Wetland and Stream Delineation Report

AVO-13 FDR TW Recond 1600
King County, Washington

for
Puget Sound Energy

May 20, 2025

1101 Fawcett Avenue, Suite 200
Tacoma, Washington 98402
253.383.4940

GeoEngineers

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AVO-13 FDR TW Recond 1600
King County, Washington

File No. 9186-184-00 Task 2025
May 20, 2025

Puget Sound Energy
6500 Ursula Place S.
Seattle, Washington 98108
206.716.2614

Attention: Joe Pignatelli, Municipal Land Planner

Prepared by:

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1.0 Introduction

GeoEngineers, Inc. (GeoEngineers) was contracted by Puget Sound Energy (PSE) to perform wetland and stream delineation services for the AVO-13 FDR TW Recond 1600 project (project) that is located on a portion of a PSE owned parcel at 12011 Avondale Road NE in King County, Washington (Figure 1, Vicinity Map). The project is a maintenance project that includes replacing poles, installing vaults and installing conduit along the project alignment. The conduit will be installed using horizontal directional drilling (HDD); a total of four bore holes are needed to facilitate the HDD between Avondale Road and 184th Avenue NE. For additional project information, see Appendix A, PSE Project Drawings. This report has been prepared to provide baseline wetland and stream information on the project site in accordance with King County Code (KCC), Chapter 21A.24 (Critical Areas).

1.1 PROJECT LOCATION AND SITE DESCRIPTION

The project investigation area is located between Avondale Road NE and 184th Avenue NE, north of NE 116th Street on a PSE owned parcel in King County, Washington (Figure 1). The project is located in Section 30 of Township 26 North, Range 06 East of the Willamette Meridian (W.M.).

The PSE owned parcel is approximately 8.7 acres in size and mostly undeveloped with a substation, associated driveway and fencing located on the east side of the parcel. The investigation area is located on a portion of the parcel, approximately 0.17 miles long, that extends from the substation towards 184th Avenue NE along the south property line. The investigation area is situated in an area with single-family residential development, industrial development, agricultural fields and undeveloped areas. The developed area contains buildings, driveways and landscape areas. The undeveloped areas, within the project vicinity, are dominated by black cottonwood (*Populus balsamifera*), Douglas fir (*Pseudotsuga menziesii*) and red alder *(Alnus rubra*). The understory contains a mix of shrubs and herbaceous vegetation that includes, but is not limited to, Creeping buttercup (*Ranunculus repens*), Himalayan blackberry (*Rubus armeniacus*), cut leaf blackberry (*Rubus laciniatus*) and bracken fern (*Pteridium aquilinum*). Appendix B, Background Data and Maps and Figure 2, Wetland Delineation Map contain aerial background imagery that can be reviewed for more information.

2.0 Wetland and Stream Delineation

2.1 DATA REVIEW

Environmental maps of the project site were collected and reviewed as part of a paper inventory.

2.1.1 Mapped Soils

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey indicates two soil types within the project area (USDA-NRCS 2025a). The two soil types are listed on the Hydric Soils List (USDA-NRCS 2025b). Table 1 lists the soil types found in the project area and if it is listed on the USDA hydric soils list. The USDA Soil Map is provided in Appendix B.

TABLE 1. SUMMARY OF SOIL TYPES WITHIN THE ASSESSMENT AREA

SOIL TYPE NAME	LISTED ON HYDRIC SOILS LIST
Kitsap silt loam, 2 to 8 percent slopes	Yes
Alderwood gravelly sandy loam, 8 to 15 percent slopes	Yes

2.1.2 Mapped Wetlands

The United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) online mapper (USFWS 2025) and King County iMap (King County 2025) were reviewed for the presence of wetlands in the project area. NWI displays one palustrine forested, scrub-shrub and emergent wetland east of 184th Avenue NE near our investigation area. King County iMap displays one wetland near the project investigation area and several others more than 300 feet from the investigation area. The Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) online map (WDFW 2025), shows one wetland in the same location as NWI. The NWI, King County iMap and PHS maps are included in Appendix B.

2.1.3 Mapped Streams

Additional information was obtained from the Washington State Department of Natural Resources (DNR) Forest Practices Application Mapping Tool (FPAMT), King County iMap and the Northwest Indian Fisheries Commission (NWIFC) and WDFW Statewide Washington Integrated Fish Distribution (SWIFD) mapping application (DNR 2025, King County 2025, NWIFC-WDFW 2025). These sources do not depict any streams within 200 feet of the project alignment. King County iMap, DNR FPAMT and WDFW SWIFD maps are included in Appendix B.

2.2 FIELD INVESTIGATION

GeoEngineers' biologists conducted a field assessment on June 12, 2024, to characterize and delineate wetland and stream features along the project alignment within the investigation area (Figure 2), and to make observations of off-site adjacent critical area features that may be affected by the project. One wetland (Wetland A) was identified and delineated during the field investigation. No streams were identified within the project alignment. A photographic record was collected during the field visit to document existing site conditions. Representative photos have been included in Appendix C, Site Photographs.

The delineation of the wetland was conducted in accordance with guidelines presented in KCC Chapter 19.200.220, using the *U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: *Western Mountains, Valleys, and Coast Region* (USACE 2010). Typically, the ordinary high water mark (OHWM) of streams are evaluated and delineated by examining breaks in the topography, drift lines, shifts in vegetation and signs of watermarks on the banks, according to USACE protocol as referenced from Regulatory Guidance Letter (No. 05-05), Ordinary High-Water Mark Identification, December 7, 2005 (Riley 2005). The Washington Administrative Code (WAC) was also referenced for the definition of OHWM (WAC 173-22-030) (WAC 2007). However, as stated above, no streams were identified within 300 feet of the investigation area.

GeoEngineers hung flags along the wetland boundaries and took points at the flag locations using a submeter accurate geographic positioning system (GPS). To make wetland identifications, three formal

data sample plots were established, and several informal soil pit examinations were conducted. Appendix D, Sample Plot Data Sheets, contain the data forms.

The wetland was rated according to KCC Chapter 21A.24.318 (Wetlands - identification of and delineation of boundaries). The code requires the *2014 Washington State Department of Ecology (Ecology) Washington State Wetland Rating System for Western Washington* (Hruby 2014) to be used to rate wetland. However, Ecology has updated the rating system manual (Hruby and Yahnke 2023) to add clarification but does not change the underlying model of the rating system (Ecology 2023); therefore, the updated system was used to rate the wetland. The wetland rating form is included in Appendix E, Wetland Rating Form. Wetland buffer widths were identified according to KCC 21A.24.325 (Wetlands - buffers).

Table 2 summarizes information regarding the wetland features identified within the area of investigation.

TABLE 2. WETLAND SUMMARY

CRITICAL AREA NAME	OBSERVED CHARACTERISTICS	WETLAND CATEGORY[1]	BUFFER (FEET)[2]	FIGURE NUMBER
Wetland A	Wetland A is a depressional wetland located near the project alignment. The wetland extends north from near the south parcel line of the PSE owned parcel. Wetland hydrology appears to be from the offsite stream, high groundwater table, stormwater runoff and precipitation. It is a forested and emergent system with areas of aquatic bed. For more information see Appendix E.	II	110	2

Notes:

1. Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby and Yahnke 2023).
2. Wetland buffer based on KCC 21A.24.325 along with habitat score land intensity use adjustments. Land use is assumed to be moderate intensity. The final buffer width is subject to approval by the jurisdictional authority.

3.0 Project Impacts Analysis

This project is a routine maintenance and repair project that avoids and minimizes impacts where possible. Due to the location of Wetland A relative to existing PSE facilities and structures, all project work cannot be conducted outside of critical areas. The project has minimized impacts where possible and as a result moved bore holes, so they are located within the buffer of Wetland A only. There are no direct wetland impacts associated with the project. The bore holes will be installed in wetland buffer and previously disturbed areas located within and adjacent to mowed agricultural fields. The PSE drawings (Appendix A) were utilized to identify potential project impacts to critical areas and their associated buffers. The portion of the buffer overlaying the substation has been identified to be non-functioning buffer as it is a developed area and not a contiguous integral part of the wetland (KCC 21A.06.122). The poles to be replaced and the new vaults to be installed are located outside the wetland and wetland buffer; therefore, no impacts to wetlands are associated with this work. Also, there will be no impacts associated with installing or connecting the conductor wire because HDD will be used for the installation. There will be no vegetation removal associated with conduit installation.

3.1 BORE HOLES

The project actions include installing four bore holes within the investigation area. Each bore hole will be approximately 3 feet wide by 15 feet long (45 square feet). These impacts are expected to be temporary because the holes are located within grassy and herbaceous areas with some invasive Himalayan blackberry. Areas impacted are expected to be restored to as close as possible pre-project conditions within 1 year of disturbance and no tree or shrub vegetation will be removed as part of the bore hole construction.

The bore holes listed in Table 3 below will be installed within wetland buffer habitat. These impacts are considered self-mitigating because once the project is complete the area will be restored to its original condition within 1 year.

TABLE 3. BORE HOLE IMPACTS IN CRITICAL AREAS

BORE PIT IDENTIFIER	CRITICAL AREA NAME	TEMPORARY IMPACT (SQUARE FEET)	RESTORATION AREA (SQUARE FEET)
BP1	Wetland A buffer	24	24
BP2	Wetland A buffer	45	45
BP3	Wetland A buffer	45	45
BP4	Wetland A buffer	45	45
	Totals	**159**	**159**

4.0 Summary

GeoEngineers performed a wetland and stream delineation for the project within the investigation area that extends from the existing substation to 184th Avenue NE along the south PSE owned parcel. One wetland (Wetland A) was identified. Wetland A is a category II wetland that will require a 110-foot buffer.

Temporary buffer impacts will occur due to four bore holes (BP1 through BP4) that are located within wetland buffer habitat, but the habitat will be restored to pre-disturbance conditions within 1-year. There will be no direct impacts to the wetland. This project is a routine maintenance and repair project and there will be no long-term impacts to the project areas once construction areas are restored.

5.0 Limitations

GeoEngineers has prepared this Wetland and Stream Delineation Report in general accordance with the scope and limitations of our proposal. Within the limitations of scope, schedule and budget, our services have been executed in accordance with the generally accepted practices for wetland and stream delineation in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

This report has been prepared for the exclusive use of Puget Sound Energy, authorized agents and regulatory agencies following the described methods and information available at the time of the work. No other party may rely on the product of our services unless we agree in advance to such reliance in writing.

The information contained herein should not be applied for any purpose or project except the one originally contemplated.

The applicant is advised to contact all appropriate regulatory agencies (local, state and federal) prior to design or construction of any development to obtain necessary permits and approvals.

6.0 References

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

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

Hruby, T. and Yahnke, A. 2023. Washington State Wetland Rating System for Western Washington: 2014 Update (Version 2). (Publication #23-06-009). Olympia, WA: Washington Department of Ecology.

King County Code (KCC). Chapter 21A.24 (Critical Areas). Available at: https://kingcounty.gov/en/dept/council/governance-leadership/county-legislation-codes/king-county-code

King County. 2025 King County iMap. Available at: https://gismaps.kingcounty.gov/iMap/

Northwest Indian Fisheries Commission and Washington Department of Fish and Wildlife (NWIFC-WDFW). 2022. Statewide Washington Integrated Fish Distribution. Available at: https://geo.nwifc.org/swifd/

Riley, Don T. 2005. Ordinary High Water Mark Identification. United States Army Corps of Engineers (USACE), Regulatory Guidance Letter, No. 05-05.

United States Army Corps of Engineers (USACE). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, ed. J.S. Wakeley, R. W. Lichvar, and C.V. Noble. ERDC/EL TR-10-3. U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi.

United States Department of Agriculture – National Resource Conservation Service (USDA-NRCS). 2025a. Web Soil Survey. Available at: http://websoilsurvey.nrcs.usda.gov/app/.

