

9734 SE 40TH ST

KING COUNTY PARCEL No. 2655500176

CRITICAL AREA STUDY



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CRITICAL AREA STUDY

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JANUARY 3RD, 2025

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BIOLOGIST

DATE

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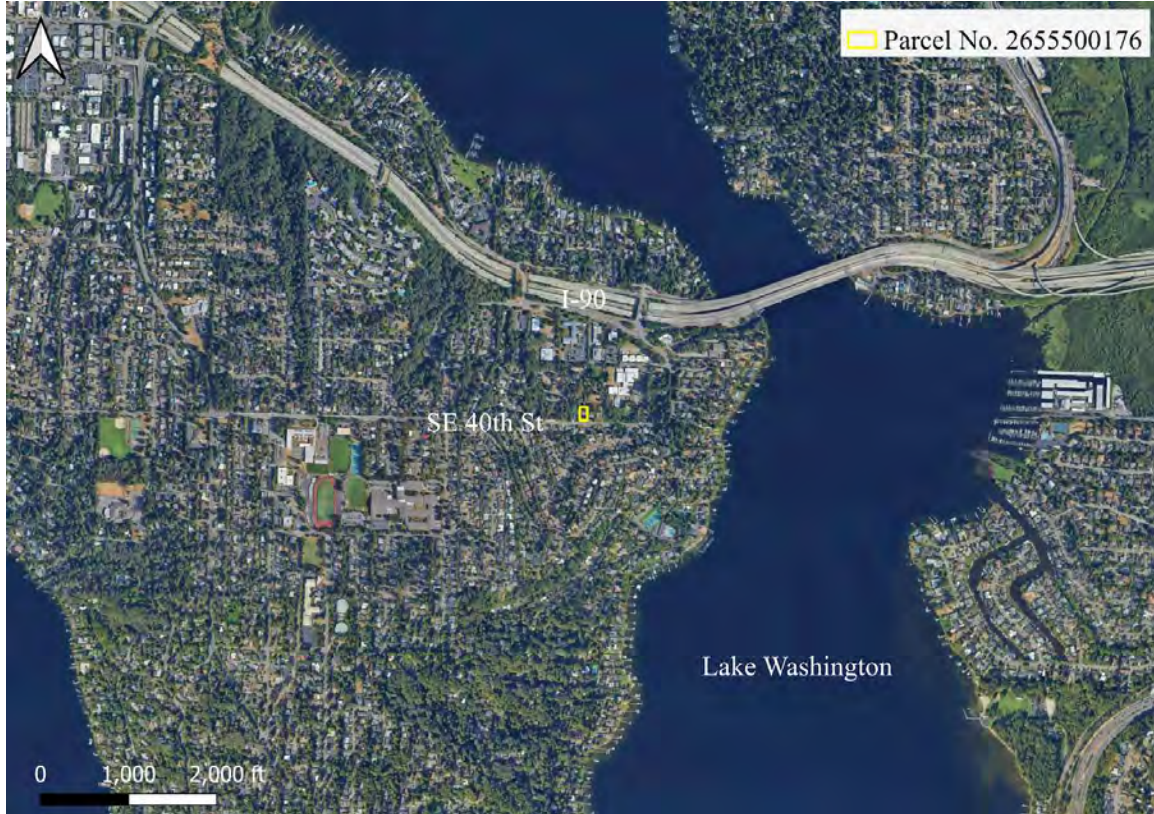
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INTRODUCTION

Peterman Consulting, LLC has been contracted to perform a critical areas assessment and to prepare a critical area study. The subject property (King County parcel No. 2655500176) is located at 9734 SE 40th St (Figure 1) in the city of Mercer Island. The site is within Section 7 Township 24N, and Range 05E, W.M. The purpose of this assessment and report is to document all wetlands, streams, and buffers that are on or within 300 feet of the subject property.

Figure 1. Vicinity map



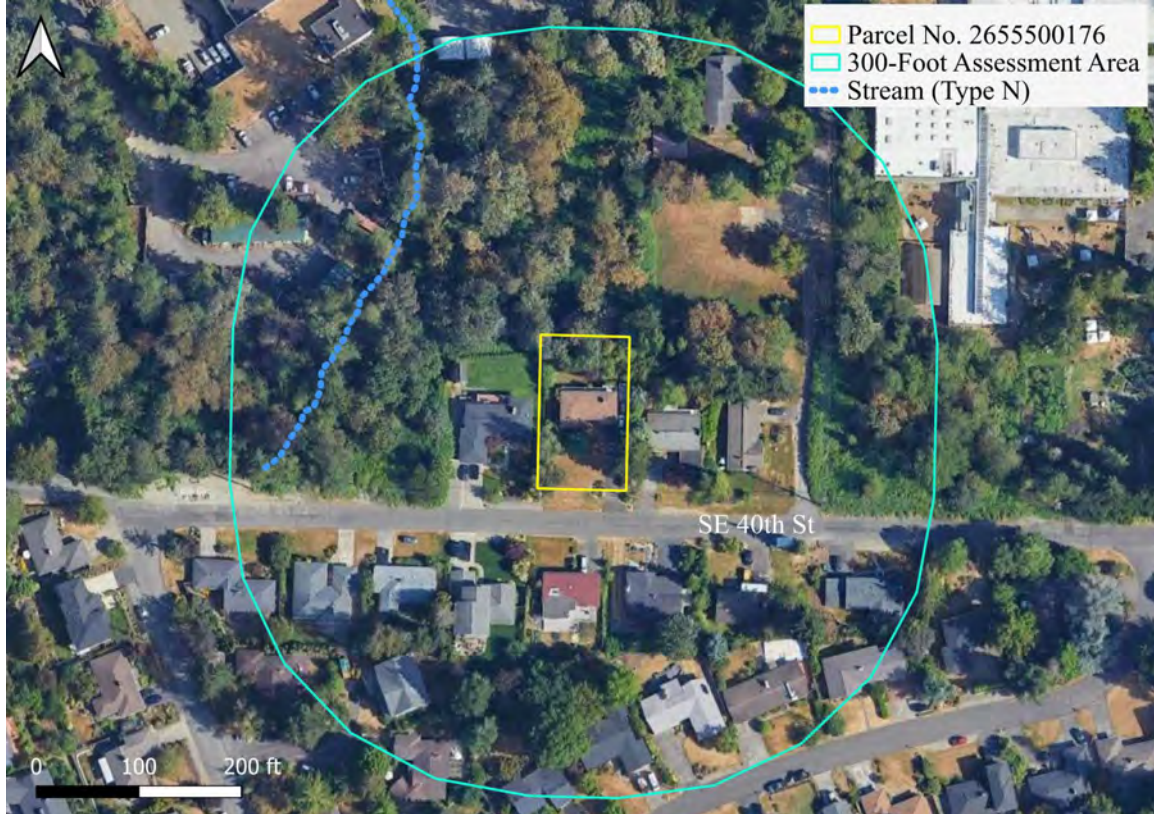
FEATURE SUMMARY

A Peterman Consulting biologist visited the subject property on December 19th, 2024 to conduct an assessment to identify any wetlands or streams that are within 300 feet of the subject property.

