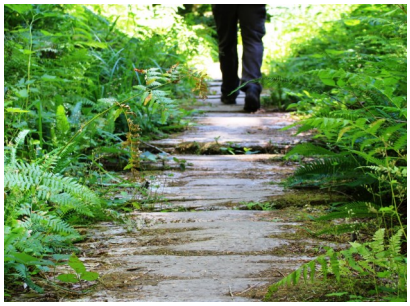
CRITICAL AREAS ASSESSMENT AND BUFFER MODIFICATION PLAN

October 23, 2025



Backcounty Delineation

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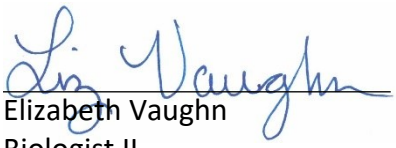
The information in this report was compiled and prepared under the supervision and direction of the undersigned.



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INTRODUCTION

Ecological Land Services, Inc. (ELS) was contracted by Backcountry Development to conduct a critical areas assessment for wetlands and fish and wildlife habitat conservation areas, for the purpose of future development. This report also includes a wetland buffer averaging plan and Oregon white oak (*Quercus garryana*) buffer reduction plan for the future development thereby avoiding all critical area impacts. The study area is located is located at 33901 NW Pacific Highway in La Center, Clark County, Washington and includes Clark County Tax Parcel Numbers 258921000, 258902000, and a portions of NW Pacific Hwy and NW 9th Avenue. The study area is approximately 11.385 acres and is located within Section 34, Township 5 North, Range 1 East of the Willamette Meridian (Figure 1). ELS biologists conducted a study area assessment on June 6, 2025. This critical areas assessment summarizes the findings in accordance with the City of La Center Municipal Code (LCMC) *Chapter 18.300.090 Critical Lands* (May 2025).

STUDY AREA DESCRIPTION

The 11.385-acre study area consisting of Clark County Parcel Numbers 258921000, 258902000, and portions of public roadways are within the La Center Urban Growth Area. The study area can be accessed by a gravel driveway off NW Pacific Highway. The subject parcels are zoned as Low Density Residential (LDR-7.5) and have been historically managed for agricultural hay farming. Existing structures within the study area include one single-family home, a detached shop, and a barn. All existing structures are located along the southern study area boundary. There is an existing stormwater detention pond east of the study area (Figure 2). Surrounding parcels east of the study area are zoned as Residential/Professional (RP), Parks/Open Space (P/OS), and Low Density Residential (LDR-7.5). These parcels contain single-family homes and undeveloped land. Parcels to the north and west of the study area are zoned as Low Density Residential (LDR-7.5) and also contain single-family homes. The southern study area boundary is bound by NW Pacific Highway. Vegetation within the study area transitions from regularly mowed lawn grass to open agricultural hay fields dominated by pasture grasses (Photoplates 1-3). Topography generally slopes from a high point of 187 feet in the northeast corner down to 144 feet in the west-central portion of the study area. ELS biologists identified one Oregon white oak onsite and one offsite wetland (Figure 2).

PROJECT DESCRIPTION

The proposed project consists of constructing an 81-lot residential subdivision that includes lot development, construction of interior roads, utilities, a stormwater facility, and a green space (Figure 3). Stormwater will be directed to one proposed stormwater detention facility that will be constructed along the western study area boundary at the lowest topographic area within the study area. The interior streets have been designed to align with existing streets, NW 9th Avenue to the west, NW Pacific Avenue to the south, and a private driveway to the north. The subdivision will be served by municipal water and sewer.

An open space tract was created around an existing individual Oregon white oak to meet green space requirements for the project as well as provide protection for the oak (Figure 3). To discourage disturbance of the priority habitat oak and its understory, permanent demarcation and

protective signage will be installed around the oak's existing dripline per *LCMC 18.300.090(2)(n)(ii)*. The 300-foot standard oak buffer will be reduced in accordance with LCMC *Table 18.300.090(2)(a) Notes*. An offsite Category III wetland buffer extends into the eastern edge of the study area and will be averaged to avoid impacts.

This project has been designed to avoid impacts to all critical areas on and offsite through buffer averaging, buffer reduction, and other minimization measures Approximately 0.055 acres of temporary wetland buffer impacts will occur from grading for streets that will be restored to pre-project conditions. Additional minimization measures will be taken through the implantation of best management practices (BMPs) prior to and during construction to protect critical areas which include:

- Designating staging and stockpile areas outside of critical area buffers
- Establishing a standard construction entrance
- Installing silt fencing to prevent sedimentation within the offsite wetland
- Installing orange construction fencing around the oak dripline to prevent equipment from entering the critical root zone.

Equipment used may include haul trucks, log trucks, bull dozers, excavators, and pavers. Upon completion of construction activities, disturbed areas that will not be paved will be reseeded with a native seed mix appropriate for the water regime and certified weed free straw will be placed in those areas. Construction is anticipated to begin in summer of 2026 or upon permit issuance and will be completed by summer 2027.

METHODOLOGY

The study area was evaluated for the presence of wetlands using the Routine Determination Method, in accordance with the U.S. Army Corps of Engineers' 1987 *Wetland Delineation Manual* and the *Regional Supplement to the Corps of Engineers' Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Version 2.0) (Environmental Laboratory 1987; Corps 2010). The Routine Determination Method and defining wetland criteria are discussed further in Appendix A. Wetlands are regulated as "Waters of the United States" by the U.S. Army Corps of Engineers (Corps), as "Waters of the State" by the Washington State Department of Ecology (Ecology), and locally by the City of La Center.

ELS biologists evaluated the study area on June 6, 2025, to determine the presence or absence of critical areas, including wetlands and fish and wildlife habitat conservation areas within or near the study area and to map their approximate locations. Prior to the study area visit, ELS biologists reviewed current and historic aerial imagery dating back to 1990, as well as online environmental database information regarding soils, topography, wetlands, and habitat conservation areas. During the study area visit, vegetation, soils, and hydrology data were collected from six test plots to determine the location and extent of potential wetlands onsite. Location of test plots were established along low-lying topographic features and mapped hydric soils. Test pits were left open for approximately one hour before measuring hydrology. Photos were taken to document existing conditions. Test plots were marked with consecutively numbered, fluorescent orange pin flags.

One wetland was located east of the study area (Wetland A). The approximate boundary of Wetland A was mapped using visual observations from of vegetation and topographic changes from within the study area. Additional methods for determining the boundaries of Wetland A included reviewing high-resolution aerial imagery, LiDAR, and mapped topography. The location of one individual Oregon white oak, the oak's dripline, test plots, and photopoints were recorded using a hand-held GPS unit capable of sub-meter accuracy under ideal conditions (Figure 2).

VEGETATION

The study area generally transitions from areas of regularly maintained lawn grasses to regularly tilled pasture grasses, herbs, and forbs. The plant indicator status following the plant scientific name is defined by the *National Wetland Plant List Indicator Rating Definitions* (Corps 2012) and can be found in Appendix A. Wetland determination data forms further describing vegetation are in Appendix B.

The access road is lined with Douglas fir (*Pseudotsuga menziesii*, FACU) and bigleaf maple (*Acer macrophyllum*, FACU). Along the eastern study area boundary there are sporadic areas of bitter cherry (*Prunus emarginata*, FACU), Himalayan blackberry (*Rubus armeniacus*, FAC), and evergreen blackberry (*Rubus laciniatus*, FACU). Throughout the agricultural field the vegetation consists of velvetgrass (*Holcus lanatus*, FAC), narrow leaf plantain (*Plantago lanceolata*, FACU), oxeye daisy (*Leucanthemum vulgare*, FACU), vetch (*Vicia sativa*, UPL), hairy cat's ear (*Hypochaeris radicata*, FACU), meadow foxtail (*Alopecurus pratensis*, FAC), field horsetail (*Equisetum arvense*, FAC), brownray knapweed (*Centaurea jacea*, FACU), tall fescue (*Schedonorus arundinaceus*, FAC), yellow glandweed (*Parentucellia viscosa*, FAC), curly doc (*Rumex crispus*, FAC), bird's-foot trefoil (*Lotus corniculatus*, FAC), sheep sorrel (*Rumex acetosella*, FACU), white clover (*Trifolium repens*, FAC), creeping buttercup (*Ranunculus repens*, FAC) an *Agrostis* species assumed (FAC), and a *Poa* species assumed (FAC). One mature Oregon white oak (FACU) is located in the western portion of the study area.

SOILS

As referenced on the U.S.D.A Natural Resources Conservation Service (NRCS) website, the soils within the study area are mapped as Cove silty clay loam, 0 to 3 percent slopes (CvA), Hillsboro silt loam, 0 to3 percent slopes (HoA), Hillsboro silt loam, 3 to 8 percent slopes (HoB), Hillsboro silt loam, 8 to 15 percent slopes (HoC), and Odne silt loam 0 to 5 percent slopes (OdB) (NRCS 2025a; Figure 4). The NRCS *Washington State Hydric Soils List* documents Cove silty clay loam, 0 to 3 percent slopes and Odne silt loam 0 to 5 percent slopes as hydric (NRCS 2025b).

Cove silty clay loam, 0 to 3 percent slopes are characterized as poorly drained soils with an average depth to water table of approximately 0 to 12 inches below ground surface (BGS). These are typically found on flood plains with no recorded parent material. A typical profile consists of silty clay loam from 0 to 4 inches, clay from 4 to 36 inches and gravelly silty clay loam from 36 to 60 inches BGS.

Hillsboro silt loam, 0 to 3, 3 to 8, and 8 to 15 percent slopes are characterized as well drained soils with an average depth to water table of greater than 80 inches BGS. These soils are typically found

on terraces with parent material consisting of alluvium. Typical profiles consist of silt loam from 0 to 60 inches BGS.

Odne silt loam 0 to 5 percent slopes are characterized as poorly drained soils with an average depth to water table of approximately 0 to 18 inches BGS. These are typically found on drainageways, terraces with parent material consisting of alluvium. A typical profile consists of ashy silt loam from 0 to 5 inches BGS, silt loam from 5 to 33 inches, and loam from 33 to 60 inches BGS.

EVALUATED SOILS

Evaluated soils within test plots consisted of silt loam and silty clay loam textures with very dark grayish brown, dark brown, dark grayish brown, and grayish brown matrix colors (10YR 3/2, 3/3, 4/2, and 5/2). Although Test Plots 1, 4, and 6 contained redoximorphic features, they did not meet the percent threshold for prominent redox concentrations, and the matrix chroma was greater than two; therefore, hydric soil indicators were not met. Table 1 summarizes onsite soils.

ELS biologists' soil observations do not generally match with NRCS mapped hydric soils as non-hydric soils were found where hydric soils are mapped[1]. Specific soil information is recorded in the attached wetland determination data forms (Appendix B).

Table 1. Soils Summary

Soil Series[1]	Unit Symbol[1]	Percent Slope[1]	Landform[1]	Drainage Class[1]	Hydric Soil[2]	Test Plots in Soil Series
Cove silty clay loam, 0 to 3 percent slopes	(CvA)	0-3	Flood plains	Poorly drained	Yes	TP-6
Hillsboro silt loam, 0 to 3 percent slopes	(HoA)	0-3	Terraces	Well drained	No	TP-5
Hillsboro silt loam, 3 to 8 percent slopes	(HoB)	3-8	Terraces	Well drained	No	TP-3
Hillsboro silt loam, 8 to 15 percent slopes	(HoC)	8-15	Terraces	Well drained	No	--
Odne silt loam, 0 to 5 percent slopes	(OdB)	0-5	Terraces	Poorly drained	Yes	TP-1,TP-2, and TP-4

[1]NRCS 2025a
[2]NRCS 2025b

[1] Areas mapped as hydric soils do not necessarily mean that an area is or is not a wetland—hydrology, hydrophytic vegetation, and hydric soils must all be present to classify an area as a wetland.

