

SEPA Environmental Checklist
Mercer Island Center for the Arts

Attachment H
Wetland Delineation Report

January 2017

May 21, 2015

Katie Oman
Director
AMS Planning and Research
Seattle, Washington
Via email: koman@ams-online.com

Re: Mercer Island Center for the Arts Wetland Delineation Study

The Watershed Company Reference Number: 150320

Dear Katie:

On May 7, 2015 Ecologist Ryan Kahlo and I completed a wetland delineation study at the site of the proposed Mercer Island Center for the Arts (MICA) at Mercedale Park located at 77th SE & SE 32nd Street (parcel # 1224049068) in the City of Mercer Island. The purpose of this study is to determine the jurisdictional boundary, size, classification, and associated buffer widths of Wetland A identified in the study area during a reconnaissance-level site investigation.

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

- Wetland Delineation Sketch
- Wetland Determination Data Forms
- Wetland Rating Forms

Methods

Public-domain information on the subject property was reviewed for this delineation study. These sources include USDA Natural Resources Conservation Service Soil maps, National Wetland Inventory maps, Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species interactive mapping system (PHS on the Web), King County's GIS mapping website (iMAP), and Mercer Island's GIS mapping website (Mercer Island GIS Portal).

The study area was evaluated for wetlands using methodology from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (Regional Supplement) (US Army Corps of Engineers [Corps] May 2010). Wetland boundaries were determined on the basis of an examination of vegetation, soils, and hydrology. Areas meeting the criteria set forth in

the Regional Supplement were determined to be wetland. Soil, vegetation, and hydrologic parameters were sampled at several locations along the wetland boundaries to make the determination. Data points on-site are marked with yellow- and black-striped flags. Data were recorded at three of these locations.

Areas meeting wetland parameters were marked with pink- and black-striped flags. The boundary of the South Wetland was marked using 33 flags. Delineated wetlands were classified using the *Western Washington Wetland Rating System* (Ecology Rating System) (Ecology, Aug 2004, version 2).

Findings

Mercerdale Park is on the north end of Mercer Island, south of the downtown area. The MICA-identified study area is located north of the Mercerdale Skate Park (Figure 1) in the Cedar-Sammamish Water Resource Inventory Area (WRIA 8); Township 24N, Range 04E, Section 12. Developed areas are present north and northwest of the study area. A forested hillside with trails is located to the west, and a maintained park lawn area is present to the east.



Figure 1. MICA study area provided by AMS Planning and Research.

The study area contains a paved parking lot and building accessed from SE 32nd Street. The rest of the study area is undeveloped. Non-wetland, undeveloped areas are dominated by forested vegetation including Douglas-fir, red alder, bigleaf maple, and

Oregon ash in the canopy. One wetland, referred to here as Wetland A, is present in the study area and is described below.

Wetland A

Wetland A is narrow and located at the toe of a forested slope within the study area. Outside of the study area, the wetland unit extends to the south, and includes a relatively large forested slope to the southwest. The approximate wetland location is depicted in Figure 2, below.