Peterman Consulting did not identify any wetland or stream features on or within 300 feet of the subject property. None of the soil analysis pits that were excavated contained all three wetland criteria defined in the U.S. Army Corps of Engineers' (USACE) *Federal Wetland Delineation Manual* (1987), USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (2010), and the Mercer Island City Code (MICC) 19.07. A map showing the location of soil analysis pits, field datasheets and site photographs are presented in Appendices A, B and C, respectively.

In addition to the wetland investigation, a stream evaluation was completed to identify all areas that would meet the definition of a natural water feature according to Washington Administrative Code (WAC) 222-16-030. Peterman Consulting identified one stream feature (S1) located entirely offsite but within 300 feet of the subject property (Figure 2).

Figure 2. Map showing the location of the observed stream.



During the December site visit there was flowing water observed. Observations were made of stream field indicators as defined in the Washington State Department of Ecology's (DOE) *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (2016). The ordinary high water mark (OHWM) determination was made using visual observations during the site visit and with data from the Washington Department of Natural Resources' (WDNR) LiDAR Portal website (WDNR 2024a). Flagging of the OHWM was not completed as the stream is located entirely off site and to the north of the subject property. A summary of the stream is provided in Table 1.

Table 1. Stream summary

Feature	Stream Type ¹	Buffer Width ¹
S1	Type Ns	60 ft.

¹ According to MICC 19.07.180

BACKGROUND

Existing Conditions

The subject property is approximately 0.30 acres total in size and developed with a single family residence. Most of the neighboring properties have private residences. The property is residentially zoned as R-8.4. The subject property is in the Lake Washington-Sammamish River subwatershed (HUC 12) of the Cedar-Sammamish Water Resources Inventory Area. The topography of the subject property is generally flat. The vegetation on the subject property includes a mix of native and nonnative species. The property is maintained with basic landscaping practices like mowing and pruning.

Local Critical Areas Inventory

A review of the Mercer Island Interactive City Web Map was conducted to identify any known critical areas with the vicinity of the subject property (Web Map 2024). According to Web Map, one Type Np stream is located entirely offsite but within 300 feet of the subject property (Appendix C). Additionally, the City maps the northern half of the subject property as a landslide area. No additional critical areas are mapped within 300 feet of the subject property.

National Wetlands Inventory

The U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) was queried to determine if previously-identified wetlands are present on or near the subject property (USFWS 2024). According to the NWI Interactive Online Mapper, there are no wetlands on the subject property and the nearest aquatic feature is mapped as Lake Washington, approximately 1,600 feet to the east (Appendix C).

Sensitive Wildlife and Plants

The Washington Department of Fish and Wildlife's (WDFW) Priority Habitats and Species (PHS) database on-line mapper was queried to determine if state or federally listed fish or wildlife species occur on or near the subject property (WDFW 2024a). According to the PHS database, there are no priority habitats or species on or within 300 feet of the subject property (Appendix C). The nearest listed priority habitat is a biodiversity area located approximately 1,500 feet to the west.

Additionally, WDFW's SalmonScape on-line mapper was queried to determine if salmonids are known to use the subject property or surrounding area (WDFW 2024b). According to SalmonScape, there are no streams that flow through the subject property. The nearest stream is Soos Creek, located approximately 1,100 feet to the east.

The Washington Department of Natural Resources' (WDNR) Natural Heritage Information System was queried to determine if the subject property occurs in a location reported to contain high quality natural heritage wetland occurrences or occurrences of natural heritage features commonly associated with wetlands. According to WDNR data, there are no records of rare plants or high quality native ecosystems occurring on or in the vicinity of the subject property.

Forest Practice Rules

The Washington Department of Natural Resources’ (WDNR) Forest Practice Application Mapping Tool on-line mapper was queried to identify the water typing of any streams mapped by WDNR (WDNR 2024). According to WDNR, there are no streams listed on or within 300 feet of the subject property and the nearest stream feature to the subject property is an unnamed stream located approximately 1,600 feet to the west. The stream is designated as a Type N stream which means it does not have documentation of fish utilization or the potential to support fish habitat (Appendix C).

Soil Information

According to the Natural Resources Conservation Service’s (NRCS) Web Soil Survey (NRCS 2024), the soils within the majority of the subject property are listed as being 85 percent Kitsap silt loam and 15 percent minor components. Kitsap silt loam is not designated as a hydric soil. (Appendix C). The other minor component soils on the property are Alderwood at 10 percent and not designated as hydric soils. Also listed are 3 percent of Bellingham and 1 percent of Tukwila and Seattle, all of which are designated as hydric soils.

PRECIPITATION ANALYSIS

During the site assessment, the SeaTac National Weather Station (NWS Station 457473) recorded 0.21 inches of rainfall (NOAA 2024a). In the 14 days preceding the site assessment, 2.71 inches of rainfall was recorded at the station.

The total precipitation recorded at the station from December 1st, 2023 through November 30th, 2024 (35.16 inches) was approximately 89 percent of the normal rainfall (39.34 inches) that occurs during a typical water year (NOAA 2024b). Table 2 below presents an analysis of the appropriate NRCS WETS table for the three months preceding the field investigation.

Table 2. WETS precipitation analysis

Preceding Month	WETS Rainfall Percentile (inches)		Measured Rainfall ¹ (inches)	Conditions ²	Condition Value ³	Month Weight	Value
	30%	70%					
November	4.35	7.23	4.86	Normal	2	3	6
October	2.25	4.35	3.04	Normal	2	2	4
September	0.74	2.04	0.62	Dry	1	1	1
Sum:							11

¹ Observed rainfall for the month (NOAA 2024b)

² Dry conditions are below 30% WETS table value, Normal conditions are between 30% and 70% of the WETS table values, Wet conditions are above 70% of the WETS table value.

