Parametrix
ENGINEERING . PLANNING . ENVIRONMENTAL SCIENCES

719 2ND AVENUE, SUITE 200 | SEATTLE, WA 98104 | P 206.394.3700

TECHNICAL MEMORANDUM

DATE: June 3, 2022
TO: Laurel Kanawyer
FROM: Aaron Thom and Anna Hoenig, PWS
SUBJECT: NE 135th Street Aquatic Resources Investigation
PROJECT NUMBER: 553-1550-073

INTRODUCTION

The Seattle Department of Transportation (SDOT) is proposing sidewalk improvements in the public right-of-way (ROW) on NE 135th Street just east of 27th Avenue NE, as part of the department's 2022 Federal Safe Routes to School project. Parametrix conducted a site assessment to determine if wetlands and riparian watercourses are located within the project area. The purpose of this Technical Memorandum is to detail the methods and results of the aquatic resource investigation.

METHODS

Parametrix conducted a desktop review of the following available background information to identify jurisdictional aquatic resources:

- Aerial photography of the study area vicinity (Google Earth database 2022)
- King County Interactive maps (iMap) (King County 2022)
- City of Seattle Interactive maps (City of Seattle 2022a)
- City of Seattle Water and Sewer Map (City of Seattle 2022b)
- National Wetlands Inventory (NWI) online interactive mapper (USFWS 2022)
- Climate data for City of Seattle as measured at the Sand Point weather station (ACIS 2022)
- Northwest Indian Fisheries Commission (NWIFC) Statewide Integrated Fish Distributions (SWIFD) maps (NWIFC 2022)
- Priority Habitats and Species (PHS) data (WDFW 2022a)
- Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2022)
- Washington Forest Practices Application Mapping Tool (WDNR 2022)
- Historical maps - U.S. Geological Survey Topoview (USGS 2022)

Parametrix biologists, Anna Hoenig and Aaron Thom, conducted a field assessment of aquatic resources within the study area on April 28, 2022. The methods used to delineate wetlands were based on routine methods described in U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and indicators defined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (WMVC Regional Supplement) (USACE 2010). Wetland boundaries were delineated based on on-site observations of vegetation, soils, and hydrology in conjunction with background information listed above. Wetlands were classified using the U.S. Fish and Wildlife Service (USFWS)

Cowardin classification system (Cowardin et al. 1979; FGDC 2013) and the Hydrogeomorphic Classification System (HGM) (Brinson 1993). Wetlands were rated using the Washington State Wetland Rating System for Western Washington – 2014 Update (Hruby 2014) per Seattle Municipal Code (SMC) 25.09.160. The ordinary high water mark (OHWM), as defined by SMC 25.09.520, of the ditch was delineated using guidance from the U.S. Army Corps of Engineers A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States (USACE 2014).

RESULTS

The study area is located in the City of Seattle within the Lake Washington - Sammamish River subwatershed (12-digit hydrologic unit code (HUC) 171100120400) of water resource inventory area (WRIA) 8: Cedar-Sammamish watershed. The study area is located on NE 135th Street just east of 27th Avenue NE, in a small grassy area within a topographic valley (Figure 1). Within the study area, no wetlands or streams were mapped by Seattle's interactive map (2022), King County (2022), NWI (USFWS 2022), or PHS (WDFW 2022a) or by other online resources. NWI (USFWS 2022) and PHS (WDFW 2022a) maps show seasonally flooded, emergent wetlands within the open ditch segments north and south of the study area (see map in Attachment A). The City's Water and Sewer map documents three ditches within the study area (City of Seattle 2022b) (see ditch and culvert map in Attachment A). SWIFD does not map any fish species in the project area (NWIFC 2022).

Soils within the study area are mapped as urban land-Alderwood complex, 0 to 5 percent slopes. Urban land-Alderwood soils are non-hydric, moderately well-drained soils associated with hills with parent material consisting of glacial drift and/or glacial outwash over dense glaciomarine deposits (NRCS 2022). See Attachment A for a full description of these soils.

Precipitation 3 months prior to the April field investigation was normal, according to the WETS tables analysis (see Attachment A). In the 10 days prior to the field investigation, the area received 0.9-inch of rain. During the field visit, the weather was around 55°F and cloudy.

Parametrix biologists identified and delineated one wetland and one ditch within the study area (Figure 1). A summary of the wetland and ditch is provided in Table 1. General background information is provided in Attachment A, representative photographs are provided in Attachment B, wetland determination forms are provided in Attachment C, and wetland rating forms are provided in Attachment D. General characteristics of wetlands and ditches are discussed below.

Table 1. Summary of Aquatic Resources Within the Study Area

Name	Estimated Size (square feet) in Study Area	USFWS Classification[a]	HGM Classification[b]	Wetland Category/Stream Type[c, d]	Habitat Score[c]	Standard Buffer Width (feet)[d,e]
Wetland A	931	PAB, PEM	Slope, Depressional	IV	4	N/A
Ditch 1	281	N/A	N/A	N/A	N/A	N/A

[a] FGDC 2013; Cowardin et al. 1979
[b] Brinson 1993
[c] Hruby 2014
[d] SMC 25.09.160
[e] SMC 25.09.200
PAB = palustrine aquatic bed; PEM = palustrine emergent

Date: 5/5/2022 Author: BrettKyl Path: U:\PSO\Projects\Clients\1550-CityOfSeattle\00RefData\553815508AX SDOT Env OnCallWA 03 SEPATask 1 - Wetland Delineation\WBS (temp) - wetland delineation\GIS figures\WL_RatingFigures.aprx

Source: Project Team, King County

0 15 30 60 Feet

- Sample point
- Wetland A
- Ordinary high water line (OHWL) of Ditch 1
- Study area
- Parcel boundaries

Figure 1. Mapped Aquatic Resources

NE 135th Street Aquatic Resources Investigation

Seattle, WA

Wetland A

Wetland A is located within an unimproved section of NE 135th Street between 27th Avenue NE and 30th Avenue NE at the bottom of a topographic valley. Wetland A is a slope and depressional wetland with palustrine aquatic bed and palustrine emergent habitats (Brinson 1993; FGDC 2013). Aquatic bed vegetation is localized to the main north to south channel of Ditch 1, and it consists of pond water-starwort (*Callitriche stagnalis*) and watercress (*Nasturtium officinale*). The emergent plant community was recently mowed prior to the site visit and consists of common lawn grasses, such as bluegrass (*Poa* sp) and bentgrass (*Agrostis* sp), reed canarygrass (*Phalaris arundinacea*), creeping buttercup (*Ranunculus repens*), velvet grass (*Holcus lanatus*), water mint (*Mentha aquatica*), soft rush (*Juncus effusus*), field horsetail (*Equisetum arvense*), dock (*Rumex* sp.) and dandelion (*Taraxacum officinale*).