United States Department of Agriculture – National Resource Conservation Service (USDA-NRCS). 2025b. National Hydric Soils List by State. Available at: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

United States Fish and Wildlife Service (USFWS). 2025. National Wetlands Inventory. Available at: http://www.fws.gov/wetlands/Data/mapper.html

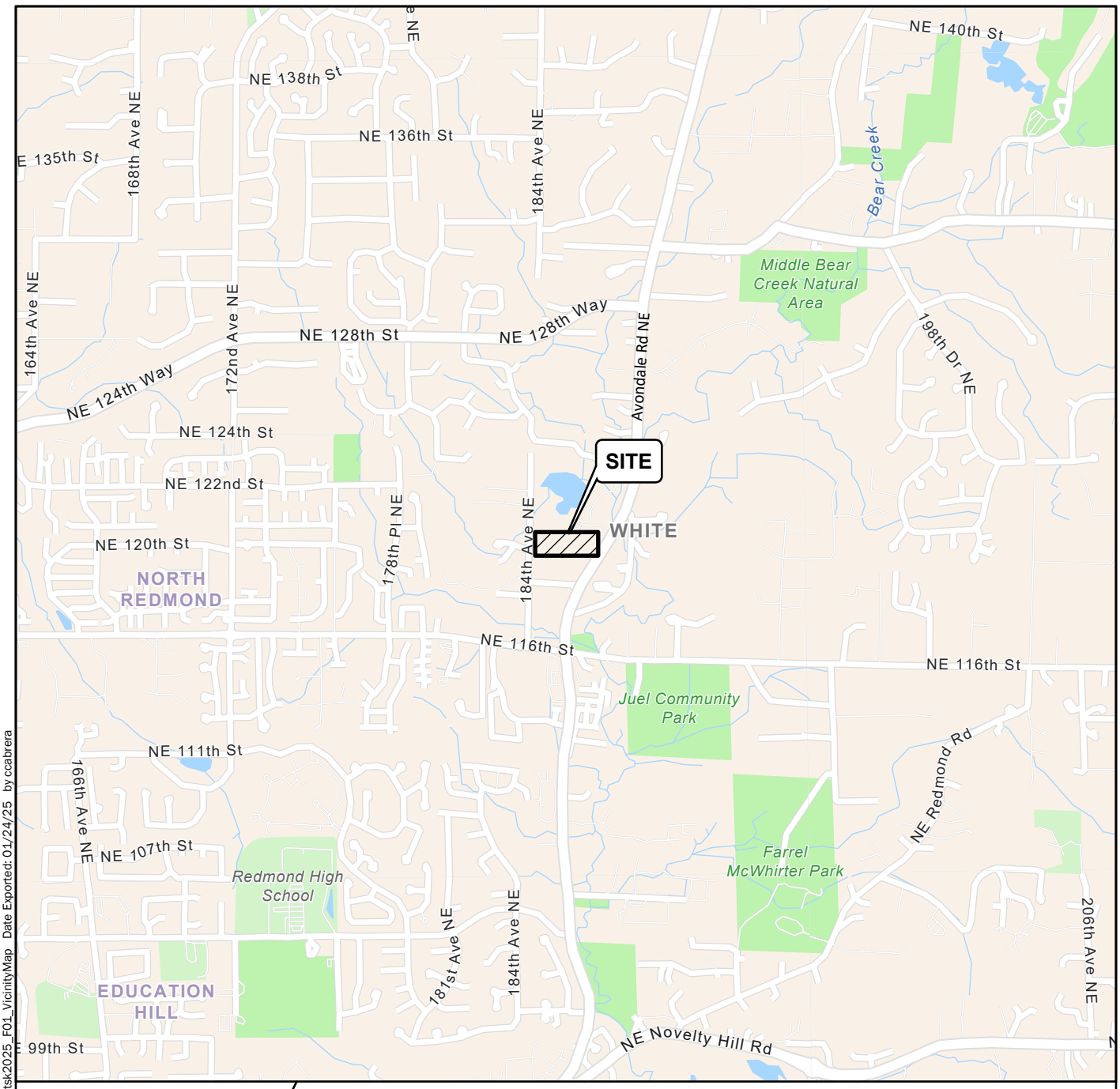
Washington Administrative Code. 2007. WAC 173-22-030. Definitions. Available at: http://apps.leg.wa.gov/WAC/default.aspx?cite=173-22-030.

Washington Department of Fish and Wildlife (WDFW). 2025. Priority Habitat and Species Application. Available online at: http://apps.wdfw.wa.gov/phsontheweb/

Washington State Department of Ecology (Ecology). 2023. Wetland Rating System. Available at: https://ecology.wa.gov/Water-Shorelines/Wetlands/Tools-resources/Rating-systems.

Washington State Department of Natural Resources (DNR). 2025. Forest Practices Application Review System (FPARS) Mapping Application. Available at: https://fpamt.dnr.wa.gov/default.aspx

Figures



P:\9_9186184\GIS\9186184_2024_Q2\9186184_2024_Q2.aprx\9186184001tsk2025_F01_VicinityMap Date Exported: 01/24/25 by ccabrera

Source(s):
- ESRI

Coordinate System: NAD 1983 UTM Zone 10N

Vicinity Map

AVO-13 FDR TW Recond 1600
King County, Washington

GeoEngineers

Figure 1

Legend

- Delineated Wetland Boundary
- Estimated Wetland Boundary
- Wetland Buffer
- Bore Pit and Vault
- King County parcels

N

0 100

Feet

Source(s):
- King County GIS

Coordinate System: NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet

Disclaimer: This figure was created for a specific purpose and project. Any use of this figure for any other project or purpose shall be at the user's sole risk and without liability to GeoEngineers. The locations of features shown may be approximate. GeoEngineers makes no warranty or representation as to the accuracy, completeness, or suitability of the figure, or data contained therein. The file containing this figure is a copy of a master document, the original of which is retained by GeoEngineers and is the official document of record.

Wetland Delineation Map

AVO-13 FDR TW Recond 1600
King County, Washington

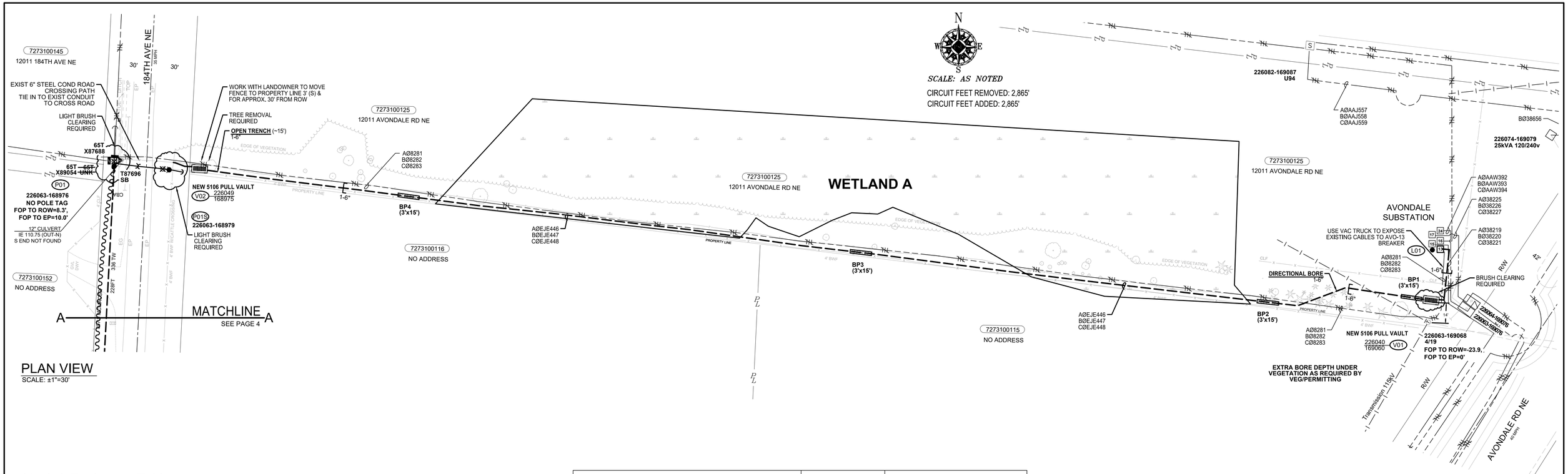
GeoEngineers

Figure 2

P:\9 9186184\GIS\9186184_2024_Q2\9186184_2024_Q2.aprx\9186184Otsk2025_F02_WetlandDelineationMap Date Exported: 04/25/25 by ccabrera

Appendices

Appendix A
PSE Project Drawings



PLAN VIEW
SCALE: ±1"=30'

N
W E
S

SCALE: AS NOTED

CIRCUIT FEET REMOVED: 2,865'
CIRCUIT FEET ADDED: 2,865'

Vault & Equipment Table

Site	Grid Number	Vault Size & Cover	Type & Size Equipment In Vault	Primary Bushings LB	Primary Bushings DC	Transformer ID Numbers (Company ID)	ASBUILT INFORMATION Foreman-Complete (Include Transformer Phase Tapped and Test Secondary Voltage)
NEW V01	226040 169060	HH Fdr Spl 5x11x5 w/Adj PC H20 Matid: 7906630	3-750KCMIL SPLICES Matid: 7666050	-	-		INSTALL NEW 5106 PULL VAULT (SHORT) & SPLICES INSTALL NEW GRID NUMBER (CAP ALL EMPTY CONDUIT)
NEW V02	226049 168975	HH Fdr Spl 5x11x5 w/Adj PC H20 Matid: 7906630	3-750KCMIL SPLICES Matid: 7666050	-	-		INSTALL NEW 5106 PULL VAULT (SHORT) & SPLICES INSTALL NEW GRID NUMBER (CAP ALL EMPTY CONDUIT)

SITE SPECIFIC NOTES:

L01:
LOCATION 1 AT AVONDALE SUBSTATION CIRCUIT 13 BREAKER
CREW TO VERIFY DIRECT BURY PATH INSIDE SUBSTATION AND AT P01 USING VAC-TRUCK TO EXPOSE CABLING BORE FROM V01-V02: CUT AND ABANDON DIRECT BURIED CABLES

V01: NEW 226040-169060

INST HH FDR SPL PULL VAULT	(6051.2000, SVT5ADJ)	2-60A
- PLACE 14' (N) OF TRANSM POLE 226063-169068; PLACE 1 RUN OF 6" CONDUIT		2-59 x 2
INST 4/0 NEUTR CABLE FROM BREAKER TO V01 PER 6275.3000	(8482200)	

V02: NEW 226049-168975

INST HH FDR SPL PULL VAULT	(6051.2000, SVT5ADJ)	2-60A
- PLACE 40' (W) OF TRANSM POLE 226063-169068; PLACE 1 RUN OF 6" CONDUIT		2-59 x 2

P01: 226063-168976 (40', CL-UNK, YR-UNK; AVG 265')
LIGHT BRUSH CLEARING REQUIRED

REPL EXIST w NEW 45' CL-1 POLE; INST 3' (S); MIN 10' FROM EOP	(6010.1000, PD541)	**2-69**
INST 3PH TAN DE 1/0 AND LARGER (S)	(6033.1042, DE3310)	
INST 12KV FEEDER TERM DEADEND ALTERNATE; FIG 6	(6043.1020, TSU3DF1A)	**2-58**
- INST SW BD # T87696		
INST 1PH TAN TAP (N); TAP B PH	(6022.1000, DLS115F)	**2-71C**
- INST LI CO; FUSE @ 65T		
- INST SW BD # **X87688**		
INST LI CO; FUSE @ 65T (W);TAP B PH FDR LINE;INST SW BD # X89054	(6022.1000, DLS115F)	**2-71N**
XFER SNGL PH ARM MOUNT LAT TAP (W)		
INST BRACKETS & 1-6" CONDUIT	(6042.1000, RIS6CSS)	**2-44**
REATTACH PRIM & NEUTR DGUYS TO EXIST ANCH (N)		
INST PRI & NEUTR OH SPAN GUYS TO P01S (36')	(6013.0170, GYD7OW, GYD3OW)	
INST GRID #		
TOP POLE 1' ABOVE COMMS; REMV AFTER COMMS XFER		**2-129**

P01S: 226063-168979
LIGHT BRUSH CLEARING REQUIRED

REPL EXIST w NEW 35' CL-3; INST 4' (E)	(6010.1100, PS353)	**2-69**
- FOP MUST BE 10' FROM EOP		
INST 7/16" & 3/8" PRI NEUTR D GUYS	(6013.0100, GYD7SA, GYD3SAN)	
INST SNGL HELIX ANCHOR BEHIND FENCE; LL = 10'	(6012.1000, ANDH1)	
INST GRID #		

POLE RETIREMENT TABLE

SITE #	POLE DATA GRID #	HEIGHT	CLASS	YEAR	POLE TOPPED	POLE RMVD	TEMP TRANSFERS TEL	TV	FIBER	ST. LIGHT TRANSFERS TRAN	RMVD	ID NUMBER
P01	226063-168976	40	unk	1972	☐	☐	☐	☐	☐	☐	☐	
P01S	226063-168979	30	unk	1959	☐	☐	☐	☐	☐	☐	☐	

POLE TABLE (NEW)

Site #	Pole Data Grid #	Height	Class	Year	Remarks / Location Ref.
P01	226063-168976	45	1		PSE Equip #
P01S	226063-168979	35	3		PSE Equip #

12 kV Feeder Pulling and Straight Splicing Vaults **6051.2000**

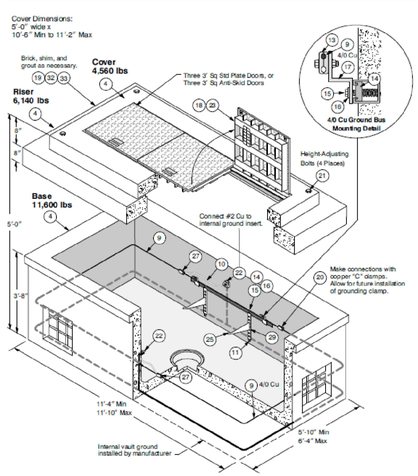


Figure 6 5106 Short Vault with Adjustable Height Cover (Incidental Traffic or Aggressive Traction Pedestrian Traffic)