³ Dry equals a value of 1, normal equals a value of 2, wet equals a value of 3

Bins were established to evaluate the overall rainfall period during the field investigation; drier (sum in 6-9), normal (sum is 10-14), wet (sum is 15-18). A sum of 11 indicates that hydrologic conditions are normal. Data from the start of the year for the accumulated precipitation for that weather station shows that it has remained below the normal average since the end of March (Appendix C).

METHODS

All accessible areas of the assessment area were traversed and data were collected to determine if any wetland areas were present. Excavated soil pits were analyzed according to the procedures described in the U.S. Army Corps of Engineers (USACE) *Federal Wetland Delineation Manual* (1987), and the Corps' *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (2010). Guidance from the Corps' *Regional Supplement* was used to evaluate the data at each data point.

Plants were determined to be more or less associated with wetlands based on their wetland indicator (FAC) status. The percent dominance for each plant strata was determined using the 50-20 Rule, which is the recommended method for selecting dominant species from a plant community in instances where quantitative data are available (USACE 2010). In utilizing this rule, dominants are the most abundant species that individually or collectively accounts for more than 50 percent of the total coverage of vegetation in the stratum plus any other species that, by itself accounts for at least 20 percent of the total. The area within 300 ft of the parcel boundary was inspected either visually or through aerial photograph interpretation to determine if other critical areas are within the assessment area.

Hydrophytic Vegetation

The U.S. Fish and Wildlife Service (USFWS) and the NWI have established a rating system that has been applied to commonly occurring plant species on the basis of their frequency of occurrence in wetlands (Table 3). Species indicator status expresses the range in which plants may occur in wetlands and non-wetlands (uplands). Under this system, vegetation is considered hydrophytic when there is an indicator status of facultative (FAC), facultative wetland (FACW) or obligate wetland (OBL). The hydrophytic vegetation criterion for wetland determination is met when more than 50 percent of the dominant species in the plant community are FAC or wetter. The Corps' *National Wetland Plant List* (Lichvar 2020) was used to determine vegetation indicator status.

Table 3. Definitions for USFWS plant indicator status

Plant Indicator Status Category	Indicator Status Abbreviation	Definition (Estimated Probability of Occurrence)
Obligate Upland	UPL	Occur rarely (<1 percent) in wetlands, and almost always (>99 percent) in uplands
Facultative Upland	FACU	Occur sometimes (1 percent to <33 percent) in wetlands, but occur more often (>67 percent to 99 percent) in uplands
Facultative	FAC	Similar likelihood (33 percent to 67 percent) of occurring in both wetlands and uplands
Facultative Wetland	FACW	Occur usually in wetlands (>67 percent to 99 percent), but also occur in uplands (1 percent to 33 percent)
Obligate Wetland	OBL	Occur almost always (>99 percent) in wetlands, but rarely occur in uplands (<1 percent)
Not Listed	NL	Not listed due to insufficient information to determine status

Wetland Hydrology

Evidence of permanent or periodic inundation (water marks, drift lines, drainage patterns), or soil saturation to the surface for 12 consecutive days or more during the growing season meets the hydrology criterion. Oxidized root channels in the top 12 inches and hydrogen sulfide are primary indicators and water-stained leaves and geomorphic position are secondary indicators of wetland hydrology.

Hydric Soils

Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper soil horizons are considered hydric soils. Field indicators include histosols, the presence of a histic epipedon, a sulfidic odor, low soil chroma, and gleying. Soil conditions were compared to the Field Indicators of Hydric Soils detailed in the Corps' *Regional Supplement*.

RESULTS

The site assessment resulted in the identification of one stream located entirely offsite (S1). No streams or wetlands were observed on the subject property. Soil data plots were sampled on the subject property to evaluate for wetland conditions. No hydric soil indicators or wetland hydrology indicators were observed. Photos of the subject property are included in Appendix D.

Stream S1

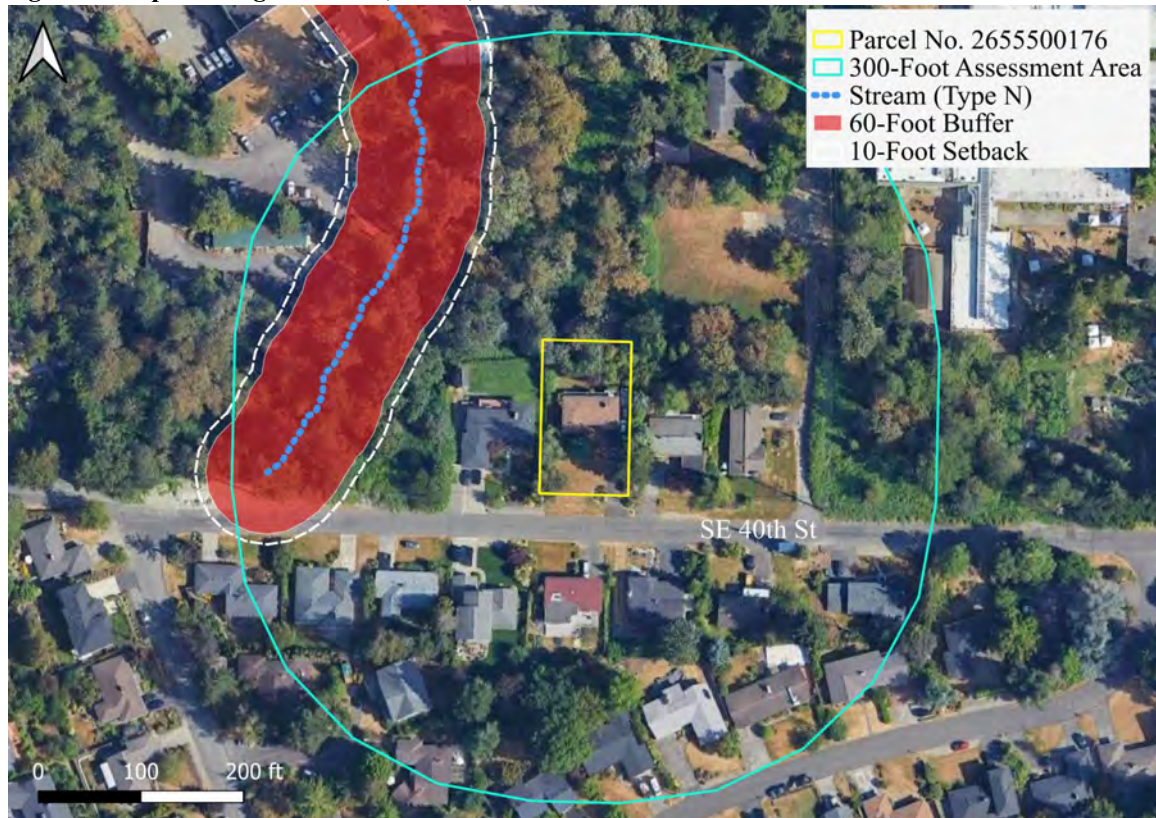
A stream channel (S1) was observed offsite that had flowing water during the December site assessment. The stream's ordinary high water mark was not delineated as it is located entirely offsite of the subject property. There are no streams located on the subject property.