Wetland A receives hydrology from Ditch 1, two culverts, a small, concrete-lined ditch, and sheet-flow from road runoff. Ditch 1 runs north-south and is included with Wetland A's boundaries. The northwest culvert discharges water into the wetland and flows east through the trenched swale into Ditch 1. A small ditch paved with concrete directs water from the paved road into the wetland. The southwest culvert discharges stormwater from the western slope directly into Ditch 1, which is part of Wetland A. The outlet of Wetland A is a culvert at the south end of Ditch 1. Wetland A soils displayed primary hydrology indicators: high water table (A2), saturation (A3), and oxidized rhizospheres along living roots (C3). Hydric soil layers were loams with concentrations in the matrix and along pore linings, meeting hydric soil indicators redox dark surface (F6) and depleted dark surface (F7).

The surrounding upland vegetation immediately surrounding the wetland mainly consisted of mowed lawn containing common lawn grasses, such as bluegrass and bentgrass, dandelion, and creeping buttercup, as well as a shrub patch consisting of Himalayan blackberry (*Rubus armeniacus*), hardhack spiraea (*Spiraea douglasii*), Douglas fir (*Pseudotsuga menziesii)*, common bluebell (*Hyacinthoides non-scripta*), bamboo, and *Forsythia* sp,. Neighboring properties had plants such as western redcedar (*Thuja plicata*), arborvitae, and other landscape plants. Upland soils were dry and did not display any hydrology or hydric soil indicators.

Ditch 1

Ditch 1 is situated on a very shallow, almost flat slope flowing south. The ditch measured an average bank full width of 43 inches. Its bed consisted of fine sediments and was vegetated with aquatic and emergent plants. Its bank was vegetated with lawn grasses. During the site visit, water was not flowing but stagnant within the ditch. Ditch 1 is presumed to have ephemeral flow because water in the ditch is provided by precipitation and stormwater runoff. Due to the flat topography, water appears to be impounded in this ditch segment except during larger rain events. According to Seattle's Sewer and Water map (2022b), Ditch 1 is part of a stormwater conveyance system that is a network of open ditches, culverts and drainage mains. Further downstream of the study area, water in the stormwater conveyance system also flows through a bioinfiltration stormwater management facility and a detention facility. The detention facility backs up causing water to backflow, eventually discharging to a tributary to the North Branch of Thornton Creek.

Other ditches within the study area include the northwest ditch, which receives water from a stormwater pipe and flows directly into Ditch 1. This ditch is included within the boundaries of Wetland A and is a grassy swale where an approximately 6-inch-wide trench was recently excavated by a nearby resident to improve drainage of the western dead end (personal communication with resident). The southeast ditch also conveys stormwater into Ditch 1; it is shallow, approximately 8 inches wide, and lined with concrete.

REGULATORY IMPLICATIONS

City of Seattle

Wetland A is rated as a Category IV wetland with a habitat score of 4 according to the Washington State Department of Ecology rating system (Hruby 2014) and SMC 25.09.160. Category IV wetlands that are less than 1,000 square feet and do not abut a Type S, F, Np, or Ns water per Washington Administrative Code (WAC) 222-16-030 and-031 do not require a regulatory buffer. Wetland A itself would likely not be regulated by the City as a critical area, according to the SMC. The definition of wetland according to the City's critical area regulations excludes stormwater ditches and grass-lined swales that were intentionally created from non-wetland sites and not used for mitigation (SMC 25.09.012.C[2]).

Ditch 1 does not meet the City's criteria for riparian watercourse because it is not a Type F, Np, or Ns water defined in WAC 222-16-030 and 222-16-031. Furthermore, pipes, culverts, flow control facilities, water quality facilities, and stormwater conveyances are not regulated as riparian watercourses (SMC 25.09.012.D[5]). Because the ditch is not considered a riparian watercourse, it would not be regulated as a critical area and does not receive a regulatory buffer.

Aquatic Resource Jurisdictional Status

Through a series of open ditches, culverts and drainage mains, water from Ditch 1 eventually outfalls to Lake Washington, a traditional navigable water (TNW) of the United States, via the North Branch of Thornton Creek, which is a non-navigable tributary. Despite the hydrologic connection, Ditch 1 would not be considered a jurisdictional tributary according to the pre-2015 interpretation of "waters of the United States" for the following reasons: Ditch 1 was wholly excavated in and drains only uplands and does not carry a relatively permanent flow; and Ditch 1 does not have a significant nexus to navigable waters.

An analysis of historical maps (USGS 2022) does not show any historical mapping of a stream in the vicinity of Ditch 1; therefore, it is likely that the ditch was not excavated from streams or wetlands, nor was it a relocated stream. The first depiction of an aquatic feature in the study area appears in a topographic map of north Seattle from 1949 that shows an intermittently flowing ditch running north to south (USGS 2022). Maps created prior to 1949 do not include this ditch feature (USGS 2022). Furthermore, the ditch would not be considered a "relatively permanent water" because its water has ephemeral flow. It also lacks a significant nexus (e.g., significantly affecting the chemical, physical, and biological integrity of TNWs) to Lake Washington because it does not support fish or fish habitat, does not provide nutrients and food sources for downstream foodwebs, and has a negligible effect on water quality and flooding, considering the large contributing basin of Lake Washington and water level control by the United State Corps of Engineers, Seattle District.

Because Ditch 1 would not be considered a jurisdictional ditch, Wetland A would not be considered an adjacent wetland to a water of the U.S. To summarize, the study area does not contain any jurisdictional aquatic resources.

REFERENCES

ACIS (Applied Climate Information System). 2022. Available at: http://agacis.rcc-acis.org/. Accessed April 2022.

Brinson, M.M. 1993. A Hydrogeomorphic Classification for Wetlands. Technical Report WRP-DE-4. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

City of Seattle. 2022a. Development Services Office Water and Sewer Map. Available at: https://gisrevprxy.seattle.gov/wab_ext/DSOResearch_Ext/. Accessed April 2022.

City of Seattle. 2022b. Seattle Public Utilities Water and Sewer Map. Available at: https://gisrevprxy.seattle.gov/wab_ext/DSOResearch_Ext/. Accessed May 11, 2022.

Cowardin, L.M., V. Carter, F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31. US Fish and Wildlife Service, Washington, DC.

Environmental Laboratory. 1987. Corps of Engineers Wetland Delineation Manual. Technical Report Y 87-1, Environmental Laboratory, Department of the Army, Waterways Experiment Station, Vicksburg, MS.