HYDROLOGY

Hydrology generally moves over the study area from hillsides within the north and south that slope down to the center of the study area then runoff which does not infiltrate is conveyed to the west. There is a small grade break along the east study area boundary not shown on the topographic map. The ground surface slopes down to the east on the east side of this break, and down to the west on the west side. Test plots taken in the low area in the central portion of the site contained no primary or secondary hydrologic indicators.

WETLAND A

Wetland A was preliminarily assessed from onsite visual observations as a depressional, emergent wetland located east of the study area boundary. Due to private property constraints, no formal test plots were taken; therefore, hydrologic indicators for the unit could not be confirmed. Hydrologic inputs are assumed from stormwater discharge which outlets north of the wetland, groundwater, precipitation, and runoff from adjacent uplands. Visual observations from the eastern study area boundary, combined with review of aerial imagery, indicate the wetland has an estimated hydroperiod of "saturated only" and a highly constricted, permanently flowing outlet.

PRECIPITATION

Precipitation data was gathered from the NOAA Regional Climate Centers *Clark County*, *Washington WETS Station*: *Battle Ground,* the closest WETS station to the study area (NOAA 2025). The precipitation two weeks prior to field work on June 6, 2025, totaled 0.20 inches with 0.00 inches of rainfall occurring the day of the field visit. A review of the Corps Antecedent Precipitation Tool (APT) indicates that rainfall conditions during the three months preceding the June 6, 2025 field visit were drier than the normal range. Despite the below-average precipitation, field observations reflected typical seasonal conditions, suggesting that wetland hydrology and soil indicators observed were representative of the study area's natural response under moderately dry antecedent conditions. (Deters 2025). A copy of the APT data from the WETS station is located in Appendix C. Table 2 summarizes precipitation data during the field visit.

Table 2. Precipitation Data

Precipitation (inches)								
Date of Visit[1]	2 Weeks Prior[1]	3 Months Prior[2]		30% Below[2]	30% Above[2]	DAREM[2,3]		
		Month	Monthly Total			Value	Weight	Total
6/6/25 0.00	0.20	6/6/25	2.29	2.55	4.37	1	3	3
		5/7/25	1.47	4.03	6.49	2	2	2
		4/7/25	8.64	5.81	8.04	3	1	3
Rainfall 3 months prior was: **drier than normal (sum 6-9)**, normal (sum 10-14), wetter than normal (sum 15-18).[2]								8
Year to Date Mean Rainfall[1]: 21.86								
Year to Date Actual Rainfall[1]: 51.93								

[1] Based on 2005-2025 data from the NOAA Regional Climate Centers *Clark County, Washington (WETS Station: Battle Ground)*

[2] Based on The Army Corps of Engineers Antecedent Precipitation Tool (APT) for coordinates 45.8669, -122.67874

[3] Direct Antecedent Rainfall Evaluation Methods (Sumner et al 2009)

CRITICAL AREA INVENTORIES[2]

USFWS NATIONAL WETLANDS INVENTORY

The United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping does not indicate the presence of wetlands within the study area. NWI does however have one freshwater pond mapped approximately 15 feet east of the study area, and riverine wetland mapped approximately 200 feet northwest of the study area. All other NWI mapped wetlands are located farther than 300 feet from the study area (USFWS 2025; Figure 5). ELS biologists generally disagree with NWI mapped wetlands as one freshwater pond is mapped east of the study area where a man-made stormwater pond was observed. Additionally, Wetland A was not mapped. ELS did not observe the mapped riverine wetland northwest of the study area as this area is located within private property and was not accessible.

CLARK COUNTY CRITICAL AREAS

Clark County Critical Areas (CCCA) indicates mapped hydric soils throughout central portions of the study area, extending east and west offsite. CCCA also indicates potential wetland presence approximately 15 feet east of the site and approximately 165 feet northwest of the study area. All other potential wetlands are mapped greater than 300 feet from the study area (CCCA 2025; Figure 6). ELS biologists generally disagree with hydric soils and potential wetland presence as mapped by CCCA. No hydric soils were observed onsite and a stormwater pond occurs east of the study area where CCCA maps potential wetland presence. Wetland A was not mapped by CCCA but was observed east of the study area and south of a stormwater pond. Potential wetlands mapped northwest of the study area could not be verified due to private property constraints.

[2] Critical area inventory mapping is typically used to gather general wetland information about a region and due to the large scale necessary for regional mapping, are limited in accuracy for localized analyses.

WDFW Priority Habitats and Species

Habitats

The Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) database has an Oregon white oak woodland mapped in the western portion of the study area and another oak woodland mapped approximately 125 feet west of the study area. PHS also maps a freshwater pond approximately 15 feet east of the study area and habitat that supports summer steelhead (*Oncorhynchus mykiss*), winter steelhead, rainbow trout, and coho (*Oncorhynchus kisutch*) approximately 165 feet west of the study area. All other critical habitats are mapped more than 300 feet from the study area (WDFW 2025; Figure 7). ELS biologists generally agree with the approximate location of the mapped Oregon white oak as an individual oak was observed in the approximate area. ELS biologists, however, do not generally agree with PHS mapping of the offsite freshwater pond as this is the approximate location of an observed man-made stormwater pond. Additionally, PHS does not map the offsite wetland. ELS did not observe additional offsite oak woodlands west of the study area. Habitat mapped by PHS that support fish could not be verified due to private property constraints.

Big Brown Bat

Big brown bats are a PHS-listed species mapped on a township basis (Figure 7). According to the Bat Conservation International (BCI) website, big brown bats occur in nearly every habitat type, ranging from meadows to lowland deserts, but are most abundant in deciduous forests and suburban areas. Roosting and hibernation habitats include tree cavities, caves, buildings, and other man-made structures. BCI also notes that big brown bats are generalists in their foraging behavior, frequenting neighborhoods, clearings, and forests, and feeding over both water and land with little preference. ELS biologists acknowledge bats may be present onsite, roosting in buildings or trees, or foraging for insects. Removal of existing structures may eliminate some roosting opportunities; however, remaining trees along the study area perimeter provide alternative roosting habitat. Removal of existing structures and construction of future single-family homes are not likely to affect foraging activities. No bats were observed by ELS biologists onsite or near the study area during field survey.

WDNR Stream Type Map

The Washington Department of Natural Resources (WDNR) mapping indicates one Type F (fish-bearing) stream approximately 200 feet northwest of the study area, one Type N (non–fish-bearing) stream approximately 270 feet west of the study area, and one Type U (unnamed) stream approximately 270 feet south of the study area. Riparian habitat areas for all offsite streams do not extend onsite therefore, will not be discussed further. All other mapped streams are located more than 300 feet from the study area (WDNR 2025; Figure 8). ELS biologists did not confirm the offsite locations WDNR mapped streams due to private property constraints. ELS biologists agree no streams are present within the study area.

CRITICAL AREAS SUMMARY

WETLAND A

One emergent, depressional wetland was visually observed east of the study area. Wetland boundaries were approximated based on observable changes in topography and vegetation visible from the study area. Additional tools used to approximate wetland boundaries, locate the outlet, and assess hydrology included aerial imagery, mapped topography, and LiDAR. Wetland A is assumed to have a "saturated only" hydroperiod.

According to the Department of Ecology's *Washington State Wetland Rating System for Western Washington* (Rating System), Wetland A has an estimated Category III rating, scoring 7 points for water quality functions, 7 points for hydrologic functions, and 4 points for habitat functions, for a total of 18 points (Appendix D). Per *LCMC 18.300.090(5)(i))* standard wetland buffers are determined by wetland category and habitat score under the Rating System, in conjunction with the proposed land use intensity. The proposed residential development is considered high-intensity land use. Based on its estimated rating as a Category III wetland with a habitat score of 4, Wetland A has a designated standard buffer width of 80 feet. Table 3 summarizes Wetland A.

Table 3. Summary of Wetland A

Critical Area	HGM Class[1]	Cowardin Class[2]	Habitat Score[3]	Category[3]	Standard Buffer Width[4]
Wetland A	Depressional	Emergent	4	III	80 feet

[1]*NRCS 2008*
[2]*FGDC 2013*
[3]*Hruby & Yanke 2023*
[4]*LCMC Table 18.300.090(5)(i)(i)-1*

OREGON WHITE OAKS

Oregon white oaks are considered a priority habitat and are regulated locally by the City of La Center. According to WDFW's *Best Management Practices for Mitigating Impacts to Oregon White Oak Priority Habitat* (Oak Guidance; Nolan and Azzerad 2024), in urban or urbanizing areas west of the Cascades, priority oak habitat is defined as single oaks, stands of pure oak, or oak/conifer associations one acre or greater in size, where the oak component of the stand comprises at least 25 percent of the canopy coverage. WDFW may also consider individual Oregon white oak trees to be priority habitat when they are found to be particularly valuable to wildlife (e.g., contain multiple cavities, have a large DBH, are used by priority species, or have a large canopy). Oregon white oaks provide habitat for a wide range of wildlife. Multiple insect species exclusively associate with oaks, while many bird species have high breeding densities in oak habitats. Snags and dead portions of live trees can harbor insects and provide nesting, resting, and breeding opportunities for birds and small mammals. The mushroom-shaped canopy structure of oaks can also protect animals from weather and predators. In addition, oak acorns, leaves, fungi, and the insects inhabiting the trees provide an important food source for birds and mammals (Nolan and Azzerad 2024).

The location, diameter at breast height (dbh), and canopy dripline of an individual Oregon white oak was mapped in the western portion of the study area (Figure 2). A functional assessment in accordance with WDFW 2024 guidance was conducted on the individual oak. The oak is a mature oak with a 56.9-inch dbh. The canopy of the oak is well formed and measured 0.105 acres. Acorn production was not observed but is presumed based on the size of the oak, therefore providing a potential food source for varying species onsite. The oak and its branches were observed low enough to provide leaves for browsing and there were several dead branches observed that would provide habitat for small mammals, nesting birds, or insects. Natural propagation opportunities are likely limited due to the current land use, which consists of a single-family residence with an active agricultural hay field that is regularly tilled and mowed. Due to these characteristics, the individual oak received a high score using WDFW's Functional Assessment, with 13 out of 20 possible points. Table 4 summarizes the oak's pre-project functions.

Table 4. Oak 1 Pre-Project Functional Assessment for Individual Oak

Metric	Present?	Multiplier	Section Score
Size of Oak Trees *(Choose one)*			
>76 cm (30 in) dbh	**X**	6	**6**
50-76 cm (20-30 in) dbh		5	
30-50 cm (12-20 in) dbh		3	
<30 cm (12 in) dbh		1	
Condition of Crown *(Choose one)*			
Well-formed/dominant	**X**	3	**3**
Suppressed/stunted		2	
Seedling/Sapling		1	
Wildlife Value *(Choose all that apply)*			
Acorn production	**X**	2	**4**
Leaves available for wildlife browsing	**X**	1	
Presence of cavities		2	
Presence of dead branches	**X**	1	
Presence of galls or fungi		1	
Presence of heart rot or carpenter ants		1	
Located near other OWO trees (<118 ft)		3	
		Total Score[2]	**13**

[1](Nolan and Azerrad 2024),[2]**High Function = Score ≥10**; Medium Function = Score of 7-9, Low Function = Score ≤3

A functional assessment of the oak was also conducted to determine post-project ecological function. The project will not have an impact on the ecological functions of the oak and therefore, its ecological function score will remain high. According to *LCMC Table 18.300.090(2)(a)*, Oregon white oaks are considered a non-riparian priority habitat with a standard protected buffer of 300 feet, or a threshold established through consultation with WDFW or the City's peer review process. Table 5 summarizes the individual oak onsite.