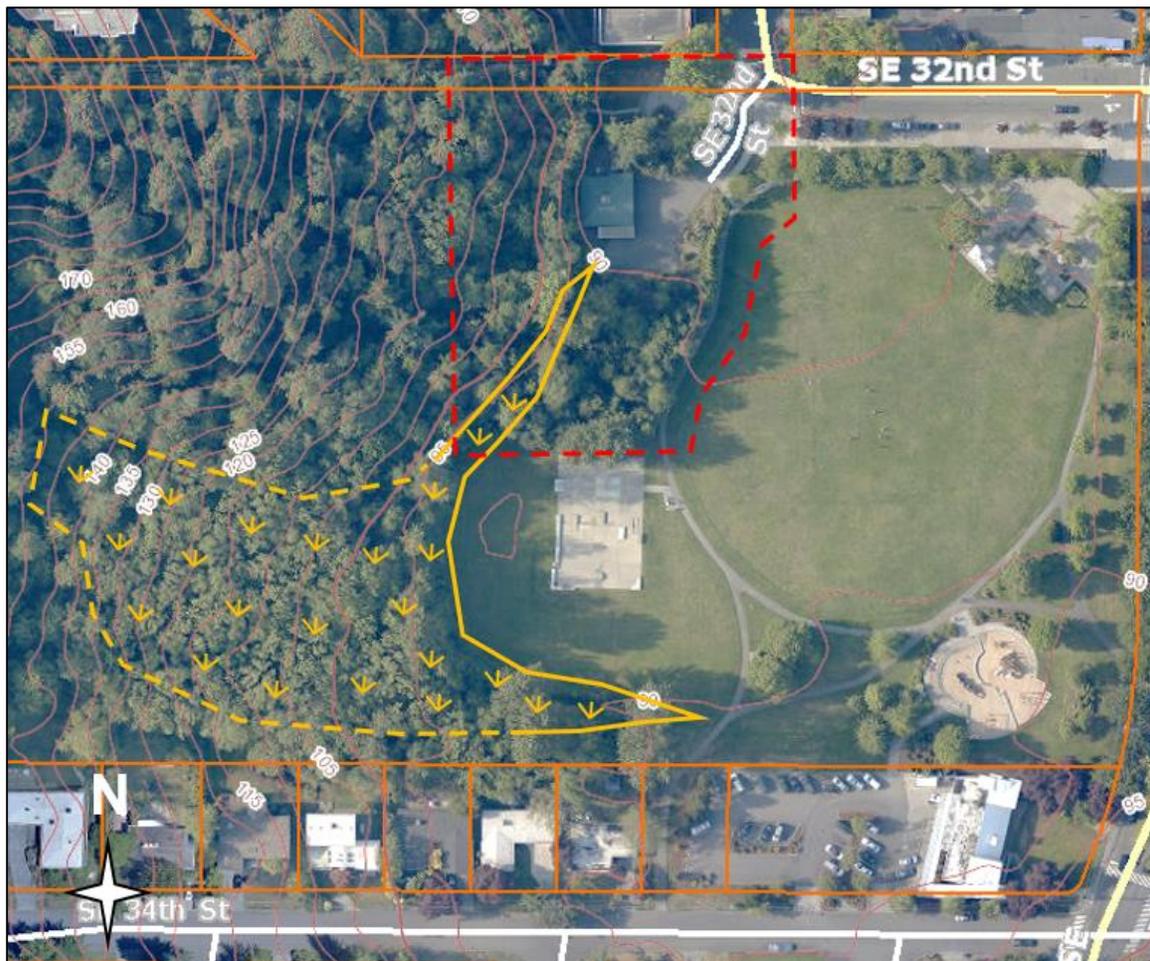


Figure 2. Approximate location and extent of Wetland A (yellow) with study area shown (red).

Wetland A contains slope and depressional hydrogeomorphic (HGM) classes; the depressional class is estimated to be less than 10 percent of the wetland unit. Therefore, Wetland A is rated as a slope wetland. Cowardin vegetation classes that are present in the wetland include palustrine forested and palustrine scrub-shrub. Common plants

observed during the site visit include Oregon ash, red alder, and black cottonwood in the canopy, with red-twig dogwood, Sitka willow, Dewey's sedge, creeping buttercup, soft rush, small-fruited bullrush, and giant horsetail in the shrub and herbaceous layers.

Sampled wetland soils in the study area contain a layer from 6 to 15 inches that is a dark (10 YR 3/1) clay loam with redox features present. Sampled soils meet hydric soil indicator Redox Dark Surface (F6). Soils were saturated to the surface during the field visit and a water table was observed at 6 inches below the soil surface. Several inches of standing water were present in a depressional area near the toe of the slope. The hydrology of Wetland A is provided by groundwater- and surface water-flow from the forested slope located to the west; water seasonally ponds at the toe of the slope near the extent of the maintained park area. According to the City's storm utility maps (Mercer Island GIS Portal), surface water from Wetland A flows both north and south into the City's storm-water system.