FGDC (Federal Geographic Data Committee). 2013. Classification of Wetlands and Deepwater Habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.

Google Earth Pro 7.3.4.8642. 8/14/2020. 47.726517°, -122.298368°, elevation 0ft. [Online] Available at: http://www.google.com/earth/index.html. Accessed April 2022.

Hruby, T. 2014. Washington State Wetland Rating System for Western Washington: 2014 Update. Washington State Department of Ecology Publication No. 14-06-029. Olympia, WA.

King County. 2022. King County iMAP. Accessed April 2022. Available at: http://www.kingcounty.gov/operations/GIS/Maps/iMAP.aspx.

NRCS (Natural Resources Conservation Service). 2022. Web soil survey online interactive mapper. Accessed April 2022. Available at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

NWIFC (Northwest Indian Fisheries Commission). 2022. Statewide Integrated Fish Distribution (SWIFD) Web Map. Available at: https://geo.nwifc.org/SWIFD/. Accessed May 2022.

USACE (U.S. Army Corps of Engineers). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). U.S. Army Corps of Engineers Engineer Research and Development Center, Vicksburg, MS.

USACE (U.S. Army Corps of Engineers). 2014. A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States. U.S. Army Corps of Engineers Engineer Research and Development Center, Vicksburg, MS.

USFWS (U.S. Fish and Wildlife Service). 2022. National Wetlands Inventory (NWI) online interactive mapper. Available at: http://www.fws.gov/wetlands/. Accessed April 7, 2022.

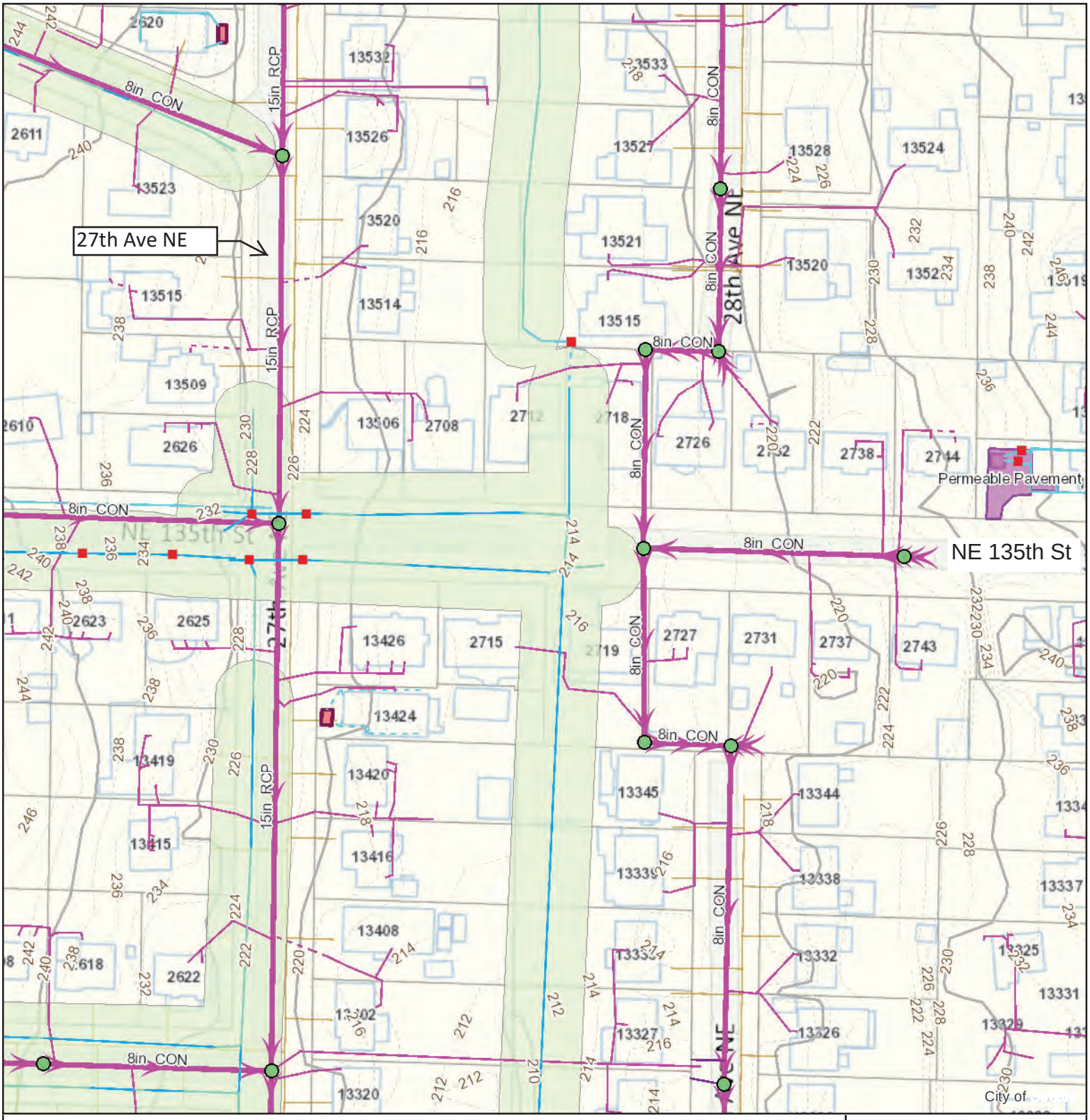
USGS (U.S. Geological Survey). 2022. Topoview. Available at https://ngmdb.usgs.gov/topoview/viewer. Accessed April 2022.

WDFW (Washington Department of Fish and Wildlife). 2022a. PHS on the Web: An interactive map of WDFW priority habitats and species information for project review. Available at: http://wdfw.wa.gov/mapping/phs. Accessed April 2022.

WDNR. 2022. Forest Practices Application Mapping Tool. Available at: https://fpamt.dnr.wa.gov. Accessed April 2022.