600 A Terminal Poles **6043.1020**

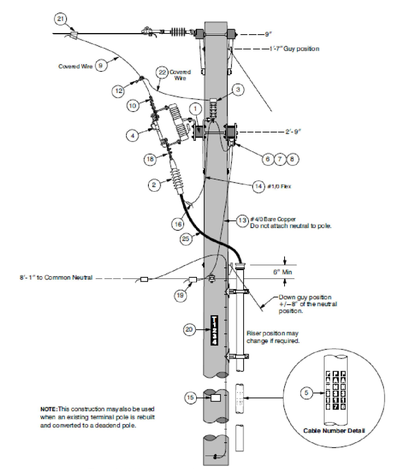
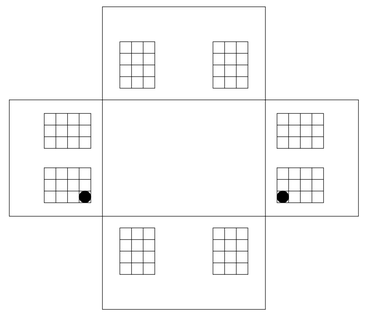


Figure 6 12 kV, three-phase feeder terminations, deadend, alternate



BUTTERFLY LAYOUT PULL/SPLICE VAULT
NOT TO SCALE
(V01, V02)

101134559 - R3

REV#	DATE	BY	DESCRIPTION
3	11/12/24	HERRERA	P07 REMAINS & P07S ANCHOR SHIFT
2	8/7/2024	HERRERA	BORE PIT SHIFT & P09 ADDED
1	3/8/2024	G.HERRERA-J	REVISED LAYOUT

COUNTY	Emer Sect	Gas Wk Ctr	POWER WK CTR
KING	N/A	N/A	QCNOKE
1/4 SEC SE 25-26-05 SW 30-26-06 NE 36-26-05	OP MAP N/A		PLAT MAP N/A
U-MAP NO (POWER) 2605E100,141, 2606E119	OH CKT MAP 2605E144,2606E124	UG CKT MAP Same as U-maps	CIRCUIT NO AVO-13

REAL ESTATE/EASEMENT N/A		PERMIT KING COUNTY	
FUNCTION	CONTACT	PHONE NO	DATE
PROJECT MGR	JOSH LEGG	(208) 484-4233	
ENGR - POWER	G. HERRERA-J	425-429-5789	
ENGR - GAS	N/A	N/A	N/A
DRAWN BY	C.BORGEN	253-234-6484	2/22/2023
CHECKED BY			
APPROVED BY	Andrea Crawford	425.559.5712	11/20/2024
FOREMAN #1			
FOREMAN #2			
MAPPING			

JOINT FACILITIES ARRANGEMENTS				
UTILITIES	N/A	N/A	N/A	N/A
CONTACT	N/A	N/A	N/A	N/A
PHONE#	N/A	N/A	N/A	N/A

PUGET SOUND ENERGY
DESIGNED by PSE

AVO-13 FDR TW RECOND 1600'
OH System Rel Upg r- Tree Wire - Dist
12011 184th Ave NE, Redmond, WA 98052

INCIDENT N/A	MAOP N/A
Gas Order N/A	Elect Order 101134559
SCALE AS NOTED	PAGE 3/7

Appendix B
Background Data and Maps

Map Scale: 1:1,710 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

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 1:24,000.

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: King County Area, Washington
Survey Area Data: Version 20, Aug 27, 2024

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

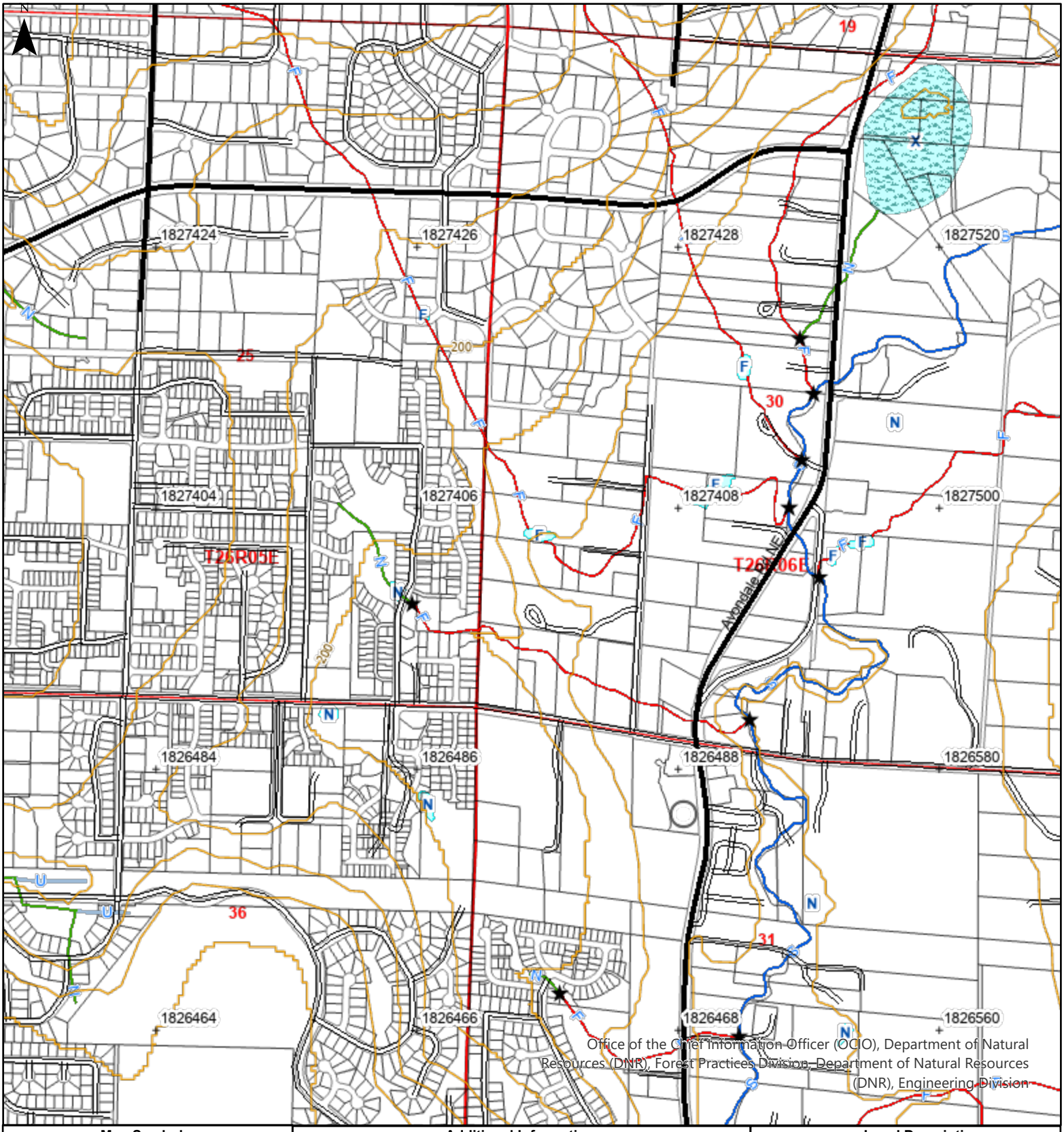
Date(s) aerial images were photographed: Mar 1, 2023—Sep 1, 2023

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
AgC	Alderwood gravelly sandy loam, 8 to 15 percent slopes	0.9	20.7%
KpB	Kitsap silt loam, 2 to 8 percent slopes	3.4	79.3%
Totals for Area of Interest		**4.3**	**100.0%**

Forest Practices Activity Map - Application #_____



Office of the Chief Information Officer (OCIO), Department of Natural Resources (DNR), Forest Practices Division, Department of Natural Resources (DNR), Engineering Division

Map Symbols

- Harvest Boundary
- Road Construction
- Stream
- RMZ / WMZ Buffers
- Rock Pit
- Landing
- Waste Area
- Clumped WRTS/GRTS
- Existing Structure

Additional Information

Legal Description

S19 T26.0N R06.0E, S30 T26.0N R06.0E, S31 T26.0N R06.0E, S24 T26.0N R05.0E, S25 T26.0N R05.0E, S36 T26.0N R05.0E

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

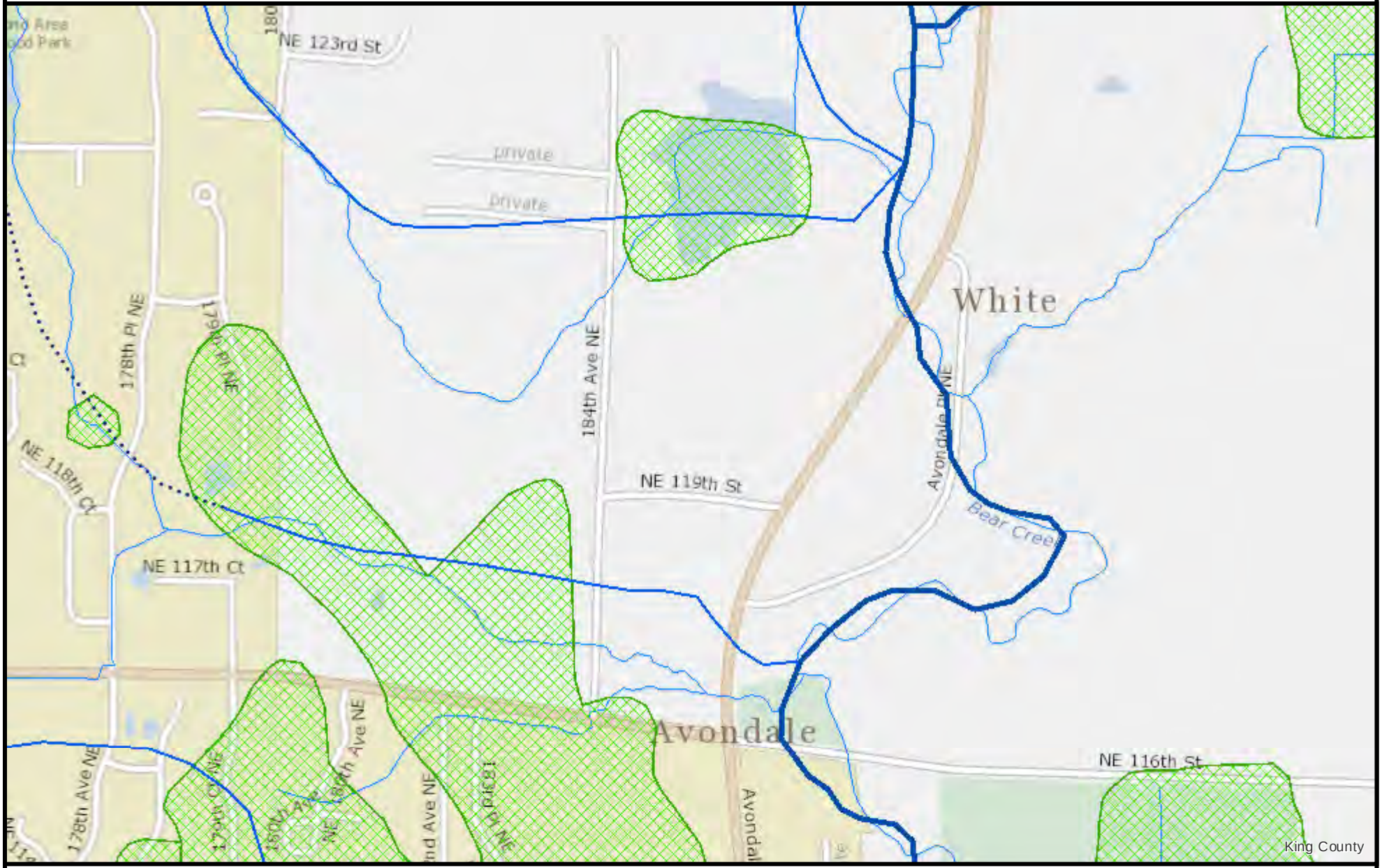
Extreme care was used during the compilation of this map to ensure its accuracy. However, due to changes in data and the need to rely on outside information, the Department of Natural Resources cannot accept responsibility for errors or omissions, and therefore, there are no warranties that accompany this material.