This wetland unit rates moderate for water quality functions, low for hydrologic functions, and moderate for habitat functions. The presence of dense herbaceous vegetation, and proximity to urban areas give this wetland the potential and opportunity to provide water quality functions. Hydrologic functions provided by Wetland A are low since flow from the wetland drains into the City's storm utility system; therefore the wetland does not have the opportunity to reduce flooding and erosion. Vegetative structure and diversity, and habitat features such as large woody debris and standing snags contribute to the moderate habitat functions score for this wetland unit.

Marginal Area (Non-wetland)

One marginal area is present on the western study area boundary; this area does not meet all three wetland criteria and is not considered a jurisdictional wetland. Vegetation at this location is dominated by a marginal, facultative vegetation assemblage including Oregon ash and bigleaf maple in the canopy with planted conifers in the understory and Dewey's sedge, creeping buttercup, and grass in the herbaceous layer. Sampled soils meet the conditions for hydric soil indicator Redox Dark Surface (F6). However, soils were not saturated at the time of sampling and did not meet any primary hydrology indicators. Due to the time of year and normal year-to-date precipitation, the lack of observed hydrology was judged to be reliable¹. Furthermore, two or more secondary hydrology indicators were not met. When compared to similar forested slopes of

¹ Precipitation data gathered from National Oceanic and Atmospheric Administration's (NOAA's) National Weather Service Website (<http://w2.weather.gov/climate/index.php?wfo=sew>). On May 7, 2015, recorded precipitation for the Seattle-Tacoma area was within 0.3 inches of the normal year-to-date value.

Wetland A, this area is much dryer, and the vegetation assemblage generally reflects this observation.

Local Regulations

Wetlands in Mercer Island are regulated under the Mercer Island City Code (MICC) Unified Land Development Code Chapter 19.07, Environment. The Mercerdale Park parcel is zoned Public Institution (P).

Wetlands

Wetland A scored 12 points for water quality, 5 points for hydrology, and 15 points for habitat, for a total of 32 points. This score qualifies the Wetland A as a Category III wetland. Category III wetlands require a standard buffer width of 50 feet.

In general, site plans should avoid and minimize impacts to wetlands and buffers. However, the City may allow modification of the standard wetland buffer either through buffer reduction (19.07.08[C][2]) or buffer averaging (19.07.080[C][3]). The buffer reduction option would require a critical area study and mitigation, while the buffer averaging option does not require a critical area study but may require a mitigation plan.

Wetland buffers may be reduced to 25 feet via buffer reduction in accordance with an approved critical area study if the code official determines the following:

- That a smaller area is adequate to protect the wetland functions,
- Impacts will be mitigated consistent with MICC 19.07.070(B)(2), and
- The proposal will result in no net loss of wetland buffer functions.

Wetland buffers may be averaged in accordance with the following provisions outlined in MICC 19.07.070(B)(3):

- The proposal will result in a net improvement of critical area function;
- The proposal will include replanting of the averaged buffer using native vegetation;
- The total area contained in the averaged buffers on the development proposal site is not decreased below the total area that would be provided if the maximum width were not averaged;
- The standard buffer width is not reduced to a width that is less than the minimum buffer width (25 feet) at any location; and
- That portion of the buffer that has been reduced in width shall not contain a steep slope.

Direct wetland impacts are allowed for Category III wetlands less than one acre in size if proposed mitigation will result in equivalent or greater function (MICC 19.07.080(D)).

Wetland A is greater than 2 acres, thereby exceeding the alteration threshold. In addition, the City's reasonable use criteria found in MICC 19.07.030(B) is not applicable since an existing use (City park) has already been established on the parcel.

State and Federal Regulations

Wetlands are also regulated by the Corps under Section 404 of the Clean Water Act. Any filling of Waters of the U.S., including wetlands (except isolated wetlands), would require notification and permits from the Corps. Wetland A would likely not be considered isolated. 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 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,

A handwritten signature in black ink that reads "Katy Crandall". The signature is written in a cursive, flowing style.

Katy Crandall, WPIT
Ecologist

Enclosures



Note: This is a field sketch. Wetland areas not surveyed. Areas depicted are approximate and not to scale.

