____ = Total Cover																									
% Bare Ground in Herb Stratum																									
Remarks: <b>*lawn grasses presumed facultative (FAC).</b>																									

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-14	10YR 3/1	65	5YR 3/4	35	C	M, PL	Gravelly sandy clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Loc: 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 checked="" 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"/> 2cm Muck (A10)             |
| <input type="checkbox"/> Red Parent Material (TF2)  |
| <input type="checkbox"/> Other (explain in remarks) |
| <input type="checkbox"/>                            |

<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:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required):

- |   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 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                           |

Field Observations

- |   |                              |  |             |
|---|------------------------------|--|-------------|
| Surface Water Present?                          | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Depth (in): |
| Water Table Present?                            | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Depth (in): |
| Saturation Present? (includes capillary fringe) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Depth (in): |

Wetland Hydrology Present?

Yes

No

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

Remarks: **Moist, can squeeze water out of soil at ~6 inch depth.**  
**Oxidized rhizospheres.**



**WETLAND DETERMINATION DATA FORM**  
 Western Mountains, Valleys, and Coast Supplement to the  
 1987 COE Wetlands Delineation Manual

**DP- 5**

750 Sixth Street South  
 Kirkland, Washington 98033  
 13-11247 (425) 822-5242  
 watershedco.com

Project Site: <b>Bellefield Office Park</b>		Sampling Date: <b>August 8, 2012</b>	
Applicant/Owner: <b>Charlie Foushee / Talon Private Capital LLC</b>		Sampling Point: <b>DP- 5</b>	
Investigator: <b>N. Lund, R, Kahlo</b>		City/County: <b>Bellevue/King</b>	
Sect., Township, Range: <b>S 5 T 24N R 5E</b>		State: <b>WA</b>	
Landform (hillslope, terrace, etc): <b>Median</b>	Slope (%): <b>~15%</b>	Local relief (concave, convex, none): <b>convex</b>	
Subregion (LRR): <b>A</b>	Lat:	Long:	Datum:
Soil Map Unit Name: <b>Seattle Muck (Sk)</b>		NWI classification:	<b>None</b>
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		(If no, explain in remarks.)	
Are "Normal Circumstances" present on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this Sampling Point within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Remarks:	

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

Tree Stratum (Plot size 5m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet																					
1.				Number of Dominant Species that are OBL, FACW, or FAC: <b>1</b> (A) Total Number of Dominant Species Across All Strata: <b>1</b> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <b>100</b> (A/B)																					
2.																									
3.																									
4.																									
_____ = Total Cover																									
Sapling/Shrub Stratum (Plot size 3m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet																					
1.				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Total % Cover of</th> <th>Multiply by</th> </tr> <tr> <td>OBL species</td> <td></td> <td>x 1 =</td> </tr> <tr> <td>FACW species</td> <td></td> <td>x 2 =</td> </tr> <tr> <td>FAC species</td> <td></td> <td>x 3 =</td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> </tr> <tr> <td>UPL species</td> <td></td> <td>x 5 =</td> </tr> <tr> <td>Column totals</td> <td>(A)</td> <td>(B)</td> </tr> </table>	Total % Cover of		Multiply by	OBL species		x 1 =	FACW species		x 2 =	FAC species		x 3 =	FACU species		x 4 =	UPL species		x 5 =	Column totals	(A)	(B)
Total % Cover of		Multiply by																							
OBL species		x 1 =																							
FACW species		x 2 =																							
FAC species		x 3 =																							
FACU species		x 4 =																							
UPL species		x 5 =																							
Column totals	(A)	(B)																							
2.																									
3.																									
4.																									
5.																									
_____ = Total Cover																									
Herb Stratum (Plot size 1m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet																					
1. <b>Field grass</b>	<b>100</b>	<b>Y</b>	<b>FAC*</b>	Prevalence Index = B / A =																					
2. <b>Lotus corniculatus</b>	<b>15</b>	<b>N</b>	<b>FAC</b>																						
3. <b>Taraxacum officinale</b>	<b>5</b>	<b>N</b>	<b>FACU</b>																						
4. <b>Convolvulus sp.</b>	<b>Trace</b>	<b>N</b>	<b>NI</b>																						
5.				<b>Hydrophytic Vegetation Indicators</b> yes    Dominance test is > 50% Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supporting data in remarks or on a separate sheet) Wetland Non-Vascular Plants * Problematic Hydrophytic Vegetation * (explain)																					
6.																									
7.																									
8.																									
9.																									
10.																									
11.																									
<b>120</b> = Total Cover																									
Woody Vine Stratum (Plot size )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?																					
1.				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																					
2.																									
_____ = Total Cover																									
% Bare Ground in Herb Stratum																									
Remarks:																									

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 2/2	100					Gravelly sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Loc: 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>

- 2cm Muck (A10)
- Red Parent Material (TF2)
- 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: **Cannot dig below 4 inch depth, compact fill layer present.**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required):

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 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

Field Observations

- |   |                              |  |             |
|---|------------------------------|--|-------------|
| Surface Water Present?                          | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Depth (in): |
| Water Table Present?                            | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Depth (in): |
| Saturation Present? (includes capillary fringe) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Depth (in): |

Wetland Hydrology Present?

Yes

No

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

Remarks:

Project Site: <b>Bellefield Office Park</b>			Sampling Date: <b>August 8, 2012</b>		
Applicant/Owner: <b>Charlie Foushee / Talon Private Capital LLC</b>			Sampling Point: <b>DP- 6</b>		
Investigator: <b>N. Lund, R, Kahlo</b>			City/County: <b>Bellevue/King</b>		
Sect., Township, Range: <b>S 5 T 24N R 5E</b>			State: <b>WA</b>		
Landform (hillslope, terrace, etc): <b>Hillslope</b>		Slope (%): <b>&lt;5%</b>	Local relief (concave, convex, none): <b>convex</b>		
Subregion (LRR): <b>A</b>	Lat	Long	Datum		
Soil Map Unit Name: <b>Seattle Muck (Sk)</b>			NW1 classification: <b>None</b>		
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			(If no, explain in remarks.)		
Are "Normal Circumstances" present on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Are Vegetation <input type="checkbox"/> , Soil, <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?					
Are Vegetation <input type="checkbox"/> , Soil, <input type="checkbox"/> , or Hydrology <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this Sampling Point within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: <b>In Wetland Y</b>	

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

Tree Stratum (Plot size 5m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. <b><i>Sorbus aucuparia</i></b>	<b>15</b>	<b>Y</b>	<b>NI</b>	Number of Dominant Species that are OBL, FACW, or FAC: <b>3</b> (A)	
2.				Total Number of Dominant Species Across All Strata: <b>3</b> (B)	
3.				Percent of Dominant Species that are OBL, FACW, or FAC: <b>100</b> (A/B)	
4.	<b>15</b> = Total Cover				
Sapling/Shrub Stratum (Plot size 3m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet	
1. <b><i>Spiraea douglasii</i></b>	<b>35</b>	<b>Y</b>	<b>FACW</b>		
2. <b><i>Physocarpus capitatus</i></b>	<b>10</b>	<b>Y</b>	<b>FACW</b>	OBL species	Multiply by
3. <b><i>Cornus sericea</i></b>	<b>5</b>	<b>N</b>	<b>FACW</b>	FACW species	x 1 =
4.				FAC species	x 2 =
5.				FACU species	x 3 =
	<b>50</b> = Total Cover			UPL species	x 4 =
				Column totals	(A) (B)
Herb Stratum (Plot size 1m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index = B / A =	
1. <b>Lawn grass</b>	<b>95</b>	<b>Y</b>	<b>FAC*</b>		
2. <b><i>Galium trifidum</i></b>	<b>25</b>	<b>N</b>	<b>FACW</b>	Hydrophytic Vegetation Indicators	
3. <b><i>Ranunculus repens</i></b>	<b>25</b>	<b>N</b>	<b>FACW</b>		
4.					Prevalence test is ≤ 3.0 *
5.					Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)
6.					Wetland Non-Vascular Plants *
7.					Problematic Hydrophytic Vegetation * (explain)
8.					* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
9.					
10.					Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
11.					
	<b>145</b> = Total Cover				
Woody Vine Stratum (Plot size )	Absolute % Cover	Dominant Species?	Indicator Status		
1.					
2.					
	= Total Cover				
% Bare Ground in Herb Stratum					
Remarks: <b>*lawn grass presumed facultative (FAC).</b>					

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	2.5YR 2.5/1	100					Organic	

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

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

- |  |   |
|--|---|
| <input checked="" 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>

- 2cm Muck (A10)
- Red Parent Material (TF2)
- 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:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required):

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 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

Field Observations

- |   |                              |                             |             |    |
|---|------------------------------|-----------------------------|-------------|----|
| Surface Water Present?                          | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Depth (in): |    |
| Water Table Present?                            | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Depth (in): | 9" |
| Saturation Present? (includes capillary fringe) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Depth (in): | 6" |

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 Supplement to the  
 1987 COE Wetlands Delineation Manual

750 Sixth Street South  
 Kirkland, Washington 98033  
 425-822-5242  
 watershedco.com

**DP- 7**

Project Site: <b>Bellefield Office Park</b>			Sampling Date: <b>August 8, 2012</b>		
Applicant/Owner: <b>Charlie Foushee / Talon Private Capital LLC</b>			Sampling Point: <b>DP- 7</b>		
Investigator: <b>N. Lund, R, Kahlo</b>			City/County:		
Sect., Township, Range: <b>S 5 T 24N R 5E</b>			State: <b>WA</b>		
Landform (hillslope, terrace, etc): <b>hillslope</b>		Slope (%): <b>2-5%</b>	Local relief (concave, convex, none): <b>none</b>		
Subregion (LRR): <b>A</b>	Lat:	Long:	Datum:		
Soil Map Unit Name: <b>Seattle Muck (Sk)</b>			NW1 classification: <b>None</b>		
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			(If no, explain in remarks.)		
Are "Normal Circumstances" present on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?					
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this Sampling Point within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Remarks:	

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

Tree Stratum (Plot size 5m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet																					
1.				Number of Dominant Species that are OBL, FACW, or FAC: <b>2</b> (A)																					
2.																									
3.																									
4.																									
_____ = Total Cover				Total Number of Dominant Species Across All Strata: <b>2</b> (B)																					
				Percent of Dominant Species that are OBL, FACW, or FAC: <b>100</b> (A/B)																					
Sapling/Shrub Stratum (Plot size 3m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet																					
1.				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2">Total % Cover of</th> <th>Multiply by</th> </tr> <tr> <td>OBL species</td> <td></td> <td>x 1 =</td> </tr> <tr> <td>FACW species</td> <td></td> <td>x 2 =</td> </tr> <tr> <td>FAC species</td> <td></td> <td>x 3 =</td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> </tr> <tr> <td>UPL species</td> <td></td> <td>x 5 =</td> </tr> <tr> <td>Column totals</td> <td>(A)</td> <td>(B)</td> </tr> </table>	Total % Cover of		Multiply by	OBL species		x 1 =	FACW species		x 2 =	FAC species		x 3 =	FACU species		x 4 =	UPL species		x 5 =	Column totals	(A)	(B)
Total % Cover of		Multiply by																							
OBL species		x 1 =																							
FACW species		x 2 =																							
FAC species		x 3 =																							
FACU species		x 4 =																							
UPL species		x 5 =																							
Column totals	(A)	(B)																							
2.																									
3.																									
4.																									
5.																									
_____ = Total Cover																									
Herb Stratum (Plot size 1m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet																					
1. <b>Lawn grass</b>	<b>98</b>	<b>Y</b>	<b>FAC*</b>	Prevalence Index = B / A =																					
2. <b>Trifolium repens</b>	<b>20</b>	<b>Y</b>	<b>FAC</b>																						
3. <b>Mentha aquatic</b>	<b>5</b>	<b>N</b>	<b>NI</b>																						
4.																									
5.																									
6.																									
7.																									
8.																									
9.																									
10.																									
11.																									
<b>123</b> = Total Cover																									
Woody Vine Stratum (Plot size )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators																					
1.				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>yes</td> <td>Dominance test is &gt; 50%</td> </tr> <tr> <td></td> <td>Prevalence test is ≤ 3.0 *</td> </tr> <tr> <td></td> <td>Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)</td> </tr> <tr> <td></td> <td>Wetland Non-Vascular Plants *</td> </tr> <tr> <td></td> <td>Problematic Hydrophytic Vegetation * (explain)</td> </tr> </table>	yes	Dominance test is > 50%		Prevalence test is ≤ 3.0 *		Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)		Wetland Non-Vascular Plants *		Problematic Hydrophytic Vegetation * (explain)											
yes	Dominance test is > 50%																								
	Prevalence test is ≤ 3.0 *																								
	Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)																								
	Wetland Non-Vascular Plants *																								
	Problematic Hydrophytic Vegetation * (explain)																								
2.																									
_____ = Total Cover																									
% Bare Ground in Herb Stratum																									
Remarks:				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																					

**SOIL**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 2/2	100					Sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Loc: 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) <b>(except MLRA 1)</b> |
| <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>**

- 2cm Muck (A10)
- Red Parent Material (TF2)
- 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: **Compact gravel fill layer starts at 4 inch depth.**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

*Secondary Indicators (2 or more required):*

- Water-Stained Leaves (B9) **(MLRA 1, 2, 4A & 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

**Field Observations**

- |  |                              |  |             |
|--|------------------------------|--|-------------|
| Surface Water Present?                             | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Depth (in): |
| Water Table Present?                               | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Depth (in): |
| Saturation Present?<br>(includes capillary fringe) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Depth (in): |

Wetland Hydrology Present?