Approximate Scale : 1:12,000

0 500 1,000 2,000 Feet

Date: 6/6/2024 Time: 10:09 AM

King County iMap



Date: 6/7/2024 Notes:

N

King County

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands

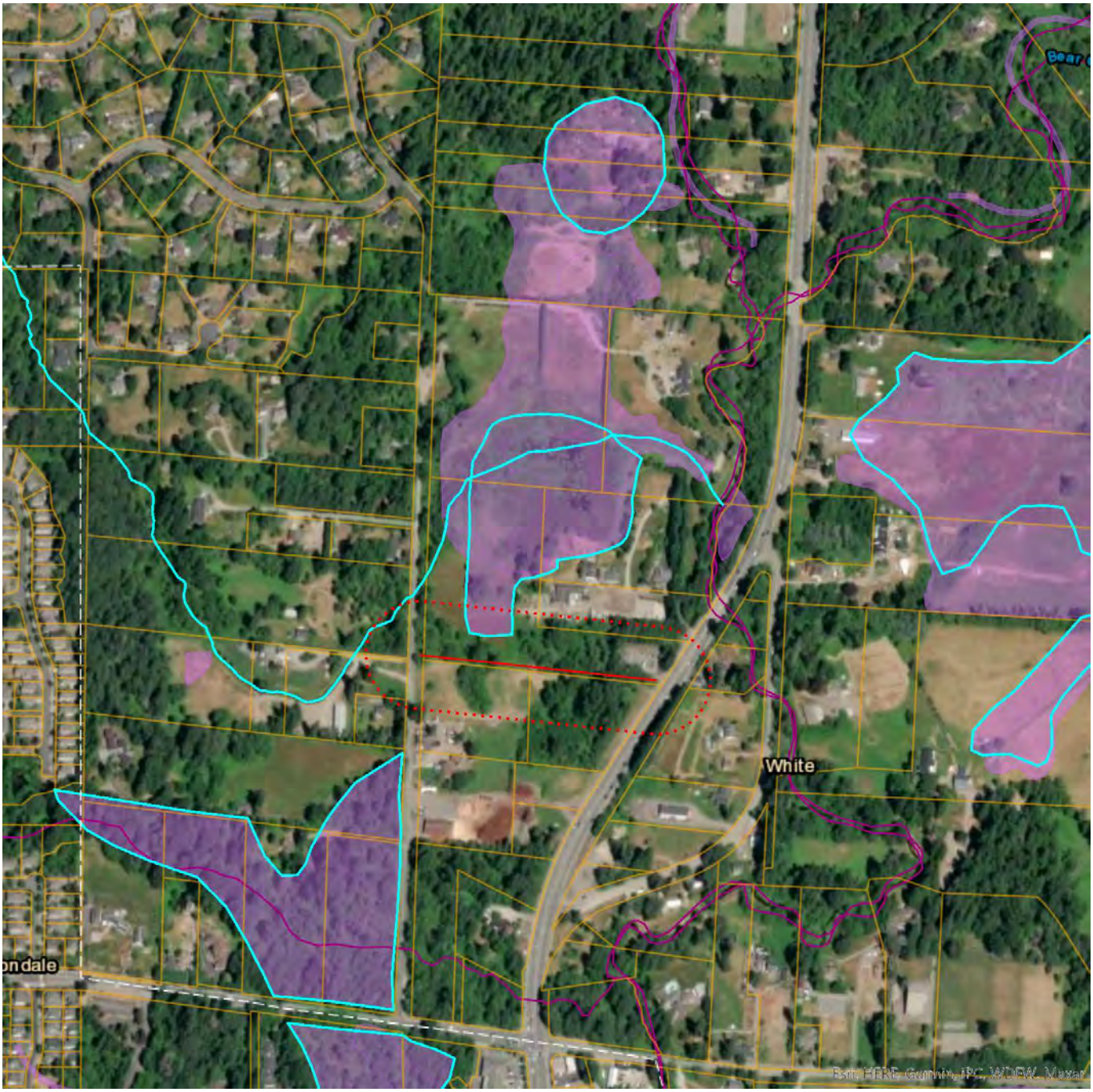
January 29, 2025

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Priority Habitats and Species on the Web



Buffer radius: 200 Feet

Report Date: 01/29/2025

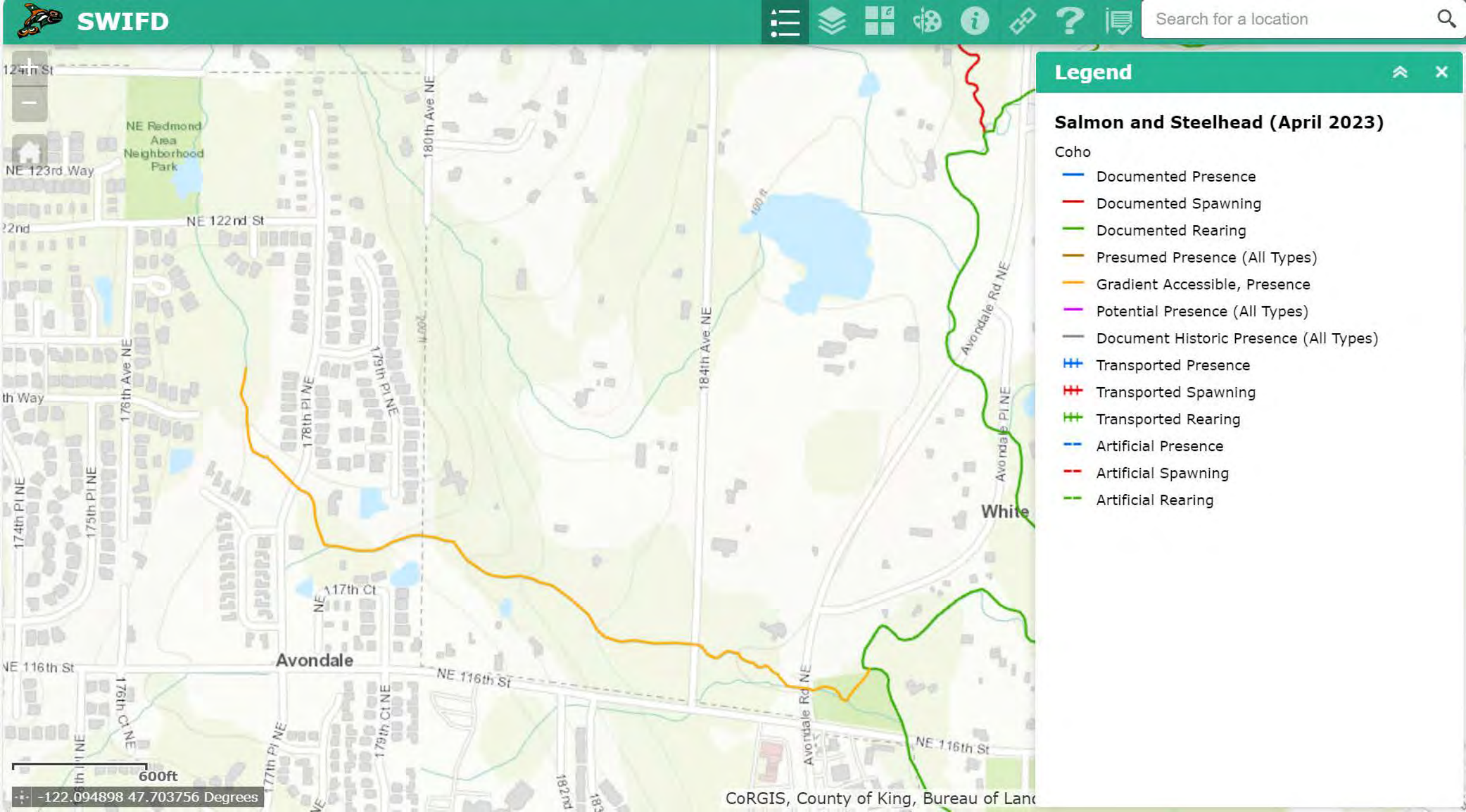
PHS Species/Habitats Overview:

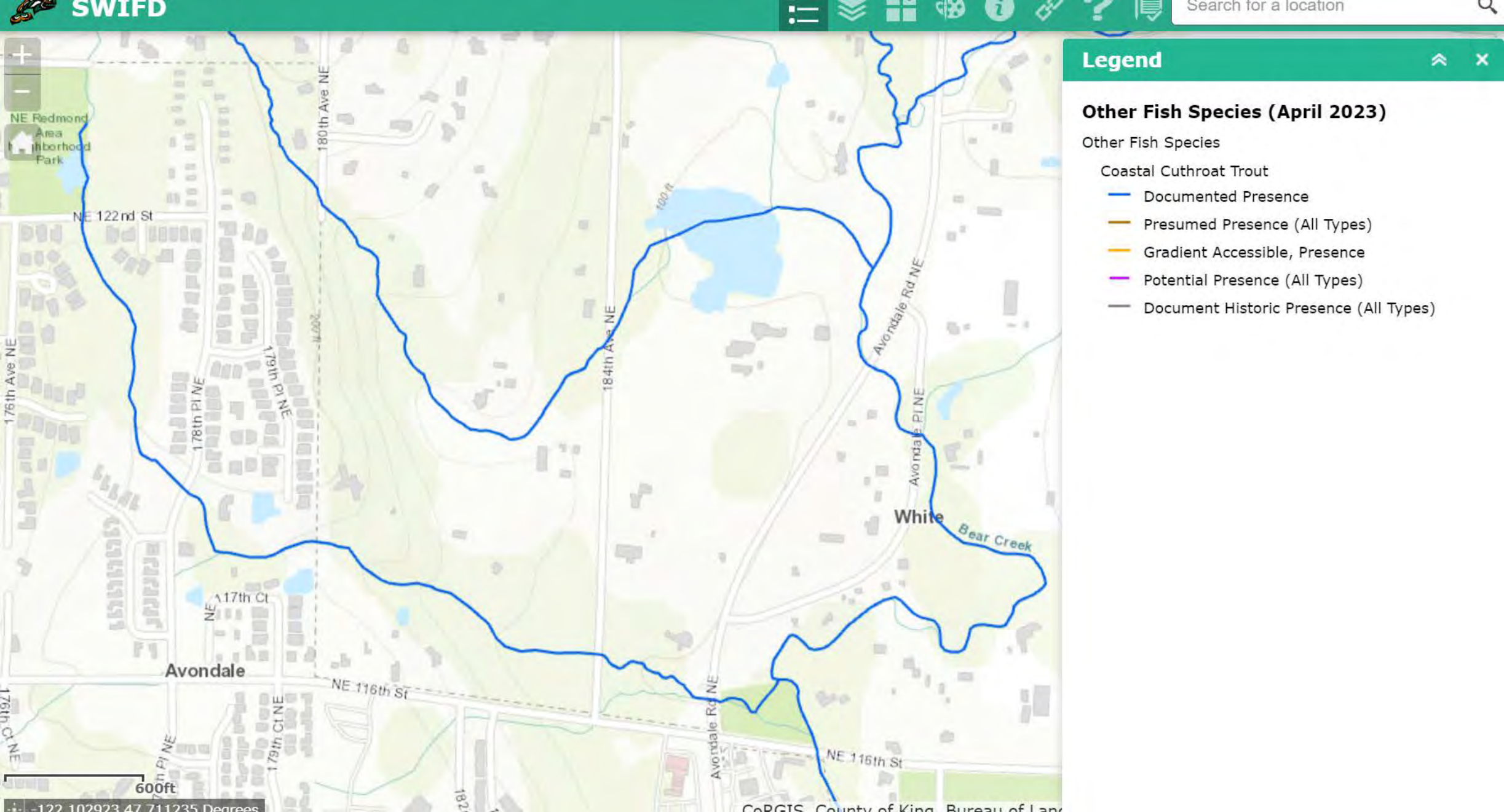
Occurence Name	Federal Status	State Status	Sensitive Location
Resident Coastal Cutthroat	N/A	N/A	No
Wetlands	N/A	N/A	No