According to Mercer Island City Code (MICC) Chapter 19.07.180, stream S1 is a Type N stream as it does not have any record of fish utilization and does not appear to have the potential to support fish habitat due to an average observed channel width less than 2 feet wide. According to the city's maps, the source of the water flow that emerges from a culvert from under SE 40th St. is from piped stormwater main lines from the neighborhood to the south. Stream S1 exists mostly as a piped watercourse and does not have many open sections as it flows north under I-90 and eventually into Lake Washington. The stream's buffer was defined according to MICC 19.07.180. The stream's location was mapped using onsite observations and the WDNR's public LiDAR data.

SUMMARY

In summary, the site assessment performed on December 19th, 2024 did not find any streams or wetlands on the subject property. The analysis of the soils on the subject property did not indicate the presence of hydric soils or wetland hydrology. One stream was observed offsite but within 300 feet of the subject property (Appendix A). Stream S1 was not delineated because it is located entirely off site of the subject property. According to MICC 19.07.180, the buffer for stream S1 and all Type N features is 60-feet from the observed ordinary high water mark and an additional 10-foot building setback from the edge of the buffer (Figure 3).

Figure 3. Map showing stream S1, buffer, and stream.



BIOLOGIST QUALIFICATIONS

Tom Peterman

Tom Peterman is a Biologist with training in wetland science and ecological restoration. Tom has professional experience in wetland and stream delineation, fisheries and marine mammal monitoring, wetland and stream restoration, mitigation planning and monitoring, and fish and wildlife assessments. Tom has earned a graduate degree and a certificate in wetland science and management from the University of Washington. Tom is certified as a Professional Wetland Scientist (#3676) with the Society of Wetland Scientists. For a list of representative projects, please contact him at Peterman Consulting.

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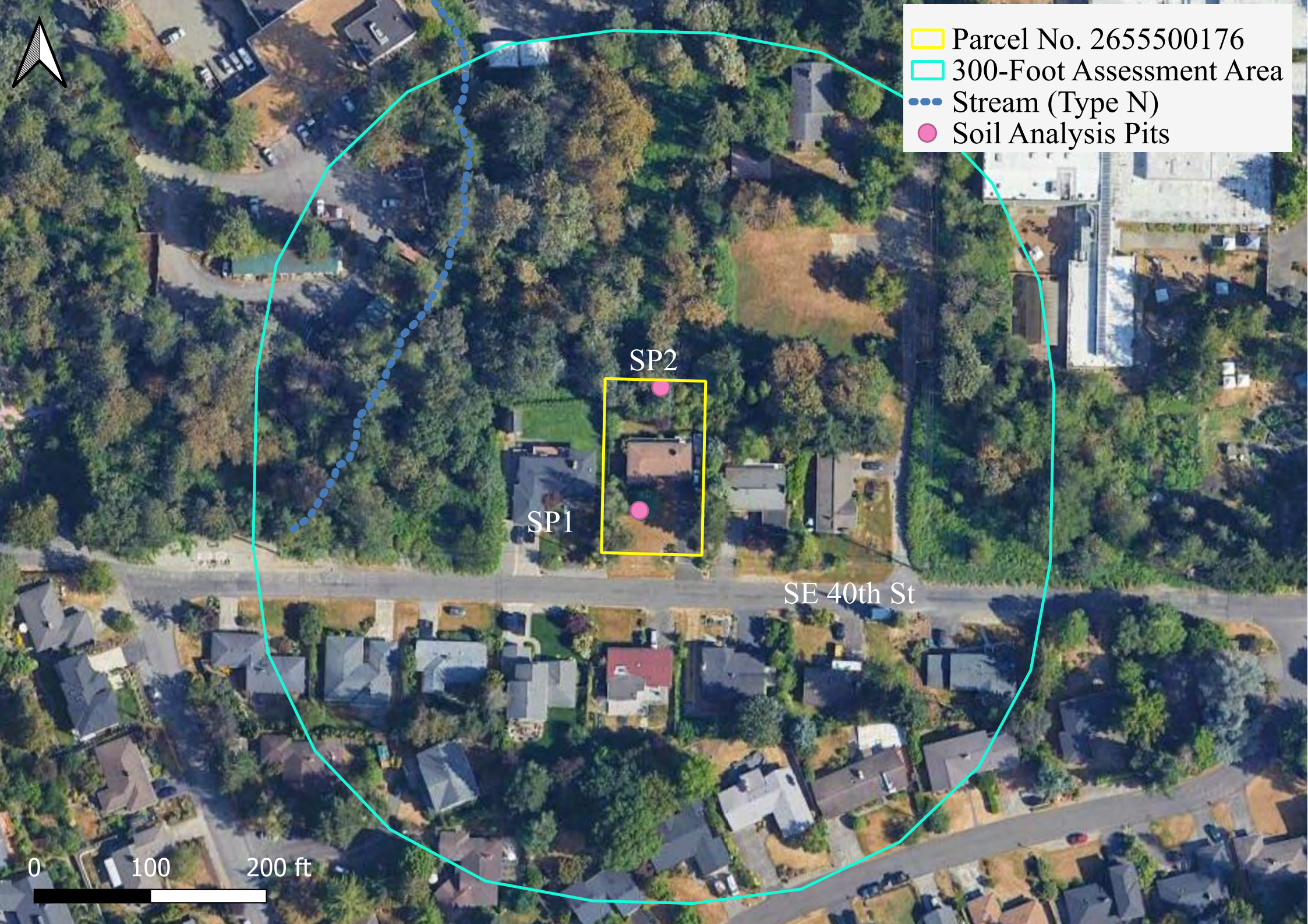
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9734 SE 40TH ST

KING COUNTY PARCEL No. 2655500176

CRITICAL AREA STUDY

APPENDIX A: CRITICAL AREAS MAP



- Parcel No. 2655500176
- 300-Foot Assessment Area
- Stream (Type N)
- Soil Analysis Pits