Wetland Delineation Sketch

Prepared for: Katie Oman, AMS Planning and Research
Located at: Mercerdale Park
Parcel Number 1224049068
3205 77th Ave. SE
Mercer Island, WA 98040

LEGEND:

-  Wetland edge, delineated
-  Wetland edge, not delineated
-  Wetland area
-  Data Point (DP)

Project Site: Mercerdale Park	Sampling Date: 4/2/2015
Applicant/Owner: MICA	Sampling Point: DP- 1
Investigator: K. Crandall	City/County: Mercer Island
Sect., Township, Range: S 12 T 24N R 04E	State: WA
Landform (hillslope, terrace, etc): Toe of slope	Slope (%): 5
Subregion (LRR): A	Local relief (concave, convex, none): Concave
Soil Map Unit Name: Bh – Bellingham silt loam	Lat: _____ Long: _____ Datum: _____
Soil NWI classification: NA	
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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Point within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Wetland A in-pit	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. <i>Pseudotsuga menzeisii</i> (dying and rooted upslope)				Number of Dominant Species that are OBL, FACW, or FAC: 4	(A)
2. <i>Crataegus monogyna</i>	30	Y	FAC	Total Number of Dominant Species Across All Strata: 5	(B)
3. <i>Populus balsamifera</i>	15	Y	FAC	Percent of Dominant Species that are OBL, FACW, or FAC: 80	(A/B)
4. <i>Fraxinus latifolia</i>	3	N	FACW		
	48	= Total Cover			
Sapling/Shrub Stratum (Plot size: 3m diam.)				Prevalence Index Worksheet	
1. <i>Cornus sericea</i>	20	Y	FACW	Total % Cover of	
2.				OBL species	x 1 =
3.				FACW species	x 2 =
4.				FAC species	x 3 =
5.				FACU species	x 4 =
	20	= Total Cover		UPL species	x 5 =
				Column totals	(A) (B)
Herb Stratum (Plot size: 1m diam.)				Prevalence Index = B / A =	
1. <i>Ranunculus repens</i>	40	Y	FAC	Hydrophytic Vegetation Indicators	
2.				<input checked="" type="checkbox"/> Dominance test is > 50%	
3.				<input type="checkbox"/> Prevalence test is ≤ 3.0 *	
4.				Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)	
5.				<input type="checkbox"/> Wetland Non-Vascular Plants *	
6.				<input type="checkbox"/> Problematic Hydrophytic Vegetation * (explain)	
7.				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
8.					
9.					
10.					
11.					
	40	= Total Cover		Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Woody Vine Stratum (Plot size:)					
1. <i>Rubus armeniacus</i>	20	Y	FACU		
2.					
	20	= Total Cover			
% Bare Ground in Herb Stratum:					
Remarks:					

SOIL

Sampling Point – DP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/2	100					Clay loam	
6-12	10YR 3/1	93	7.5YR 3/4	7	C	M	Clay loam	
12-15	10YR 3/1	80	7.5YR 3/4	20	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: 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 Soils³

<input type="checkbox"/> 2cm Muck (A10)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Other (explain in remarks)

³ 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"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

<input checked="" 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):

<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 checked="" 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (in): ~10 nearby Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (in): 6 BGS Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (in): 0 BGS (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **BGS = below ground surface**

Project Site: Mercerdale Park	Sampling Date: 4/2/2015	Sampling Point: DP- 2
Applicant/Owner: MICA	City/County: Mercer Island	State: WA
Investigator: K. Crandall	Sect., Township, Range: S 12 T 24N R 04E	
Landform (hillslope, terrace, etc): Terrace	Slope (%): 0	Local relief (concave, convex, none): None
Subregion (LRR): A	Lat:	Long:
Soil Map Unit Name: Bh – Bellingham silt loam	NW1 classification: NA	
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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampling Point within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Out-pit adjacent to Wetland A	

VEGETATION – Use scientific names of plants.