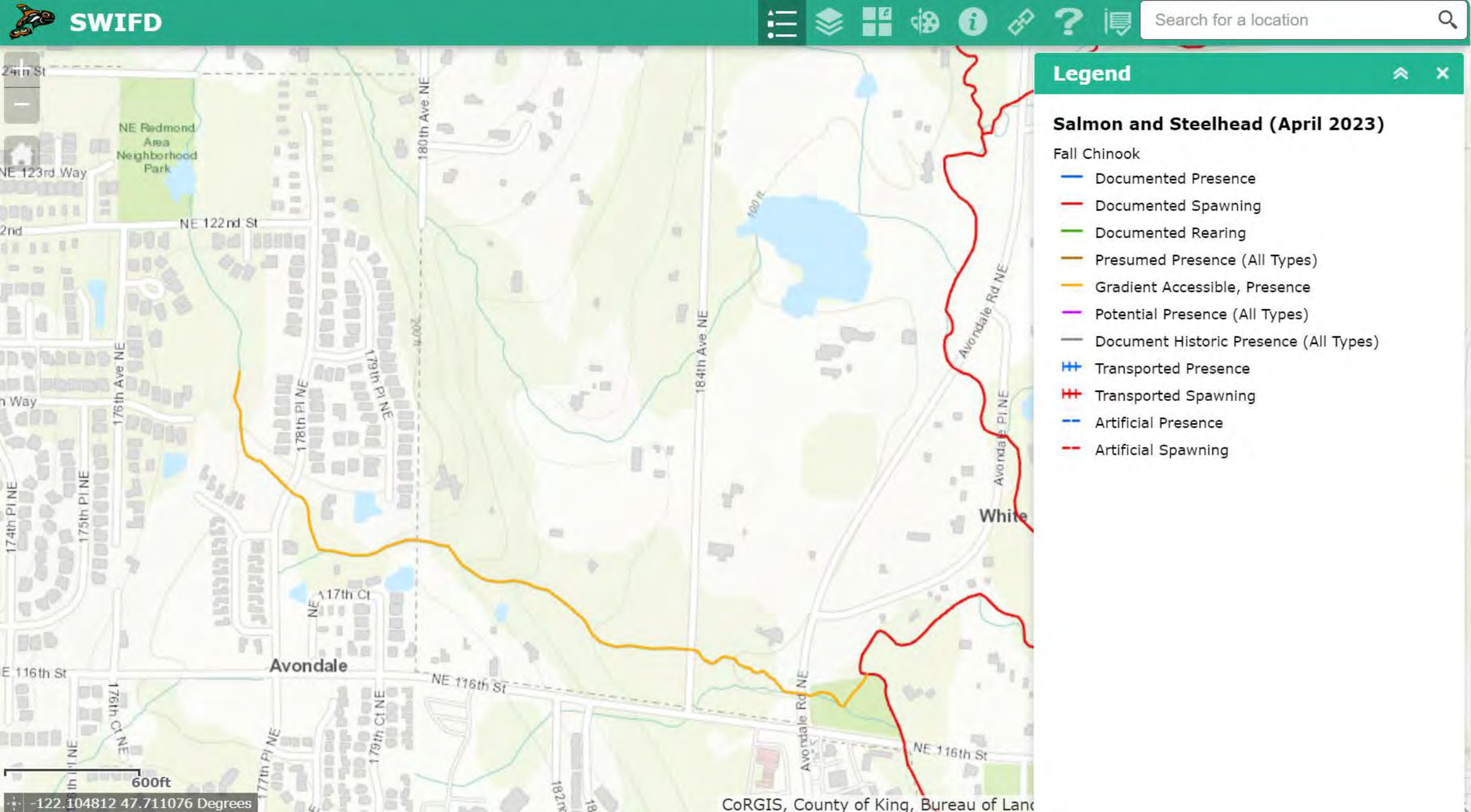
PHS Species/Habitats Details:

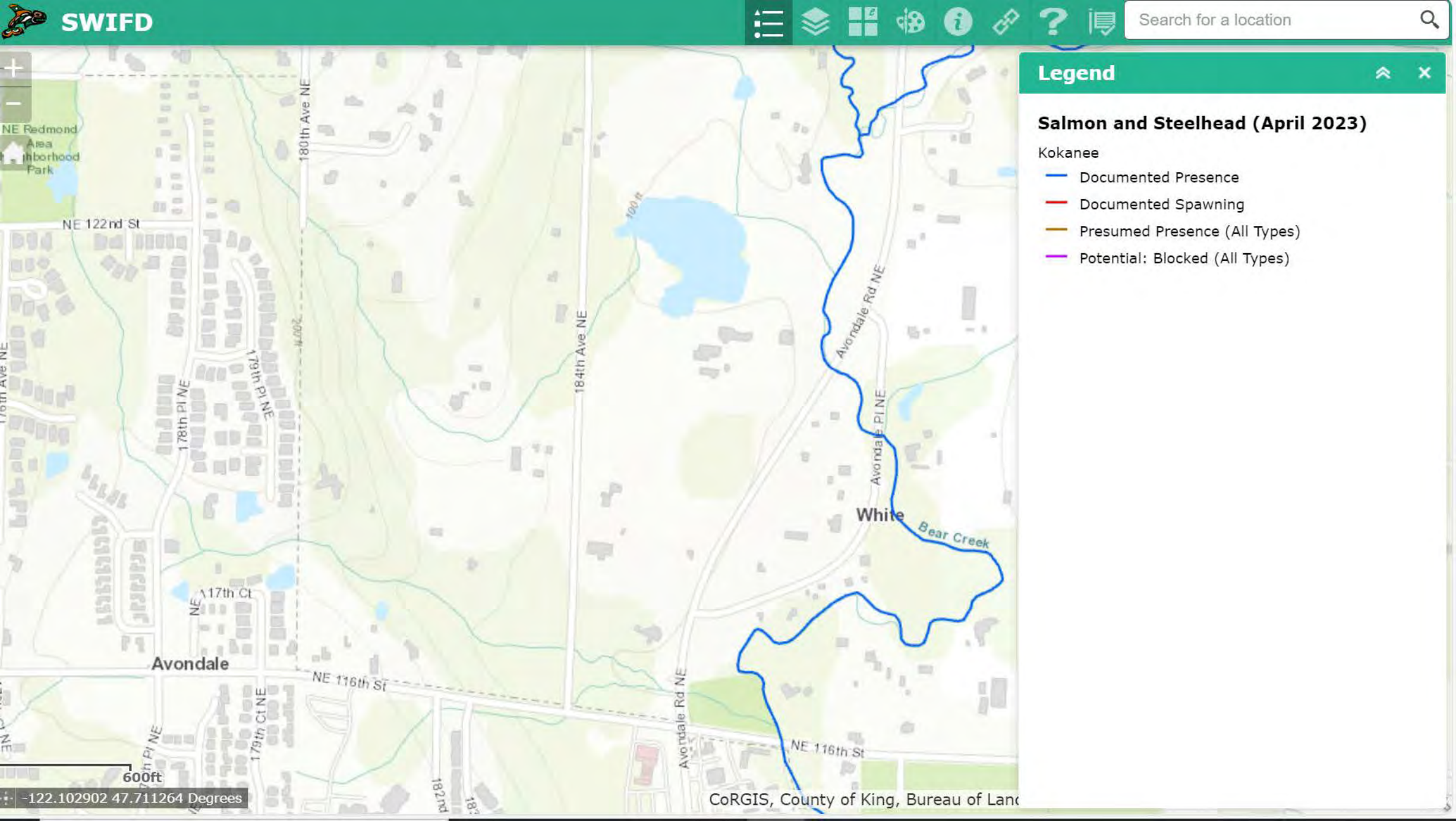
Resident Coastal Cutthroat	
Scientific Name	*Oncorhynchus clarki*
Priority Area	Occurrence/Migration
Accuracy	NA
Notes	LLID: 1220891477084, Fish Name: Cutthroat Trout, Run Time: Unknown or not Applicable, Life History: Unknown
Source Record	29945
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	http://wdfw.wa.gov/wlm/diversty/soc/soc.htm
Geometry Type	Lines

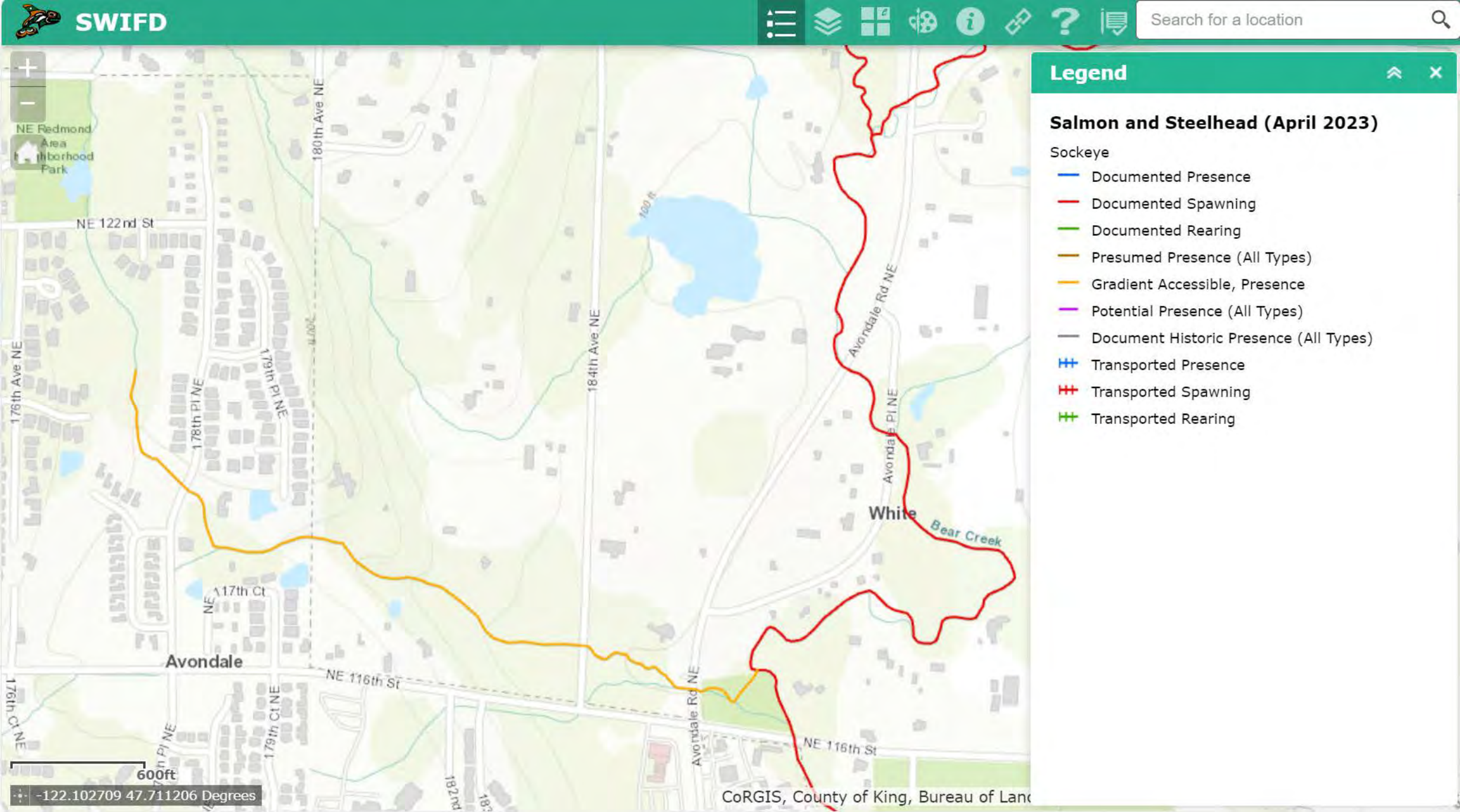
Wetlands	
Priority Area	Aquatic Habitat
Site Name	BEAR CREEK WETLANDS
Accuracy	1/4 mile (Quarter Section)
Notes	A VARIETY OF WETLAND HABITATS IN THE BEAR CREEK DRAINAGE BASIN. A NUMBER OF THESE ARE VERY LARGE COMPLEX WETLANDS WITH HIGH HABITAT VALUE.
Source Record	902606
Source Dataset	PHSREGION
Source Name	MULLER, TED
Source Entity	WA Dept. of Fish and Wildlife
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