SP2

SP1

SE 40th St

0 100 200 ft

9734 SE 40TH ST

KING COUNTY PARCEL No. 2655500176

CRITICAL AREA STUDY

APPENDIX B: DATASHEETS

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

Project/Site: 9734 Se 40th St City/County: Mercer Island Sampling Date: 12/19/24
 Applicant/Owner: Palanchuk State: WA Sampling Point: SP1
 Investigator(s): TP Section, Township, Range: 7, 24, 5E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Kitsap loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Prunus sp. (Assumed FACU)</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)
2. <u>Betula pendula</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
3. _____				
4. _____				
<u>15</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>95</u> x 3 = <u>285</u> FACU species <u>27</u> x 4 = <u>108</u> UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = <u>393/122=3.22</u>
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rhododendron macrophyllum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Camellia sp. (Assujemd FACU)</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
<u>12</u> = Total Cover				
Herb Stratum (Plot size: <u>6 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Agrostis sp. (Assumed FAC)</u>	<u>75</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Poa sp. (Assumed FAC)</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>95</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>1</u>				
Remarks:				

SOIL

Sampling Point: SP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 3/3	100					loam	dry
9-14	10YR 4/3	100					clay loam	dry

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

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

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? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

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: 9734 Se 40th St City/County: Mercer Island Sampling Date: 12/19/24
 Applicant/Owner: Palanchuk State: WA Sampling Point: SP2
 Investigator(s): TP Section, Township, Range: 7, 24, 5E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Kitsap loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks:					

VEGETATION – Use scientific names of plants.

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30 ft</u>)					Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
1.	<u>Crataegus monogyna</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2.	<u>Acer macrophyllum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	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 = _____
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)					
1.	<u>Rubus armeniacus</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2.	<u>Ilex aquifolium</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3.	_____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
6.	_____	_____	_____	_____	
7.	_____	_____	_____	_____	
8.	_____	_____	_____	_____	
9.	_____	_____	_____	_____	
10.	_____	_____	_____	_____	
11.	_____	_____	_____	_____	
Herb Stratum (Plot size: <u>6 ft</u>)					
1.	<u>Hedera helix</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
2.	<u>Polystichum munitum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
6.	_____	_____	_____	_____	
7.	_____	_____	_____	_____	
8.	_____	_____	_____	_____	
9.	_____	_____	_____	_____	
10.	_____	_____	_____	_____	
11.	_____	_____	_____	_____	
Woody Vine Stratum (Plot size: _____)					
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
_____ = Total Cover					
% Bare Ground in Herb Stratum <u>35</u>					
_____ = Total Cover					
Remarks:					

SOIL

Sampling Point: SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/1	100					loam	dry
3-13	10YR 4/4	100					sand loam	dry

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

Remarks:

HYDROLOGY

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

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

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

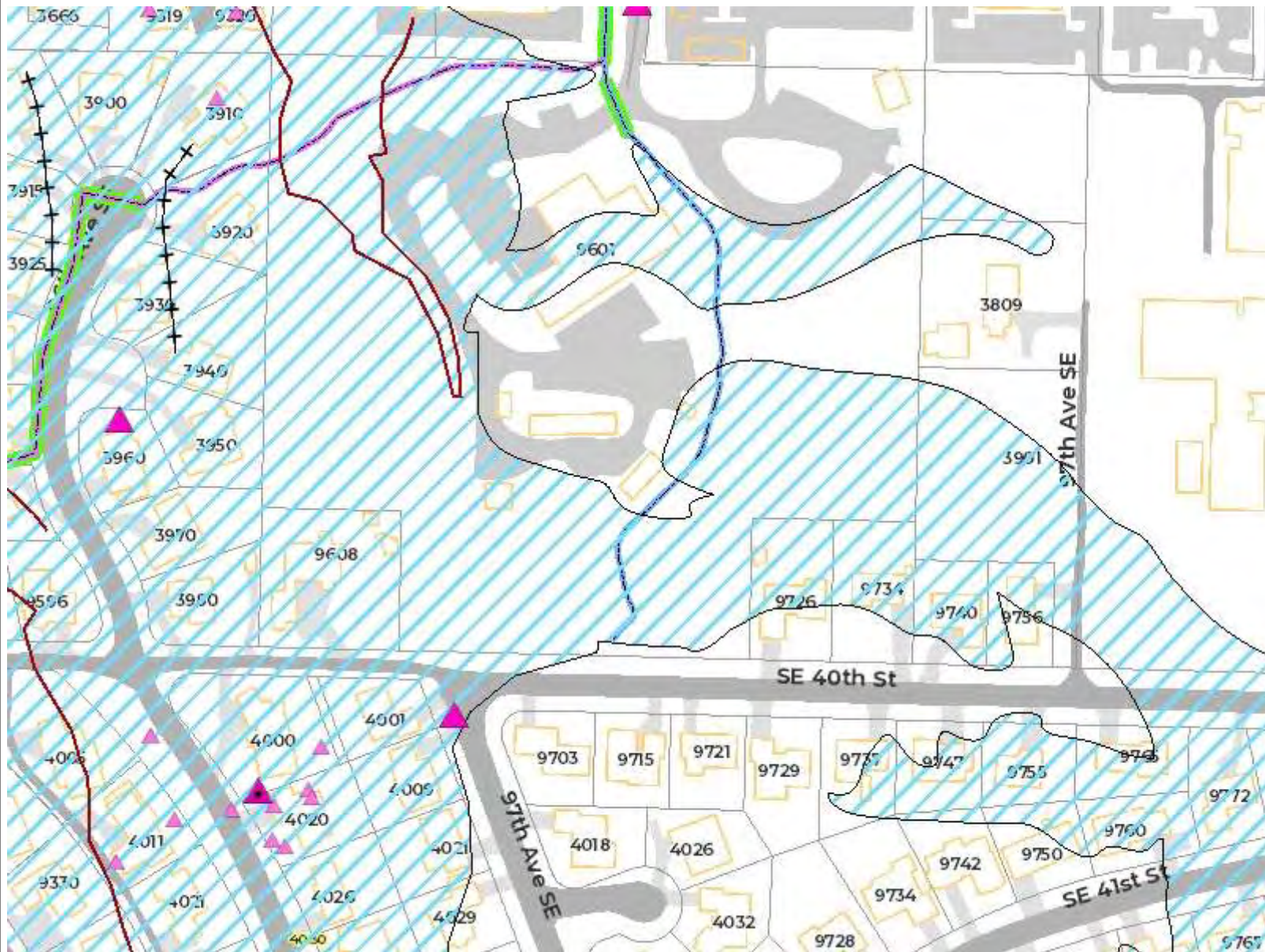
Remarks:

9734 SE 40TH ST

KING COUNTY PARCEL No. 2655500176

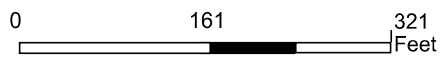
CRITICAL AREA STUDY

APPENDIX C: QUERIED DATABASE FIGURES



Legend

- Identified Landslide Location**
 - Documented (Pink triangle)
 - No Documentation (Red triangle)
 - Ancient Slide (Test Pit) (Purple triangle)
- Scarp (+)
- Geologic Contacts (Black line)
- Spring Locations (Blue circle)
- Springs Mapped (Blue line with circles)
- Landslide Area (Blue hatched box)
- Unpiped Watercourse**
 - Type "F" = Fish (Red line)
 - Type "Np" = Non-Fish (Blue line)
 - Type "Ns" = Non-Fish Seasonal (Purple line)
 - Type "Np" (Unverified) (Yellow line)
 - Type "Ns" (Unverified) (Orange line)
- Piped Watercourse (Green line)
- Address (Yellow box)
- Building (Yellow outline)
- Property Line (Black outline)
- Docks (Brown rectangle)
- Freeway (Grey rectangle)
- Major Street (Grey rectangle)
- Street (Grey rectangle)
- Paved Driveway (Grey rectangle)
- Paved Road (Grey rectangle)
- Paved Parking Area (Grey rectangle)
- Parks (Green rectangle)
- Lake Washington (Blue rectangle)

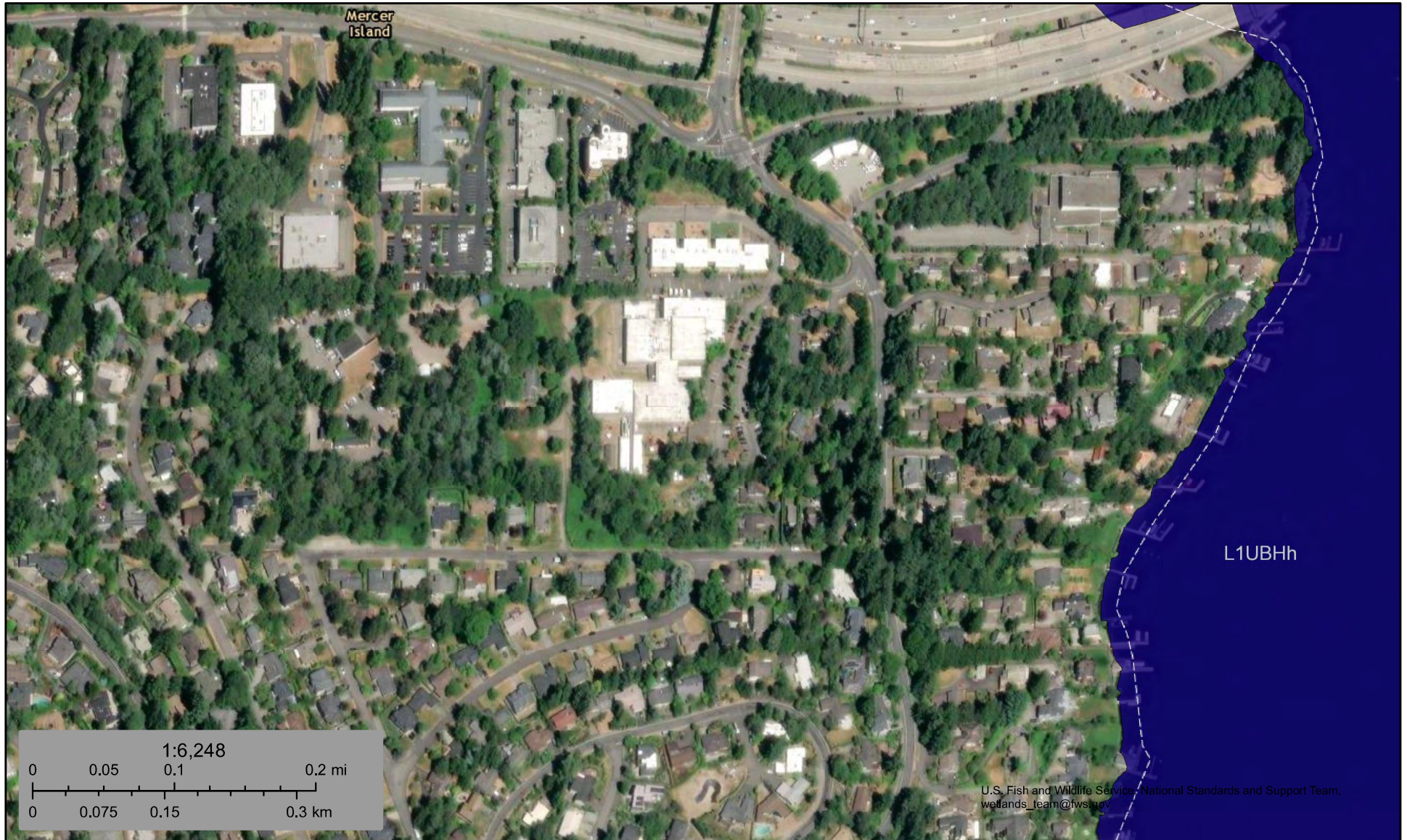


1 inch = 321.0639045 feet



Disclaimer: These maps were developed by the City of Mercer Island and are intended to be a general purpose digital reference tool. These maps are not an accepted legal instrument for describing, establishing, recording or maintaining descriptions for property concerns or boundaries. The City makes no representation or warranty with respect to the accuracy or currency of these data sets, especially in regard to labeling of surveyed dimensions, or agreement with official sources such as records of survey, or mapped locations of features.