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

SOIL

Sampling Point – DP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/2	100					Gravelly sandy loam	
8-14	10YR 3/2	95	7.5YR 4/6	5	C	M	Gravelly sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: 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 Soils³

<input type="checkbox"/> 2cm Muck (A10)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Other (explain in remarks)
<input type="checkbox"/>

³ 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:

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):

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

Remarks: **Damp, not saturated**

Project Site: Mercerdale Park	Sampling Date: 5/7/2015
Applicant/Owner: MICA	Sampling Point: DP- 3
Investigator: K. Crandall, R. Kahlo	City/County: Mercer Island
Sect., Township, Range: S 12 T 24N R 04E	State: WA
Landform (hillslope, terrace, etc): Terrace	Slope (%): 5
Subregion (LRR): A	Local relief (concave, convex, none): Concave
Soil Map Unit Name: KbP – Kitsap silt loam	NWI classification: NA
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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Point within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Marginal non-wetland area	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. <i>Acer macrophyllum</i>	50	Y	FACU	Number of Dominant Species that are OBL, FACW, or FAC:	5 (A)
2. <i>Fraxinus latifolia</i>	50	Y	FACW	Total Number of Dominant Species Across All Strata:	6 (B)
3.				Percent of Dominant Species that are OBL, FACW, or FAC:	83 (A/B)
4.					
	100	= Total Cover			
Sapling/Shrub Stratum (Plot size: 3m diam.)				Prevalence Index Worksheet	
1. <i>Thuja plicata</i>	10	Y	FAC	Total % Cover of	
2.				OBL species	x 1 =
3.				FACW species	x 2 =
4.				FAC species	x 3 =
5.				FACU species	x 4 =
	10	= Total Cover		UPL species	x 5 =
				Column totals	(A) (B)
Herb Stratum (Plot size: 1m diam.)				Prevalence Index = B / A =	
1. <i>Ranunculus repens</i>	70	Y	FAC	Hydrophytic Vegetation Indicators <input checked="" type="checkbox"/> Dominance test is > 50% <input type="checkbox"/> Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supporting data in remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants * <input type="checkbox"/> Problematic Hydrophytic Vegetation * (explain)	
2. <i>Carex deweyana</i>	60	Y	FAC		
3. <i>Unk. Grass</i>	40	Y	FAC*		
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
	170	= Total Cover		* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
Woody Vine Stratum (Plot size:)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.					
2.					
% Bare Ground in Herb Stratum:					
Remarks: *Presumed FAC					

SOIL

Sampling Point – DP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	2.5Y 3/1	92	7.5 YR 3/4	8	C	M	Silty clay loam	
8-14	10 YR 4/1	80	10 YR 4/6	20	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: 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 Soils³

<input type="checkbox"/> 2cm Muck (A10)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Other (explain in remarks)

³ 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:

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):

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

Remarks: **Damp, not saturated**

Wetland name or number: A

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): Wetland A Date of site visit: 5/7/2015
 K. Crandall,
 Rated by: R. Kahlo Trained by Ecology? Yes No Date of Training 09/2014
 SEC: 12 TOWNSHIP: 24N RANGE: 04E Is S/T/R in Appendix D? Yes No

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I II III IV

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

Score for Water Quality Functions	12
Score for Hydrologic Functions	5
Score for Habitat Functions	15
TOTAL score for functions	32

Category based on SPECIAL CHARACTERISTICS of wetland

I II Does not Apply

Final Category (choose the “highest” category from above)

III

Check the appropriate type and class of wetland being rated.

Wetland Type	Wetland Class
Estuarine <input type="checkbox"/>	Depressional <input type="checkbox"/>
Natural Heritage Wetland <input type="checkbox"/>	Riverine <input type="checkbox"/>
Bog <input type="checkbox"/>	Lake-fringe <input type="checkbox"/>
Mature Forest <input type="checkbox"/>	Slope <input checked="" type="checkbox"/>
Old Growth Forest <input type="checkbox"/>	Flats <input type="checkbox"/>
Coastal Lagoon <input type="checkbox"/>	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"/>

Wetland name or number: A

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 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

***The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (<http://wdfw.wa.gov/mapping/phs/>).**

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. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

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 wetland 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 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 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 types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).*
 NO – go to 5 YES – The wetland class is **Slope**

Wetland name or number: A

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 you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Wetland name or number: A