Yes

No

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

Remarks:

Wetland name or number ABU, C, D, E, F

**WETLAND RATING FORM – WESTERN WASHINGTON**

Version 2 - Updated July 2006 to increase accuracy and reproducibility among users  
 Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Bellefield Talon Date of site visit: 8/8, 14 / 12

Rated by NL, RK Trained by Ecology? Yes  No  Date of training 10/2008  
03/2009

NE 1/4 SEC: 5 TOWNSHIP: 24N RANGE: 5E Is S/T/R in Appendix D? Yes  No

Map of wetland unit: Figure      Estimated size     

**SUMMARY OF RATING**

Category based on FUNCTIONS provided by wetland

I  II  III  IV

Category I = Score >=70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions

Score for Hydrologic Functions

Score for Habitat Functions

TOTAL score for Functions

	ABU	C	D	E	F
Score for Water Quality Functions	32	24	24	24	20
Score for Hydrologic Functions	14	14	14	14	14
Score for Habitat Functions	18	9	12	10	18
TOTAL score for Functions	64	47	50	48	52

Category based on SPECIAL CHARACTERISTICS of wetland

I  II  Does not Apply

Final Category (choose the "highest" category from above)

II	III	III	III	II
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Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics	Wetland HGM Class used for Rating	
Estuarine	Depressional	X
Natural Heritage Wetland	Riverine	
Bog	Lake-fringe	
Mature Forest	Slope	
Old Growth Forest	Flats	
Coastal Lagoon	Freshwater Tidal	
Interdunal		
None of the above	Check if unit has multiple HGM classes present	<input type="checkbox"/>

ABU, C, D, E, F

Wetland name or number ABU, C, D, E, F

**Does the wetland unit being rated meet any of the criteria below?**

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

<b>Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)</b>	<b>YES</b>	<b>NO</b>
<p>SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered <b>animal or plant</b> species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.</p>		X
<p>SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered <b>animal</b> species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).</p>		X
<p>SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i></p>		X
<p>SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.</p>		X

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number ABU, C, D, E, F

## Classification of Wetland Units in Western Washington

**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 (i.e. except during floods)?  
NO – go to 2                      YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – **Freshwater Tidal Fringe**    NO – **Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. ).

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 both** of the following criteria?  
\_\_\_ The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (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**?  
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 <3ft diameter and less than 1 foot deep).*  
NO - go to 5                      YES – The wetland class is **Slope**

Wetland name or number ABU, C, D, E, F

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 two years.

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

NO - go to 6      **YES - The wetland class is Riverine**

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 your wetland. **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 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.

<i>HGM Classes within the wetland unit being rated</i>	<i>HGM Class to Use in Rating</i>
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still 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 Depressional and Flats Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality		Points (only 1 score per box)
D	<b>D 1. Does the wetland unit have the potential to improve water quality?</b> (see p.38)	
D	D 1.1 Characteristics of surface water flows out of the wetland: F Unit is a depression with no surface water leaving it (no outlet) E, D, C, ABU points = 3 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 1 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	Figure ABU C D E 3 3 3 3
D	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES F, E, D, C, ABU points = 4 NO points = 0	4 4 4 4
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class) Wetland has persistent, ungrazed, vegetation >= 95% of area ABU points = 5 C Wetland has persistent, ungrazed, vegetation >= 1/2 of area F, E, D points = 3 Wetland has persistent, ungrazed vegetation >= 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area points = 0 Map of Cowardin vegetation classes	Figure 3 5 5 3 3
D	D1.4 Characteristics of seasonal ponding or inundation. This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs. Area seasonally ponded is > 1/2 total area of wetland ABU points = 4 Area seasonally ponded is > 1/4 total area of wetland D, E points = 2 Area seasonally ponded is < 1/4 total area of wetland F, C points = 0 Map of Hydroperiods	Figure 0 4 0 2 2
D	<b>Total for D 1</b> Add the points in the boxes above	10 16 12 12 12
D	<b>D 2. Does the wetland unit have the opportunity to improve water quality?</b> (see p. 44) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. — Grazing in the wetland or within 150 ft ✓ Untreated stormwater discharges to wetland — Tilled fields or orchards within 150 ft of wetland — A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ✓ Residential, urban areas, golf courses are within 150 ft of wetland ✓ Wetland is fed by groundwater high in phosphorus or nitrogen ← sewage (ABU) — Other YES multiplier is 2 NO multiplier is 1	multiplier 2 2 2 2
D	<b>TOTAL - Water Quality Functions</b> Multiply the score from D1 by D2 Add score to table on p. 1	32 24 24 24

Wetland name or number ABU, C, D, E, F

<b>D Depressional and Flats Wetlands</b>		<b>Points</b> (only 1 score per box)
<b>HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream degradation</b>		
<b>D 3. Does the wetland unit have the potential to reduce flooding and erosion?</b> (see p.46)		
<b>D</b>	D 3.1 Characteristics of surface water flows out of the wetland unit <b>F</b> Unit is a depression with no surface water leaving it (no outlet) <b>D, C, ABU, E</b> points = 4 <b>E</b> Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 <b>4</b> Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow <b>and no obvious natural outlet</b> and/or outlet is a man-made ditch points = 1 <i>(If ditch is not permanently flowing treat unit as "intermittently flowing")</i> Unit has an unstricted, or slightly constricted, surface outlet ( <i>permanently flowing</i> ) points = 0	ABU C D E 4 4 4 4
	<b>D</b> D 3.2 Depth of storage during wet periods <i>Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).</i> Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The wetland is a "headwater" wetland points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 <b>F, ABU</b> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet <b>E, D, C</b> <u>points = 3</u> Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1 <b>3</b> Marks of ponding less than 0.5 ft points = 0	3 3 3 3
	<b>D</b> D 3.3 Contribution of wetland unit to storage in the watershed <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i> The area of the basin is less than 10 times the area of unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 <b>F, ABU</b> The area of the basin is more than 100 times the area of the unit <b>E, C, D</b> points = 0 Entire unit is in the FLATS class points = 5 <b>0</b>	0 0 0 0
	<b>D</b> <b>Total for D 3</b> <i>Add the points in the boxes above</i> <b>7</b>	7 7 7 7
<b>D</b> <b>D 4. Does the wetland unit have the opportunity to reduce flooding and erosion?</b> (see p. 49)		
Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides <u>helps protect downstream property and aquatic resources</u> from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. <i>Note which of the following indicators of opportunity apply.</i> <ul style="list-style-type: none"> <li><input type="checkbox"/> Wetland is in a headwater of a river or stream that has flooding problems</li> <li><input type="checkbox"/> Wetland drains to a river or stream that has flooding problems</li> <li><input checked="" type="checkbox"/> Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems</li> <li><input type="checkbox"/> Other _____</li> </ul> <b>YES</b> multiplier is 2 <b>NO</b> multiplier is 1 <b>2</b>		multiplier 2 2 2 2
<b>D</b>	<b>TOTAL - Hydrologic Functions</b> Multiply the score from D 3 by D 4 <b>14</b> <i>Add score to table on p. 1</i>	14 14 14 14

Wetland name or number ABU, C, D, E, F

<p><i>These questions apply to wetlands of all HGM classes.</i></p> <p>HABITAT FUNCTIONS - Indicators that unit functions to provide important habitat</p>		<p><b>Points</b> (only 1 score per box)</p>
<p><b>H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?</b></p>		
<p>H 1.1 <u>Vegetation structure</u> (see p. 72) Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres.</p> <p> <input type="checkbox"/> Aquatic bed  <input checked="" type="checkbox"/> <u>ABU</u> Emergent plants  <input checked="" type="checkbox"/> <u>ABU</u> Scrub/shrub (areas where shrubs have &gt;30% cover)  <input checked="" type="checkbox"/> <u>ABU</u> Forested (areas where trees have &gt;30% cover)                      If the unit has a forested class check if:  <input 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                      Add the number of vegetation structures that qualify. If you have:                      4 structures or more points = 4                      3 structures points = 2                      2 structures points = 1                      1 structure points = 0                 </p> <p>Map of Cowardin vegetation classes</p>		<p>Figure ___</p> <p style="text-align: center;"> <span style="margin-right: 20px;"><u>F</u></span> <span style="margin-right: 20px;"><u>ABU</u></span> <span style="margin-right: 20px;"><u>C</u></span> <span style="margin-right: 20px;"><u>D</u></span> <span><u>E</u></span> </p> <p style="text-align: center;"> <span style="margin-right: 20px;">2</span> <span style="margin-right: 20px;">2</span> <span style="margin-right: 20px;">0</span> <span style="margin-right: 20px;">1</span> <span>0</span> </p>
<p>H 1.2. <u>Hydroperiods</u> (see p. 73) Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count. (see text for descriptions of hydroperiods)</p> <p> <input checked="" type="checkbox"/> <u>ABU</u> Permanently flooded or inundated 4 or more types present points = 3  <input checked="" type="checkbox"/> <u>ABU</u> Seasonally flooded or inundated 3 types present points = 2  <input type="checkbox"/> Occasionally flooded or inundated 2 types present <u>point = 1</u>  <input checked="" type="checkbox"/> <u>ABU</u> 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 = 2 points</b>  <input type="checkbox"/> <b>Freshwater tidal wetland = 2 points</b> </p> <p>Map of hydroperiods</p>		<p>Figure ___</p> <p style="text-align: center;"> <span style="margin-right: 20px;">1</span> <span style="margin-right: 20px;">1</span> <span style="margin-right: 20px;">0</span> <span style="margin-right: 20px;">1</span> <span>1</span> </p>
<p>H 1.3. <u>Richness of Plant Species</u> (see p. 75) 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) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle If you counted: <u>ABU</u> &gt; 19 species points = 2 <u>E, D, C</u> 5 - 19 species points = 1 &lt; 5 species points = 0 List species below if you want to:</p>		<p>Figure ___</p> <p style="text-align: center;"> <span style="margin-right: 20px;">2</span> <span style="margin-right: 20px;">2</span> <span style="margin-right: 20px;">1</span> <span style="margin-right: 20px;">1</span> <span>1</span> </p>

Total for page 5 5 1 3 2

Wetland name or number ABU, C, D, E, F

<p><b>H 1.4. Interspersion of habitats (see p. 76)</b> Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.</p> <p>None = 0 points Low = 1 point Moderate = 2 points High = 3 points [riparian braided channels]</p> <p>NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes</p>		<p>Figure</p> <table border="1"> <thead> <tr> <th>ABU</th> <th>C</th> <th>D</th> <th>E</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	ABU	C	D	E	2	0	1	0
ABU	C	D	E							
2	0	1	0							
<p><b>H 1.5. Special Habitat Features: (see p. 77)</b> Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.</p> <p><u>ABU</u> Large, downed, woody debris within the wetland (&gt;4in. diameter and 6 ft long). <u>ABU</u> Standing snags (diameter at the bottom &gt; 4 inches) in the wetland</p> <p>Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)</p> <p>Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt;30degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet turned grey/brown</i>)</p> <p><u>ABU</u> At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (<i>structures for egg-laying by amphibians</i>)</p> <p><u>C</u> Invasive plants cover less than 25% of the wetland area in each stratum of plants</p> <p>NOTE: The 20% stated in early printings of the manual on page 78 is an error.</p>		<table border="1"> <tbody> <tr> <td>2</td> <td>3</td> <td>1</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	2	3	1	1	1			
2	3	1	1	1						
<p><b>H 1. TOTAL Score - potential for providing habitat</b> Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</p>		<table border="1"> <tbody> <tr> <td>10</td> <td>10</td> <td>2</td> <td>5</td> <td>3</td> </tr> </tbody> </table>	10	10	2	5	3			
10	10	2	5	3						