Attachment A

Background Information



Seattle DSO Water and Sewer Map

100 Feet

N

- City Limits
- Catch Basin, Junction Box, Sand Box

Maintenance Holes and Other Structures

- Maintenance Hole
- Other Structure

Ditches and Culverts

- Ditch
- Culvert

Side Sewers and Laterals

- Drainage Lateral
- Side Sewer
- Drainage Lateral (Not Inspected)
- Side Sewer (Not Inspected)
- SPU Drainage Lateral
- SPU Side Sewer
- Phantom Connector
- Side Sewer and Lateral (Lined)

Private Mainlines

- Private Drainage Main
- Private Sanitary Main
- Private Combined Main

Mainlines (Permitted Use)

- King County Main
- SPU Drainage Main
- SPU Combined Main
- SPU Sanitary Main

6/2/2022

Soil Map—City of Seattle, Washington
(Soils)

Map Scale: 1:4,450 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: City of Seattle, Washington
Survey Area Data: Version 5, Sep 1, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 30, 2019—Jul 1, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
988	Urban land, 0 to 5 percent slopes	10.4	13.4%
3055	Urban land-Alderwood complex, 0 to 5 percent slopes	24.1	30.9%
3056	Urban land-Alderwood complex, 5 to 12 percent slopes	43.5	55.7%
Totals for Area of Interest		**78.0**	**100.0%**

City of Seattle, Washington

3055—Urban land-Alderwood complex, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2xtbc
Elevation: 20 to 540 feet
Mean annual precipitation: 30 to 40 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 180 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 60 percent
Alderwood and similar soils: 15 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Description of Alderwood

Setting

Landform: Hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Glacial drift and/or glacial outwash over dense glaciomarine deposits

Typical profile

A - 0 to 7 inches: gravelly sandy loam
Bw1 - 7 to 21 inches: very gravelly sandy loam
Bw2 - 21 to 30 inches: very gravelly sandy loam
Bg - 30 to 35 inches: very gravelly sandy loam
2Cd1 - 35 to 43 inches: very gravelly sandy loam
2Cd2 - 43 to 59 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)

Depth to water table: About 18 to 35 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Ecological site: F002XA004WA - Puget Lowlands Forest
Hydric soil rating: No

Minor Components

Mckenna

Percent of map unit: 10 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F002XA007WA - Puget Lowlands Wet Forest
Hydric soil rating: Yes

Everett

Percent of map unit: 10 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: F002XA004WA - Puget Lowlands Forest
Hydric soil rating: No

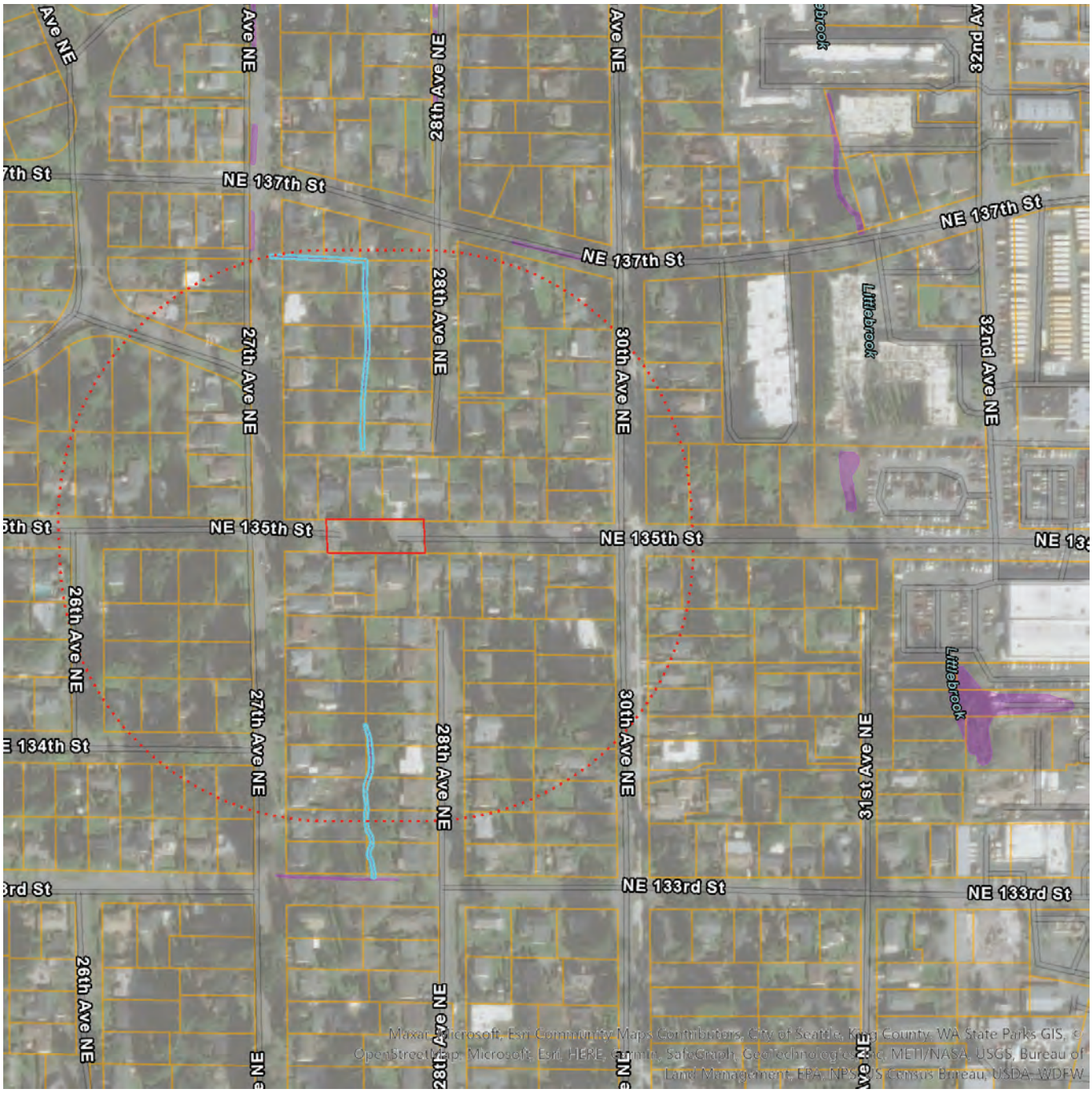
Kitsap

Percent of map unit: 5 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F002XA004WA - Puget Lowlands Forest
Hydric soil rating: No

Data Source Information

Soil Survey Area: City of Seattle, Washington
Survey Area Data: Version 5, Sep 1, 2021

Priority Habitats and Species on the Web



Buffer radius: 500 Feet

Report Date: 05/11/2022

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Sensitive Location
Freshwater Emergent Wetland	N/A	N/A	No
Little Brown Bat	N/A	N/A	Yes

PHS Species/Habitats Details:

Freshwater Emergent Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Emergent Wetland - NWI Code: PEM1Cx
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Freshwater Emergent Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Emergent Wetland - NWI Code: PEM1Cx
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Little Brown Bat	
Scientific Name	*Myotis lucifugus*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	N
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

Rainfall Documentation

Date: 4/27/2022

Weather station: SEATTLE SAND POINT WFO

Period of Record.: 1991-2020

County: King

State: WA

Growing season: See table below

		Long-term rainfall records							
	Month	3 yrs. in 10 less than	Normal	3 yrs. in 10 more than	Rain fall	Condition dry, wet, normal	Condition value	Month weight value	Product of previous two columns
1st prior month*	Mar	2.83	3.86	4.56	3.15	normal	2	3	6
2nd prior month*	Feb	2.38	3.54	4.05	3.59	normal	2	2	4
3rd prior month*	Jan	3.85	5.14	5.87	6.5	wet	3	1	3
								Sum	13

Note: If sum is

6 - 9	then prior period has been drier than normal
10 - 14	then prior period has been normal
15 - 18	then prior period has been wetter than normal

Condition value:

Dry	=1
Normal	=2
Wet	=3

Conclusions: The period prior to April 2022 has been normal.