S	Slope Wetlands	Points
HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion		
S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?		<i>(see p. 68)</i>
S	<p>S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. <i>Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows)</i></p> <p>Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. points = 6 Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3 Dense, uncut, rigid vegetation > 1/4 area points = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0</p>	3
S	<p>S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area.</p> <p>YES points = 2 NO points = 0</p>	2
S	Total for S 3 <i>Add the points in the boxes above</i>	5
S	<p>S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? <i>(see p. 70)</i> Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply.</i></p> <p><input type="checkbox"/> Wetland has surface runoff that drains to a river or stream that has flooding problems <input type="checkbox"/> Other _____</p> <p><i>(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)</i></p> <p style="text-align: center;">YES multiplier is 2 NO multiplier is 1</p>	(see p. 70) multiplier 1
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 <i>Add score to table on p. 1</i>	5

Comments

S 4 – Using the Mercer Island GIS Portal website, it appears that surface water leaving the wetland is directed into the City’s storm utility system.

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat	
H 1. Does the wetland have the potential to provide habitat for many species?	
<p>H 1.1 <u>Vegetation structure</u> (see p. 72) Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.</p> <p> <input type="checkbox"/> Aquatic bed <input type="checkbox"/> Emergent plants <input checked="" type="checkbox"/> Scrub/shrub (areas where shrubs have >30% cover) <input checked="" type="checkbox"/> Forested (areas where trees have >30% cover) <input checked="" type="checkbox"/> Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon </p> <p>Add the number of vegetation types that qualify. If you have:</p> <p style="text-align: right;"> 4 structures or more points = 4 3 structures points = 2 2 structures points = 1 1 structure points = 0 </p>	2
<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 ¼ acre to count. (see text for descriptions of hydroperiods)</p> <p> <input type="checkbox"/> Permanently flooded or inundated 4 or more types present points = 3 <input type="checkbox"/> Seasonally flooded or inundated 3 types present points = 2 <input checked="" type="checkbox"/> Occasionally flooded or inundated 2 types present points = 1 <input checked="" type="checkbox"/> Saturated only 1 types 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"/> Lake-fringe wetland = 2 points <input type="checkbox"/> Freshwater tidal wetland = 2 points </p>	1
<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 ft². (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:</p> <p style="text-align: right;"> > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0 </p> <p>FRLA, POBA, ALRU, THPL, ACMA, SASI, SALU, COSE, RUAR, POMU, JUEF, ATFI, SCMI, CADE, RARE, EQTE, EQAR, OESA, COAR, Grass1</p>	2

Wetland name or number: A

<p>H 1.4. Interspersion of habitats (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 Low = 1 point Moderate = 2 points</p> <p>High = 3 points [riparian braided channels]</p> <p>NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".</p>	<p>1</p>
<p>H 1.5. Special Habitat Features: (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> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland <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 for at least 33 ft (10m) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present <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) <input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in each stratum of plants <p><i>Note: The 20% stated in early printings of the manual on page 78 is an error.</i></p>	<p>3</p>
<p>H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</p>	<p>9</p>

H 2. Does the wetland have the opportunity to provide habitat for many species?	
<p>H 2.1 Buffers (<i>see p. 80</i>) <i>Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</i></p> <p><input type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) Points = 5</p> <p><input type="checkbox"/> 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4</p> <p><input type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference..... Points = 3</p> <p style="text-align: center;">If buffer does not meet any of the criteria above</p> <p><input type="checkbox"/> No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK..... Points = 2</p> <p><input checked="" type="checkbox"/> No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK..... Points = 2</p> <p><input type="checkbox"/> Heavy grazing in buffer. Points = 1</p> <p><input type="checkbox"/> Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland Points = 0</p> <p><input type="checkbox"/> Buffer does not meet any of the criteria above.....Points = 1</p>	2
<p>H 2.2 Corridors and Connections (<i>see p. 81</i>)</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="padding-left: 40px;">YES = 4 points (<i>go to H 2.3</i>) 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? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?</p> <p style="padding-left: 40px;">YES = 2 points (<i>go to H 2.3</i>) NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <p style="padding-left: 40px;">within 5 mi (8km) of a brackish or salt water estuary OR</p> <p style="padding-left: 40px;">within 3 mi of a large field or pasture (>40 acres) OR</p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 40px;">within 1 mi of a lake greater than 20 acres?</div> <p style="padding-left: 40px;">YES = 1 point NO = 0 points</p>	1