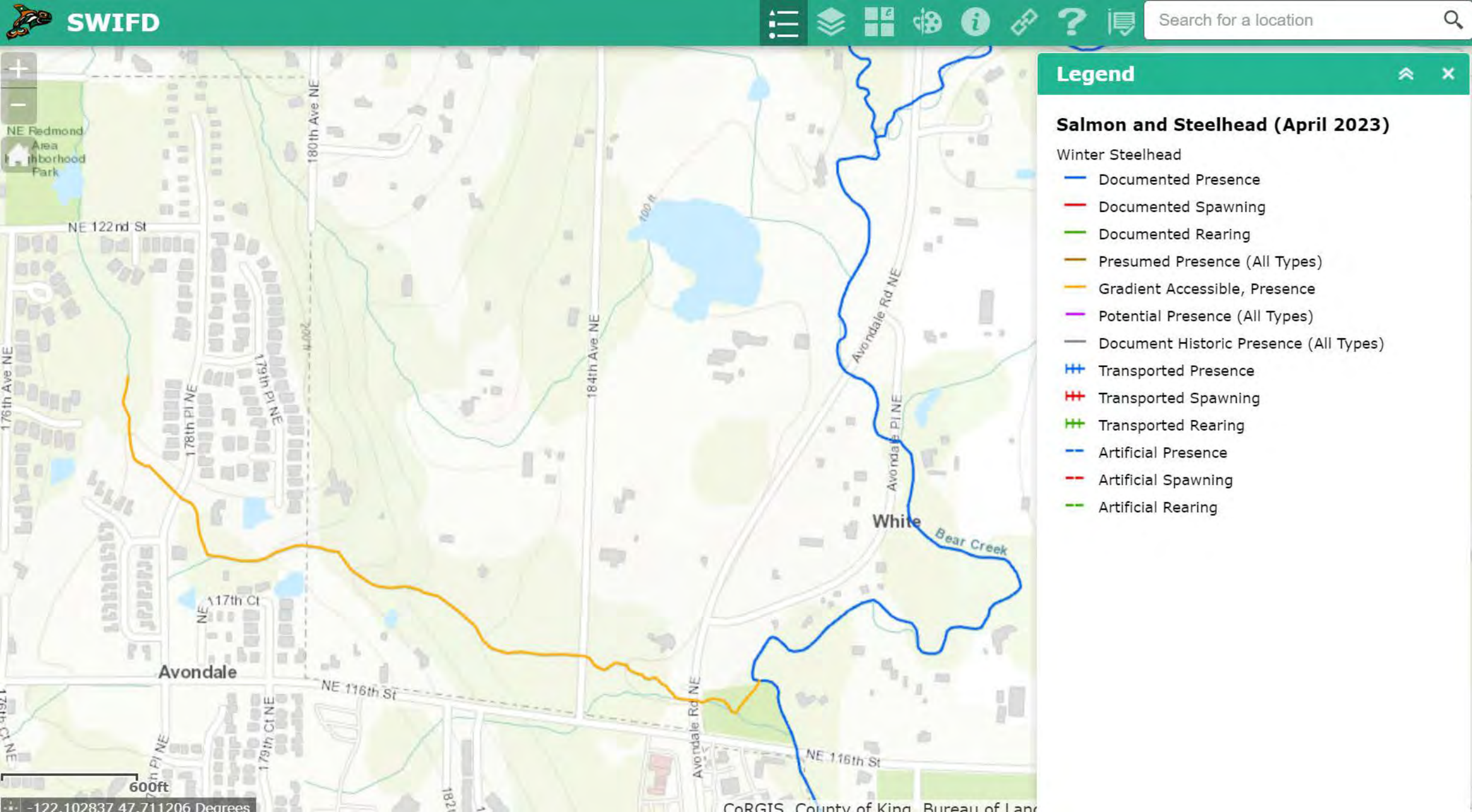

SWIFD
Search for a location
Legend
Salmon and Steelhead (April 2023)
Coho
Documented Presence
Documented Spawning
Documented Rearing
Presumed Presence (All Types)
Gradient Accessible, Presence
Potential Presence (All Types)
Document Historic Presence (All Types)
Transported Presence
Transported Spawning
Transported Rearing
Artificial Presence
Artificial Spawning
Artificial Rearing
NE Redmond Area Neighborhood Park
NE 123rd Way
NE 122nd St
180th Ave NE
184th Ave NE
Avondale Rd NE
176th Ave NE
178th Pl NE
179th Pl NE
174th Pl NE
175th Pl NE
NE 117th Ct
Avondale
NE 116th St
179th Ct NE
177th Pl NE
White
600ft
-122.094898 47.703756 Degrees
CoRGIS, County of King, Bureau of Land


SWIFD
Search for a location
Legend
Other Fish Species (April 2023)
Other Fish Species
Coastal Cuthroat Trout
Documented Presence
Presumed Presence (All Types)
Gradient Accessible, Presence
Potential Presence (All Types)
Document Historic Presence (All Types)
NE Redmond Area Neighborhood Park
NE 122nd St
180th Ave NE
184th Ave NE
176th Ave NE
178th Pl NE
179th Pl NE
Avondale Rd NE
Avondale Pl NE
White
Bear Creek
NE 117th Ct
Avondale
NE 116th St
179th Ct NE
600ft
-122.102923 47.711235 Degrees


SWIFD
Search for a location
Legend
Salmon and Steelhead (April 2023)
Fall Chinook
Documented Presence
Documented Spawning
Documented Rearing
Presumed Presence (All Types)
Gradient Accessible, Presence
Potential Presence (All Types)
Document Historic Presence (All Types)
Transported Presence
Transported Spawning
Artificial Presence
Artificial Spawning
NE Redmond Area Neighborhood Park
NE 123rd Way
NE 122nd St
180th Ave NE
184th Ave NE
176th Ave NE
178th Pl NE
179th Pl NE
Avondale Rd NE
Avondale Pl NE
White
Avondale
NE 116th St
600ft
-122.104812 47.711076 Degrees
CoRGIS, County of King, Bureau of Land


SWIFD
Search for a location
Legend
Salmon and Steelhead (April 2023)
Kokanee
Documented Presence
Documented Spawning
Presumed Presence (All Types)
Potential: Blocked (All Types)
NE Redmond Area Neighborhood Park
NE 122nd St
180th Ave NE
184th Ave NE
178th Pl NE
179th Pl NE
Avondale Rd NE
Avondale Pl NE
White
Bear Creek
NE 117th Ct
Avondale
NE 116th St
179th Ct NE
600ft
-122.102902 47.711264 Degrees
CoRGIS, County of King, Bureau of Land


SWIFD
Search for a location
Legend
Salmon and Steelhead (April 2023)
Sockeye
Documented Presence
Documented Spawning
Documented Rearing
Presumed Presence (All Types)
Gradient Accessible, Presence
Potential Presence (All Types)
Document Historic Presence (All Types)
Transported Presence
Transported Spawning
Transported Rearing
NE Redmond Area Neighborhood Park
NE 122nd St
180th Ave NE
184th Ave NE
176th Ave NE
178th Pl NE
179th Pl NE
Avondale Rd NE
Avondale Pl NE
White Bear Creek
117th Ct NE
Avondale
NE 116th St
179th Ct NE
600ft
-122.102709 47.711206 Degrees
CoRGIS, County of King, Bureau of Land


SWIFD
Search for a location
Legend
Salmon and Steelhead (April 2023)
Winter Steelhead
Documented Presence
Documented Spawning
Documented Rearing
Presumed Presence (All Types)
Gradient Accessible, Presence
Potential Presence (All Types)
Document Historic Presence (All Types)
Transported Presence
Transported Spawning
Transported Rearing
Artificial Presence
Artificial Spawning
Artificial Rearing
NE Redmond Area Neighborhood Park
NE 122nd St
180th Ave NE
184th Ave NE
176th Ave NE
178th Pl NE
179th Pl NE
Avondale Rd NE
Avondale Pl NE
White Bear Creek
NE 117th Ct
Avondale
NE 116th St
179th Ct NE
600ft
-122.102837 47.711206 Degrees
CoRGIS, County of King, Bureau of Land

Appendix C
Site Photographs

Photograph 1. Wetland A looking southwest over the neighboring mowed field.

Photograph 2. Wetland A looking east.

Site Photographs

AVO-13 FDR TW Recond 1600
King County, Washington

GeoEngineers

Figure C-1

09186-184-00 Task 2025 Date Exported: 01/24/2025

Photograph 3. PSE substation along Avondale Road NE looking north.

Photograph 4. Wetland A and buffer looking west from Avondale Road. NE.

Site Photographs

AVO-13 FDR TW Recond 1600
King County, Washington

GeoEngineers

Figure C-2

09186-184-00 Task 2025 Date Exported: 01/24/2025

Appendix D
Sample Plot Data Sheets

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: AVO-13 FDR TW Recond 1600 City/County: King County Sampling Date: 06/12/24

Applicant/Owner: Puget Sound Energy State: WA Sampling Point: SP-1

Investigator(s): B. Renaud, J. Dadisman Section, Township, Range: Section 30 of Township 26 North, Range 06 East

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): none Slope (%):

Subregion (LRR): LRR A Lat: 47°42'25.28"N Long: 122° 5'40.40"W Datum: WSG84

Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 15 percent slopes NWI classification: Upland

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

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

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes No X

Hydric Soil Present? Yes X No

Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? **Yes** **No** X

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus emarginata*	75	Yes	FACU
2.			
3.			
4.			
	75	=Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Ranunculus repens*	100	Yes	FAC
2. *Pteridium aquilinum*	10	No	FACU
3. *Polygonum cuspidatum*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	115	=Total Cover	
Woody Vine Stratum (Plot size: 10)			
1. *Rubus armeniacus*	30	Yes	FAC
2. *Rubus laciniatus*	10	Yes	FACU
	40	=Total Cover	

% Bare Ground in Herb Stratum

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	130	x 3 =	390
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	230 (A)		790 (B)

Prevalence Index = B/A = 3.43

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 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[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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

Remarks:

SOIL

Sampling Point: SP-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					Loamy/Clayey	
3-16	10YR 3/2	95	10YR 3/4	5	C	M	Loamy/Clayey	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ 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)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 on 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 ___ No X Depth (inches): ___

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

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

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

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: AVO-13 FDR TW Recond 1600 City/County: King County Sampling Date: 06/12/24

Applicant/Owner: Puget Sound Energy State: WA Sampling Point: SP-2

Investigator(s): B. Renaud, J. Dadisman Section, Township, Range: Section 30 of Township 26 North, Range 06 East

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): none Slope (%):

Subregion (LRR): LRR A Lat: 47°42'25.28"N Long: 122° 5'40.40"W Datum: WSG84

Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 15 percent slopes NWI classification: Upland

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

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

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus trichocarpa*	40	Yes	FAC
2. *Salix sitchensis*	20	Yes	FACW
3.			
4.			
	60	=Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Ranunculus repens*	100	Yes	FAC
2. *Acer circinatum*	5	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	105	=Total Cover	
Woody Vine Stratum (Plot size: 10)			
1. *Rubus armeniacus*	15	Yes	FAC
2. *Rubus laciniatus*	3	No	FACU
	18	=Total Cover	

% Bare Ground in Herb Stratum

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	160	x 3 =	480
FACU species	3	x 4 =	12
UPL species	0	x 5 =	0
Column Totals:	183 (A)		532 (B)

Prevalence Index = B/A = 2.91

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[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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

Remarks:

SOIL

Sampling Point: SP-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR 2/1	100					Loamy/Clayey	
15-18	10YR 5/1	85	10YR 4/6	15	C	M	Loamy/Clayey	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ 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) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 on 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)
- X 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 ___ No X Depth (inches): ___

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

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

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: AVO-13 FDR TW Recond 1600 City/County: King County Sampling Date: 06/12/24

Applicant/Owner: Puget Sound Energy State: WA Sampling Point: SP-3

Investigator(s): B. Renaud, J. Dadisman Section, Township, Range: Section 30 of Township 26 North, Range 06 East

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): none Slope (%):

Subregion (LRR): LRR A Lat: 47°42'24.52"N Long: 122° 5'30.38"W Datum: WSG84

Soil Map Unit Name: Kitsap silt loam, 2 to 8 percent slopes NWI classification: Upland

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

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

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes X No

Hydric Soil Present? Yes X No

Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes** X **No**

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra*	40	Yes	FAC
2. *Crataegus douglasii*	20	Yes	FAC
3.			
4.			
	60	=Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Veronica cusickii*	30	Yes	FAC
2. *Acer circinatum*	15	Yes	FAC
3. *Juncus effusus*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	55	=Total Cover	
Woody Vine Stratum (Plot size: 25)			
1. *Rubus armeniacus*	15	Yes	FAC
2.			
	15	=Total Cover	

% Bare Ground in Herb Stratum 35

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	120	x 3 =	360
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	130 (A)		380 (B)

Prevalence Index = B/A = 2.92

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 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[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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

Remarks:

SOIL

Sampling Point: SP-3

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	Remarks
0-13	10YR 3/2	88	10YR 4/4	2	C	M	Loamy/Clayey	
13-18	10YR 4/2	90	10YR 5/6	10	C	M	Loamy/Clayey	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ 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)
- ___ Oxidized Rhizospheres on 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)
- X 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): 13

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

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

Remarks:

Appendix E
Wetland Rating Form

Wetland name or number: Wetland A

RATING SUMMARY - Western Washington

Name of wetland (or ID#): Wetland A **Date of site visit:** 06/12/2024
Rated By: Bea Renaud **Trained by Ecology? Yes** [X] **No** [ ] **Date of Training:** 10/20/2023
HGM Class used for rating: Depressional
Wetland has multiple HGM classes? Yes [ ] **No** [X]

NOTE: Form is not complete without the figures requested *(figures can be combined).*
Source of base aerial photo/map: Bing Imagery

OVERALL WETLAND CATEGORY: [**Category II**] (based on functions [X] or special characteristics [ ])

1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	**H**	**M**	**M**	
Landscape Potential	**M**	**M**	**M**	
Value	**H**	**M**	**H**	**Total**
Score Based on Ratings	**8**	**6**	**7**	**21**

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	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	**Not Applicable**

Wetland name or number: Wetland A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet *(can be added to map of hydroperiods)*	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	6
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

Wetland name or number: Wetland A

DEPRESSIONAL AND FLATS WETLANDS

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

D 1.0 Does the site have the potential to improve water quality?