GROWING SEASON DATES

Years with missing data: 24 deg = 3 28 deg = 4 32 deg = 4

Years with no occurrence: 24 deg = 18 28 deg = 0 32 deg = 0

Data years used: 24 deg = 27 28 deg = 26 32 deg = 26

Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	No occurrence	2/6 to 12/6: 303 days	3/6 to 11/19: 258 days
70 percent *	No occurrence	1/29 to 12/15: 320 days	2/28 to 11/26: 271 days

* Percent chance of the growing season occurring between the Beginning and Ending dates.

1908 Topographic Map

1949 Topographic Map

1983 Topographic Map

Attachment B

Photos

Photo 1. Ditch 1 flowing north to south, photo oriented south.

Photo 2. Wetland A, photo oriented northeast.

Photo 3. Dredged swale connects to Ditch 1, photo oriented west.

Photo 4. Wetland A outlet located at south end of Ditch 1, photo oriented southeast.

Photo 5. Wetland A, photo oriented east.

Attachment C

Determination Forms

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

Project/Site: NE 135th Street City/County: Seattle/King Sampling Date: 4/28/2022

Applicant/Owner: SDOT State: WA Sampling Point: **WLA-SP1**

Investigator(s): Anna Hoenig, Aaron Thom Section, Township, Range: T26N R04E S21 NWSE

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): <3%

Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 47.726528 Long: -122.298229 Datum: NAD83

Soil Unit (Name-ID-Hydric Rating): Urban land-Alderwood complex, 0-5% slopes - 3064836 - Not Hydric NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)

Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation no, Soil no, or Hydrology no 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 **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** Yes No **X**
Wetland Hydrology Present?	Yes	No **X**	

Precipitation:
According to the Sandpoint NOAA weather station, precipitation was within the normal range for the three months prior to the site visit.

Remarks:
WLA-SP1 is the upland sample point paired with WLA-SP2. It is located on a mowed grassy slope east of Ditch 1.

VEGETATION

	Absolute	Dominant	Indicator
Tree Stratum (Plot size: r=3m)	% Cover	Species?	Status
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: r=2m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: r=1m)			
1. *Poa sp. / Agrostis sp.**	95%	Yes	FAC*
2. *Ranunculus repens*	40%	Yes	FAC
3. *Taraxacum officinale*	2%	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	137% = Total Cover		
Woody Vine Stratum (Plot size: r=2m)			
1. *none*			
2.			
	0% = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation (Explain)[1]

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:
*mowed grass - no inflorescences present, likely Poa or Agrostis, presumed FAC.

SOIL

Sampling Point: WLA-SP1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-16	10YR 3/2	100					GrL	
16-19	10YR 3/2	97	5Y 6/2	2	D	M	GrL	
			10YR 5/6	1	C	M	GrL	dry

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

[3]Texture: Sa = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): na

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Redox concentrations were found in the depletions.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___	
Water Table Present?	Yes ___	No X	Depth (inches): ___	
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 18	

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

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

Project/Site: NE 135th Street City/County: Seattle/King Sampling Date: 4/28/2022
Applicant/Owner: SDOT State: WA Sampling Point: **WLA-SP2**
Investigator(s): Anna Hoenig, Aaron Thom Section, Township, Range: T26N R04E S21 SWNE
Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 3-5%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 47.726580 Long: -122.298328 Datum: NAD83
Soil Unit (Name-ID-Hydric Rating): Urban land-Alderwood complex, 0-5% slopes - 3064836 - Not Hydric NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation no, Soil no, or Hydrology no 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 **X**	No	**Is the Sampled Area within a Wetland?**	**Yes X** **No**
Hydric Soil Present?	Yes **X**	No		
Wetland Hydrology Present?	Yes **X**	No		

Precipitation:
According to the Sandpoint NOAA weather station, precipitation was within the normal range for the three months prior to the site visit.

Remarks:
WLA-SP2 is located on the slope of a swale leading down to to Ditch 1. A 24cm wide trench was observed in the middle of the swale. According to a conversation with a nearby resident, the trench had been intentionally dedged into the swale within the past month.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: r=3m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: r=2m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: r=1m)			
1. *Ranunculus repens*	80%	Yes	FAC
2. *Poa annua / Agrostis sp.**	30%	Yes	FAC*
3. *Holcus lanatus*	10%	No	FAC
4. *Taraxacum officinale*	5%	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	125% = Total Cover		
Woody Vine Stratum (Plot size: r=2m)			
1. *none*			
2.			
	0% = Total Cover		

% Bare Ground in Herb Stratum 0%

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation (Explain)[1]

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:
*mowed grass - no inflorescences present, likely Poa or Agrostis, presumed FAC.

SOIL

Sampling Point: WLA-SP2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/2	95	7.5YR 4/6	5	C	PL	GrSaL	
6-16	10YR 3/2	55					L	Mixed Matrix
6-16	2.5Y 6/2	35	7.5YR 4/6	10	C	M, PL	C	Mixed Matrix

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

[3]Texture: Sa = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): na

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___	
Water Table Present?	Yes X	No ___	Depth (inches): 12	
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 10	

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

(C3) observed in the top 6 inches at 5%

Attachment D

Rating Forms

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 4/28/2022

Rated by Anna Hoenig, Aaron Thom Trained by Ecology? ☑ Yes ☐ No Date of training Oct. 2015

HGM Class used for rating Depressional & Flats Wetland has multiple HGM classes? ☑ Yes ☐ No

NOTE: Form is not complete with out the figures requested (*figures can be combined*).
Source of base aerial photo/map _____

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

1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List appropriate rating (H, M, L)			
Site Potential	L	L	L	
Landscape Potential	M	H	L	
Value	L	L	M	**Total**
Score Based on Ratings	4	5	4	**13**

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	**X**

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetland in Western Washington

For questions 1 -7, the criteria described must apply to the entire unit being rated.
If hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1 - 7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☑ NO - go to 2 ☐ **YES** - the wetland class is **Tidal Fringe** - go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☐ **NO - Saltwater Tidal Fringe (Estuarine)** ☐ **YES - Freshwater Tidal Fringe**
*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

☑ NO - go to 3 ☐ **YES** - The wetland class is **Flats**
*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
- ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

☑ NO - go to 4 ☐ **YES** - The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
- ☑ The wetland is on a slope (*slope can be very gradual*),
- ☑ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
- ☐ The water leaves the wetland **without being impounded.**

☐ NO - go to 5 ☐ **YES** - The wetland class is **Slope**

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

5. Does the entire wetland unit **meet all** of the following criteria?
- ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
- ☐ The overbank flooding occurs at least once every 2 years.