Table 5. Summary of Oak

Critical Area	dbh	Dripline	Oak Functions	Oak Functional Habitat Score[1]	Standard Buffer[2]
Oregon white oak	56.9	0.105	Well-formed/dominant crown Acorn Production Leaves for browsing Presence of dead branches	13	300 feet

[1]*Nolan and Azzerad 2024*
[2]*LCMC Table 18.300.090(2)(a)*

PROPOSED BUFFER MODIFICATIONS

WETLAND A BUFFER AVERAGING

The Applicant is proposing to implement wetland buffer averaging to avoid impacts to the offsite wetland, Wetland A. Below is an assessment of how this project meets the wetland buffer averaging regulations of the *LCMC*. Excerpts from the *LCMC* are in italics with the assessment in regular font.

18.300.090(5)(j) Wetland Buffer Reduction.
(ii) The city may allow the averaging of a buffer of a Category III or IV wetland if:

(A) The buffer proposed for reduction has a habitat rating of five points or less;
Wetland A is located offsite and was preliminarily rated according to the Rating System utilizing onsite visual, topography, aerial images, and LiDAR. Wetland A has a habitat rating of four points.

(B) No area averaged is less than 75 percent of the width of the required base buffer;
The regulated base buffer for Wetland A according to LCMC *Table 18.300.090(5)(i)(i)-1* and LCMC *Table 18.300.090(5)(i)(i)-2* is 80 feet. No area averaged can be less than 60 feet. The area averaged out of Wetland A's buffer is no less than 75 feet for a total of 0.006 acres. The area averaged in is equivalent to the area averaged out (Figure 3).

(C) The proposed reduction will not create a net loss of buffer function; and
The proposed buffer averaging will not create a net loss of buffer function as the entirety of Wetland A's buffer is composed of regularly mowed and tilled herbaceous grasses as are the areas to be averaged in. The buffer will be averaged out to 75 feet to accommodate a portion of the internal roadway (Figure 3). This will also require grading in 0.055 acres of the buffer which is a temporary wetland impact. Following grading, the temporarily disturbed portion of the buffer will be reseeded with a native seed mix and will no longer be mowed or tilled. Planting the area with a native seed mix and eliminating mowing and tilling will improve the overall buffer function.

(D) The total area contained in the buffer after averaging shall be at least functionally equivalent and equal in size to the area contained within the buffer prior to averaging.

Wetland A's buffer area averaged out onsite is 0.006 acres and the area averaged in onsite is 0.006 acres. The smallest buffer width where it has been averaged out is 75 feet (Figure 3). The total area contained in Wetland A's buffer prior to averaging is equal to the buffer area after averaging. Wetland A's buffer is composed of herbaceous grasses that are regularly mowed and tilled. Areas proposed to be averaged in are likewise herbaceous grasses that are regularly mowed and tilled so are equal in function as those to be averaged out. As stated above, a native seed mix will be applied to temporarily disturbed areas and mowing and tilling will be eliminated improving overall buffer functionality.

Oregon White Oak Buffer Reduction

The Applicant is proposing to implement a reduced buffer width for the individual Oregon white oak onsite in accordance with *LCMC Table 18.300.090(2)(2)(a)* which states non-riparian priority habitats have a 300-foot buffer which can be reduced if the functions of the priority habitat are not compromised. The existing 300-foot priority habitat buffer is dominated by planted, maintained, tilled, and harvested agricultural grasses that do not provide key ecological functions for the subject Oregon white oak. The oak's functional value (full crown, acorn production, browsable foliage, and deadwood/nesting features) is inherent to the tree itself and its immediate root/canopy zone. The surrounding agricultural grass matrix lacks the structure and attributes necessary to contribute to those oak-specific functions and the individual oak onsite does not share a canopy with any other oaks onsite or offsite. In accordance with *LCMC Table 18.300.090(2)(a)* footnote which states, "*For example, the city may allow a reduced buffer around a single Oregon white oak tree as a result of consultation with the regulatory agency or as a result of the city peer review process if the important functions and values of the resource will not be significantly diminished as a result of the buffer reduction*." The oak's buffer will be reduced to its immediate root/canopy zone of 0.105 acres. Table 6 summarizes the proposed wetland buffer averaging and the oak buffer reduction.

Table 6. Summary Critical Areas Buffer Modifications

Critical Habitat	Standard Buffer[1,2] (feet)	Buffer Averaged in/out[3] (acres)	Reduced Buffer[4] (acres)
Wetland A	80	0.006/0.006	
Oregon white oak	300		0.105

[1]*LCMC Table 18.300.090(5)(i)(i)-1*
[2]*LCMC Table 18.300.090(2)(a)*
[3] *LCMC 18.300.090(5)(j(ii)*
[4]*LCMC Table 18.300.090(2)(2)(a)*

Avoidance and Minimization

The preferred mitigation sequencing of first avoidance, then minimization, and finally compensation for unavoidable critical impacts was taken into consideration during the project design process.

Avoidance of Impacts

This project has been designed to completely avoid all direct and indirect impacts to the offsite wetland, Wetland A, and the individual oak onsite. Functions of the individual oak will not be impacted during, or after proposed construction activities. A portion of Wetland A's buffer extends onto the eastern portion of the study area; however, buffer averaging has been implemented in accordance *LCMC 18.300.090(5)(j)(ii)* to avoid direct and indirect impacts to Wetland A.

Minimization of Impacts

Onsite portions of Wetland A's buffer that will be temporarily disturbed due to necessary grading activities will be reseeded with a native upland seed mix and covered with a certified weed-free straw and post grading activities. Installation of silt fencing will be installed at the edge of the grading to prevent potential sediment laden water from reaching the offsite wetland.

The following BMPs will be implemented to prevent impacts to Wetland A and the individual oak:

- Establishing a standard construction entrance,
- Designating staging and stockpiling outside of critical areas and buffers,
- Limiting ground disturbance to only those areas necessary to construct project elements,
- Grading during the dry season to minimize surface runoff,
- Seeding all bare areas with a native seed mix upon completion of construction activities in areas not graveled or paved, and
- Installing a tree protection barrier along the outer limits of the individual oak dripline which will remain in place until the project is complete.

Temporary Buffer Impacts

Wetland A

Temporary impacts to onsite portions of Wetland A's buffer will occur in the amount of 0.055 acres due to necessary grading for an internal roadway (Figure 3). In accordance with *LCMC 18.300.090(5)(f)(iii)* the City may allow disturbance of Category III wetlands or Category III wetland buffers for the purpose of infrastructure such as roadways. The temporarily disturbed area consists of regularly tilled pasture grasses, herbs, and forbs and will be reseeded with an native seed mix appropriate for the water regime to restore the area to pre-project conditions. Following seeding, certified weed-free straw will be applied to the disturbed areas. Table 7 summarizes temporary impacts and restoration to Wetland A's buffer and Table 8 summarizes the seed mix to be applied.

Table 7. Summary of Temporary Impacts

Critical Area	Impact	Amount (acres)	Restoration
Wetland A Buffer	Grading	0.055	Apply native seed mix and cover with certified weed free straw

Table 8. Native Upland Seed Mix

Temporary Impacts 0.055 acres (2,404 square feet)				
Species	**Indicator Status**	**Composition**	**Rate**	**Quantity**
Native red fescue (*Festuca rubra*)	FAC	50%	1.5 lb/ 1,000 square feet	3.6 lbs
California brome (*Bromus carinatus*)	NI	20%		
Blue wildrye (*Elymus glaucus*)	FACU	20%		
Large leaf lupine (*Lupinus polyphyllus*)	FAC	10%		
Total		100%		

POST-GRADING GREEN SPACE AND STORMPOND RESEEDING PLAN

Construction activities include grading which will occur within 0.486 acres surrounding the oak dripline and 0.164 acres within the bottom of the stormpond (Figure 3). Graded areas will be reseeded with a native grass seed mix appropriate for the water regime and covered with certified weed free straw, but shall not be considered oak buffer. Table 9 summarizes the seed mix to be applied to graded uplands and the stormpond.

Table 9. Summary of Native Seed Mix for Uplands and Stormpond

Upland area surrounding the oak 0.486 acres (21,162 square feet)				
Species	**Indicator Status**	**Composition**	**Rate**	**Quantity**
Native red fescue (*Festuca rubra*)	FAC	50%	1.5 lb/ 1,000 square feet	32 lbs
California brome (*Bromus carinatus*)	NI	20%		
Blue wildrye (*Elymus glaucus*)	FACU	20%		
Large leaf lupine (*Lupinus polyphyllus*)	FAC	10%		
Total		100%		
Bottom of stormpond area surrounding the oak 0.164 acres (7,159 square feet)				
Species	**Indicator Status**	**Composition**	**Rate**	**Quantity**
Slough Sedge (*Carex obnupta*)	OBL	40	1.5 lb/ 1,000 square feet	11 lbs
Spike Rush (*Eleocharis palustris*)	OBL	25		
Northwestern Mannagrass (*Glyceria occidentalis*)	OBL	15		
Small-fruited Bulrush (*Scirpus microcarpus*)	OBL	10		
Toad Rush (*Juncus bufonius*)	FACW	10		
Total		100%		

Oregon White Oak Maintenance and Monitoring Plan

Maintenance Plan

The retained 0.105-acre Oregon white oak understory and the 0.055-acres of temporarily impacted wetland buffer will be maintained for a minimum of one year following project completion. Maintenance activities will focus on the removal and suppression of invasive, non-native, and noxious plant species with the exception of reed canarygrass (*Phalaris arundinacea*). Invasive species will be controlled as often as necessary to achieve a performance standard of zero percent cover during the monitoring period. BMPs outlined in *WDFW's 2024 Management Recommendations for Washington's Priority Habitats* will be followed. Recommended methods include hand-pulling, mulching, and other physical barriers, as well as targeted chemical treatments, where appropriate.

Monitoring Plan

The individual Oregon white oak, invasive species, non-native, and noxious plant species cover, and native seed mix cover within the temporarily impacted wetland buffer will be monitored and maintained for a one-year period following project construction. An As-Built report will be submitted to the City of La Center within 30 days of completion of construction. The Year 1 Monitoring report will be submitted to the City of La Center by the end of the monitoring year, December 31, 2027. The monitoring report will contain the following:

- Location map and as-built drawing of retained Oregon white oak tree habitat,
- Photographs of the oak and its understory and of the wetland buffer onsite (a minimum of 6 photos),
- Documentation that permanent signage around the oak dripline is in place and legible from outside the oak dripline,
- Documentation that the oak dripline has been demarcated with permanent fencing or other permanent structures such as large woody material,
- Historic description of project, including dates of construction, dates of photos taken (pre and post construction) and the Year 1 Monitoring event,
- Assessment of invasive, non-native, and noxious plant species and recommendations for management,
- Assessment of any wildlife usage observed within the oak habitat, and
- Summary of maintenance conducted, and any contingency measures proposed.

Goals, Objectives, and Performance Standards

Monitoring and Maintenance Goals

Goal 1: Maintain the 0.055-acre temporary wetland buffer area to ensure successful stabilization and vegetation establishment until permanent conditions are achieved.

Goal 2: Maintain and protect the 0.105-acre Oregon white oak understory to ensure the tree remains healthy, invasive species are controlled, and the area is preserved in perpetuity through permanent physical and legal protections.

OBJECTIVES

Objective 1a: Maintain the 0.055-acre temporary wetland buffer to ensure soil stability and successful establishment of native vegetation.

Objective 1b: Monitor the wetland buffer area onsite to verify that vegetation cover is maintained and invasive species are controlled until permanent study area conditions are achieved.

Objective 1c: Ensure that temporary wetland buffer areas are stabilized and functioning to prevent erosion or sedimentation impacts to adjacent wetland during and after construction.

Objective 2a: Maintain the individual Oregon white oak understory.

Objective 2b: Monitor the retained individual Oregon white oak onsite to determine if the retained oak habitat is healthy with no signs of decline or mortality post construction activities.

Objective 2c: Protect the individual Oregon white oak onsite in perpetuity.