Comments

Wetland name or number ABU, C, D, E, F

H 2. Does the wetland unit have the opportunity to provide habitat for many species?		Figure
<p><b>H 2.1 Buffers (see p. 80)</b> Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</p> <ul style="list-style-type: none"> <li>— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt;95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) <b>Points = 5</b></li> <li>— 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 50% circumference. <b>Points = 4</b></li> <li>— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt;95% circumference. <b>Points = 4</b></li> <li>— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 25% circumference, . <b>Points = 3</b></li> <li>— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for &gt; 50% circumference. <b>Points = 3</b></li> </ul> <p style="text-align: center;"><b>If buffer does not meet any of the criteria above</b></p> <ul style="list-style-type: none"> <li>— No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland &gt; 95% circumference. Light to moderate grazing, or lawns are OK. <b>Points = 2</b></li> <li>— No paved areas or buildings within 50m of wetland for &gt;50% circumference. Light to moderate grazing, or lawns are OK. <b>Points = 2</b></li> <li>— Heavy grazing in buffer. <b>Points = 1</b></li> <li>— Vegetated buffers are &lt;2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) <b>Points = 0.</b></li> <li>— Buffer does not meet any of the criteria above. <b>Points = 1</b></li> </ul> <p style="text-align: center;">Aerial photo showing buffers</p>		<p>Figure _____</p> <p style="text-align: right;"> <span style="margin-right: 20px;"><u>ABU</u></span> <span style="margin-right: 20px;"><u>C</u></span> <span style="margin-right: 20px;"><u>D</u></span> <span style="margin-right: 20px;"><u>E</u></span> <span style="margin-right: 20px;"><u>F</u></span> </p> <p style="text-align: center;"> <span style="margin-right: 20px;">0</span> </p>
<p><b>H 2.2 Corridors and Connections (see p. 81)</b></p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (<i>dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor</i>).</p> <p style="text-align: center;">YES = 4 points (go to H 2.3)                      NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? <b>OR</b> a <b>Lake-fringe</b> wetland, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;">YES = 2 points (go to H 2.3)                      NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <ul style="list-style-type: none"> <li>within 5 mi (8km) of a brackish or salt water estuary OR</li> <li>within 3 mi of a large field or pasture (&gt;40 acres) OR</li> <li>within 1 mi of a lake greater than 20 acres?</li> </ul> <p style="text-align: center;">YES = 1 point                      NO = 0 points</p>		<p style="text-align: center;"> </p> <p style="text-align: center;"> </p> <p style="text-align: center;"> </p> <p style="text-align: center;"> </p>

F, E, D, C, ABU

E, F, D, C, ABU

Total for page \_\_\_\_\_

Wetland name or number ABU, C, D, E, F

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <http://wdfw.wa.gov/hab/phslist.htm> )

Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.*

Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).

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 p. 152*).

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 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; 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: Woodlands 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*).

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*).

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: pp. 167-169 and glossary in Appendix A*).

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 7.6 m (25 ft) high and occurring below 5000 ft.

Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), 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 > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

If wetland has **3 or more** priority habitats = **4 points**

If wetland has **2** priority habitats = **3 points**

If wetland has **1** priority habitat = **1 point**

No habitats = 0 points

*Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)*

F	ABU	C	D	E
4	4	3	3	3

Wetland name or number ABU, C, D, E, F

<p>H 2.4 <u>Wetland Landscape</u> (choose the <b>one</b> description of the landscape around the wetland that best fits) (see p. 84)</p> <p>There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5</p> <p>The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5</p> <p><input checked="" type="checkbox"/> There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3</p> <p>The wetland is Lake-fringe on a lake <b>with</b> disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3</p> <p>There is at least 1 wetland within ½ mile. points = 2</p> <p>There are no wetlands within ½ mile. points = 0</p>			
<p><b>H 2. TOTAL Score - opportunity for providing habitat</b> Add the scores from H2.1, H2.2, H2.3, H2.4</p>	8	7	7
<p>TOTAL for H 1 from page 14</p>	10	2	5
<p><b>Total Score for Habitat Functions</b> – add the points for H 1, H 2 and record the result on p. 1</p>	18	9	12

Wetland name or number G, H, I, J, K

**WETLAND RATING FORM – WESTERN WASHINGTON**

Version 2 - Updated July 2006 to increase accuracy and reproducibility among users  
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Bellefield Talon Date of site visit: 8/14/12

Rated by NL, RK Trained by Ecology? Yes  No  Date of training 10/2008  
03/2009

NE1/4 SEC: 5 TOWNSHIP: 24N RANGE: 5E Is S/T/R in Appendix D? Yes  No

Map of wetland unit: Figure      Estimated size     

**SUMMARY OF RATING**

Category based on FUNCTIONS provided by wetland

I  II  III  IV

Category I = Score >=70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions  
Score for Hydrologic Functions  
Score for Habitat Functions  
TOTAL score for Functions

G	H	I	J	K
20	24	20	24	32
14	14	14	8	8
16	11	23	11	10
50	49	57	43	50

Category based on SPECIAL CHARACTERISTICS of wetland

I  II  Does not Apply

Final Category (choose the "highest" category from above)

III	III	II	III	III
-----	-----	----	-----	-----

Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics	Wetland HGM Class used for Rating	
Estuarine	Depressional	G
Natural Heritage Wetland	Riverine	
Bog	Lake-fringe	
Mature Forest	Slope	
Old Growth Forest	Flats	
Coastal Lagoon	Freshwater Tidal	
Interdunal		
None of the above	Check if unit has multiple HGM classes present	<input checked="" type="checkbox"/>

H, I, J, K

Wetland name or number G, A, I, J, K

**Does the wetland unit being rated meet any of the criteria below?**

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

<b>Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)</b>	<b>YES</b>	<b>NO</b>
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>		X
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number G.H.I.J.K

## Classification of Wetland Units in Western Washington

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 (i.e. except during floods)?  
NO – go to 2                      YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – **Freshwater Tidal Fringe**    NO – **Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. ).

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 both** of the following criteria?  
\_\_\_ The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (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**?  
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 <3ft diameter and less than 1 foot deep).*  
NO - go to 5                      YES – The wetland class is **Slope**

Wetland name or number G, H, I, J, K

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 two years.

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

NO - go to 6      **YES** - The wetland class is **Riverine**

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 your wetland. **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 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.

<i>HGM Classes within the wetland unit being rated</i>	<i>HGM Class to Use in Rating</i>
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still 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 G, H, I, J, K

D Depressional and Flats Wetlands		Points
WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality		(only 1 score per box)
D	D 1. Does the wetland unit have the <u>potential</u> to improve water quality?	(see p.38)
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) <b>K, J, I, H, G</b> points = 3 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet ( <i>permanently flowing</i> ) points = 1 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and <b>no obvious natural outlet</b> and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	Figure <u>    </u> H I J K 3 3 3 3
D	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic ( <u>use NRCS definitions</u> ) YES <b>G</b> points = 4 NO points = 0	4 4 4 4
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class) Wetland has persistent, ungrazed, vegetation >= 95% of area <b>K, J</b> points = 5 Wetland has persistent, ungrazed, vegetation >= 1/2 of area <b>I, H, G</b> points = 3 Wetland has persistent, ungrazed vegetation >= 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area points = 0 Map of Cowardin vegetation classes	Figure <u>    </u> 3 3 3 5 5
D	D1.4 Characteristics of seasonal ponding or inundation. <i>This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.</i> Area seasonally ponded is > 1/2 total area of wetland <b>K</b> points = 4 Area seasonally ponded is > 1/4 total area of wetland <b>H</b> points = 2 Area seasonally ponded is < 1/4 total area of wetland <b>J, I, G</b> points = 0 Map of Hydroperiods	Figure <u>    </u> 0 2 0 0 4
D	<b>Total for D 1</b> Add the points in the boxes above	10 12 10 12 16
D	D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. <input type="checkbox"/> Grazing in the wetland or within 150 ft <input checked="" type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields or orchards within 150 ft of wetland <input type="checkbox"/> A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging <input checked="" type="checkbox"/> Residential, urban areas, golf courses are within 150 ft of wetland <input type="checkbox"/> Wetland is fed by groundwater high in phosphorus or nitrogen Other _____ YES multiplier is 2 NO multiplier is 1	(see p. 44) multiplier 2 2 2 2 2
D	<b>TOTAL - Water Quality Functions</b> Multiply the score from D1 by D2 Add score to table on p. 1	20 24 20 24 32

Wetland name or number G, H, I, J, K

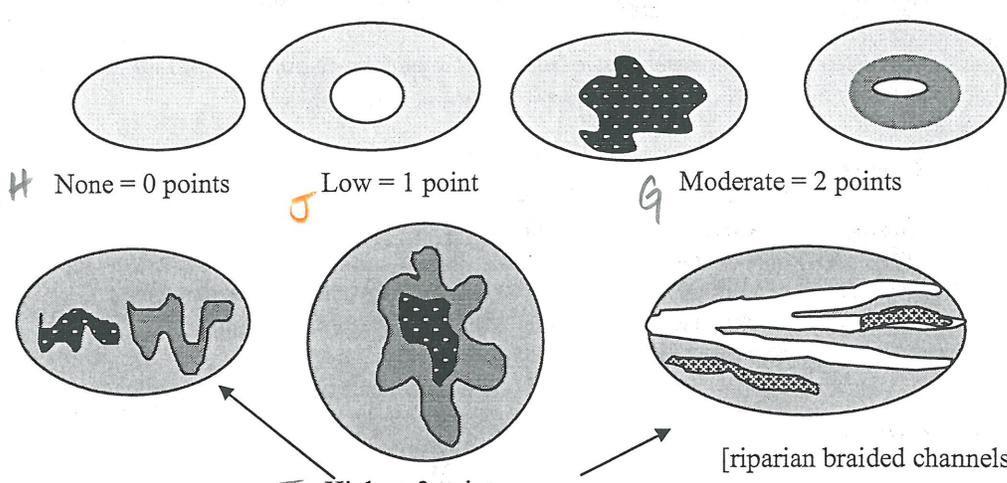
D Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream degradation		Points (only 1 score per box)
<b>D 3. Does the wetland unit have the potential to reduce flooding and erosion?</b>		(see p.46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) <b>K, J, I, H, G</b> points = 4	<u>G</u> <u>H</u> <u>I</u> <u>J</u> <u>K</u> 4
	Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2	4 4 4 4
	Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing")	
	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0	
	D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The wetland is a "headwater" wetland" points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 <b>I, H, G</b> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1 <b>K, J</b> Marks of ponding less than 0.5 ft points = 0	3 3 3 0 0
D	D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit <b>K, J, I, H, G</b> points = 0 Entire unit is in the FLATS class points = 5	0 0 0 0 0
D	<b>Total for D 3</b> Add the points in the boxes above	7 7 7 4 4
D	<b>D 4. Does the wetland unit have the opportunity to reduce flooding and erosion?</b> (see p. 49) Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides <u>helps protect downstream property</u> and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. — Wetland is in a headwater of a river or stream that has flooding problems — Wetland drains to a river or stream that has flooding problems <input checked="" type="checkbox"/> Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems — Other _____ <b>YES</b> multiplier is 2 <b>NO</b> multiplier is 1	multiplier 2 2 2 2 2
D	<b>TOTAL - Hydrologic Functions</b> Multiply the score from D 3 by D 4. Add score to table on p. 1	14 14 8 8

Wetland name or number G, H, I, J, K

<i>These questions apply to wetlands of all HGM classes.</i>		<b>Points</b> (only 1 score per box)									
<b>HABITAT FUNCTIONS</b> - Indicators that unit functions to provide important habitat											
<b>H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?</b>											
<b>H 1.1. <u>Vegetation structure</u> (see p. 72)</b> Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is ¼ acre or more than 10% of the area if unit is smaller than 2.5 acres. <u>I</u> Aquatic bed <u>J, I, G</u> Emergent plants <u>I, G</u> Scrub/shrub (areas where shrubs have >30% cover) <u>K, J, I, H, G</u> Forested (areas where trees have >30% cover) If the unit has a forested class check if: ___ The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon Add the number of vegetation structures that qualify. If you have: ___ I 4 structures or more points = 4 ___ G 3 structures points = 2 ___ J 2 structures points = 1 ___ K, H 1 structure points = 0 Map of Cowardin vegetation classes		<b>Figure</b> ___ <table style="width: 100%; text-align: center;"> <tr> <td style="width: 25%;"><u>G</u></td> <td style="width: 25%;"><u>H</u></td> <td style="width: 25%;"><u>I</u></td> <td style="width: 25%;"><u>J</u> <u>K</u></td> </tr> <tr> <td>2</td> <td>0</td> <td>4</td> <td>1 0</td> </tr> </table>		<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u> <u>K</u>	2	0	4	1 0
<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u> <u>K</u>								
2	0	4	1 0								
<b>H 1.2. <u>Hydroperiods</u> (see p. 73)</b> 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 acre to count. (see text for descriptions of hydroperiods) <u>J, I, G</u> Permanently flooded or inundated 4 or more types present points = 3 <u>K, H</u> Seasonally flooded or inundated 3 types present points = 2 <u>G</u> Occasionally flooded or inundated <u>H, G</u> 2 types present point = 1 <u>H</u> Saturated only <u>K, J, I</u> 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 ___ <b>Lake-fringe wetland = 2 points</b> ___ <b>Freshwater tidal wetland = 2 points</b> Map of hydroperiods		<b>Figure</b> ___ <table style="width: 100%; text-align: center;"> <tr> <td style="width: 25%;">1</td> <td style="width: 25%;">1</td> <td style="width: 25%;">0</td> <td style="width: 25%;">0 0</td> </tr> </table>		1	1	0	0 0				
1	1	0	0 0								
<b>H 1.3. <u>Richness of Plant Species</u> (see p. 75)</b> 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) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle If you counted: <u>I, G</u> > 19 species points = 2 <u>K, J, H</u> 5 - 19 species points = 1 < 5 species points = 0 List species below if you want to:		<table style="width: 100%; text-align: center;"> <tr> <td style="width: 25%;">2</td> <td style="width: 25%;">1</td> <td style="width: 25%;">2</td> <td style="width: 25%;">1 1</td> </tr> </table>		2	1	2	1 1				
2	1	2	1 1								