Notes






U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov

January 2, 2025

Wetlands

-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland

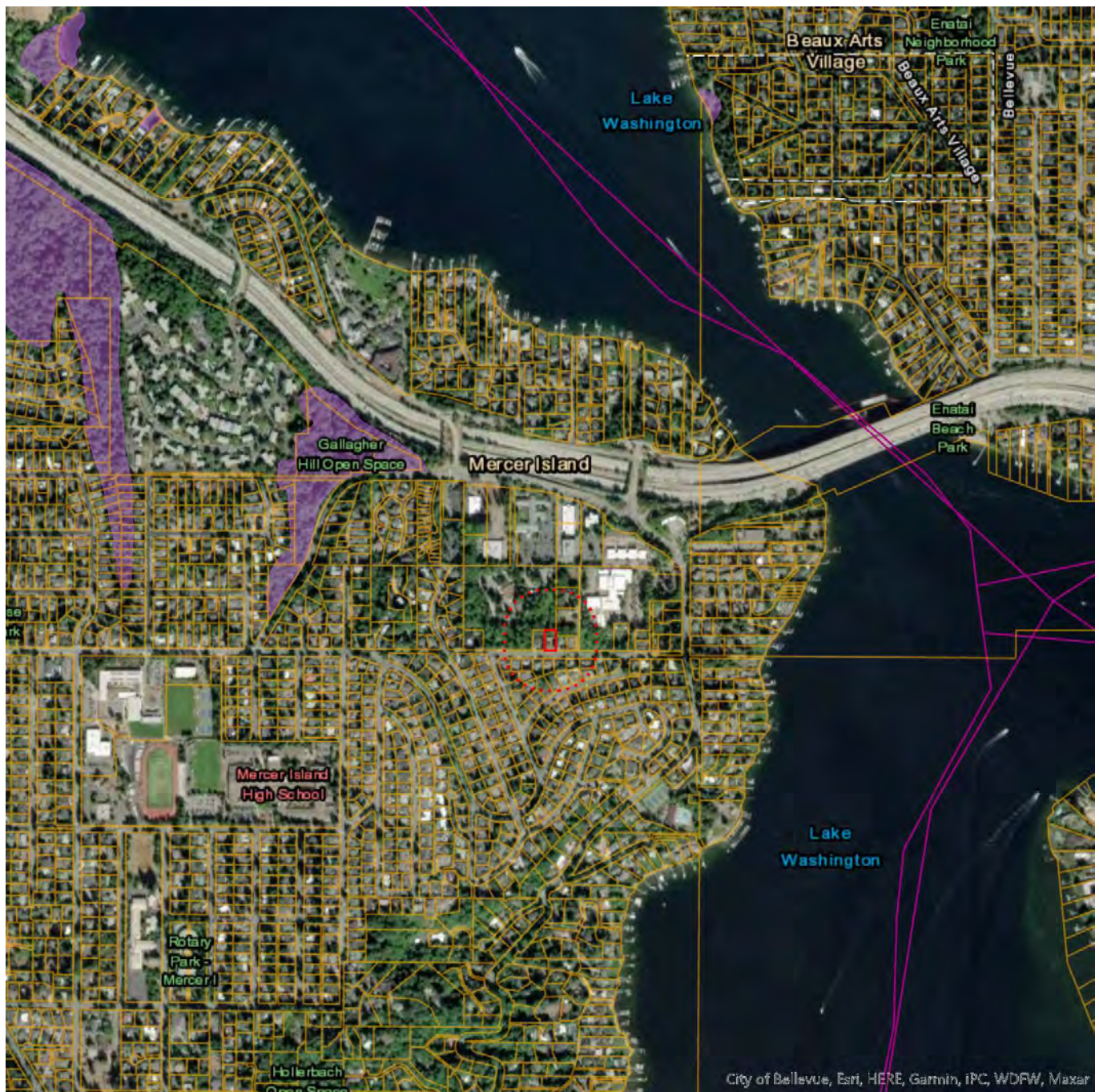
-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond

-  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



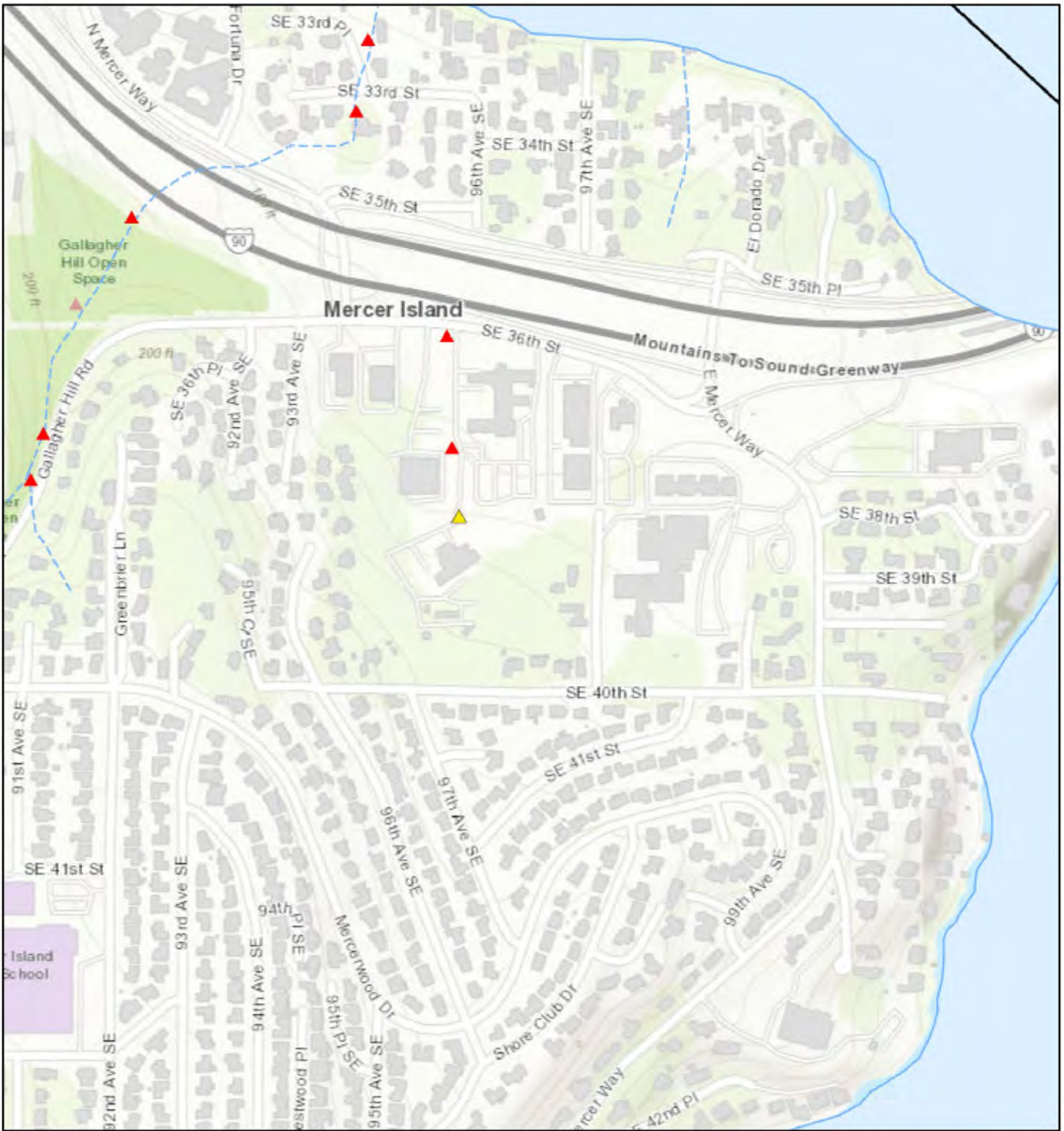
Buffer radius: 300 Feet

Report Date: 01/02/2025, Parcel ID: [2655500176](#)