The following performance standards will ensure the monitoring and maintenance goals and objectives are accomplished:

PERFORMANCE STANDARDS

Performance Standard 1: Remove all invasive, non-native, and noxious plant species excluding reed canarygrass from within the 0.105-acre understory of the individual Oregon white oak. This performance standard will be documented in an As-Built report and a Year 1 Monitoring Report.

Performance Standard 2: *Per LCMC 18.300.090(2)(n)(ii)*, install a permanent and perpetual physical demarcation along the dripline of the individual Oregon white oak. Acceptable demarcation may consist of logs, a tree or hedgerow, wood or wood-like fencing, or another prominent physical marking approved by the Director. This performance standard will be documentation in an As-Built report and a Year 1 Monitoring report.

Performance Standard 3: *Per LCMC 18.300.090(2)(n)(ii),* install protective signage around the dripline of the individual Oregon white oak. Signs shall measure a minimum of one foot by one foot be mounted three and one-half feet above grade, and be posted at intervals of no more than 100 feet. Signage will be worded as follows: “Habitat Buffer – Please Retain in a Natural State”. This performance standard will be documented in an As-Built report and a Year 1 Monitoring report.

Performance Standard 4: Protect the individual oak and its associated 0.105-acre dripline and understory through a conservation covenant, recorded in a form approved by the City Attorney, pursuant to *LCMC 18.300.090(2)(n)(iii)*. This performance standard will be considered satisfied when the covenant is recorded with Clark County and a copy provided to the City.

Performance Standard 5: Document the onsite wetland buffer and the oak understory with photos. Photos should include all invasive species cover, native seed mix cover, signage, fencing, and oak habitat. This performance standard will be documented in an As-Built report and in a Year 1 Monitoring Report.

Performance Standard 6: Document installation of a native seed mix within the 0.055-acre temporarily impacted wetland buffer. This performance standard will be documented in the As-Built report.

Performance Standard 7: Ensure at least 80 percent coverage of native grass seed mix within the 0.055-acre temporarily impacted wetland buffer. This performance standard will be documented in the Year 1 Monitoring.

Performance Standard 8: Document zero percent coverage of all invasive, non-native, and noxious plant species within the 0.105-acre oak understory with the exception of reed canarygrass. This performance standard will be documented in an As-Built and a Year 1 Monitoring report.

Performance Standard 9: Document zero percent coverage of all invasive, non-native, and noxious plant species within the 0.055-acres of temporarily impacted wetland buffer with the exception of reed canarygrass. This performance standard will be documented in an As-Built report and in a Year 1 Monitoring Report.

Performance Standard 10: Monitor the overall health of the individual oak onsite. This includes evidence of new growth, live canopy density, leaf condition, absence of significant dieback, lack of pests or disease, and stability of the trunk and root structure. This performance standard will be documented in an As-Built report and in a Year 1 Monitoring Report.

CONTINGENCY PLAN

If the retained individual oak is documented to have low vigor, vitality, or noticed failure at anytime during the monitoring year a contingency plan will be developed and implemented that may include restoration or mitigation for the loss of the individual oak as required per LCMC. All contingency actions will be undertaken only after consulting and gaining approval from the City of La Center. The Applicant will be required to complete a contingency plan describing the following:

- The cause of failure
- Proposed corrective actions
- A schedule for completing corrective actions, and
- Whether additional maintenance and monitoring are necessary.

Similarly, if invasive or non-native species (excluding reed canarygrass) are present within the oak understory or wetland buffer, or if native seed mix coverage within the wetland buffer is less than 80 percent after the first year of establishment, corrective actions will be implemented to ensure vegetation meets performance standards.

The Applicant will be required to prepare a written contingency plan describing the following:

- The cause of failure (e.g., construction disturbance, poor establishment, erosion, or invasive encroachment);
- Proposed corrective actions, which may include reseeding, invasive species removal, or soil amendment,
- A schedule for completing corrective actions; and
- An evaluation of whether additional maintenance and monitoring are necessary to achieve performance standards.

LIMITATIONS

ELS bases this report's determinations on standard scientific methodology and best professional judgment. In our opinion, local, state, and federal regulatory agencies should agree with our determinations. However, the information contained in this report should be considered preliminary and used at your own risk until it has been approved in writing by the appropriate regulatory agencies. ELS is not responsible for the impacts of any changes in environmental standards, practices, or regulations after the date of this report.

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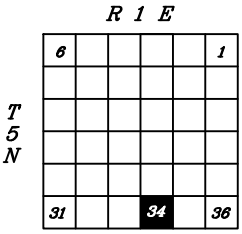
FIGURES AND PHOTOPLATES

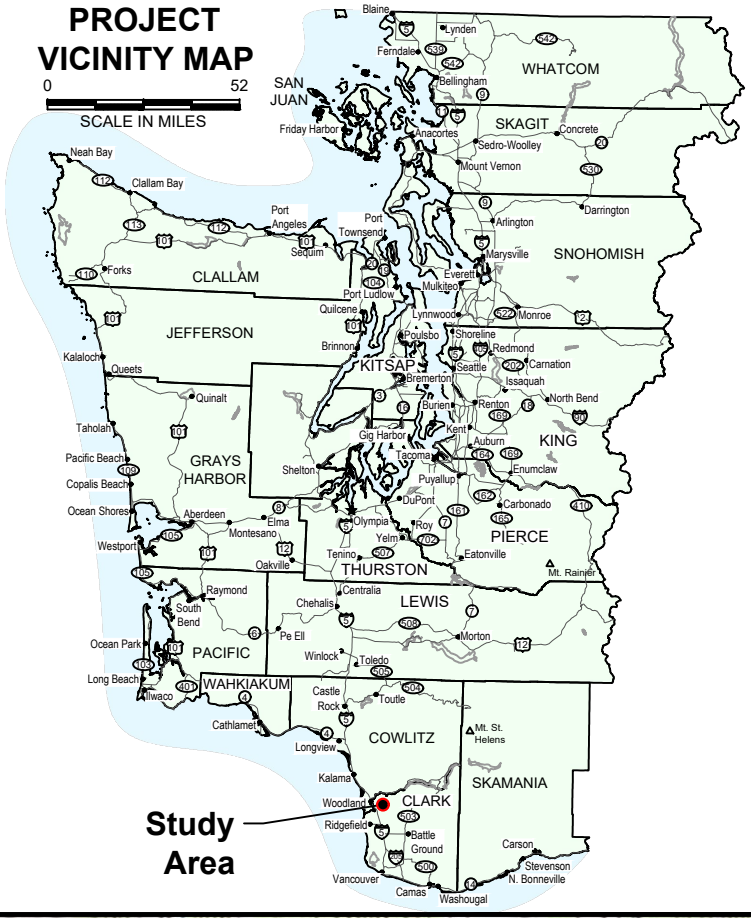
WASHINGTON

45.8672° Latitude
-122.6792° Longitude

LOCATION MAP



PROJECT VICINITY MAP



NOTE:
Quadrangle topographic map from USGS.

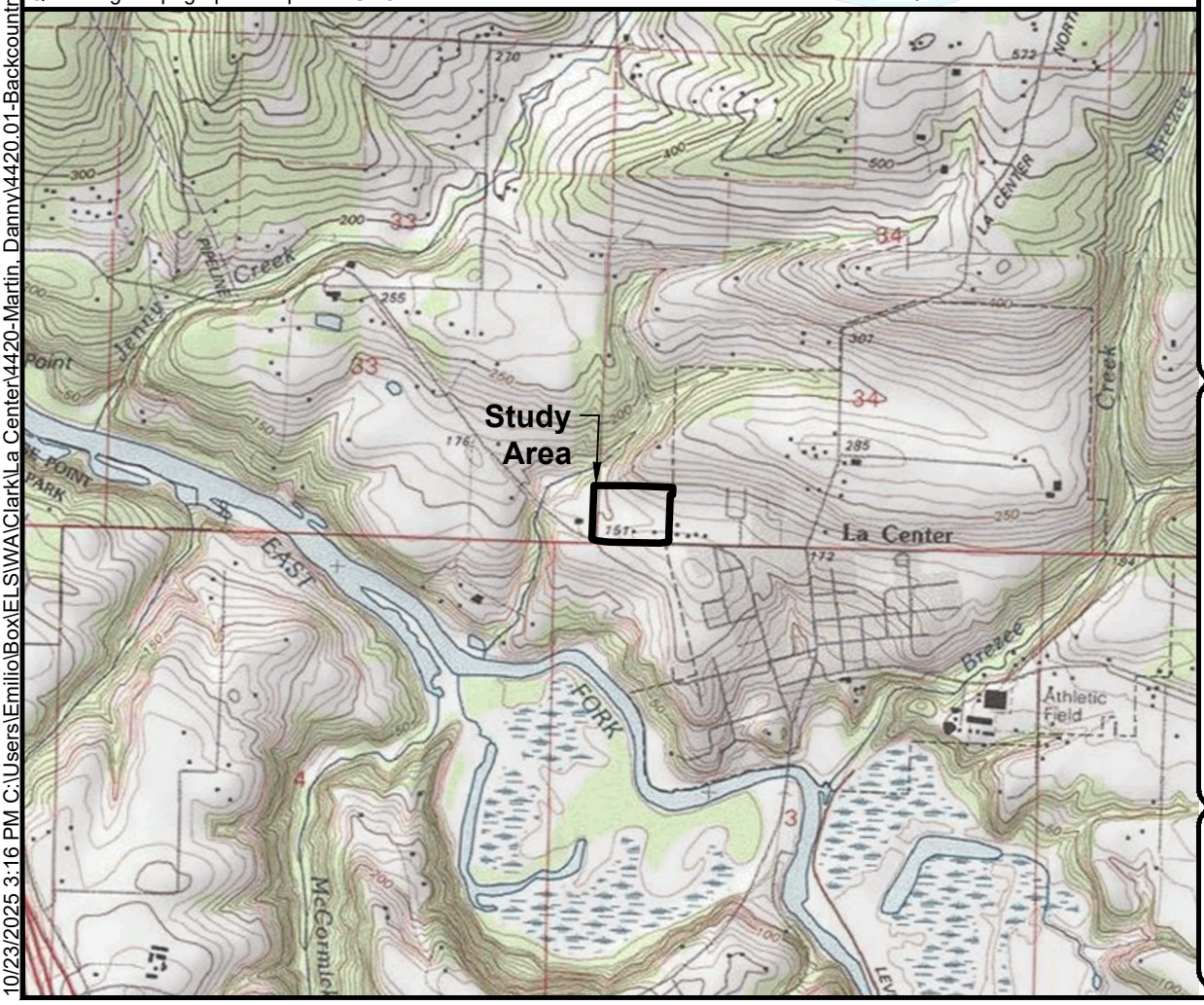


Figure 1
VICINITY MAP
La Center Property
Backcountry Development
City of La Center, Clark County, WA
Section 34, Township 5N, Range 1E, W.M.

DATE: 10/23/25
DWN: EF
REQ. BY: EV
PRJ. MGR: EF
CHK:
PROJECT NO: 4420.01

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
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LEGEND:

- Study Area (11.385 ac./495,945 sq. ft.)
- Parcel Boundary
- Approx. Wetland Boundary
- 80' Wetland Buffer
- Oregon White Oak Location
- Oregon White Oak Dripline (0.105 ac./4,554 sq. ft.)
- 300' Oregon White Oak Buffer
- Stream with Flow Direction
- Stream Buffer
- ① Photo Point Location
- ● TP-1 Test Plot Location
- Existing Building
- Existing Driveway
- Existing 5' Contours
- Culvert

NOTE(S):

1. Aerial from Google Earth™ (2024).
2. Culvert, photo points, and test plots located using handheld GPS capable of submeter accuracy.
3. Parcel data from Clark County GIS.
4. Contours generated from LiDAR provided by WDNR.
5. Offsite wetland is approximate and depicted based off of field observations, aerial imagery, LiDAR, and topography.
6. Oak driplines was surveyed by PLS Engineering 2025.