5 2 6 2 1  
Total for page \_\_\_\_\_

Wetland name or number G, H, I, J, K

H 1.4. Interspersion of habitats (see p. 76)		Figure				
<p>Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.</p>  <p>None = 0 points      Low = 1 point      Moderate = 2 points      High = 3 points</p> <p>[riparian braided channels]</p> <p>NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes</p>		G	H	I	J	K
		2	0	3	1	0
<p>H 1.5. Special Habitat Features: (see p. 77)</p> <p>Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.</p> <p><u>I</u> Large, downed, woody debris within the wetland (&gt;4in. diameter and 6 ft long).</p> <p><u>I</u>, <u>G</u> Standing snags (diameter at the bottom &gt; 4 inches) in the wetland</p> <p>Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)</p> <p><u>I</u> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt;30degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown)</p> <p><u>I</u> At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians)</p> <p><u>I</u>, <u>H</u> Invasive plants cover less than 25% of the wetland area in each stratum of plants</p> <p>NOTE: The 20% stated in early printings of the manual on page 78 is an error.</p>						
<p><b>H 1. TOTAL Score - potential for providing habitat</b> Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</p>		8	3	14	3	1

Comments

Wetland name or number G, H, I, J, K

H 2. Does the wetland unit have the opportunity to provide habitat for many species?		Figure
<p>H 2.1 <u>Buffers</u> (see p. 80) Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</p> <ul style="list-style-type: none"> <li>— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt;95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) <b>Points = 5</b></li> <li>— 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 50% circumference. <b>Points = 4</b></li> <li>— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt;95% circumference. <b>Points = 4</b></li> <li>— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 25% circumference, . <b>Points = 3</b></li> <li>— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for &gt; 50% circumference. <b>Points = 3</b></li> </ul> <p style="text-align: center;"><b>If buffer does not meet any of the criteria above</b></p> <ul style="list-style-type: none"> <li>— No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland &gt; 95% circumference. Light to moderate grazing, or lawns are OK. <b>Points = 2</b></li> <li>— No paved areas or buildings within 50m of wetland for &gt;50% circumference. Light to moderate grazing, or lawns are OK. <b>Points = 2</b></li> <li>— Heavy grazing in buffer. <b>Points = 1</b></li> <li>— Vegetated buffers are &lt;2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) <b>Points = 0.</b></li> <li>— Buffer does not meet any of the criteria above. <b>Points = 1</b></li> </ul> <p style="text-align: center;">Aerial photo showing buffers</p>		<p>Figure _____</p> <p style="text-align: center;"> <u>G</u> <u>H</u> <u>I</u> <u>J</u> <u>K</u> </p> <p style="text-align: center;">           0 1 1 0 1         </p>
<p>H 2.2 <u>Corridors and Connections</u> (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (<i>dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor</i>).</p> <p style="text-align: center;">YES = 4 points (go to H 2.3)                      NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? <b>OR a Lake-fringe wetland</b>, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;">YES = 2 points (go to H 2.3)                      NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <ul style="list-style-type: none"> <li>within 5 mi (8km) of a brackish or salt water estuary OR</li> <li>within 3 mi of a large field or pasture (&gt;40 acres) OR</li> <li>within 1 mi of a lake greater than 20 acres?</li> </ul> <p style="text-align: center;"> <input checked="" type="radio"/> YES = 1 point                      NO = 0 points         </p>		<p style="text-align: center;">           1 1 1 1 1         </p>

Total for page \_\_\_\_\_

G, H  
J, K

Wetland name or number G, H, I, J, K

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <http://wdfw.wa.gov/hab/phslist.htm>)

Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.*

<p><u>Aspen Stands:</u> Pure or mixed stands of aspen greater than 0.4 ha (1 acre).</p> <p><u>Biodiversity Areas and Corridors:</u> Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>).</p> <p><u>Herbaceous Balds:</u> Variable size patches of grass and forbs on shallow soils over bedrock.</p> <p><u>Old-growth/Mature forests:</u> (<u>Old-growth west of Cascade crest</u>) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) &gt; 81 cm (32 in) dbh or &gt; 200 years of age. (<u>Mature forests</u>) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; 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.</p> <p><u>Oregon white Oak:</u> Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).</p> <p><u>Riparian:</u> The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.</p> <p><u>Westside Prairies:</u> Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>).</p> <p><u>Instream:</u> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.</p> <p><u>Nearshore:</u> Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (<i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A</i>).</p> <p><u>Caves:</u> 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.</p> <p><u>Cliffs:</u> Greater than 7.6 m (25 ft) high and occurring below 5000 ft.</p> <p><u>Talus:</u> Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.</p> <p><u>Snags and Logs:</u> 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 &gt; 51 cm (20 in) in western Washington and are &gt; 2 m (6.5 ft) in height. Priority logs are &gt; 30 cm (12 in) in diameter at the largest end, and &gt; 6 m (20 ft) long.</p> <p>If wetland has <b>3 or more</b> priority habitats = <b>4 points</b>                  If wetland has <b>2</b> priority habitats = <b>3 points</b>                  If wetland has <b>1</b> priority habitat = <b>1 point</b>                      No habitats = <b>0 points</b></p> <p><i>Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)</i></p>	<p><u>G</u> <u>H</u> <u>I</u> <u>J</u> <u>K</u></p> <p>4 3 4 4 4</p>
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Wetland name or number G, H, I, J, K

H 2.4 Wetland Landscape (choose the <b>one</b> description of the landscape around the wetland that best fits) (see p. 84)	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>	<u>K</u>
There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5					
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5					
<input checked="" type="radio"/> There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3					
The wetland is Lake-fringe on a lake <b>with</b> disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3	3	3	3	3	3
There is at least 1 wetland within ½ mile. points = 2					
There are no wetlands within ½ mile. points = 0					
<b>H 2. TOTAL Score - opportunity for providing habitat</b> <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i>	8	8	9	8	9
TOTAL for H 1 from page 14	8	3	14	3	1
<b>Total Score for Habitat Functions</b> – add the points for H 1, H 2 and record the result on p. 1	16	11	23	11	10

Wetland name or number L, M, N, O, P

**WETLAND RATING FORM – WESTERN WASHINGTON**  
Version 2 - Updated July 2006 to increase accuracy and reproducibility among users  
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Bellefield Talon Date of site visit: 8/14/12

Rated by NL, RK Trained by Ecology? Yes  No  Date of training 10/2008  
03/2009

NE 1/4 SEC: 5 TOWNSHIP: 24N RANGE: 5E Is S/T/R in Appendix D? Yes  No

Map of wetland unit: Figure      Estimated size     

**SUMMARY OF RATING**

Category based on FUNCTIONS provided by wetland

I      II      III      IV     

Category I = Score >=70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions  
Score for Hydrologic Functions  
Score for Habitat Functions  
TOTAL score for Functions

L	M	N	O	P
16	24	20	26	24
8	14	14	10	14
12	15	12	22	12
<b>36</b>	<b>53</b>	<b>46</b>	58	50

Category based on SPECIAL CHARACTERISTICS of wetland

I      II      Does not Apply

Final Category (choose the "highest" category from above)

III	II	III	II	III
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Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics	Wetland HGM Class used for Rating	
Estuarine	Depressional	<u>L, M, N, O, P</u>
Natural Heritage Wetland	Riverine	
Bog	Lake-fringe	
Mature Forest	Slope	
Old Growth Forest	Flats	
Coastal Lagoon	Freshwater Tidal	
Interdunal		
None of the above	Check if unit has multiple HGM classes present	<input checked="" type="checkbox"/>

Wetland name or number L, M, N, O, P

**Does the wetland unit being rated meet any of the criteria below?**

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered <b>animal or plant</b> species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered <b>animal</b> species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>		X
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number L.M.N.O.P

## Classification of Wetland Units in Western Washington

**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 (i.e. except during floods)?  
NO – go to 2                      YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – **Freshwater Tidal Fringe**    NO – **Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine wetlands**. If it is Saltwater Tidal Fringe it is rated as an **Estuarine wetland**. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. ).*

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 both** of the following criteria?  
\_\_\_ The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (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**?  
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 <3ft diameter and less than 1 foot deep).*  
NO - go to 5                      YES – The wetland class is **Slope**

Wetland name or number L, M, N, O, P

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 two years.

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

NO - go to 6      **YES** - The wetland class is **Riverine**

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 your wetland. **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 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.

<i>HGM Classes within the wetland unit being rated</i>	<i>HGM Class to Use in Rating</i>
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still 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 L, M, N, O, P

<b>D Depressional and Flats Wetlands</b>		<b>Points</b> (only 1 score per box)									
<b>HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream degradation</b>											
<b>D 3. Does the wetland unit have the <u>potential</u> to reduce flooding and erosion?</b>		(see p. 46)									
<b>D</b>	<p>D 3.1 Characteristics of surface water flows out of the wetland unit</p> <p>Unit is a depression with no surface water leaving it (no outlet) <span style="color: red;">P N M L</span> points = 4 <span style="color: red;">4</span></p> <p>Unit has an intermittently flowing, OR highly constricted permanently flowing outlet <span style="color: red;">O</span> points = 2 <span style="color: red;">4</span></p> <p>Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 <span style="color: red;">4</span></p> <p><i>(If ditch is not permanently flowing treat unit as "intermittently flowing")</i></p> <p>Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0</p>	<table border="0"> <tr> <td><u>M</u></td> <td><u>N</u></td> <td><u>O</u></td> <td><u>P</u></td> </tr> <tr> <td>4</td> <td>4</td> <td>2</td> <td>4</td> </tr> </table>	<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>	4	4	2	4	
<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>								
4	4	2	4								
<b>D</b>	<p>D 3.2 Depth of storage during wet periods</p> <p><i>Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).</i></p> <p>Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7</p> <p>The wetland is a "headwater" wetland" points = 5</p> <p>Marks of ponding between 2 ft to &lt; 3 ft from surface or bottom of outlet points = 5</p> <p><span style="color: red;">P, O, N, M</span> Marks are at least 0.5 ft to &lt; 2 ft from surface or bottom of outlet points = 3</p> <p>Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1</p> <p><span style="color: red;">L</span> Marks of ponding less than 0.5 ft points = 0 <span style="color: red;">0</span></p>	<table border="0"> <tr> <td><u>M</u></td> <td><u>N</u></td> <td><u>O</u></td> <td><u>P</u></td> </tr> <tr> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table>	<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>	3	3	3	3	
<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>								
3	3	3	3								
<b>D</b>	<p>D 3.3 Contribution of wetland unit to storage in the watershed</p> <p><i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i></p> <p>The area of the basin is less than 10 times the area of unit points = 5</p> <p>The area of the basin is 10 to 100 times the area of the unit points = 3</p> <p><span style="color: red;">P</span> The area of the basin is more than 100 times the area of the unit <span style="color: red;">O N M L</span> points = 0</p> <p>Entire unit is in the FLATS class points = 5 <span style="color: red;">0</span></p>	<table border="0"> <tr> <td><u>M</u></td> <td><u>N</u></td> <td><u>O</u></td> <td><u>P</u></td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </table>	<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>	0	0	0	0	
<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>								
0	0	0	0								
<b>D</b>	<b>Total for D 3</b>	<i>Add the points in the boxes above</i> <span style="color: red;">4</span>	<table border="0"> <tr> <td><u>M</u></td> <td><u>N</u></td> <td><u>O</u></td> <td><u>P</u></td> </tr> <tr> <td>7</td> <td>7</td> <td>5</td> <td>7</td> </tr> </table>	<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>	7	7	5	7
<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>								
7	7	5	7								
<b>D</b>	<p><b>D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion?</b></p> <p>Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides <u>helps protect downstream property</u> and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur.</p> <p><i>Note which of the following indicators of opportunity apply.</i></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Wetland is in a headwater of a river or stream that has flooding problems</li> <li><input type="checkbox"/> Wetland drains to a river or stream that has flooding problems</li> <li><span style="color: red;">N M</span> <input checked="" type="checkbox"/> Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems</li> <li><input type="checkbox"/> Other _____</li> </ul> <p><span style="border: 1px solid red; border-radius: 50%; padding: 2px;">YES</span> multiplier is 2      NO multiplier is 1</p>	<p>(see p. 49)</p> <p>multiplier</p> <table border="0"> <tr> <td><u>M</u></td> <td><u>N</u></td> <td><u>O</u></td> <td><u>P</u></td> </tr> <tr> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> </table>	<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>	2	2	2	2	
<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>								
2	2	2	2								
<b>D</b>	<b>TOTAL - Hydrologic Functions</b>	Multiply the score from D 3 by D 4 <span style="color: red;">8</span>	<p><i>Add score to table on p. 1</i></p> <table border="0"> <tr> <td><u>M</u></td> <td><u>N</u></td> <td><u>O</u></td> <td><u>P</u></td> </tr> <tr> <td>14</td> <td>14</td> <td>10</td> <td>14</td> </tr> </table>	<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>	14	14	10	14
<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>								
14	14	10	14								