D 1.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 3	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 1	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	**Score: 1**
D 1.2 Is the soil 2 in. below the surface a true clay or organic soil?		
Mapped as true clay or organic (muck or peat)	points = 4	
Soil texture identified as clay or organic in field	points = 4	
Soil texture identified as clay or organic by laboratory test	points = 4	
None of the above	points = 0	**Score: 4**
D 1.3 What are the characteristics and distribution of persistent plants?		
Wetland has persistent, ungrazed, plants > 95% of area	points = 5	
Wetland has persistent, ungrazed, plants > 50% of area	points = 3	
Wetland has persistent, ungrazed plants > 10% of area	points = 1	
Wetland has persistent, ungrazed plants < 10% of area	points = 0	**Score: 3**
D 1.4 What are the characteristics of seasonal ponding or inundation in the wetland area?		
Area seasonally ponded is > 50% total area of wetland	points = 4	
Area seasonally ponded is equal to or > 25% total area of wetland	points = 2	
Area seasonally ponded is < 25% total area of wetland	points = 0	**Score: 4**
	Total for D 1:	**12**

Rating of Site Potential [X] **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	points = 1	
No	points = 0	**Score: 0**
D 2.2 Is >10% of the area within 150ft of the wetland in land uses that generate pollutants in surface runoff?		
Yes	points = 1	
No	points = 0	**Score: 1**
D 2.3 Are there septic systems within 250ft of the wetland?		
Yes	points = 1	
No	points = 0	**Score: 1**
D 2.4 Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?		
Yes	points = 1	
No	points = 0	**Score: 0**

Wetland name or number: Wetland A

D 2.5 What are the other sources of pollutants coming into the wetland?		
	Total for D 2:	**2**

Rating of Landscape Potential [ ] **3-4 = H** [X] **1-2 = 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	points = 1	
No	points = 0	**Score: 1**
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?		
Yes	points = 1	
No	points = 0	**Score: 1**
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?		
Yes	points = 2	
No	points = 0	**Score: 0**
	Total for D 3:	**2**

Rating of Value [X] **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 degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?		
D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	**Score: 0**
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	**Score: 3**

Wetland name or number: Wetland A

D 4.3 What is the contribution of the wetland to storage in the watershed?		
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	**Score: 3**
	Total for D 4:	**6**

Rating of Site Potential [ ] **12-16 = H** [X] **6-11 = M** [ ] **0-5 = L** *Record the rating on the first page*

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1 Does the wetland unit receive stormwater discharges?		
Yes	points = 1	
No	points = 0	**Score: 0**
D 5.2 Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?		
Yes	points = 1	
No	points = 0	**Score: 1**
D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?		
Yes	points = 1	
No	points = 0	**Score: 1**
	Total for D 5:	**2**

Rating of Landscape Potential [ ] **3 = H** [X] **1-2 = 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 Is the wetland in a landscape that has flooding problems?		
Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
Flooding from groundwater is an issue in the basin.	points = 1	
The existing or potential outflow from the wetland is so constrained that water cannot reach areas that flood.	points = 0	
There are no problems with flooding downstream of the wetland.	points = 0	**Score: 1**
D 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?		
Yes	points = 2	
No	points = 0	**Score: 0**
	Total for D 6:	**1**

Rating of Value [ ] **2-4 = H** [X] **1 = M** [ ] **0 = L** *Record the rating on the first page*

Wetland name or number: Wetland A

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?

- [x] Aquatic Bed
- [x] Emergent
- [ ] Scrub-shrub
- [x] Forested
- [ ] Multiple strata within the Forested class (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)

4 structures or more	points = 4	
3 structures	points = 2	
2 structures	points = 1	
1 structure	points = 0	
No structures present	points = 0	**Score: 2**

H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?

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

4 or more types present	points = 3	
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2	
2 types present	points = 1	
1 type present	points = 0	
None present	points = 0	**Score: 2**

H 1.3 What is the richness of the plant species in the wetland?

>19 species	points = 2	
5-19 species	points = 1	
<5 species	points = 0	**Score: 1**

Wetland name or number: Wetland A

H 1.4 What is the interspersion of habitats?

High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	**Score: 3**

H 1.5 What are the special habitat features in the wetland?

- [x] Large, downed, woody debris within the wetland (>4in diameter and 6ft long).
- [x] Standing snags (dbh >4in) within the wetland
- [ ] Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33ft (10m)
- [ ] 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 0.25ac 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)

6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	**Score: 2**

Total for H 1: 10

Rating of Site Potential [ ] **15-18 = H** [X] **7-14 = M** [ ] **0-6 = L** *Record the rating on the first page*

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?

>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	**Score: 0**

H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?

Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	**Score: 1**

Wetland name or number: Wetland A

H 2.3 What is the land use intensity in the 1km polygon?

50% of the Polygon is high intensity land use	points = -2	
<50% of the Polygon is high intensity land use	points = 0	**Score: 0**
	Total for H 2:	**1**

Rating of Landscape Potential [ ] **4-6 = H** [X] **1-3 = M** [ ] **0 = 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?

- [ ] Aspen Stands
- [ ] Biodiversity Areas and Corridors
- [ ] Herbaceous Balds
- [ ] Old-growth/Mature Forests
- [ ] Oregon White Oak
- [x] Riparian
- [ ] Westside Prarie
- [ ] Fresh Deepwater
- [x] Instream
- [ ] Nearshore (Coastal, Open Coast, Puget Sound)
- [ ] Caves
- [ ] Cliffs
- [x] Snags and Logs
- [ ] Talus

The following criteria automatically score 2 points:

- [ ] The wetland provides habitat for Threatened or Endangered species
- [ ] The wetland is mapped as a location for an individual WDFW priority species
- [ ] The wetland is a Wetland of High Conservation Value
- [ ] The wetland has been categorized as an important habitat site in a local plan

The wetland has 3 or more WDFW priority habitats within 100m, or meets the criteria for societal value	points = 2	
The site has 1 or 2 WDFW priority habitats within 100m	points = 1	
The site does not meet any of the criteria for societal value	points = 0	**Score: 2**
	Total for H 3:	**2**

Rating of Value [X] **2 = H** [ ] **1 = M** [ ] **0 = L** *Record the rating on the first page*

Wetland name or number: Wetland A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?

☐ The dominant water regime is tidal

☐ The wetland is vegetated

☐ The water salinity is greater than 0.5 ppt

Yes - Go to SC 1.2

No - Not an Estuarine Wetland **Result:**

SC 1.2 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 Estuarine Wetland

No - Go to SC 1.3 **Result:**

SC 1.3 Is the wetland unit at least 1ac 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.

☐ At least 75% of the landward edge of the wetland has a 100ft 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 Estuarine Wetland

No - Category II Estuarine Wetland **Result:**

SC 2.0 Wetlands of High Conservation Value

SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?

Yes - Category I Wetland of High Conservation Value

No - Go to SC 2.2 **Result:**

SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality common plant community that may qualify the site as a WHCV?

Yes - Category I Wetland of High Conservation Value

No - Not a Wetland of High Conservation Value **Result:**

Wetland name or number: Wetland A

SC 3.0 Bogs

SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16in or more of the first 32in of the soil profile?

Yes - Go to SC 3.3
No - Go to SC 3.2 **Result:**

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 - Not a Bog Wetland **Result:**

SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least 30% cover of plant species listed in the table provided in the instructions?

Yes - Category I Bog Wetland
No - Go to SC 3.4 **Result:**

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 combinations of species) listed in the table found in the instructions provide more than 30% of the cover under the canopy?

Yes - Category I Bog Wetland
No - Not a Bog Wetland **Result:**

SC 4.0 Forested Wetlands

SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following criteria?

- [ ] Old-growth forests
- [ ] Mature forests

Yes - Category I Forested Wetland
No - Not a Forested Wetland **Result:**

Wetland name or number: Wetland A

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 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 rocks

☐ The depression 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 open water area (measured near the bottom)

☐ The lagoon retains some of its surface water at low tide during spring tides

Yes - Go to SC 5.2

No - Not a Coastal Lagoon Wetland **Result:**

SC 5.2 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).

☐ At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-grazed or un-mowed grassland.

☐ the wetland is larger than 0.10ac (4350 sqft)

Yes - Category I Coastal Lagoon

No - Category II Coastal Lagoon **Result:**

SC 6.0 Interdunal Wetlands

SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership WBUO)?

Yes - Go to SC 6.2

No - Not an Interdunal Wetland **Result:**

SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?

Wetland is larger than 1ac in size - Go to SC 6.3

Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland

No - Go to SC 6.4 **Result:**

SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?

Yes - Category I Interdunal Wetland

No - Category II Interdunal Wetland **Result:**

SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac and 1ac in size?

Yes - Category III Interdunal Wetland

No - Category IV Interdunal Wetland **Result:**

Wetland name or number: Wetland A

Category of wetland based on Special Characteristics	
If you answered No for all types, enter "Not Applicable" on Summary Form	**Final Category: Not Applicable**

Cowardin Plant Class Items

Cowardin Classes

- Forested
- Scrub-shrub
- Emergent
- Aquatic bed
- Open water
- Wetland/Unmapped wetland

N

Not to Scale

Source(s): Washington Tool for Online Rating (WATOR)

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Cowardin, Plant Cover

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King County, Washington

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Figure 1

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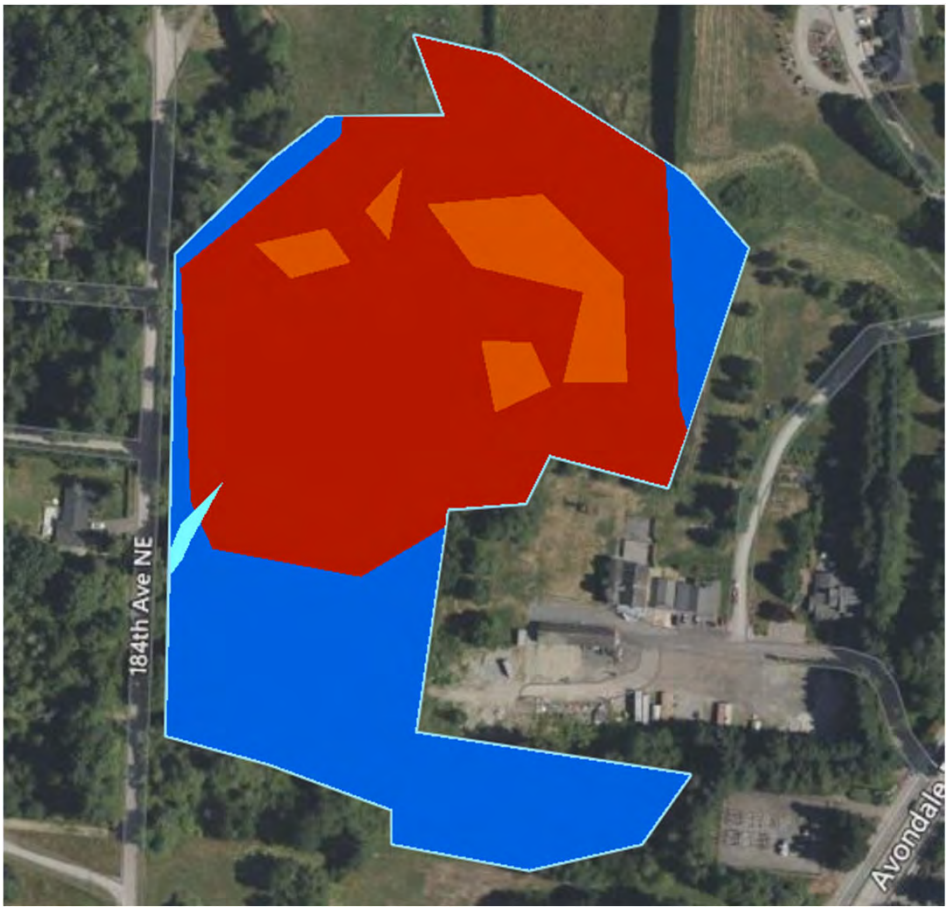

Hydroperiod Items

- Permanent Stream
- Seasonal Stream
- Permanently
- Seasonally
- Occasionally
- Saturated only
- Wetland/Unmapped wetland

N

Not to Scale

Source(s): Washington Tool for Online Rating (WATOR)

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Hydroperiods and Ponded Depressions

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Figure 2

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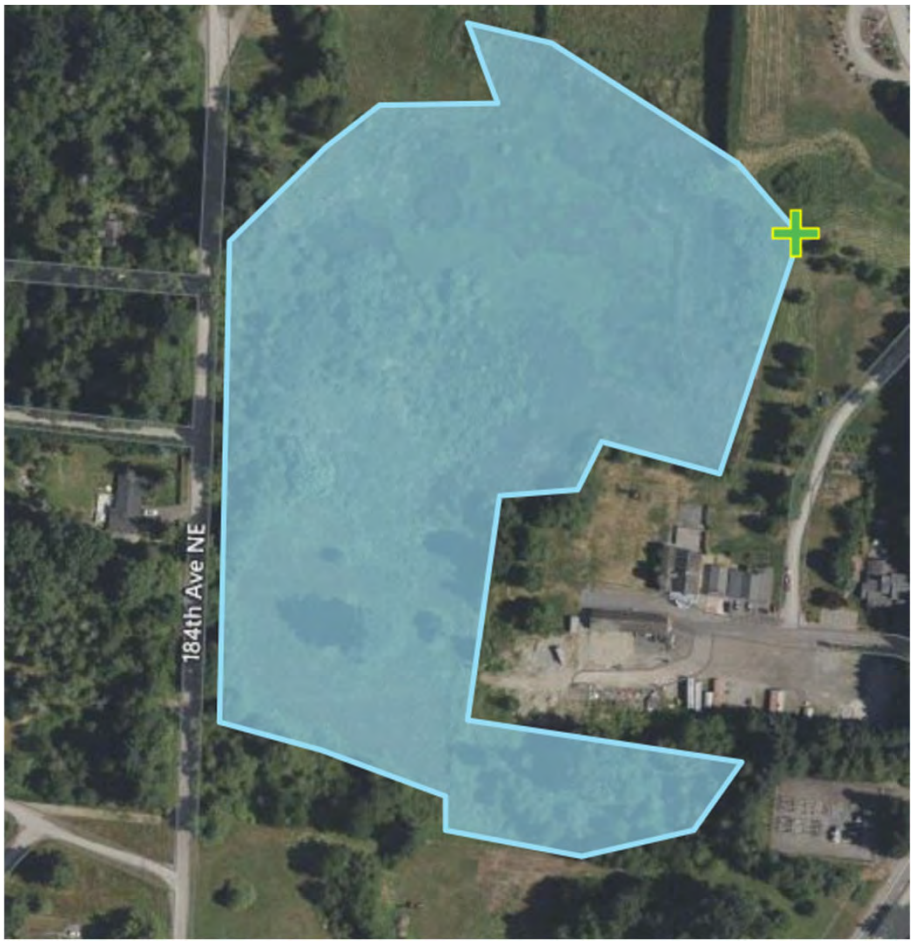