200'

TP-3

TP-2

Parcel #:
258902000

Stormwater Pond

Approximate Offsite Wetland A
Category III
Depressional
EM

Approximate Offsite
Wetland A Outlet

W F Pl

W E Pl

W 12th Way

③

④

TP-4

300'

TP-1

Oak
56.9" DBH
(0.105 ac./4,554 sq. ft. dripline)

Parcel #:
258921000

TP-6

80'

②

①

NW 9th Ave

TP-5

⑤

NW Pacific Hwy

NW 11th Ct

NW 11th Ct

W Golden Eagle Ave

W E Ave

Figure 2
EXISTING CONDITIONS
La Center Property
Backcountry Development
City of La Center, Clark County, WA
Section 34, Township 5N, Range 1E, W.M.

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LEGEND:

- Study Area (11.385 ac./495,945 sq. ft.)
- Parcel Boundary
- Approx. Wetland Boundary
- 80' Wetland Buffer
- Oregon White Oak Location
- Oregon White Oak Dripline (0.105 ac./4,554 sq. ft.)
- Culvert
- Stream with Flow Direction
- Stream Buffer
- Proposed 1' Contours
- Proposed Lot
- Proposed Storm Pond
- Proposed Storm Pipe
- Proposed Catch Basin
- Proposed Sewer Line
- Proposed Perpetual Physical Demarcation
- Proposed Protective Signage
- Wetland Buffer Averaged In (0.006 ac./269 sq. ft.)
- Wetland Buffer Averaged Out (0.006 ac./269 sq. ft.)
- Temporary Wetland Buffer Impact (0.055ac./2,404 sq. ft.)
- Reseeded Grading Area (0.486 ac./21,162 sq. ft.)
- Reseeded Stormpond Area (0.164 ac./7,159 sq. ft.)
- Proposed Final Wetland Buffer
- Proposed Fence

NOTE(S):

1. Oak location, culvert, photo points, and test plots located using handheld GPS capable of submeter accuracy.
2. Parcel data from Clark County GIS.
3. Contours generated from LiDAR provided by WDNR.
4. Offsite wetland is approximate and depicted based off of field observations, aerial imagery, LiDAR, and topography.
5. Per LCMC 18.300.090(2)(n)(ii) Signage will be placed every 100 feet around the oak dripline and be labeled “Habitat Buffer – Please Retain in a Natural State."
6. Per LCMC 18.300.090(2)(n)(ii) Demarcation of priority habitat may consist of logs, a tree or hedgerow, wood or wood-like fencing, or other prominent physical marking approved by the director.
7. Oak dripline is the reduced priority habitat buffer.

200'

Oak
56.9" DBH
(0.105 ac./4,554 sq. ft. dripline)

Wetland Buffer Averaged Out (0.006 ac./269 sq. ft.)

Approximate Offsite Wetland A Outlet

80'

75'

Wetland Buffer Averaged In (0.006 ac./269 sq. ft.)

Approximate Offsite Wetland A
Category III
Depressional
EM

W F Pl

W 12th Way

NW 9th Ave

NW 11th Ct

NW Pacific Hwy

W Golden Eagle Ave

W E Ave

Figure 3
PROPOSED CONDITIONS
La Center Property
Backcountry Development
City of La Center, Clark County, WA
Section 34, Township 5N, Range 1E, W.M.

DATE: 10/23/25
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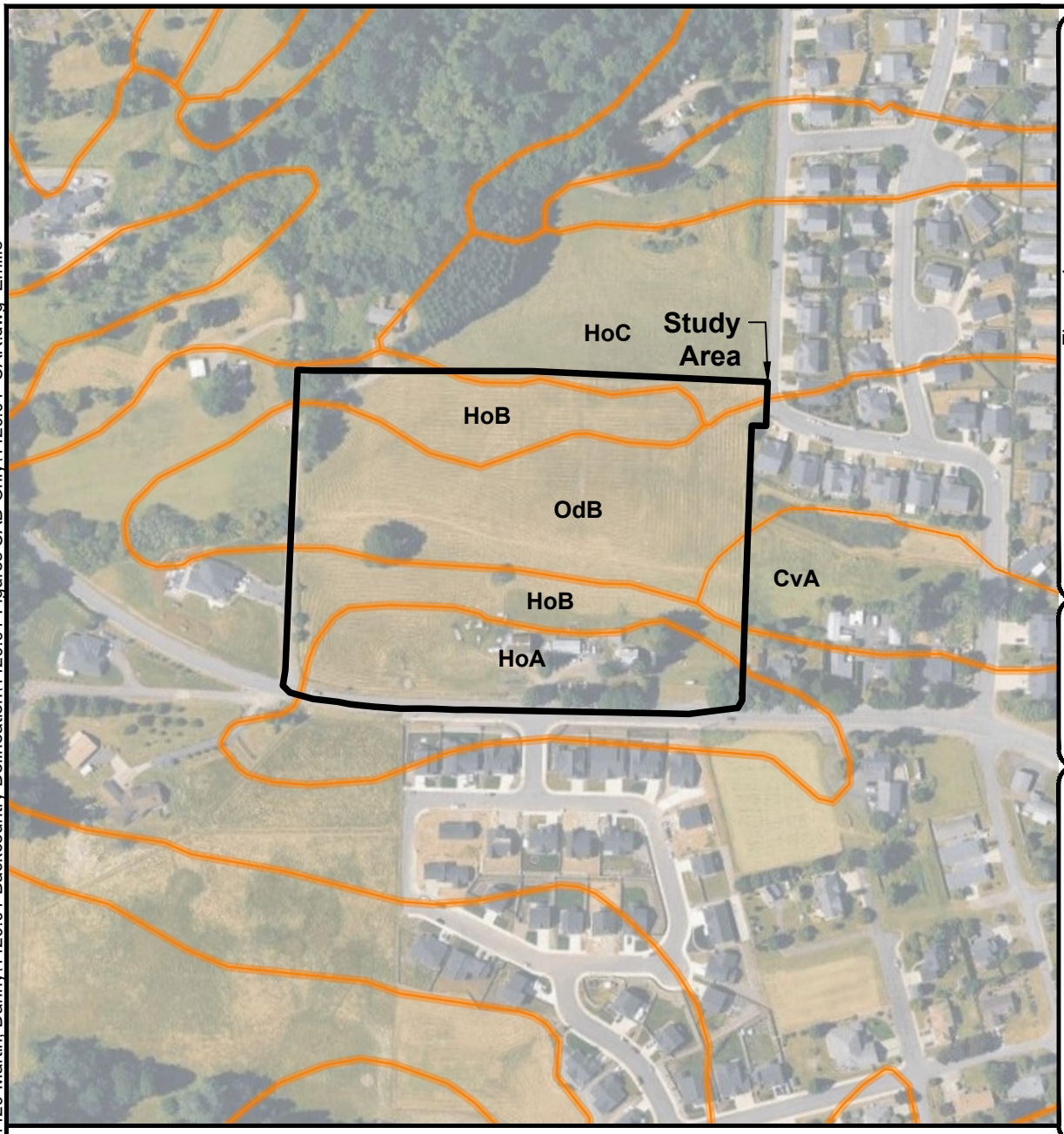

Figure 4
NRCS SOIL SURVEY
La Center Property
Backcountry Development
City of La Center, Clark County, WA
Section 34, Township 5N, Range 1E, W.M.

DATE: 10/23/25
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LEGEND:

- Study Area
- NRCS Soil Boundary

CvA Cove silty clay loam, 0 to 3 percent slopes. **Hydric.**
HoA Hillsboro silt loam, 0 to 3 percent slopes. Not hydric.
HoB Hillsboro silt loam, 3 to 8 percent slopes. Not hydric.
HoC Hillsboro silt loam, 8 to 15 percent slopes. Not hydric.
OdB Odne silt loam, 0 to 5 percent slopes. **Hydric.**

NOTE(S):
1. Map provided on-line by NRCS at web address: *http://websoilsurvey.nrcs.usda.gov/app/*

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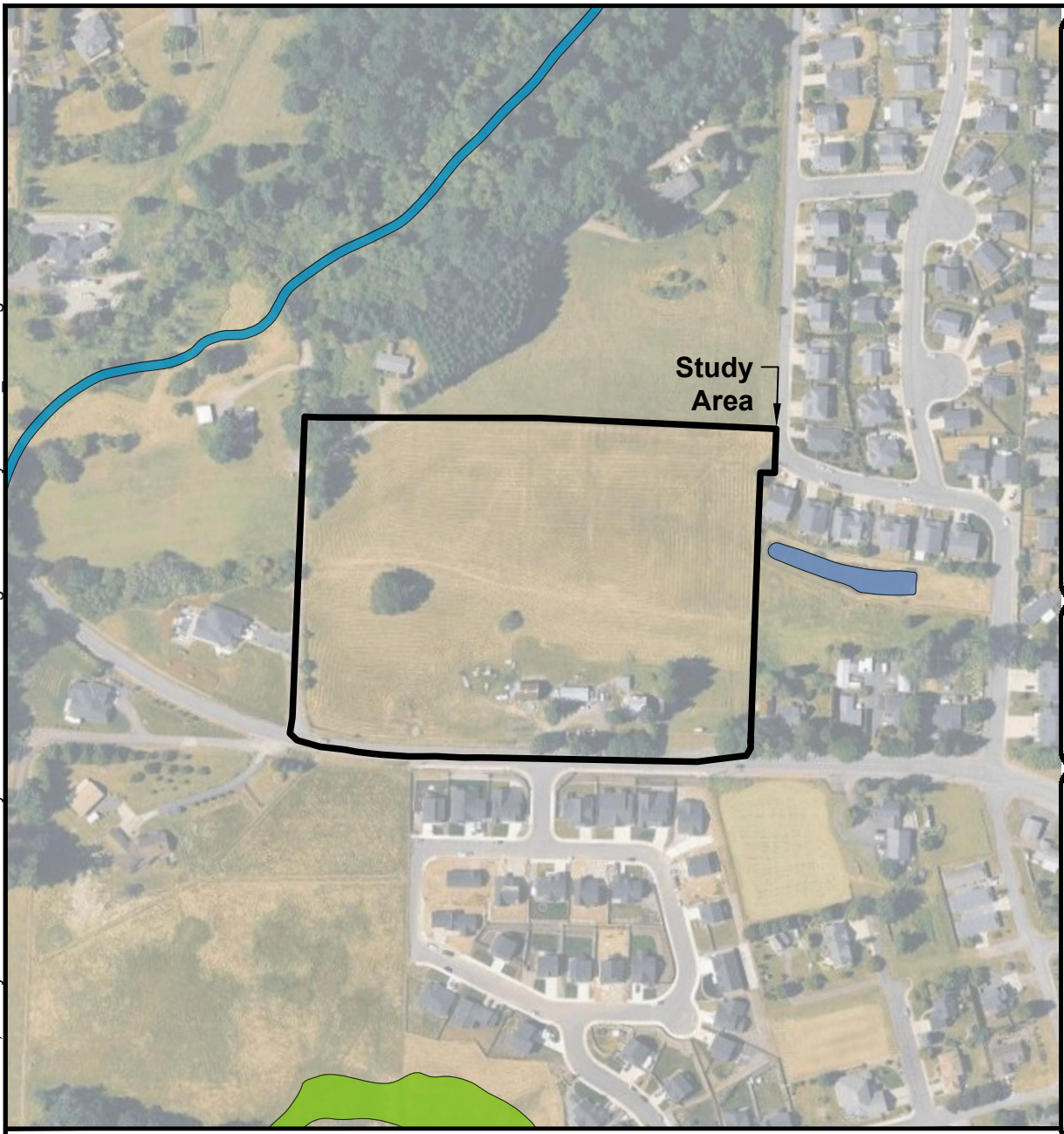

Figure 5
USFWS NATIONAL WETLANDS INVENTORY
La Center Property
Backcountry Development
City of La Center, Clark County, WA
Section 34, Township 5N, Range 1E, W.M.