Wetland name or number L, M, N, O, P

<i>These questions apply to wetlands of all HGM classes.</i>		<b>Points</b> (only 1 score per box)
<b>HABITAT FUNCTIONS</b> - Indicators that unit functions to provide important habitat		
<b>H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?</b>		
<b>H 1.1 <u>Vegetation structure</u> (see p. 72)</b> Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. <input type="checkbox"/> Aquatic bed <u>P, O, N, L</u> Emergent plants <u>O, N</u> Scrub/shrub (areas where shrubs have >30% cover) <u>O, M, L</u> Forested (areas where trees have >30% cover) If the unit has a forested class check if: <input checked="" type="checkbox"/> <u>M</u> 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 Add the number of vegetation structures that qualify. If you have: 4 structures or more points = 4 <input type="checkbox"/> 3 structures points = 2 <u>N, M, L</u> 2 structures points = 1 <u>P</u> 1 structure points = 0 Map of Cowardin vegetation classes		<b>Figure</b> ___ <div style="display: flex; justify-content: space-around; font-size: 1.2em;"> <span><u>L</u></span> <span><u>M</u></span> <span><u>N</u></span> <span><u>O</u></span> <span><u>P</u></span> </div> <div style="display: flex; justify-content: space-around; font-size: 1.2em;"> <span>1</span> <span>1</span> <span>1</span> <span>2</span> <span>1</span> </div>
<b>H 1.2. <u>Hydroperiods</u> (see p. 73)</b> Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count. (see text for descriptions of hydroperiods) <u>P, O, N, M</u> Permanently flooded or inundated 4 or more types present points = 3 <u>O, N, M</u> Seasonally flooded or inundated 3 types present points = 2 <input type="checkbox"/> Occasionally flooded or inundated <u>O, N, M</u> 2 types present point = 1 <input checked="" type="checkbox"/> <u>L</u> Saturated only <u>P, L</u> 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"/> <u>Lake-fringe wetland</u> = 2 points <input type="checkbox"/> <u>Freshwater tidal wetland</u> = 2 points Map of hydroperiods		<b>Figure</b> ___ <div style="display: flex; justify-content: space-around; font-size: 1.2em;"> <span>0</span> <span>1</span> <span>1</span> <span>1</span> <span>0</span> </div>
<b>H 1.3. <u>Richness of Plant Species</u> (see p. 75)</b> 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) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle If you counted: <u>O, M</u> > 19 species points = 2 <u>P, N, L</u> 5 - 19 species points = 1 < 5 species points = 0 List species below if you want to:		<div style="display: flex; justify-content: space-around; font-size: 1.2em;"> <span>1</span> <span>2</span> <span>1</span> <span>2</span> <span>1</span> </div>

Total for page \_\_\_\_\_

Wetland name or number L, M, N, O, P

<p><b>H 1.4. Interspersion of habitats (see p. 76)</b> Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.</p> <p>None = 0 points Low = 1 point Moderate = 2 points High = 3 points</p> <p>NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes</p>	<p>Figure _____</p> <table border="1"> <tr> <td>L</td> <td>M</td> <td>N</td> <td>O</td> <td>P</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>3</td> <td>0</td> </tr> </table>	L	M	N	O	P	1	0	1	3	0
L	M	N	O	P							
1	0	1	3	0							
<p><b>H 1.5. Special Habitat Features: (see p. 77)</b> Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.</p> <p><u>0</u>, <u>M</u> Large, downed, woody debris within the wetland (&gt;4in. diameter and 6 ft long).</p> <p><u>0</u>, <u>M</u> Standing snags (diameter at the bottom &gt; 4 inches) in the wetland</p> <p>____ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)</p> <p>____ Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt;30degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown)</p> <p><u>0</u> At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians)</p> <p><u>P</u> Invasive plants cover less than 25% of the wetland area in each stratum of plants</p> <p>NOTE: The 20% stated in early printings of the manual on page 78 is an error.</p>	<table border="1"> <tr> <td>0</td> <td>2</td> <td>0</td> <td>3</td> <td>1</td> </tr> </table>	0	2	0	3	1					
0	2	0	3	1							
<p><b>H 1. TOTAL Score - potential for providing habitat</b> Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</p>	<table border="1"> <tr> <td>3</td> <td>6</td> <td>4</td> <td>11</td> <td>3</td> </tr> </table>	3	6	4	11	3					
3	6	4	11	3							

Comments

Wetland name or number L, M, N, O, P

H 2. Does the wetland unit have the opportunity to provide habitat for many species?		Figure
<p>H 2.1 <u>Buffers</u> (see p. 80) Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</p> <ul style="list-style-type: none"> <li>— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt;95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) <b>Points = 5</b></li> <li>— 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 50% circumference. <b>Points = 4</b></li> <li>— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt;95% circumference. <b>Points = 4</b></li> <li><u>D</u> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 25% circumference, . <b>Points = 3</b></li> <li>— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for &gt; 50% circumference. <b>Points = 3</b></li> </ul> <p style="text-align: center;"><b>If buffer does not meet any of the criteria above</b></p> <ul style="list-style-type: none"> <li>— No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland &gt; 95% circumference. Light to moderate grazing, or lawns are OK. <b>Points = 2</b></li> <li>— No paved areas or buildings within 50m of wetland for &gt;50% circumference. Light to moderate grazing, or lawns are OK. <b>Points = 2</b></li> <li>— Heavy grazing in buffer. <b>Points = 1</b></li> <li>— Vegetated buffers are &lt;2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) <b>Points = 0.</b></li> <li>— Buffer does not meet any of the criteria above. <b>Points = 1</b></li> </ul> <p style="text-align: right;">Aerial photo showing buffers</p>		<p><u>L</u> <u>M</u> <u>N</u> <u>O</u> <u>P</u></p> <p>1 1 1 3 1</p>
<p>H 2.2 <u>Corridors and Connections</u> (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (<i>dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor</i>).</p> <p style="text-align: center;">YES = 4 points (go to H 2.3)                      NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? <b>OR</b> a <b>Lake-fringe</b> wetland, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;">YES = 2 points (go to H 2.3)                      NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <ul style="list-style-type: none"> <li>within 5 mi (8km) of a brackish or salt water estuary OR</li> <li>within 3 mi of a large field or pasture (&gt;40 acres) OR</li> <li>within 1 mi of a lake greater than 20 acres?</li> </ul> <p><u>P</u> <u>O</u> <u>N</u> <u>M</u> <u>L</u> YES = 1 point                      NO = 0 points</p>		<p>1 1 1 1 1</p>

Total for page \_\_\_\_\_

Wetland name or number LIM,N,O,P

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <http://wdfw.wa.gov/hab/phslist.htm>)

Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.*

- Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).
  - 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 p. 152*).
  - 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 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; 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:** Woodlands 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*).
  - 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*).
  - 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: pp. 167-169 and glossary in Appendix A*).
  - 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 7.6 m (25 ft) high and occurring below 5000 ft.
  - Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), 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 > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.
- L** If wetland has 3 or more priority habitats = 4 points  
**N** If wetland has 2 priority habitats = 3 points  
 If wetland has 1 priority habitat = 1 point      No habitats = 0 points
- Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)*

P, O, N, M

P, O, M

P, O, M

P, O, N, M

P, O, M, N

L	M	N	OP
4	4	3	44

Wetland name or number L, M, N, O, P

H 2.4 <u>Wetland Landscape</u> (choose the <b>one</b> description of the landscape around the wetland that best fits) (see p. 84)	L	M	N	O	P
There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development). points = 5	L	M	N	O	P
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5					
There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3	3	3	3	3	3
The wetland is Lake-fringe on a lake <b>with</b> disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3					
There is at least 1 wetland within ½ mile. points = 2					
There are no wetlands within ½ mile. points = 0					
<b>H 2. TOTAL Score</b> - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	9	8		11	9
TOTAL for H 1 from page 14	3	4		11	3
<b>Total Score for Habitat Functions</b> – add the points for H 1, H 2 and record the result on p. 1	12	12		22	12

Wetland name or number Q,R,S,T,V

**WETLAND RATING FORM – WESTERN WASHINGTON**  
Version 2 - Updated July 2006 to increase accuracy and reproducibility among users  
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Bellefield Talon Date of site visit: 8/14/12

Rated by NL, RK Trained by Ecology? Yes  No  Date of training 10/2008  
03/2009

NE 1/4 SEC: 5 TOWNSHIP: 24N RANGE: 5E Is S/T/R in Appendix D? Yes  No

Map of wetland unit: Figure      Estimated size     

**SUMMARY OF RATING**

Category based on FUNCTIONS provided by wetland

I  II  III  IV

Category I = Score >=70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions  
Score for Hydrologic Functions  
Score for Habitat Functions  
TOTAL score for Functions

Q	R	S	T	V
20	24	28	28	20
14	8	8	8	8
14	12	12	11	12
48	44	48	47	40

Category based on SPECIAL CHARACTERISTICS of wetland

I  II  Does not Apply

Final Category (choose the "highest" category from above)

III	III	III	III	III
-----	-----	-----	-----	-----

Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics	Wetland HGM Class used for Rating	
Estuarine	Depressional	<input type="checkbox"/>
Natural Heritage Wetland	Riverine	<input type="checkbox"/>
Bog	Lake-fringe	<input type="checkbox"/>
Mature Forest	Slope	<input type="checkbox"/>
Old Growth Forest	Flats	<input type="checkbox"/>
Coastal Lagoon	Freshwater Tidal	<input type="checkbox"/>
Interdunal		<input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/> Check if unit has multiple HGM classes present	<input type="checkbox"/>

Q, R, S, T, V

Wetland name or number Q, R, S, T, V

**Does the wetland unit being rated meet any of the criteria below?**

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

<b>Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)</b>	<b>YES</b>	<b>NO</b>
<p>SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered <b>animal or plant</b> species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.</p>		X
<p>SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered <b>animal</b> species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).</p>		X
<p>SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i></p>		X
<p>SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.</p>		X

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number Q, R, S, T, U

## Classification of Wetland Units in Western Washington

**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 (i.e. except during floods)?  
NO – go to 2                      YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – **Freshwater Tidal Fringe**    NO – **Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. ).

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 both** of the following criteria?  
\_\_\_ The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (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**?  
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 <3ft diameter and less than 1 foot deep).*  
NO - go to 5                      YES – The wetland class is **Slope**

Wetland name or number Q, R, S, T, V

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 two years.

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

NO - go to 6      **YES** - The wetland class is **Riverine**

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 your wetland. **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 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.