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

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

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

☐ NO - go to 7 ☑ **YES** - The wetland class is **Depressional**

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

☐ NO - go to 8 ☐ **YES** - The wetland class is **Depressional**

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

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have ***more than 2 HGM classes*** *within a wetland boundary, classify the wetland as Depressional for the rating.*

NOTES and FIELD OBSERVATIONS:
Wetland A is located in a topographic valley with a stormwater ditch near its center. It contains both slope and depressional HGM classes, thus it was rated as a depressional wetland.

D3.1 and D3.2: Wetand A occurs in the 12 digit HUC of 303(d) waters, but according to City of Seattle Water and Sewer Maps water is contained in ditches and detention areas separate from 303(d) waters. Wetland A is not within the contributing basin of 303(d) waters.

D6.1: According to City of Seattle Water and Sewer Maps water leaving Wetland A does not reach areas that flood.

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

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

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

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

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

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

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

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

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

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

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

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

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

If the unit has a Forested class, check if:

- ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

1

H 1.2. Hydroperiods

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

- ☐ Permanently flooded or inundated
- ☑ Seasonally flooded or inundated
- ☐ Occasionally flooded or inundated
- ☑ Saturated only

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

- ☐ Permanently flowing stream or river in, or adjacent to, the wetland
- ☐ Seasonally flowing stream in, or adjacent to, the wetland
- ☐ **Lake Fringe wetland** **2 points**
- ☐ **Freshwater tidal wetland** **2 points**

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

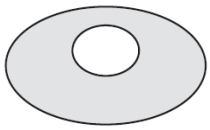
If you counted:
> 19 species points = 2
5 - 19 species points = 1
< 5 species points = 0

1

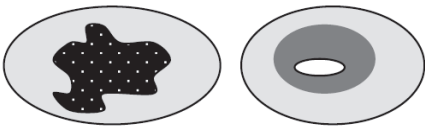
H 1.4. Interspersion of habitats

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

None = 0 points

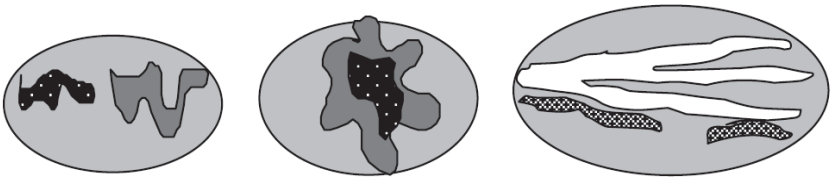


Low = 1 point



Moderate = 2 points

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



1

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long) ☐ Standing snags (dbh > 4 in) within the wetland ☐ Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (*cut shrubs or trees that have not yet weathered where wood is exposed*) ☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (*structures for egg-laying by amphibians*) ☑ Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	1
Total for H 1 — Add the points in the boxes above	**5**

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

H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* 0 % undisturbed habitat + (0 % moderate & low intensity land uses / 2) = 0% If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon — points = 3 20 - 33% of 1 km Polygon — points = 2 10 - 19% of 1 km Polygon — points = 1 < 10 % of 1 km Polygon — points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* 1 % undisturbed habitat + (5 % moderate & low intensity land uses / 2) = 3.5% Undisturbed habitat > 50% of Polygon — points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches — points = 2 Undisturbed habitat 10 - 50% and > 3 patches — points = 1 Undisturbed habitat < 10% of 1 km Polygon — points = 0	0
H 2.3 Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use — points = (-2) ≤ 50% of 1km Polygon is high intensity — points = 0	-2
Total for H 2 — Add the points in the boxes above	**-2**

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

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated*. Site meets ANY of the following criteria: — points = 2 ☐ It has 3 or more priority habitats within 100 m (see next page) ☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) ☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources ☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) with in 100m — points = 1 Site does not meet any of the criteria above — points = 0	1

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

WDFW Priority Habitats

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

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

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

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine Wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes - Go to **SC 1.1** ☑ No = **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☐ No - Go to **SC 1.2**	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina* , see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes - Go to **SC 2.2** ☑ No - Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☐ No = **Not WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes - **Contact WNHP/WDNR and to SC 2.4** ☑ No = **Not WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = **Category I** ☐ No = **Not WHCV**	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions*** *.* SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes - Go to **SC 3.3** ☑ No - Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes - Go to **SC 3.3** ☑ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No - Go to **SC 3.4** **NOTE**: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.

☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☑ No = **Not a forested wetland for this section**

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks

☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (*needs to be measured near the bottom*)

☐ Yes - Go to **SC 5.1** ☑ No = **Not a wetland in a coastal lagoon**

SC 5.1. Does the wetland meet all of the following three conditions?

☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).

☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.

☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐ Yes = **Category I** ☐ No = **Category II**

SC 6.0. Interdunal Wetlands

Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.***

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

☐ Yes - Go to **SC 6.1** ☑ No = **Not an interdunal wetland for rating**

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?

☐ Yes = **Category I** ☐ No - Go to **SC 6.2**

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐ Yes = **Category II** ☐ No - Go to **SC 6.3**

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐ Yes = **Category III** ☐ No = **Category IV**

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Date: 5/10/2022 Author: BrethKyl Path: U:\PSO\Projects\Clients\1550-CityOfSeattle\00RefData\553815508AX SDOT Env OnCallWA 03 SEPATask 1 - Wetland DelineationWBS (temp) - wetland delineation\GIS figures\WL RatingFigures.aprx

Source: Project Team, King County, Esri

Delineated wetland boundary

150-ft boundary

Cowardin Class

Palustrine emergent (PEM)