DATE: 10/23/25
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No mapped wetlands indicated onsite by US Fish & Wildlife Service.

LEGEND:

- Study Area

Wetlands

- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

PEMC Palustrine, emergent, seasonally flooded.

PFOA Palustrine, forested, temporarily flooded.

NOTE(S):

1. Map provided on-line by US Fish & Wildlife Service at web address: *https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper*

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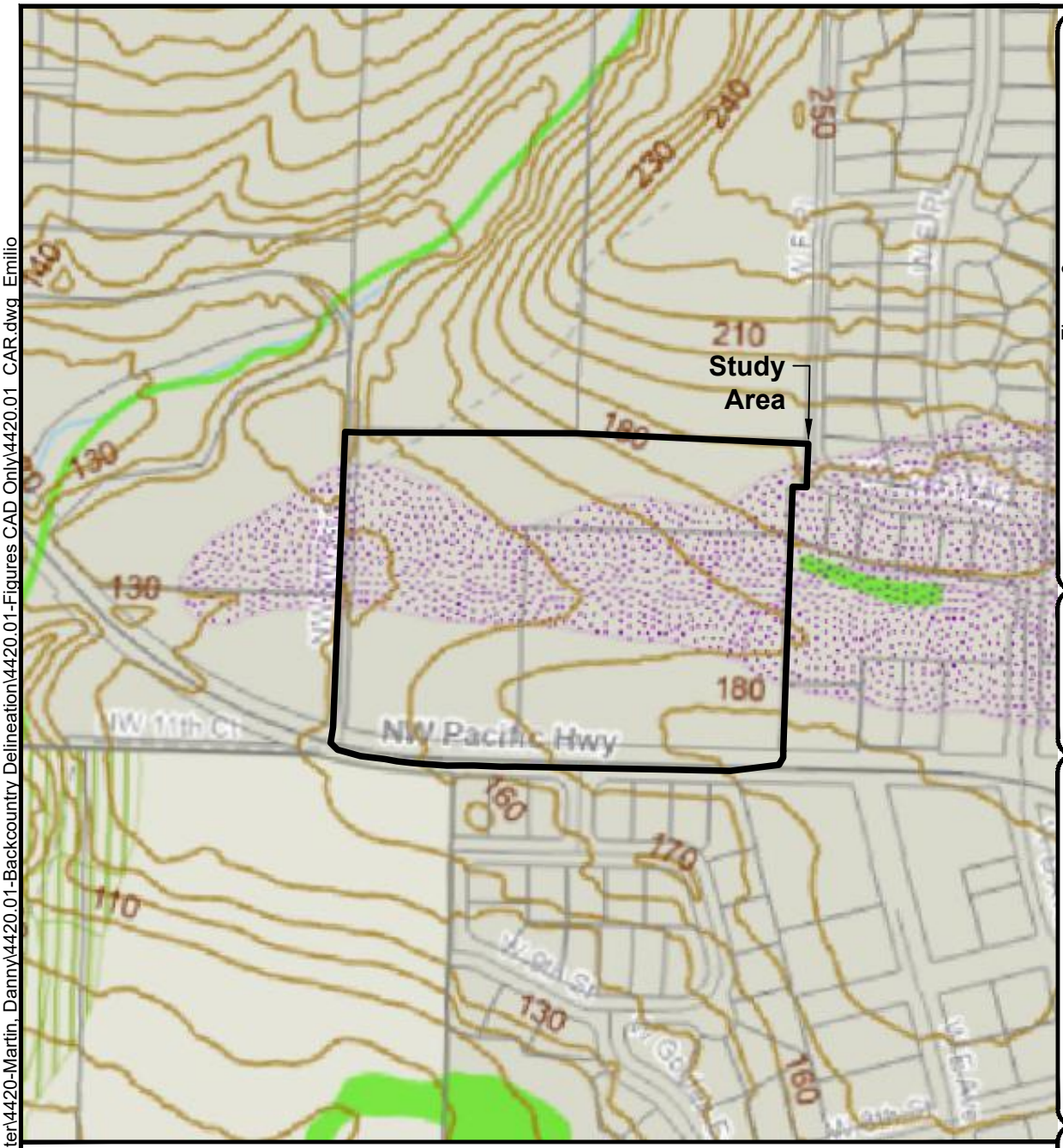

Figure 6
CLARK COUNTY CRITICAL AREAS
La Center Property
Backcountry Development
City of La Center, Clark County, WA
Section 34, Township 5N, Range 1E, W.M.

DATE: 10/23/25
DWN: EF
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LEGEND:

- Study Area

Environmental
Slopes and Geologic Hazards Group
Contour Lines
- Contour Lines - 10 ft

Soils and Wetlands Inventory
- Hydric Soils
- Potential Wetlands Presence

NOTE(S):
1. Map provided on-line by Clark County at web address: *https://gis.clark.wa.gov/mapsonline/index.cfm?site=Environmental*

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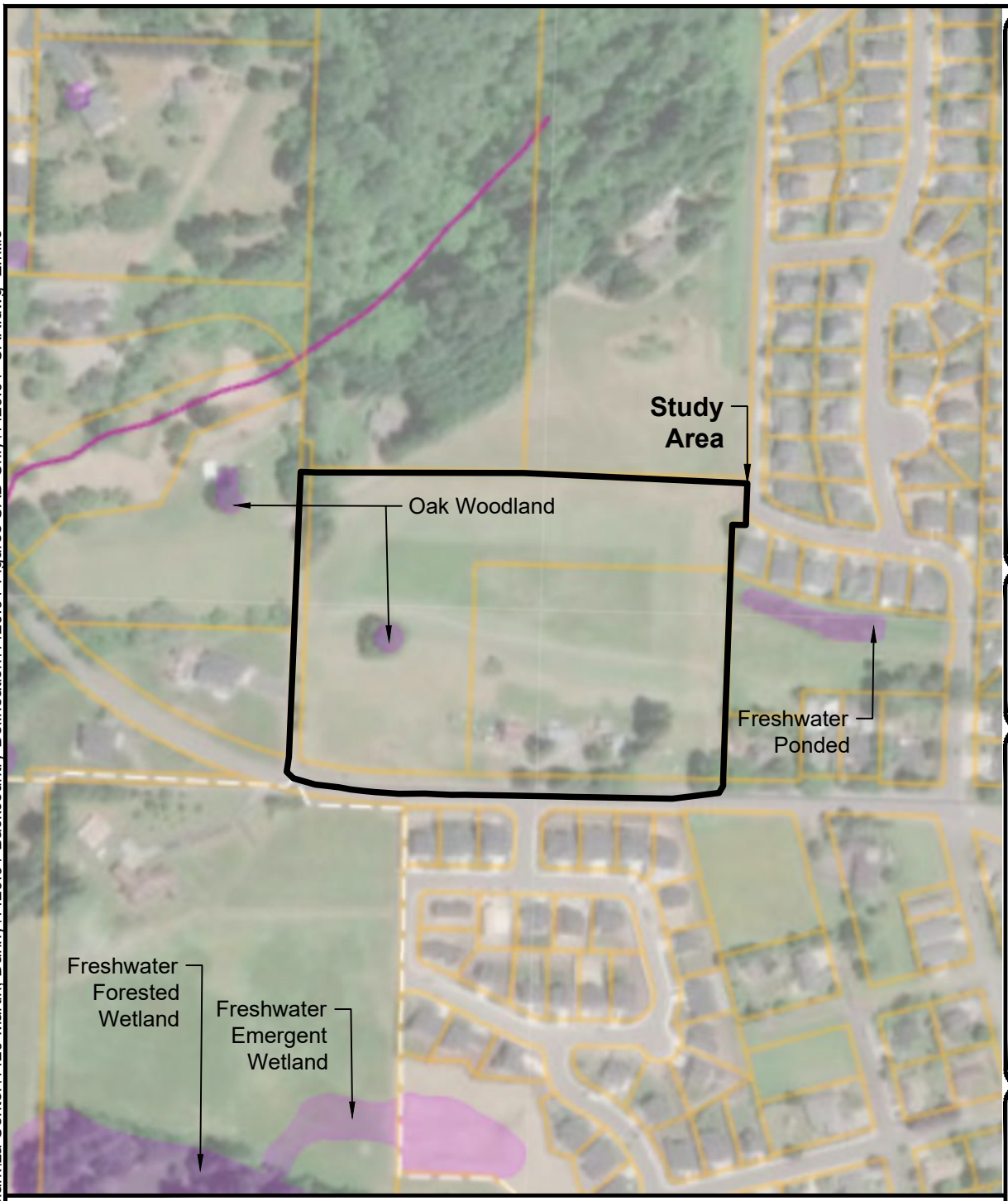

Figure 7
WDFW PRIORITY HABITATS AND SPECIES
La Center Property
Backcountry Development
City of La Center, Clark County, WA
Section 34, Township 5N, Range 1E, W.M.

DATE: 10/23/25
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LEGEND:

- Study Area
- Parcel Boundary
- Freshwater Pond
- Oak Woodland
- Freshwater Emergent Wetland
- Freshwater Forested Wetland
- Summer Steelhead - Occurrence/Migration
- Winter Steelhead - Occurrence/Migration
- Coho - Occurrence/Migration
- Rainbow Trout - Occurrence/Migration

By Township:
Big Brown Bat

NOTE: Map provided on-line by Washington State Department of Fish & Wildlife at web address: *http://apps.wdfw.wa.gov/phsontheweb/*

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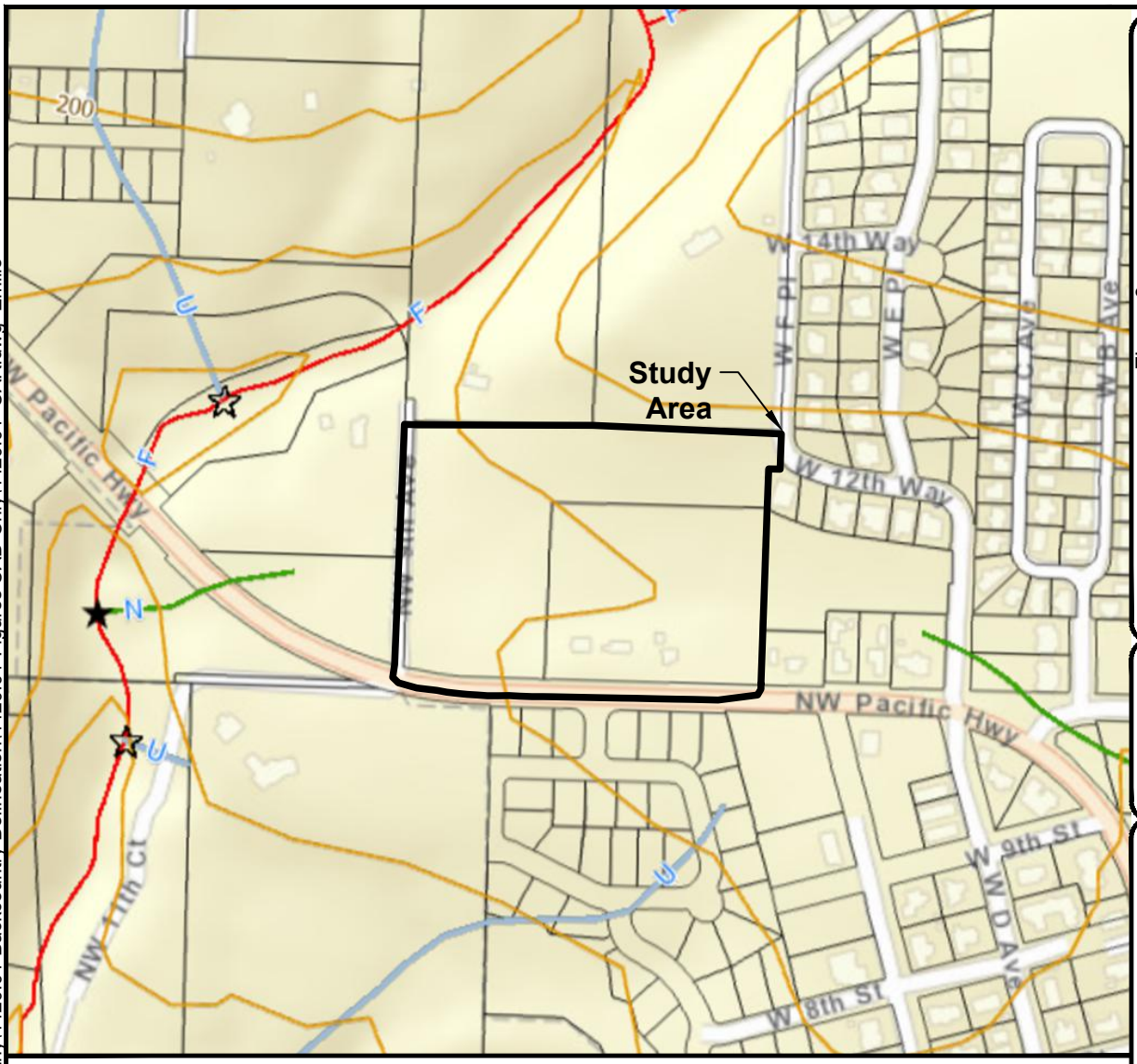

No mapped streams indicated onsite by the Washington State Department of Natural Resources (DNR).