<i>HGM Classes within the wetland unit being rated</i>	<i>HGM Class to Use in Rating</i>
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still 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 QR, S, T, V

D Depressional and Flats Wetlands		Points (only 1 score per box)
WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality		
D	D 1. Does the wetland unit have the <u>potential</u> to improve water quality?	(see p.38)
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) <b>V T S R Q</b> points = 3 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet ( <i>permanently flowing</i> ) points = 1 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	Figure <u>Q</u> 3 3 3 3 3 3 3 3
D	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic ( <i>use NRCS definitions</i> ) YES <b>V T S R Q</b> points = 4 NO points = 0	4 4 4 4 4
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class) Wetland has persistent, ungrazed, vegetation >= 95% of area points = 5 <b>V</b> Wetland has persistent, ungrazed, vegetation >= 1/2 of area <b>T S R</b> points = 3 Wetland has persistent, ungrazed vegetation >= 1/10 of area <b>R</b> points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area points = 0 Map of Cowardin vegetation classes	Figure <u>3</u> 1 3 3 3
D	D1.4 Characteristics of seasonal ponding or inundation. <i>This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.</i> Area seasonally ponded is > 1/2 total area of wetland <b>T S R</b> points = 4 Area seasonally ponded is > 1/4 total area of wetland <b>R</b> points = 2 Area seasonally ponded is < 1/4 total area of wetland <b>V Q</b> points = 0 Map of Hydroperiods	Figure <u>0</u> 4 4 4 0
D	<b>Total for D 1</b> Add the points in the boxes above	10 12 14 14 10
D	D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.	(see p. 44)
V	<b>T S R Q</b> Grazing in the wetland or within 150 ft	
	Untreated stormwater discharges to wetland	
	Tilled fields or orchards within 150 ft of wetland	
	A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging	
V	<b>T S R Q</b> Residential, urban areas, golf courses are within 150 ft of wetland	
	Wetland is fed by groundwater high in phosphorus or nitrogen	
	Other	2 2 2 2
	<b>YES</b> multiplier is 2 <b>NO</b> multiplier is 1	
D	<b>TOTAL - Water Quality Functions</b> Multiply the score from D1 by D2 Add score to table on p. 1	20 24 28 28 20

Wetland name or number Q,R,S,T,V

D Depressional and Flats Wetlands		Points
HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream degradation		(only 1 score per box)
<b>D 3. Does the wetland unit have the <u>potential</u> to reduce flooding and erosion?</b>		(see p.46)
<b>D</b>	<p>D 3.1 Characteristics of surface water flows out of the wetland unit</p> <p>Unit is a depression with no surface water leaving it (no outlet) <input checked="" type="checkbox"/> <b>T S R Q</b> points = 4</p> <p>Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2</p> <p>Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow <b>and no obvious natural outlet</b> and/or outlet is a man-made ditch points = 1 <i>(If ditch is not permanently flowing treat unit as "intermittently flowing")</i></p> <p>Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0</p>	<p>Q <u>4</u> <u>4</u> <u>4</u> <u>4</u></p> <p>R <u>4</u></p> <p>S <u>4</u></p> <p>T <u>4</u></p> <p>V <u>4</u></p>
<b>D</b>	<p>D 3.2 Depth of storage during wet periods</p> <p><i>Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).</i></p> <p>Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7</p> <p>The wetland is a "headwater" wetland" points = 5</p> <p>Marks of ponding between 2 ft to &lt; 3 ft from surface or bottom of outlet points = 5</p> <p><b>Q</b> Marks are at least 0.5 ft to &lt; 2 ft from surface or bottom of outlet points = 3</p> <p>Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1</p> <p><b>V T R S</b> Marks of ponding less than 0.5 ft points = 0</p>	<p>3 <u>0</u> <u>0</u> <u>0</u> <u>0</u></p>
<b>D</b>	<p>D 3.3 Contribution of wetland unit to storage in the watershed</p> <p><i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i></p> <p>The area of the basin is less than 10 times the area of unit points = 5</p> <p>The area of the basin is 10 to 100 times the area of the unit points = 3</p> <p><input checked="" type="checkbox"/> The area of the basin is more than 100 times the area of the unit <b>T S R Q</b> points = 0</p> <p>Entire unit is in the FLATS class points = 5</p>	<p><u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u></p>
<b>D</b>	<b>Total for D 3</b>	<i>Add the points in the boxes above</i> <u>7</u> <u>4</u> <u>4</u> <u>4</u> <u>4</u>
<b>D</b>	<p><b>D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion?</b></p> <p>Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides <u>helps protect downstream property</u> and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur.</p> <p><i>Note which of the following indicators of opportunity apply.</i></p> <p>— Wetland is in a headwater of a river or stream that has flooding problems</p> <p>— Wetland drains to a river or stream that has flooding problems</p> <p><b>V T S R Q</b> Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems</p> <p>— Other _____</p> <p><b>YES</b> multiplier is 2      <b>NO</b> multiplier is 1</p>	<p>(see p. 49)</p> <p>multiplier</p> <p><u>2</u> <u>2</u> <u>2</u> <u>2</u></p>
<b>D</b>	<b>TOTAL - Hydrologic Functions</b>	Multiply the score from D 3 by D 4 <u>14</u> <i>Add score to table on p. 1</i> <u>8</u> <u>8</u> <u>8</u> <u>8</u>

Wetland name or number Q, R, S, T, V

<i>These questions apply to wetlands of all HGM classes.</i>		Points (only 1 score per box)
<b>HABITAT FUNCTIONS</b> - Indicators that unit functions to provide important habitat		
<b>H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?</b>		
<b>H 1.1 <u>Vegetation structure</u> (see p. 72)</b> Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is ¼ acre or more than 10% of the area if unit is smaller than 2.5 acres. <input type="checkbox"/> Aquatic bed <input checked="" type="checkbox"/> <u>VT</u> <u>S</u> <u>R</u> <u>Q</u> Emergent plants <input type="checkbox"/> Scrub/shrub (areas where shrubs have >30% cover) <input checked="" type="checkbox"/> <u>VT</u> <u>S</u> <u>R</u> <u>Q</u> Forested (areas where trees have >30% cover) If the unit has a forested class check if: <input 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 Add the number of vegetation structures that qualify. If you have: Map of Cowardin vegetation classes		<b>Figure</b> _____ <u>Q</u> <u>R</u> <u>S</u> <u>T</u> <u>V</u>  4 structures or more points = 4 3 structures points = 2 2 structures points = 1 1 structure points = 0  1 1 1 1 1
<b>H 1.2. <u>Hydroperiods</u> (see p. 73)</b> 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 acre to count. (see text for descriptions of hydroperiods) <input type="checkbox"/> <u>Q</u> Permanently flooded or inundated <input type="checkbox"/> <u>TSRQ</u> Seasonally flooded or inundated <input checked="" type="checkbox"/> <u>VT</u> Saturated only <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 = 2 points</b> <input type="checkbox"/> <b>Freshwater tidal wetland = 2 points</b> Map of hydroperiods		<b>Figure</b> _____  4 or more types present points = 3 3 types present points = 2 <input checked="" type="checkbox"/> <u>Q</u> 2 types present point = 1 <input checked="" type="checkbox"/> <u>VTSR</u> 1 type present points = 0  1 0 0 0 0
<b>H 1.3. <u>Richness of Plant Species</u> (see p. 75)</b> 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) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle If you counted: List species below if you want to: <u>VTSRQ</u>		 > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0  1 1 1 1 1

Total for page \_\_\_\_\_

Wetland name or number Q.R.S.T.V

<p><b>H 1.4. Interspersion of habitats</b> (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.</p> <p>None = 0 points      <u>S</u> <u>R</u> <u>T</u> <u>V</u>      Low = 1 point  <u>Q</u>      Moderate = 2 points      High = 3 points      [riparian braided channels]</p> <p>NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes</p>	<p>Figure _____</p> <p><u>Q</u>   <u>R</u>   <u>S</u>   <u>T</u>   <u>V</u></p> <p>2   1   1   1   1</p>
<p><b>H 1.5. Special Habitat Features:</b> (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.</p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (&gt;4in. diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (diameter at the bottom &gt; 4 inches) in the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt;30degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown)</p> <p><input type="checkbox"/> At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians)</p> <p><u>S</u> <u>R</u> <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in each stratum of plants</p> <p>NOTE: The 20% stated in early printings of the manual on page 78 is an error.</p>	<p>0   1   1   0   0</p>
<p><b>H 1. TOTAL Score</b> - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</p>	<p>5   <u>4</u>   <u>4</u>   <u>3</u>   <u>3</u></p>

Comments

Wetland name or number Q, R, S, T, V

<b>H 2. Does the wetland unit have the opportunity to provide habitat for many species?</b>		
<p><b>H 2.1 Buffers (see p. 80)</b> Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</p> <ul style="list-style-type: none"> <li>— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt;95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) <b>Points = 5</b></li> <li>— 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 50% circumference. <b>Points = 4</b></li> <li>— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt;95% circumference. <b>Points = 4</b></li> <li>— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 25% circumference, . <b>Points = 3</b></li> <li>— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for &gt; 50% circumference. <b>Points = 3</b></li> </ul> <p style="text-align: center;"><b>If buffer does not meet any of the criteria above</b></p> <ul style="list-style-type: none"> <li>— No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland &gt; 95% circumference. Light to moderate grazing, or lawns are OK. <b>Points = 2</b></li> <li>— No paved areas or buildings within 50m of wetland for &gt;50% circumference. Light to moderate grazing, or lawns are OK. <b>Points = 2</b></li> <li>— Heavy grazing in buffer. <b>Points = 1</b></li> <li>— Vegetated buffers are &lt;2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) <b>Points = 0.</b></li> <li>— Buffer does not meet any of the criteria above. <b>Points = 1</b></li> </ul> <p style="text-align: right;">Aerial photo showing buffers</p>		<p>Figure <u>    </u></p> <p><u>Q</u> <u>R</u> <u>S</u> <u>T</u> <u>V</u></p> <p>1 0 0 0 1</p>
<p><b>H 2.2 Corridors and Connections (see p. 81)</b></p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (<i>dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor</i>).</p> <p style="text-align: center;">YES = 4 points (go to H 2.3)                      NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? <b>OR</b> a <b>Lake-fringe</b> wetland, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;">YES = 2 points (go to H 2.3)                      NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <ul style="list-style-type: none"> <li>within 5 mi (8km) of a brackish or salt water estuary OR</li> <li>within 3 mi of a large field or pasture (&gt;40 acres) OR</li> <li>within 1 mi of a lake greater than 20 acres?</li> </ul> <p style="text-align: center;">YES = 1 point                      NO = 0 points</p>		<p>1 1 1 1 1</p>

Total for page \_\_\_\_\_

Wetland name or number Q, R, S, T, V

<p>H 2.3 <u>Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <a href="http://wdfw.wa.gov/hab/phslist.htm">http://wdfw.wa.gov/hab/phslist.htm</a> )</u></p> <p>Which of the following priority habitats are within 330ft (100m) of the wetland unit? <i>NOTE: the connections do not have to be relatively undisturbed.</i></p>							
	<p><u>Aspen Stands:</u> Pure or mixed stands of aspen greater than 0.4 ha (1 acre).</p>		Q	R	S	T	V
VT SR	<p><u>Biodiversity Areas and Corridors:</u> Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>).</p>						
	<p><u>Herbaceous Balds:</u> Variable size patches of grass and forbs on shallow soils over bedrock.</p>						
	<p><u>Old-growth/Mature forests:</u> (<u>Old-growth west of Cascade crest</u>) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) &gt; 81 cm (32 in) dbh or &gt; 200 years of age. (<u>Mature forests</u>) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; 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.</p>		4	4	4	4	4
	<p><u>Oregon white Oak:</u> Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).</p>						
VT SR	<p><u>Riparian:</u> The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.</p>						
	<p><u>Westside Prairies:</u> Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>).</p>						
VT SR	<p><u>Instream:</u> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.</p>						
	<p><u>Nearshore:</u> Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (<i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A</i>).</p>						
	<p><u>Caves:</u> 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.</p>						
	<p><u>Cliffs:</u> Greater than 7.6 m (25 ft) high and occurring below 5000 ft.</p>						
	<p><u>Talus:</u> Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.</p>						
VT SR	<p><u>Snags and Logs:</u> 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 &gt; 51 cm (20 in) in western Washington and are &gt; 2 m (6.5 ft) in height. Priority logs are &gt; 30 cm (12 in) in diameter at the largest end, and &gt; 6 m (20 ft) long.</p>						
VT SR	<p>If wetland has <b>3 or more</b> priority habitats = <b>4 points</b>                  If wetland has <b>2</b> priority habitats = <b>3 points</b>                  If wetland has <b>1</b> priority habitat = <b>1 point</b>                      No habitats = <b>0 points</b></p>						
	<p><i>Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)</i></p>						

Wetland name or number Q,R,S,T,V

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84)		Q	R	S	T	V
	There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5					
	The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 mile points = 5					
R Q	There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed points = 3	3	3	3	3	3
	The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within 1/2 mile points = 3					
	There is at least 1 wetland within 1/2 mile. points = 2					
	There are no wetlands within 1/2 mile. points = 0					
<b>H 2. TOTAL Score - opportunity for providing habitat</b> <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i>		9	8	8	8	9
TOTAL for H 1 from page 14		5	4	4	3	3
<b>Total Score for Habitat Functions</b> – add the points for H 1, H 2 and record the result on p. 1		14	12	12	11	12

Wetland name or number W, X, Y, Z, BB

**WETLAND RATING FORM – WESTERN WASHINGTON**

Version 2 - Updated July 2006 to increase accuracy and reproducibility among users  
 Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Bellefield Talon Date of site visit: 8/14/12

Rated by NL, RK Trained by Ecology? Yes  No  Date of training 10/2008  
05/2009

NE 1/4 SEC: 5 TOWNSHIP: 24N RANGE: 5E Is S/T/R in Appendix D? Yes  No

Map of wetland unit: Figure      Estimated size     

**SUMMARY OF RATING**

Category based on FUNCTIONS provided by wetland

I  II  III  IV

Category I = Score >=70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions

Score for Hydrologic Functions

Score for Habitat Functions

TOTAL score for Functions

W	X	Y	Z	BB
20	32	24	24	16
8	8	8	8	8
12	10	14	13	14
40	50	46	45	38

Category based on SPECIAL CHARACTERISTICS of wetland

I  II  Does not Apply

Final Category (choose the "highest" category from above)

III	II	III	II
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Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics	Wetland HGM Class used for Rating	
Estuarine	Depressional	<u>W, X, Y, Z, BB</u>
Natural Heritage Wetland	Riverine	
Bog	Lake-fringe	
Mature Forest	Slope	
Old Growth Forest	Flats	
Coastal Lagoon	Freshwater Tidal	
Interdunal		
None of the above	<input checked="" type="checkbox"/> Check if unit has multiple HGM classes present	

Wetland name or number W, X, Y, Z, BB

**Does the wetland unit being rated meet any of the criteria below?**

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

<b>Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)</b>	<b>YES</b>	<b>NO</b>
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered <b>animal or plant</b> species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered <b>animal</b> species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>		X
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number W, X, Y, Z, BB

## Classification of Wetland Units in Western Washington

**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 (i.e. except during floods)?  
NO – go to 2                      YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – **Freshwater Tidal Fringe**    NO – **Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. ).