<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 http://wdfw.wa.gov/hab/phslist.htm)</u></p> <p>Which of the following priority habitats are within 330ft (100m) of the wetland? (NOTE: the connections do not have to be relatively undisturbed)</p> <p><input type="checkbox"/> Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).</p> <p><input checked="" type="checkbox"/> Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full description in WDFW PHS report p. 152)</p> <p><input type="checkbox"/> Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.</p> <p><input type="checkbox"/> Old-growth/Mature forests: (<u>Old-growth west of Cascade crest</u>) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 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><input type="checkbox"/> 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.)</p> <p><input type="checkbox"/> Riparian: 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><input type="checkbox"/> 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)</p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> 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.)</p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.</p> <p><input type="checkbox"/> 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.</p> <p><input checked="" type="checkbox"/> 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 > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long.</p> <p style="padding-left: 40px;">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</p> <p><i>Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.</i></p>	<p>3</p>
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Wetland name or number: A

<p>H 2.4 <u>Wetland Landscape</u> (choose the one 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>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 with 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>	0
<p>H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4</p>	6
<p>TOTAL for H1 from page 14</p>	9
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	15

H 2.4 – No *known* wetlands within ½ mile

Wetland name or number: A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i>	Category
<p>SC 1.0 Estuarine wetlands (see p. 86)</p> <p>Does the wetland unit meet the following criteria for Estuarine wetlands?</p> <p><input type="checkbox"/> The dominant water regime is tidal,</p> <p><input type="checkbox"/> Vegetated, and</p> <p><input type="checkbox"/> With a salinity greater than 0.5 ppt.</p> <p>YES = Go to SC 1.1 NO <input checked="" type="checkbox"/></p>	
<p>SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?</p> <p><input type="checkbox"/> YES = Category I <input checked="" type="checkbox"/> NO = go to SC 1.2</p>	<p>Cat. I</p>
<p>SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?</p> <p><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre.</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.</p> <p><input type="checkbox"/> The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p>	<p>Cat. I</p> <p>Cat. II</p> <p>Dual rating I/II</p>

<p>SC 2.0 Natural Heritage Wetlands (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? <i>(this question is used to screen out most sites before you need to contact WNHP/DNR)</i> S/T/R information from Appendix D <input checked="" type="checkbox"/> or accessed from WNHP/DNR web site <input type="checkbox"/> YES <input type="checkbox"/> – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO <input checked="" type="checkbox"/></p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO <input type="checkbox"/> Not a Heritage Wetland</p>	<p>Cat. I</p>
<p>SC 3.0 Bogs (see p. 87)</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.</i></p> <ol style="list-style-type: none"> 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16” or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO <input checked="" type="checkbox"/> is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the “bog” species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 <i>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16” deep. If the pH is less than 5.0 and the “bog” plant species in Table 3 are present, the wetland is a bog.</i> 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann’s spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO <input type="checkbox"/> is not a bog for purpose of rating 	<p>Cat. I</p>

Wetland name or number: A

<p>SC 6.0 Interdunal Wetlands (see p. 93) Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? YES – go to SC 6.1 NO <input checked="" type="checkbox"/> not an interdunal wetland for rating <i>If you answer yes you will still need to rate the wetland based on its functions.</i> In practical terms that means the following geographic areas: – Long Beach Peninsula – lands west of SR 103 – Grayland-Westport – lands west of SR 105 – Ocean Shores-Copalis – lands west of SR 115 and SR 109 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III</p>	<p>Cat. II</p> <p>Cat. III</p>
<p>Category of wetland based on Special Characteristics <i>Choose the “highest” rating if wetland falls into several categories, and record on p. 1 .</i> If you answered NO for all types enter “Not Applicable” on p.1.</p>	<p>NA</p>