LEGEND:

- Study Area

40-foot Contours

- 40 ft. Contours

Water Courses (FP)

- Type F
- Type N, Np, Ns
- U, unknown
- ★ Water Type Breaks (FP)

NOTE: Map provided on-line by Washington State Department of Natural Resources at web address: *http://fortress.wa.gov/dnr/app1/Fpars/viewer.htm*

Figure 8
WDNR STREAM TYPE MAP
La Center Property
Backcountry Development
City of La Center, Clark County, WA
Section 34, Township 5N, Range 1E, W.M.

DATE: 10/23/25
DWN: EF
REQ. BY: EV
PRJ. MGR: EF
CHK:
PROJECT NO: 4420.01

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Longview, WA 98632
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N W E S

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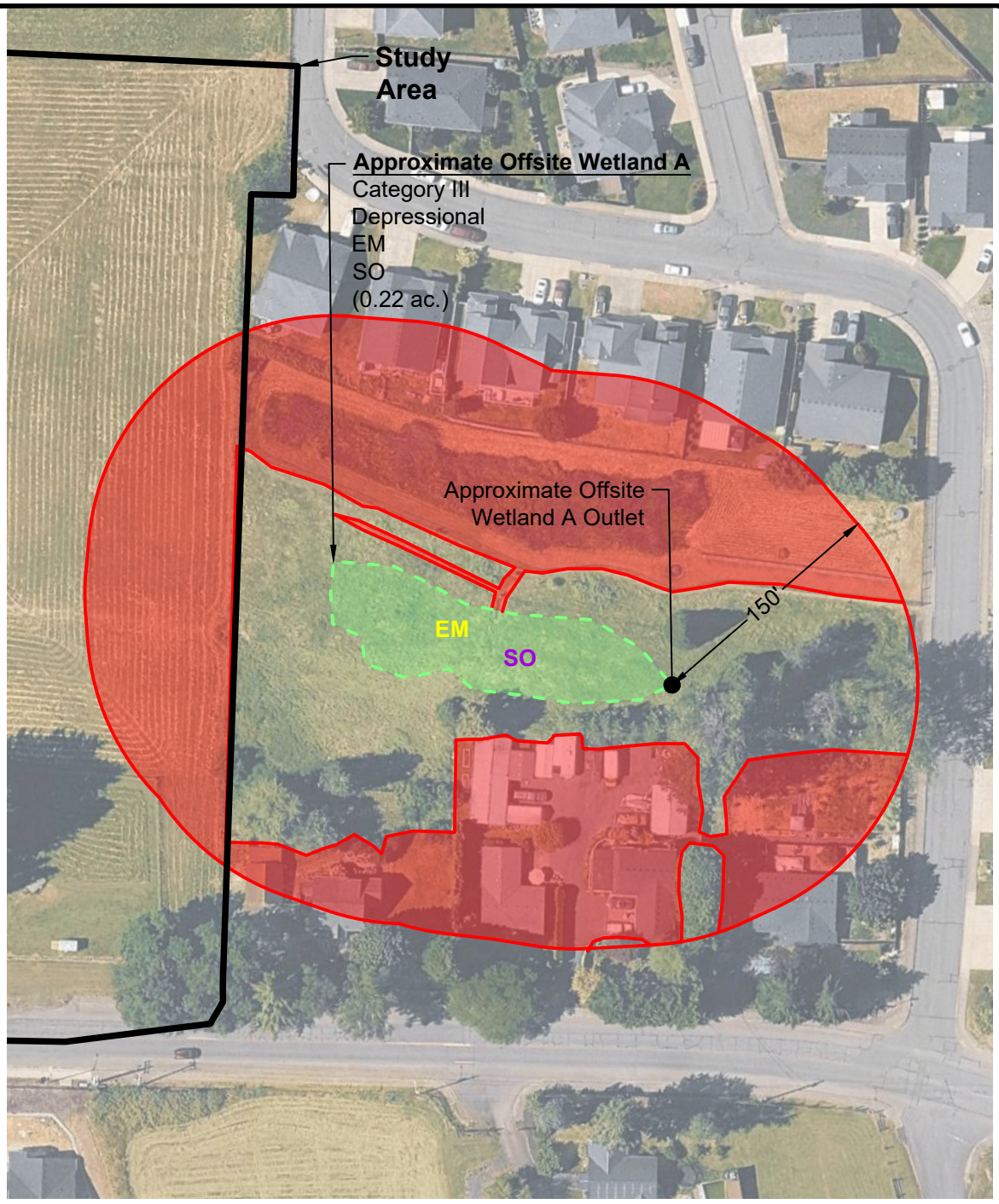

Figure 9
WETLAND RATING FORM-150' OFFSET
La Center Property
Backcountry Development
City of La Center, Clark County, WA
Section 34, Township 5N, Range 1E, W.M.

DATE: 10/23/25
DWN: EF
REQ. BY: EV
PRJ. MGR: EF
CHK:
PROJECT NO: 4420.01

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N W E S

LEGEND:

- Study Area
- Approx. Wetland Unit Boundary
- Vegetation Class Division
- Hydroperiod Division
- 150' Wetland Offset
- Pollutants/Runoff - 65.6%

Cowardin Classes:

EM Emergent (100.0%)

Hydroperiods:

SO Saturated only (100.0%)

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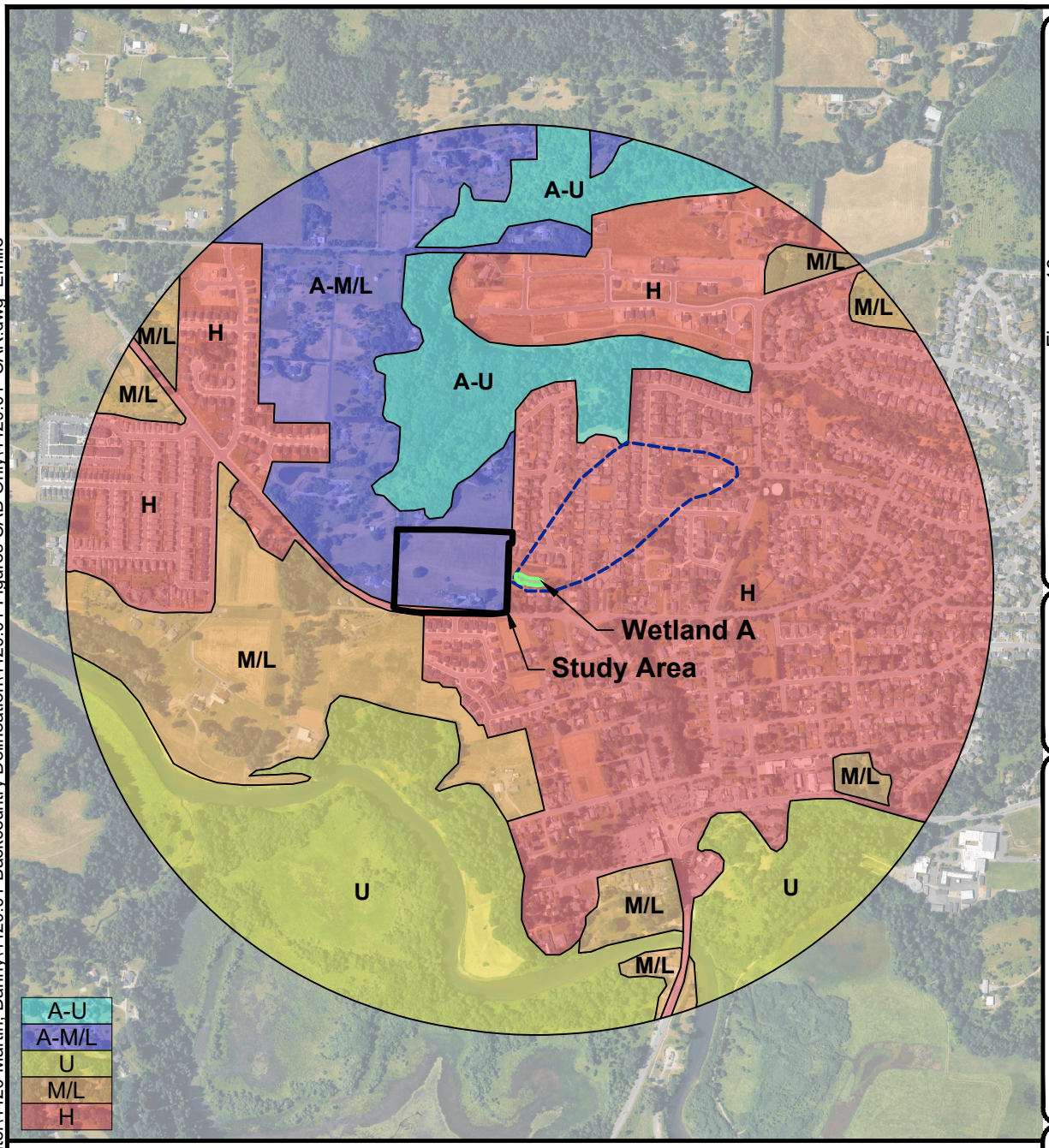

Figure 10
WETLAND RATING FORM-1 km OFFSET
La Center Property
Backcountry Development
City of La Center, Clark County, WA
Section 34, Township 5N, Range 1E, W.M.