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 both** of the following criteria?  
\_\_\_ The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (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**?  
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 <3ft diameter and less than 1 foot deep).*  
NO - go to 5                      YES – The wetland class is **Slope**

Wetland name or number W, X, Y, Z, BB

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 two years.

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

NO - go to 6      **YES** – The wetland class is **Riverine**

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 your wetland. **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 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.

<i>HGM Classes within the wetland unit being rated</i>	<i>HGM Class to Use in Rating</i>
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still 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 W, X, Y, Z, BB

D Depressional and Flats Wetlands		Points (only 1 score per box)
WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality		
D	D 1. Does the wetland unit have the <u>potential</u> to improve water quality?	(see p.38)
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) <b>BB, Z, Y, X, W</b> points = 3 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 <b>3</b> Unit has an unconstricted, or slightly constricted, surface outlet ( <i>permanently flowing</i> ) points = 1 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	Figure <u>    </u> <u>X</u> <u>Y</u> <u>Z</u> <u>BB</u> 3 3 3 3
D	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic ( <i>use NRCS definitions</i> ) YES <b>BB, Z, Y, X, W</b> points = 4 NO points = 0	4 4 4 4 4
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class) Wetland has persistent, ungrazed, vegetation >= 95% of area <b>X</b> points = 5 Wetland has persistent, ungrazed, vegetation >= 1/2 of area <b>Y, W</b> points = 3 Wetland has persistent, ungrazed vegetation >= 1/10 of area <b>BB, Z</b> points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area points = 0 Map of Cowardin vegetation classes	Figure <u>    </u> 3 5 3 1 1
D	D1.4 Characteristics of seasonal ponding or inundation. <i>This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.</i> Area seasonally ponded is > 1/2 total area of wetland <b>Z, X</b> points = 4 Area seasonally ponded is > 1/4 total area of wetland <b>Y</b> points = 2 Area seasonally ponded is < 1/4 total area of wetland <b>BB, W</b> points = 0 Map of Hydroperiods	Figure <u>    </u> 0 4 2 4 0
D	<b>Total for D 1</b> Add the points in the boxes above	<b>10</b> 16 12 12 8
D	D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.	(see p. 44)
BB	Z <b>Y, X, W</b> — Grazing in the wetland or within 150 ft — Untreated stormwater discharges to wetland — Tilled fields or orchards within 150 ft of wetland — A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging	
BB	Z <b>Y, X, W</b> — Residential, urban areas, golf courses are within 150 ft of wetland — Wetland is fed by groundwater high in phosphorus or nitrogen — Other _____	multiplier
	<b>YES</b> multiplier is 2      NO multiplier is 1	2 2 2 2 2
D	<b>TOTAL - Water Quality Functions</b> Multiply the score from D1 by D2 Add score to table on p. 1	<b>20</b> 32 24 24 16

Wetland name or number W, X, Y, Z, BB

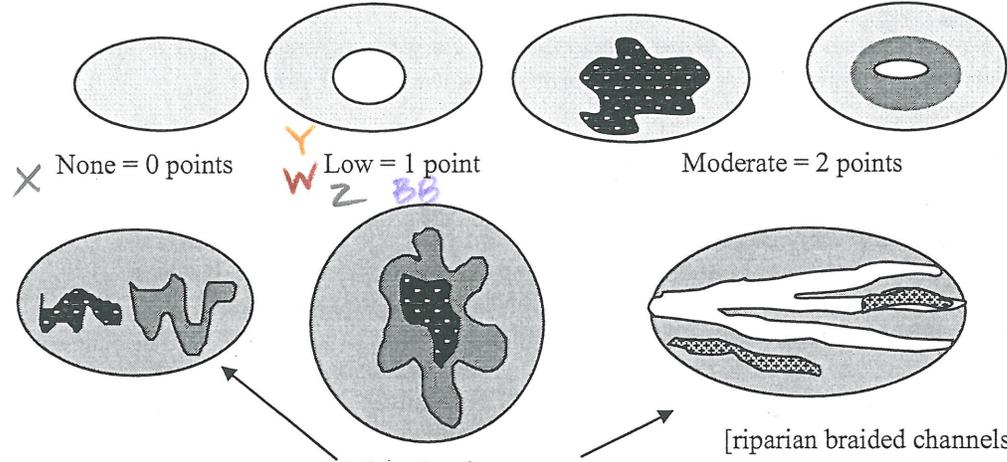
D Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream degradation		Points (only 1 score per box)
<b>D 3. Does the wetland unit have the potential to reduce flooding and erosion?</b>		(see p.46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) <b>BB, Z, Y, X, W</b> points = 4	<b>W</b> <u>X</u> <u>Y</u> <u>Z</u> <u>BB</u> 4 4 4 4 4
	Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2	4 4
	Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing")	4 4
	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0	
D	D 3.2 Depth of storage during wet periods <i>Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).</i> Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The wetland is a "headwater" wetland" points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft points = 0	<b>BB, Z, Y, X, W</b> 0 0 0 0 0
D	D 3.3 Contribution of wetland unit to storage in the watershed <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i> The area of the basin is less than 10 times the area of unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit <b>W, X, Y, Z</b> points = 0 Entire unit is in the FLATS class points = 5	<b>BB</b> → 0 0 0 0 0
D	<b>Total for D 3</b> <i>Add the points in the boxes above</i>	<b>4</b> 4 4 4 4
D	<b>D 4. Does the wetland unit have the opportunity to reduce flooding and erosion?</b> (see p. 49) Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides <u>helps protect downstream property</u> and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. <i>Note which of the following indicators of opportunity apply.</i> — Wetland is in a headwater of a river or stream that has flooding problems — Wetland drains to a river or stream that has flooding problems <b>BB, Z, Y, X, W</b> Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems — Other _____ <b>YES</b> multiplier is 2 <b>NO</b> multiplier is 1	multiplier 2 2 2 2 2
D	<b>TOTAL - Hydrologic Functions</b> Multiply the score from D 3 by D 4 <i>Add score to table on p. 1</i>	<b>8</b> 8 8 8 8

Wetland name or number W, X, Y, Z, BB

<i>These questions apply to wetlands of all HGM classes.</i>		Points (only 1 score per box)
HABITAT FUNCTIONS - Indicators that unit functions to provide important habitat		
<b>H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?</b>		
<b>H 1.1 <u>Vegetation structure</u> (see p. 72)</b> Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is ¼ acre or more than 10% of the area if unit is smaller than 2.5 acres. ___ Aquatic bed BB, Z, Y, W Emergent plants ___ Scrub/shrub (areas where shrubs have >30% cover) BB, Z, Y, X, W Forested (areas where trees have >30% cover) If the unit has a forested class check if: ___ The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon Add the number of vegetation structures that qualify. If you have: 4 structures or more points = 4 3 structures points = 2 2 structures points = 1 X 1 structure points = 0 Map of Cowardin vegetation classes BB, Z, Y, W		Figure ___ W X Y Z BB 1 0 1 1 1
<b>H 1.2. <u>Hydroperiods</u> (see p. 73)</b> 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 acre to count. (see text for descriptions of hydroperiods) BB, Z, Y, X Permanently flooded or inundated 4 or more types present points = 3 BB, Z, Y, X Seasonally flooded or inundated 3 types present points = 2 BB, Y, W Occasionally flooded or inundated BB, Z, Y 2 types present point = 1 X, W Saturated only X, W 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 Map of hydroperiods		Figure ___ 0 0 1 1 1
<b>H 1.3. <u>Richness of Plant Species</u> (see p. 75)</b> 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) 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 List species below if you want to: BB, Z, Y, X, W		Figure ___ 1 1 1 1 1

Total for page \_\_\_\_\_

Wetland name or number W, X, Y, Z, BB

<p><b>H 1.4. Interspersion of habitats (see p. 76)</b> Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.</p>  <p>None = 0 points Low = 1 point Moderate = 2 points High = 3 points</p> <p>NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes</p>	<p>Figure ___</p> <p><u>W</u> <u>X</u> <u>Y</u> <u>Z</u> <u>BB</u></p> <p>1 0 1 1 1</p>
<p><b>H 1.5. Special Habitat Features: (see p. 77)</b> Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.</p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (&gt;4in. diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (diameter at the bottom &gt; 4 inches) in the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt;30degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown)</p> <p><input type="checkbox"/> At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in each stratum of plants</p> <p>NOTE: The 20% stated in early printings of the manual on page 78 is an error.</p>	<p>0 0 1 1 1</p>
<p><b>H 1. TOTAL Score - potential for providing habitat</b> Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</p>	<p><b>3</b> 1 5 5 5</p>

Comments



Wetland name or number W, X, Y, Z, BB

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <http://wdfw.wa.gov/hab/phslist.htm> )

Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.*

- Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).
  - 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 p. 152*).
  - 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 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; 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:** Woodlands 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*).
  - 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*).
  - 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: pp. 167-169 and glossary in Appendix A*).
  - 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 7.6 m (25 ft) high and occurring below 5000 ft.
  - Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), 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 > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.
- If wetland has **3 or more** priority habitats = **4 points**  
 If wetland has **2** priority habitats = **3 points**  
 If wetland has **1** priority habitat = **1 point**                      No habitats = **0 points**  
*Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)*

BB, Z, Y, X

Z, Y, X  
BB,

Z, Y, X  
BB,

Z, Y, X  
BB,

BB, Z, Y, X, W

W X Y Z BB  
4 4 4 4 4

Wetland name or number W, X, Y, Z, BB

H 2.4 Wetland Landscape (choose the <i>one</i> description of the landscape around the wetland that best fits) (see p. 84)	<u>W</u>	<u>X</u>	<u>Y</u>	<u>Z</u>	<u>BB</u>
There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5					
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5					
<b>W</b> There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3	<b>3</b>	3	<b>3</b>	3	<b>3</b>
The wetland is Lake-fringe on a lake <b>with</b> disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3					
There is at least 1 wetland within ½ mile. points = 2					
There are no wetlands within ½ mile. points = 0					
<b>H 2. TOTAL Score - opportunity for providing habitat</b> <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i>	<b>9</b>	9	<b>9</b>	8	<b>9</b>
TOTAL for H 1 from page 14	<b>3</b>	1	<b>5</b>	5	<b>5</b>
<b>Total Score for Habitat Functions</b> – add the points for H 1, H 2 and record the result on p. 1	<b>12</b>	10	<b>14</b>	13	<b>14</b>

Z, Y, X, W

Wetland name or number CC, DD, EE, FF, GG

**WETLAND RATING FORM – WESTERN WASHINGTON**

Version 2 - Updated July 2006 to increase accuracy and reproducibility among users  
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Bellefield Talon Date of site visit: 8/14/12

Rated by NL, RK Trained by Ecology? Yes  No  Date of training 10/2008  
03/2009

NE 1/4 SEC: 5 TOWNSHIP: 24N RANGE: 5E Is S/T/R in Appendix D? Yes  No

Map of wetland unit: Figure      Estimated size     

**SUMMARY OF RATING**

Category based on FUNCTIONS provided by wetland

I  II  III  IV

Category I = Score >=70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions  
Score for Hydrologic Functions  
Score for Habitat Functions  
TOTAL score for Functions

	<u>CC</u>	<u>DD</u>	<u>EE</u>	<u>FF</u>	<u>GG</u>
Score for Water Quality Functions	20	22	16	20	18
Score for Hydrologic Functions	14	8	8	12	8
Score for Habitat Functions	11	7	11	29	11
TOTAL score for Functions	45	37	35	61	37

Category based on SPECIAL CHARACTERISTICS of wetland

I  II  Does not Apply

Final Category (choose the "highest" category from above)

<u>III</u>	<u>III</u>	<u>III</u>	<u>II</u>	<u>III</u>
------------	------------	------------	-----------	------------

Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics	Wetland HGM Class used for Rating
Estuarine	Depressional
Natural Heritage Wetland	Riverine
Bog	Lake-fringe
Mature Forest	Slope
Old Growth Forest	Flats
Coastal Lagoon	Freshwater Tidal
Interdunal	
None of the above	<input checked="" type="checkbox"/> Check if unit has multiple HGM classes present

CC DD, EE, GG

Wetland name or number CC,DD,EE,FF,GG

**Does the wetland unit being rated meet any of the criteria below?**

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
<p>SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered <b>animal or plant</b> species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.</p>		X
<p>SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered <b>animal</b> species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).</p>		X
<p>SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i></p>	X <sup>FF</sup>	X <sup>CC, DD, EE, GG</sup>
<p>SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.</p>	X <sup>FF</sup>	X <sup>CC, DD, EE, GG</sup>

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number CC, DD, EE, FF, GG

## Classification of Wetland Units in Western Washington

**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 (i.e. except during floods)?  
NO – go to 2                      YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – **Freshwater Tidal Fringe**    NO – **Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. ).