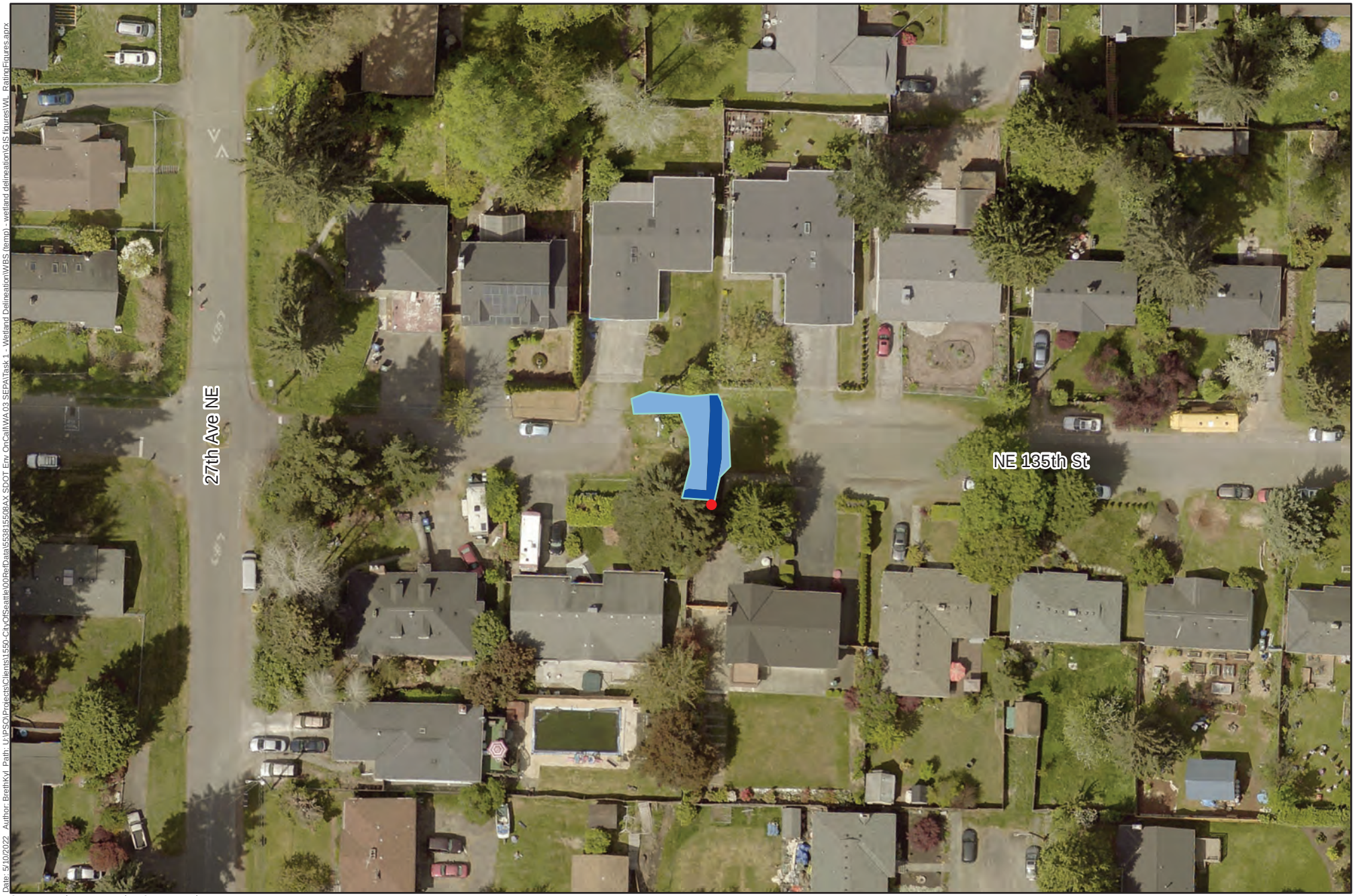
Aquatic bed (AB)

Wetland A Cowardin Classes

NE 135th Street Aquatic Resources Investigation

0 15 30 60 Feet

Seattle, WA



Date: 5/10/2022 Author: BrethKyl Path: U:\PSO\Projects\Clients\1550-CityOfSeattle\00RefData\553815508AX SDOT Env OnCallWA 03 SEPATask 1 - Wetland DelineationWBS (temp) - wetland delineation\GIS figures\WL_RatingFigures.aprx

Source: Project Team, King County, Esri

Delineated wetland boundary

Outlet

Hydroperiod

Saturated

Seasonally flooded

0 15 30 60 Feet

Wetland A Hydroperiods

NE 135th Street Aquatic Resources Investigation

Seattle, WA

Source: Project Team, King County, Esri

Date: 5/5/2022 Author: BrettKyl Path: U:\PSO\Projects\Clients\1550-CityOfSeattle\00RefData\5538115508AX SDOT Env OnCallWA 03 SEPATask 1 - Wetland Delineation\WBS (temp) - wetland delineation\GIS figures\WL_RatingFigures.aprx