Location of Outlet Items

Wetland

Outlet location

N

Not to Scale

Source(s): Washington Tool for Online Rating (WATOR)

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Outlet Location

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Figure 3

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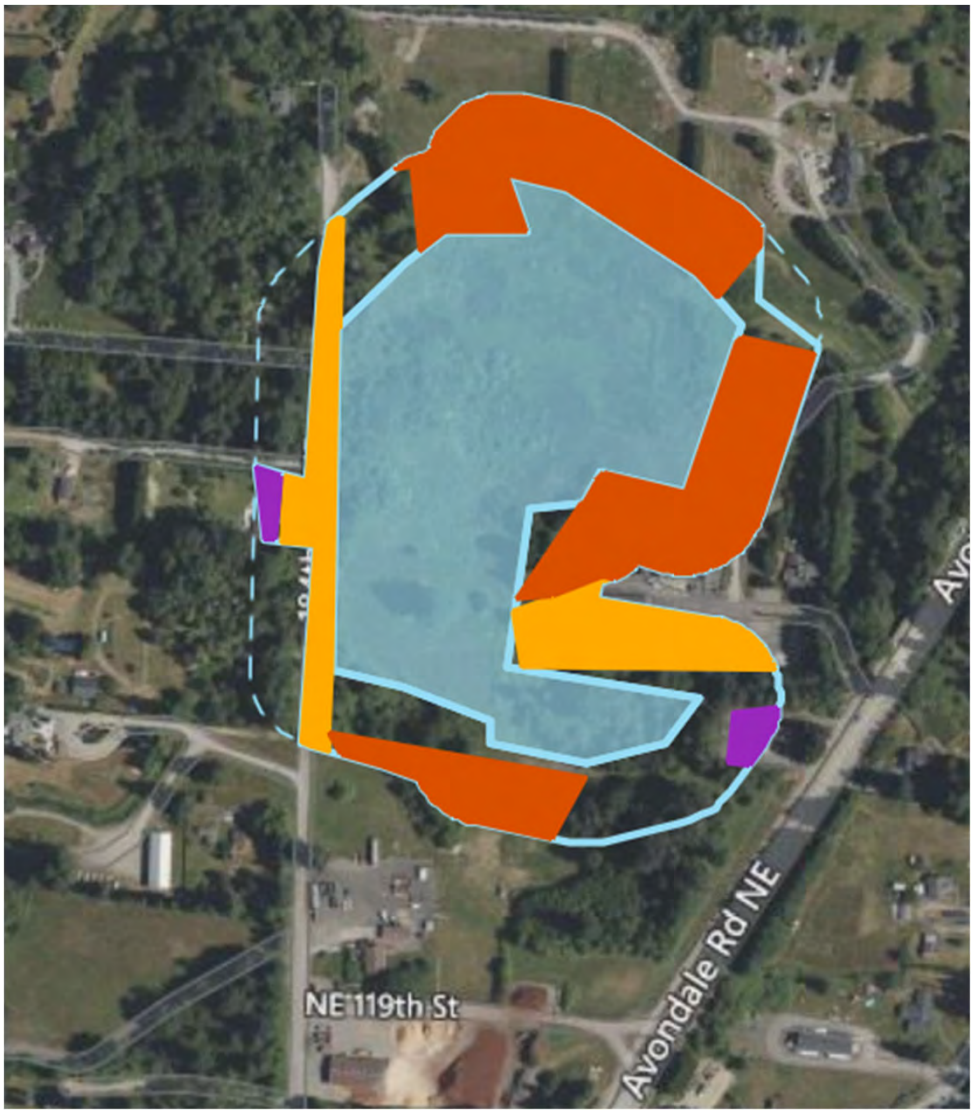

Land Use Items

- Generates excessive runoff
- Generates pollutants
- Generates excessive runoff and pollutants
- Upland within 150' wetland buffer
- Wetland
- Wetland buffer (150')

N

Not to Scale

Source(s): Washington Tool for Online Rating (WATOR)

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150 ft Boundary

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Figure 4

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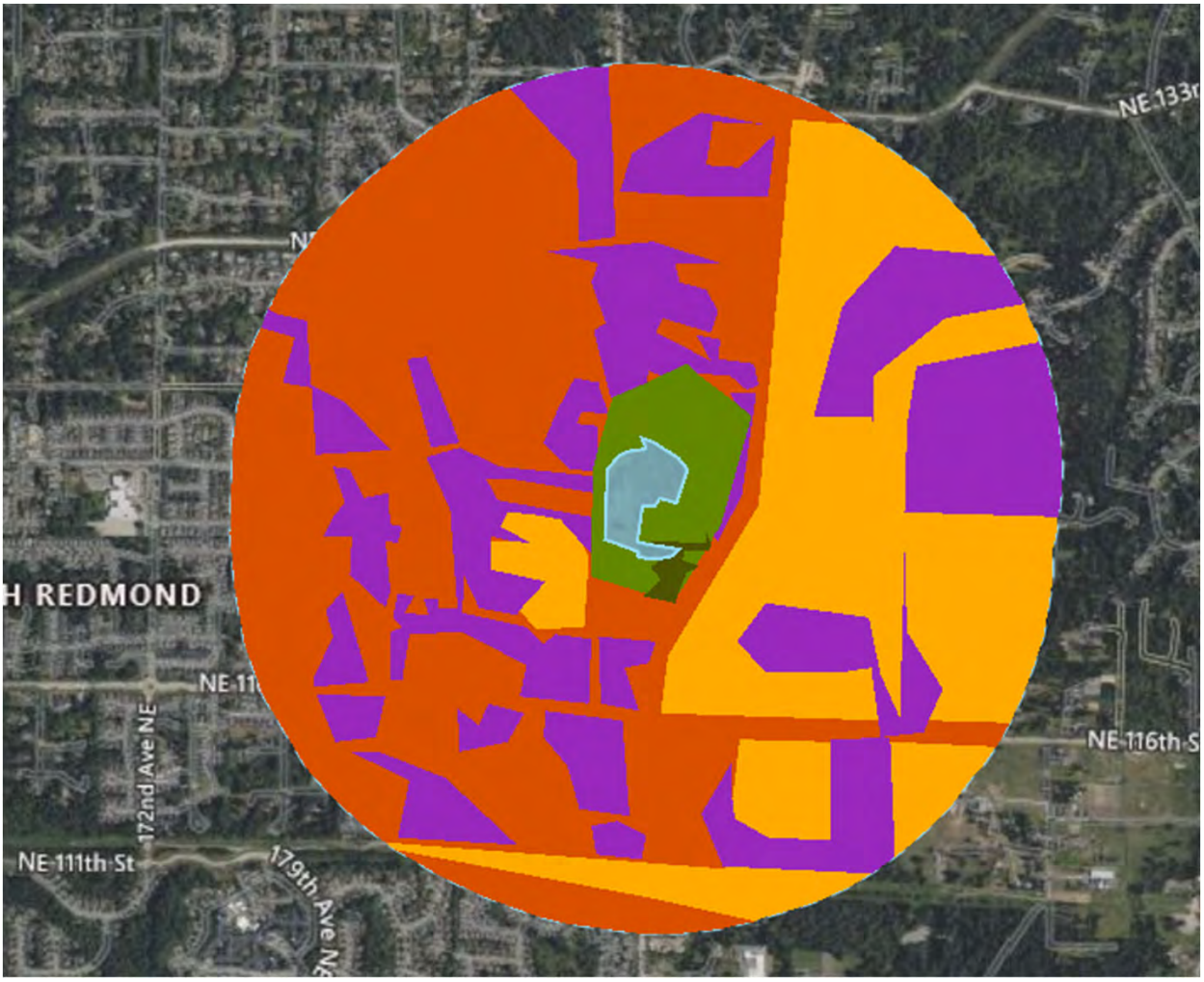

Habitat Items

- Relatively undisturbed - accessible
- Low/Moderate intensity - accessible
- Relatively undisturbed - not accessible
- Low/Moderate intensity - not accessible
- High Intensity
- Wetland

N

Not to Scale

Source(s): Washington Tool for Online Rating (WATOR)

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1km Habitat

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Figure 5

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Contributing Basin Items

Wetland

Contributing basin

N

Not to Scale

Source(s): Washington Tool for Online Rating (WATOR)

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Contributing Basin

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Figure 6

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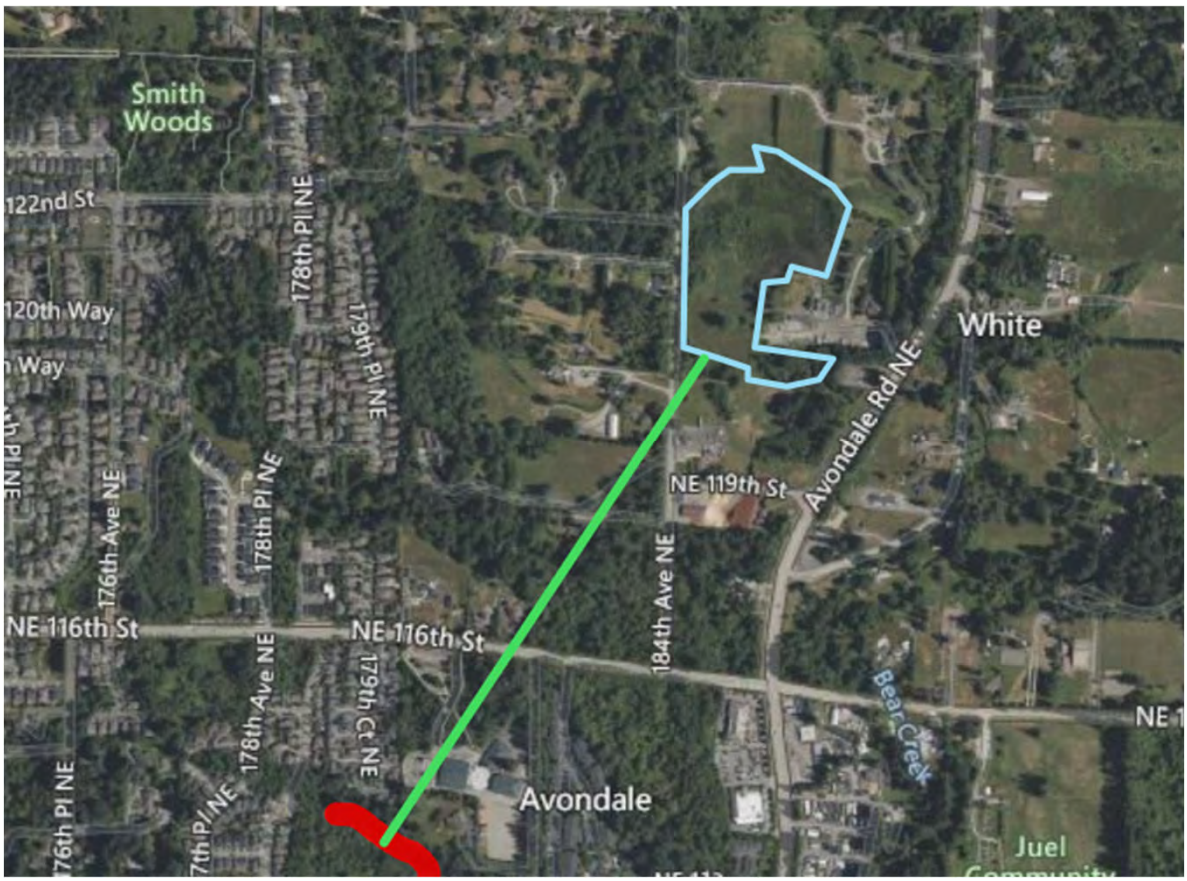

Wetland Width Items

Wetland

Distance: wetland to nearest 303(d) listing

303(d) List

Category 5 Water

Category 5 Sediment

Subbasins (12 digit HUCs)

HUC boundary

N

Not to Scale

Source(s): Washington Tool for Online Rating (WATOR)

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303d Listed Water

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Figure 7

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TMDL Items

Wetland

305(b) List

Category 4A Water

Category 4A Sediment

Category 4B Water

Category 4B Sediment

Category 4C Water

Subbasins (12 digit HUCs)

HUC boundary

N

Not to Scale

Source(s): Washington Tool for Online Rating (WATOR)

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TMDLs

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Figure 8

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