The Priority Habitats and Species (PHS) datasets do not contain information for your project area. This does not mean that species and habitats do not occur in your project area. PHS data, points, lines and polygons are mapped only when occurrences of these species or habitats have been observed in the field. Unfortunately, we have not been able to comprehensively survey all sections in the state and therefore, it is important to note that priority species and habitats may occur in areas not currently known to the Department.

DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive

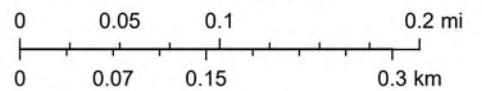
Letter ANSI A Portrait



January 2, 2025

1:9,028

- ▲ Barrier, Unknown Percent Passable
- ▲ Total Fish Passage Blockage
- ▲ Partial Fish Passage Blockage
- All SalmonScape Species



Restoration Division of the DFW Habitat Program, City of Bellevue, WA, County of King, Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA, USGS/NHD, Dale Gombert (WDFW), WDFW

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

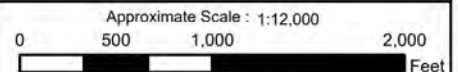
Additional Information

Legal Description

S18 T24.0N R05.0E, S17 T24.0N R05.0E, S07 T24.0N R05.0E, S08 T24.0N R05.0E



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.



Date: 1/1/2025 Time: 3:55 PM

Soil Map—King County Area, Washington




Map Scale: 1:356 if printed on A portrait (8.5" x 11") sheet.



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

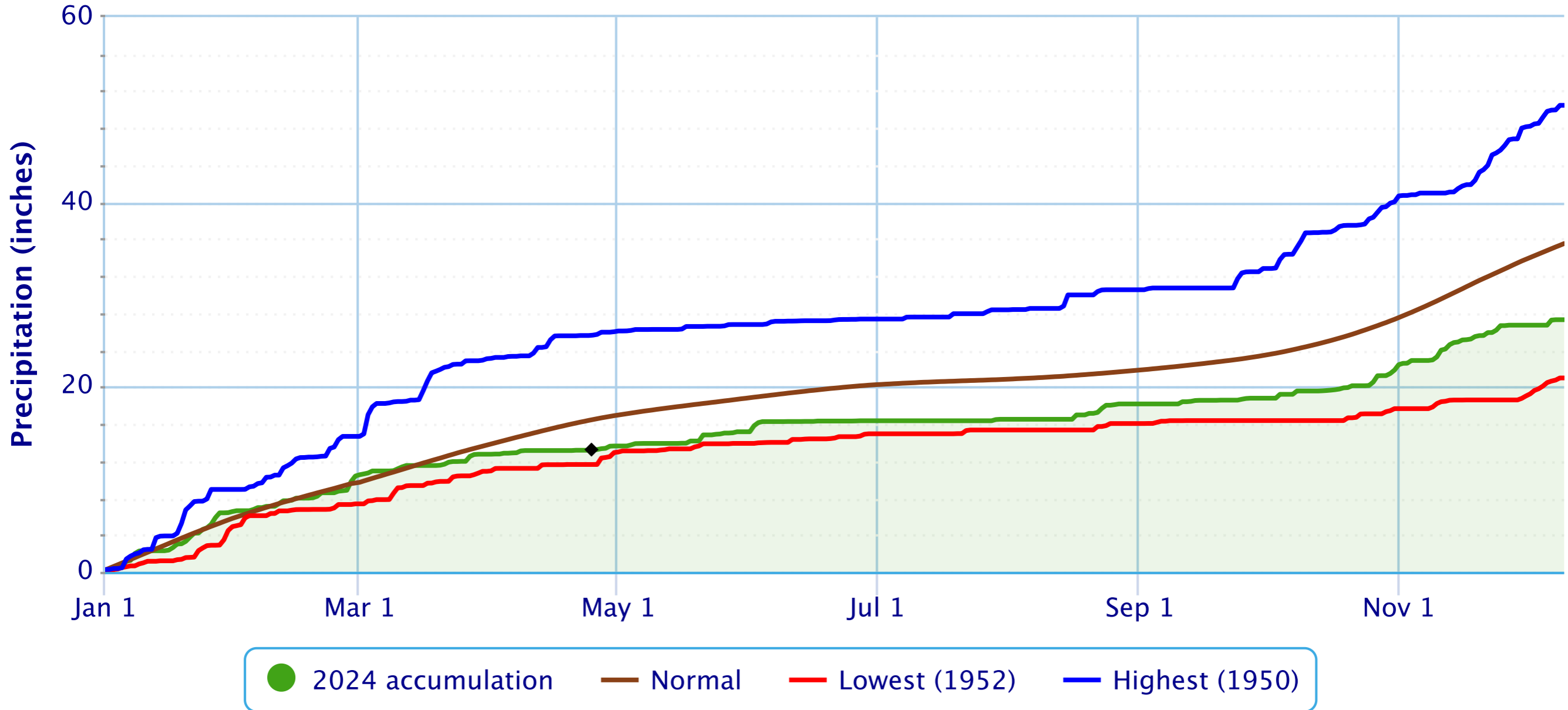
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KpB	Kitsap silt loam, 2 to 8 percent slopes	0.4	100.0%
Totals for Area of Interest		0.4	100.0%

Accumulated Precipitation – SEATTLE TACOMA AIRPORT, WA

Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



9734 SE 40TH ST

KING COUNTY PARCEL No. 2655500176

CRITICAL AREA STUDY

APPENDIX D: SITE PHOTOS



Site photos

Photo 1. Looking north towards the subject property's existing dwelling.



Photo 2. Looking southwest at the subject property's front yard.



Photo 3. Looking west towards the backyard.



Photo 4. Looking northwest towards soil analysis pit 2. No hydric soils were observed on the subject property.



Photo 5. Looking northeast towards the observed offsite stream near SE 40th St.



Photo 6. Looking north towards stream S1.