Contributing Basin

Wetland A area

Study area

0 100 200 400 Feet

Wetland A Contributing Basin

NE 135th Street Aquatic Resources Investigation

Seattle, WA

Wetland A area
Wetland buffer (1km)
Accessible habitat
Study area

Land use intensity
High
Low/moderate
Undisturbed

0 375 750 1,500 Feet

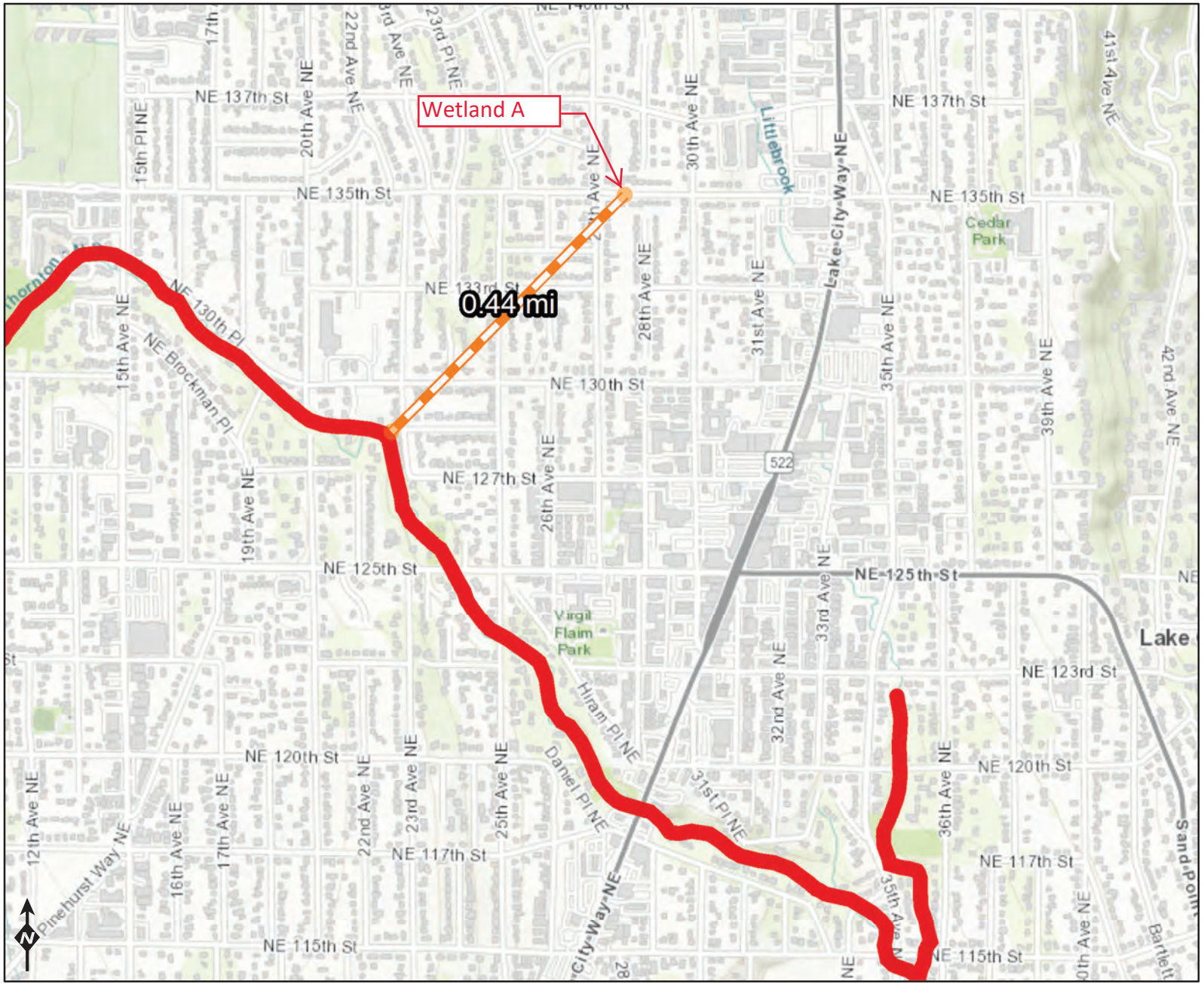
Wetland A Land Use Intensity

NE 135th Street Aquatic Resources Investigation

Seattle, WA

May 4, 2022

303d Waters Present but outside of Ditch Flow



Assessed Water/Sediment

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

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

Subbasins (8 digit HUCs)
- HUC boundary

Subbasins (10 digit HUCs)
- HUC boundary

Subbasins (12 digit HUCs)
- HUC boundary

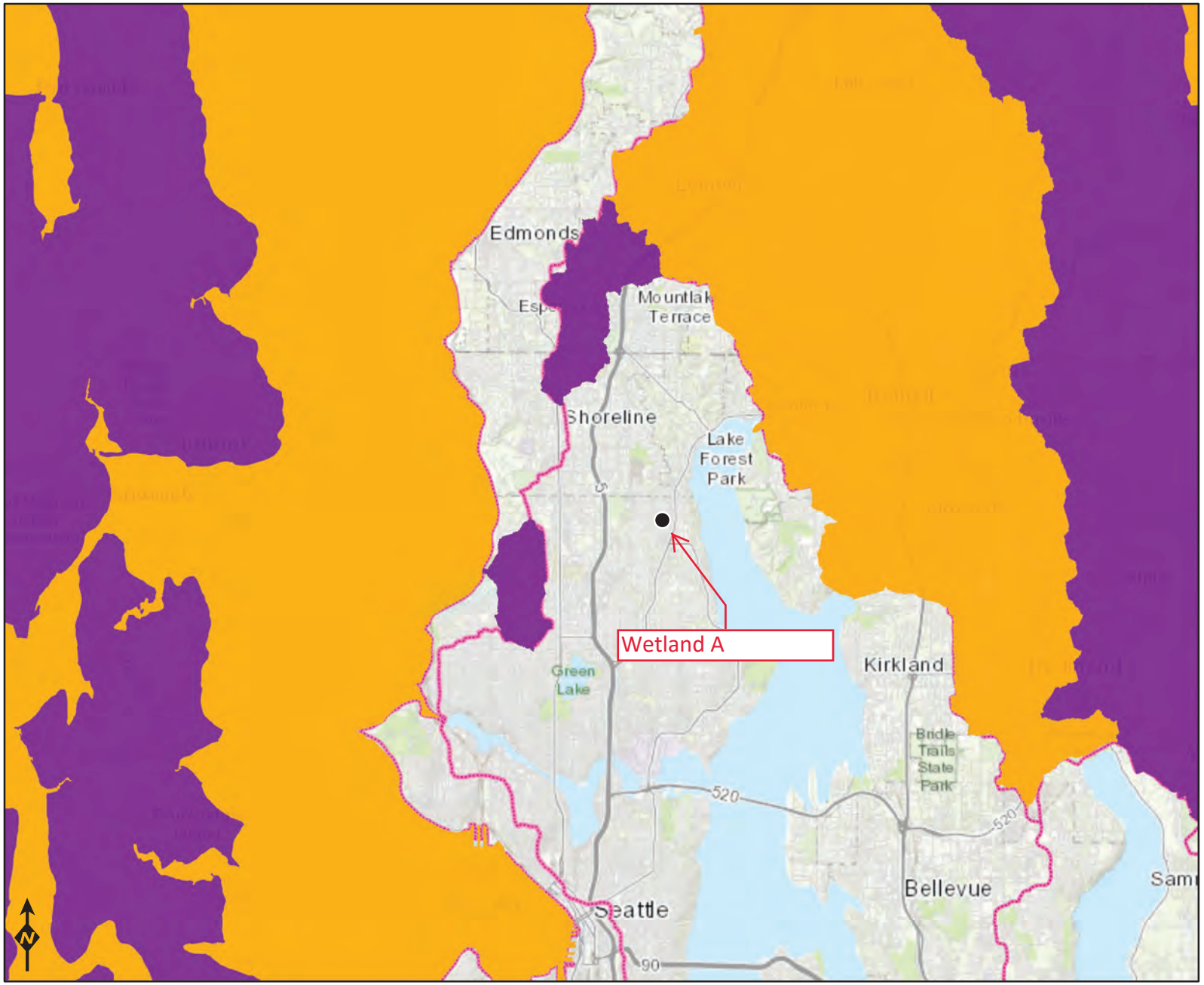
Miles
0 0.125 0.25 0.5

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and

DEPARTMENT OF ECOLOGY
State of Washington

May 4, 2022

TMDL



WQ Improvement Projects
- Approved
- In Development

Subbasins (8 digit HUCs)
- HUC boundary

Subbasins (10 digit HUCs)
- HUC boundary

Subbasins (12 digit HUCs)
- HUC boundary

Miles
0 2 4 8

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and

DEPARTMENT OF ECOLOGY
State of Washington