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 both** of the following criteria?  
\_\_\_ The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (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**?  
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 <3ft diameter and less than 1 foot deep).*  
NO - go to 5                      YES – The wetland class is **Slope**

Wetland name or number CC, DD, EE, FF, GG

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 two years.

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

NO - go to 6      YES - The wetland class is **Riverine**

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 - CC, DD, EE, GG 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 your wetland. **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 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.

<i>HGM Classes within the wetland unit being rated</i>	<i>HGM Class to Use in Rating</i>
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still 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.

Wet. FF : Depressional,  
Riverine & Lacustrine

Wetland name or number CC, DD, EE, FF, GG

D Depressional and Flats Wetlands		Points
WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality		(only 1 score per box)
D	<b>D 1. Does the wetland unit have the potential to improve water quality?</b>	(see p.38)
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) <b>GG EE DD, CC</b> points = 3 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 <b>FF</b> Unit has an unconstricted, or slightly constricted, surface outlet ( <i>permanently flowing</i> ) points = 1 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	Figure <b>DD</b> <b>EE</b> <b>FF</b> <b>GG</b> 3 3 1 3
D	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES <b>GG, FF, EE, DD, CC</b> points = 4 NO points = 0	4 4 4 4 4
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class) <b>FF</b> Wetland has persistent, ungrazed, vegetation > = 95% of area <b>FF</b> points = 5 Wetland has persistent, ungrazed, vegetation > = 1/2 of area <b>CC</b> points = 3 Wetland has persistent, ungrazed vegetation > = 1/10 of area <b>EE</b> points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area <b>GG DD</b> points = 0 Map of Cowardin vegetation classes	Figure 0 1 5 0
D	D1.4 Characteristics of seasonal ponding or inundation. <i>This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.</i> Area seasonally ponded is > 1/2 total area of wetland <b>DD</b> points = 4 Area seasonally ponded is > 1/4 total area of wetland <b>GG</b> points = 2 <b>FF</b> Area seasonally ponded is < 1/4 total area of wetland <b>EE, CC</b> points = 0 Map of Hydroperiods	Figure 0 4 0 0 2
D	<b>Total for D 1</b>	Add the points in the boxes above 10 11 8 10 9
D	<b>D 2. Does the wetland unit have the opportunity to improve water quality?</b>	(see p. 44)
D	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. — Grazing in the wetland or within 150 ft <b>FF, GG, EE, DD, CC</b> Untreated stormwater discharges to wetland — Tilled fields or orchards within 150 ft of wetland — A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging <b>FF, GG, EE, DD, CC</b> Residential, urban areas, golf courses are within 150 ft of wetland <b>EE</b> Wetland is fed by groundwater high in phosphorus or nitrogen Other _____ <b>YES</b> multiplier is 2 <b>NO</b> multiplier is 1	multiplier 2 2 2 2
D	<b>TOTAL - Water Quality Functions</b>	Multiply the score from D1 by D2 Add score to table on p. 1 20 22 16 20 18

Wetland name or number CC, DD, EE, FF, GG

<b>D Depressional and Flats Wetlands</b>		<b>Points</b> (only 1 score per box)
<b>HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream degradation</b>		
<b>D 3. Does the wetland unit have the potential to reduce flooding and erosion?</b> (see p.46)		
<b>D</b>	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) <b>GG EE DD, CC</b> points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") <b>FF</b> Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0	<b>CC</b> 4 <b>DD</b> <b>EE</b> <b>FF</b> <b>GG</b> 4 4 0 4
	<b>D</b> D 3.2 Depth of storage during wet periods <i>Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).</i> Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The wetland is a "headwater" wetland" points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 <b>FF, CC</b> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft <b>GG, EE DD</b> points = 0	3 0 0 3 0
	<b>D</b> D 3.3 Contribution of wetland unit to storage in the watershed <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i> The area of the basin is less than 10 times the area of unit points = 5 <b>FF</b> The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit <b>GG, EE DD CC</b> points = 0 Entire unit is in the FLATS class points = 5	0 0 0 3 0
	<b>D</b> <b>Total for D 3</b> Add the points in the boxes above	<b>7</b> 4 4 6 4
<b>D</b> <b>D 4. Does the wetland unit have the opportunity to reduce flooding and erosion?</b> (see p. 49)		
Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. <i>Note which of the following indicators of opportunity apply.</i> — Wetland is in a headwater of a river or stream that has flooding problems — Wetland drains to a river or stream that has flooding problems <b>GG, EE, DD, CC</b> Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems <b>FF</b> Other <u>Wetland surrounds the business park.</u> <b>YES</b> multiplier is 2 <b>NO</b> multiplier is 1		multiplier 2 2 2 2
<b>D</b>	<b>TOTAL - Hydrologic Functions</b> Multiply the score from D 3 by D 4 Add score to table on p. 1	<b>8</b> <b>8</b> <b>12</b> <b>8</b>

Wetland name or number CC, DD, EE, FF, GG

<i>These questions apply to wetlands of all HGM classes.</i>		Points (only 1 score per box)
<b>HABITAT FUNCTIONS - Indicators that unit functions to provide important habitat</b>		
<b>H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?</b>		
<b>H 1.1 <u>Vegetation structure</u> (see p. 72)</b> Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is ¼ acre or more than 10% of the area if unit is smaller than 2.5 acres. FF Aquatic bed FF, GG, EE, DD, CC Emergent plants FF Scrub/shrub (areas where shrubs have >30% cover) FF, CC Forested (areas where trees have >30% cover) If the unit has a forested class check if: FF 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 Add the number of vegetation structures that qualify. If you have: FF 4 structures or more points = 4 3 structures points = 2 CC 2 structures points = 1 GG, EE, DD 1 structure points = 0 Map of Cowardin vegetation classes		Figure ___ CC DD EE FF GG 2 0 0 4 0
<b>H 1.2. <u>Hydroperiods</u> (see p. 73)</b> 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 acre to count. (see text for descriptions of hydroperiods) FF, CC Permanently flooded or inundated FF 4 or more types present points = 3 FF, GG, DD Seasonally flooded or inundated 3 types present points = 2 FF, CC Occasionally flooded or inundated CC 2 types present point = 1 FF, EE Saturated only GG, EE, DD 1 type present points = 0 FF Permanently flowing stream or river in, or adjacent to, the wetland _____ Seasonally flowing stream in, or adjacent to, the wetland _____ <b>Lake-fringe wetland = 2 points</b> _____ <b>Freshwater tidal wetland = 2 points</b> Map of hydroperiods		Figure ___ 1 0 0 3 0
<b>H 1.3. <u>Richness of Plant Species</u> (see p. 75)</b> 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) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle If you counted: FF > 19 species points = 2 GG, EE, DD, CC 5 - 19 species points = 1 < 5 species points = 0 List species below if you want to:		1 1 1 2 1

Total for page 4 1 1 9 1

Wetland name or number CC, DD, EE, FF, GG

<p><b>H 1.4. Interspersion of habitats (see p. 76)</b> Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.</p> <p>None = 0 points <u>DD, EE, GG</u></p> <p>Low = 1 point <u>CC</u></p> <p>Moderate = 2 points</p> <p>High = 3 points <u>FF</u></p> <p>[riparian braided channels]</p> <p>NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes</p>	<p>Figure _____</p> <p><u>CC</u> <u>DD</u> <u>EE</u> <u>FF</u> <u>GG</u></p> <p>1 0 0 3 0</p>
<p><b>H 1.5. Special Habitat Features: (see p. 77)</b> Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.</p> <p><u>FF</u> Large, downed, woody debris within the wetland (&gt;4in. diameter and 6 ft long).</p> <p><u>FF</u> Standing snags (diameter at the bottom &gt; 4 inches) in the wetland</p> <p><u>FF</u> Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)</p> <p><u>FF</u> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt;30degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown)</p> <p><u>FF</u> At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians)</p> <p><u>CC</u> Invasive plants cover less than 25% of the wetland area in each stratum of plants</p> <p>NOTE: The 20% stated in early printings of the manual on page 78 is an error.</p>	<p>1 1 1 5 1</p>
<p><b>H 1. TOTAL Score - potential for providing habitat</b> Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</p>	<p>6 2 2 17 2</p>
<p>Comments</p>	

Wetland name or number CC, DD, EE, FF, GG

H 2. Does the wetland unit have the opportunity to provide habitat for many species?		Figure
<p><b>H 2.1 Buffers (see p. 80)</b> Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</p> <ul style="list-style-type: none"> <li>— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt;95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) <b>Points = 5</b></li> <li>— 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 50% circumference. <b>Points = 4</b></li> <li>— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt;95% circumference. <b>Points = 4</b></li> <li>— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 25% circumference, . <b>Points = 3</b></li> <li>— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for &gt; 50% circumference. <b>Points = 3</b></li> </ul> <p style="text-align: center;"><b>If buffer does not meet any of the criteria above</b></p> <ul style="list-style-type: none"> <li>— No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland &gt; 95% circumference. Light to moderate grazing, or lawns are OK. <b>Points = 2</b></li> <li>— No paved areas or buildings within 50m of wetland for &gt;50% circumference. Light to moderate grazing, or lawns are OK. <b>Points = 2</b></li> <li>— Heavy grazing in buffer. <b>Points = 1</b></li> <li>— <b>DD, CC</b> Vegetated buffers are &lt;2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) <b>Points = 0.</b></li> <li>— <b>FF, GG, EE</b> Buffer does not meet any of the criteria above. <b>Points = 1</b></li> </ul> <p style="text-align: center;">Aerial photo showing buffers</p>		<p>Figure <u>    </u></p> <p><u>CC</u> <u>DD</u> <u>EE</u> <u>FF</u> <u>GG</u></p> <p>0 0 1 1 1</p>
<p><b>H 2.2 Corridors and Connections (see p. 81)</b></p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (<i>dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor</i>).</p> <p><b>FF</b> YES = 4 points (go to H 2.3)      NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? <b>OR</b> a <b>Lake-fringe</b> wetland, if it does not have an undisturbed corridor as in the question above?</p> <p>YES = 2 points (go to H 2.3)      NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <ul style="list-style-type: none"> <li>within 5 mi (8km) of a brackish or salt water estuary OR</li> <li>within 3 mi of a large field or pasture (&gt;40 acres) OR</li> <li>within 1 mi of a lake greater than 20 acres?</li> </ul> <p><b>EE, DD, CC, GG</b> YES = 1 point      NO = 0 points</p>		<p>3</p> <p>1 1 1 4 1</p>

Total for page

Wetland name or number CC, DD, EE, FF, GG

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <http://wdfw.wa.gov/hab/phslist.htm> )

Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.*

**Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).

**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 p. 152*).

**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 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) 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:** Woodlands 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*).

**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*).

**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: pp. 167-169 and glossary in Appendix A*).

**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 7.6 m (25 ft) high and occurring below 5000 ft.

**Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), 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 > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

If wetland has **3 or more** priority habitats = **4 points**

If wetland has **2** priority habitats = **3 points**

If wetland has **1** priority habitat = **1 point**                      No habitats = **0 points**

*Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)*

GG, EE, DD, FF

CC

CC

DD

EE

FF GG

1

1

4

4

4

FF, GG, EE

EE

FF, GG, EE

EE

GG, EE, FF

EE

FF, GG, EE

EE

DD, CC

Wetland name or number CC, DD, EE, FF, GG

EE, DD, CC  
GG, FF

	<u>CC</u>	<u>DD</u>	<u>EE</u>	<u>FF</u>	<u>GG</u>
H 2.4 <u>Wetland Landscape</u> (choose the <b>one</b> description of the landscape around the wetland that best fits) (see p. 84)					
There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5					
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5					
There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3	3	3	3	3	3
The wetland is Lake-fringe on a lake <b>with</b> disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3					
There is at least 1 wetland within ½ mile. points = 2					
There are no wetlands within ½ mile. points = 0					
<b>H 2. TOTAL Score - opportunity for providing habitat</b> Add the scores from H2.1, H2.2, H2.3, H2.4	5	9	12	9	9
TOTAL for H 1 from page 14	6	2	2	17	2
<b>Total Score for Habitat Functions</b> – add the points for H 1, H 2 and record the result on p. 1	11	7	11	29	11