DATE: 10/23/25
DWN: EF
REQ. BY: EV
PRJ. MGR: EF
CHK:
PROJECT NO: 4420.01

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1200
2400

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E
S

LEGEND:

- Site Boundary
- Wetland Unit Boundary
- Contributing Basin
  86.0x area of Wetland A

H2.1 Accessible Habitat

- A-U: A-U (7.7%)
- A-M/L: A-M/L (12.0%)

H2.2 Undisturbed Habitat

- U: U (19.2%)
- M/L: M/L (12.5%)

H2.3 Land Use Intensity

- H: H (48.6%)

H 2.1. Accessible Habitat Equation

% A-U habitat **7.7%** + [(% A-M/L intensity land uses)/2] **6.0%** = **13.7%**

H 2.2. Total Undisturbed Habitat Equation

% A-U + % U habitat **26.9%** + [(% A-M/L + % M/L land uses)/2] **12.3%** = **39.2%**

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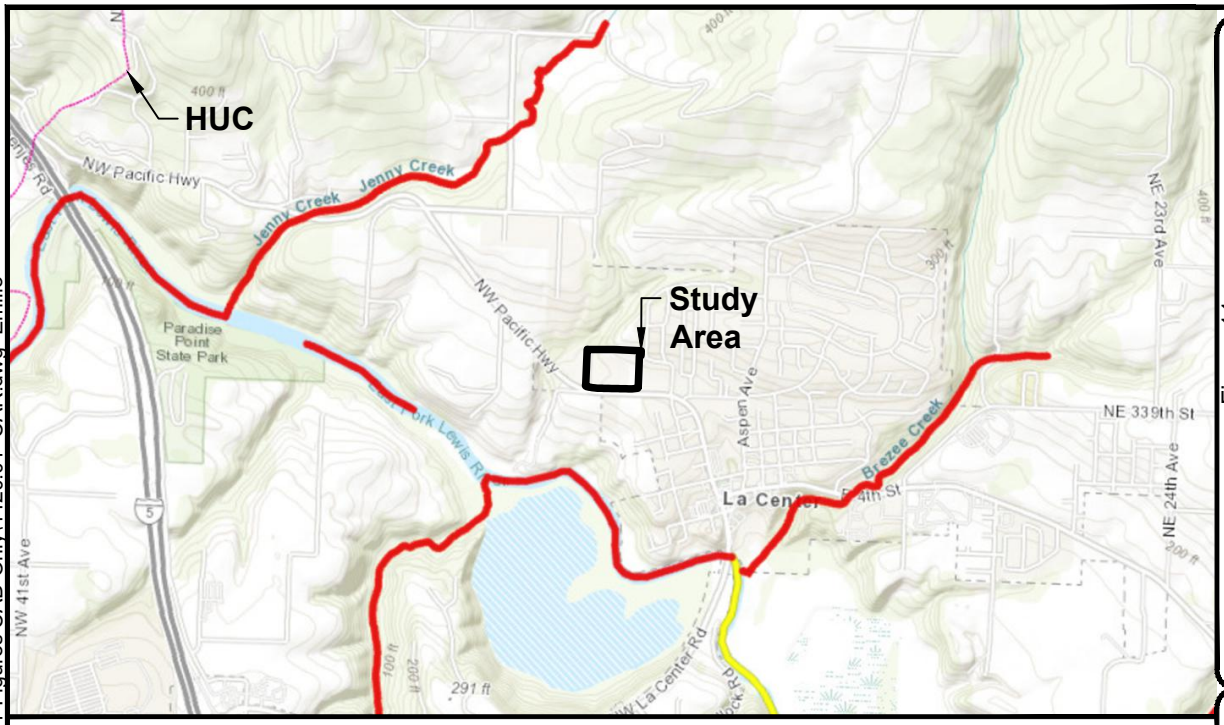

Figure 11
WETLAND RATING FORM-303(d) and TMDLs
La Center Property
Backcountry Development
City of La Center, Clark County, WA
Section 34, Township 5N, Range 1E, W.M.

DATE: 10/23/25
DWN: EF
REQ. BY: EV
PRJ. MGR: EF
CHK:
PROJECT NO: 4420.01

Assessed Waters/Sediment

Water	Sediment	Subbasins
Category 5 - 303d	Category 5 - 303d	12 Digit HUC Boundary
Category 4C	Category 4C	
Category 4B	Category 4B	
Category 4A	Category 4A	
Category 2	Category 2	
Category 1	Category 1	

NOTE(S):
Map provided on-line by Washington State Department of Ecology at web address: *https://fortress.wa.gov/ecy/waterqualityatlas/map.aspx?*

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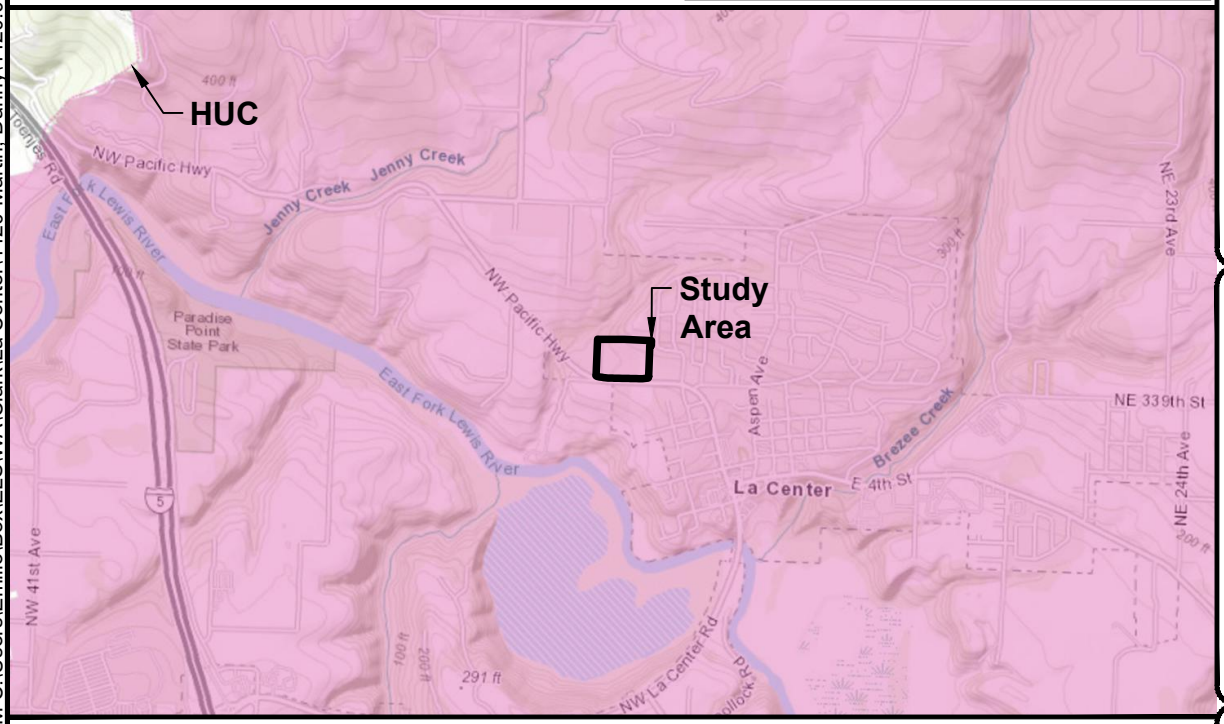

0 3000 6000
SCALE IN FEET

WQ Improvement Projects

TMDL - Approved	ARP - Approved	Subbasins
4B - Approved	TMDL - In Development	12 Digit HUC Boundary
STI - Approved	STI - In Development	
	ARP - In Development	

N
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Photo Point 1a. Facing west, showing uplands and one Oregon white oak (*Quercus garryana*) west of the existing house.

Photo Point 1b. Facing east, showing upland field and a single family home with a detached shop.

Photo Point 1c. Facing south, showing a detached shop and barn within uplands.

Photo Point 1d. Facing north, showing regularly hayed field north of a single-family residence.

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PRJ. MGR: EF
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Photoplate 1
Backcountry Development
Backcountry Delineation
La Center, Clark County, Washington
S34, T5N, R1E of the W.M.

Photo Point 2. Facing east, showing offsite portions of Wetland A and stormwater pond.

Photo Point 3a. Facing southwest, showing existing structures, uplands, and the onsite individual Oregon white oak (*Quercus garryana*).

Photo Point 3b. Facing west, showing downward sloping north to south across the study area.

Photo Point 3c. Facing north, showing northern portions of the study area sloping downward to the south.

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Photoplate 2
Backcountry Development
Backcountry Delineation
La Center, Clark County, Washington
S34, T5N, R1E of the W.M.

Photo Point 4a. Facing east, showing upland agricultural hay fields.

Photo Point 4b. Facing north, showing agricultural hay fields.

Photo Point 4c. Facing west, showing uplands.

Photo Point 4d. Facing south, showing an individual Oregon white oak (*Quercus garryana*) surrounded by agricultural hay fields.

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Photoplate 3
Backcountry Development
Backcountry Delineation
La Center, Clark County, Washington
S34, T5N, R1E of the W.M.

Photo Point 5a. Facing northeast, showing south to north downward sloping toward the middle of the study area.

Photo Point 5b. Facing west, showing south west corner of the study area and east to west downward sloping.

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DATE: 6/6/25
DWN: EV
PRJ. MGR: EF
PROJ.#: 4420.01

Photoplate 5
Backcountry Development
Backcountry Delineation
La Center, Clark County, Washington
S34, T5N, R1E of the W.M.

APPENDIX A

ROUTINE DETERMINATION METHOD AND PLANT INDICATOR RATING DEFINITIONS

Routine Determination Method

The Routine Determination Method is defined according to the U.S. Army Corps of Engineers' 1987 *Wetland Delineation Manual* and the *Regional Supplement to the Corps of Engineers' Wetland Delineation Manual* (Environmental Laboratory 1987)*; Western Mountains, Valleys, and Coast Region (Version 2.0)* (Corps 2010). The Routine Determination Method examines three parameters – vegetation, soils, and hydrology – to determine if wetlands exist in a given area. Hydrology is critical in determining what is a wetland, but if often difficult to assess because hydrologic conditions can change periodically (hourly, daily, or seasonally). Consequently, it is necessary to determine if hydrophytic vegetation and hydric soils are present, which would indicate that water is present for a long enough duration to support a wetland plant community. By definition, wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Vegetation Indicator Status

The indicator status, following the scientific names of plant species, indicates the likelihood of the species to be found in wetlands according to the *National Wetland Plant List Indicator Rating Definitions* (Corps 2012). Listed from most likely to least likely to be found in wetlands, the indicator status categories are:

- **OBL** (obligate wetland) - occur almost always under natural conditions in wetlands.
- **FACW** (facultative wetland) - usually occur in wetlands, but occasionally found in non-wetlands.
- **FAC** (facultative) - equally likely to occur in wetlands or non-wetlands.
- **FACU** (facultative upland) - usually occur in non-wetlands, but occasionally found in wetlands.
- **UPL** (obligate upland) - occur almost always under natural conditions in non-wetlands.
- **NI** (no indicator) - insufficient data to assign to an indicator category.

APPENDIX B

WETLAND DETERMINATION DATA FORMS

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

Project/Site: Backcounty Delineation City/County: La Center/Clark Sampling Date: 6/6/25
Applicant/Owner: Backcountry Development State: WA Sampling Point: TP-1
Investigator(s): Vaughn, E., Foden, F. Section, Township, Range: S34, T5N. R1E
Landform (hillslope, terrace, etc.): Terrace Local relief: (concave, convex, none): Convex Slope (%): 0-5%
Subregion (LRR): LRRA Lat: 45.8669023 Long: -122.6787409 Datum: NAD
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☐ No☒ (If no, explain 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 ☐	**Is the Sampled Area within a Wetland?** **Yes☐ No☒**
Hydric Soils Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	

Remarks: Test Plot 1 (TP-1) is located within parcel 258921000 within the central portion of the study area.TP-1 did not meet all three of the wetland indicators; therefore TP-1 is located in uplands. Hydrologic conditions within this test plot location were not normal for the time of year, as antecedent rainfall was determined to be drier than normal for the 3 months prior to the study area visit. Although hydrologic conditions were drier than normal, no Oxidized Rhizospheres along Living Roots (C3), a primary hydrology indicator, or any secondary hydrology indicators were present. This location was chosen for TP-1 as it is located in a lower elevation and looked suspicious on aerial imagery.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. **Agrostis* sp.	35%	yes	FAC
2. *Holcus lanatus*	35%	yes	FAC
3. *Plantago lanceolata*	15%	no	FACU
4. *Leucanthemum vulgare*	10%	no	FACU
5. *Vicia sativa*	3%	no	UPL
6. *Equisetum arvense*	2%	no	FAC
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

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

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

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 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☐**

Remarks: **Agrostis* sp. indicator status assumed facultative (FAC).

SOIL

Sampling Point: TP-1

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
0-14	10YR 4/2	98%	10YR 5/6	1%	C	M	Silt loam	
14-16	10YR 5/2	95%	10YR 5/6	2%	C	M	Silty clay loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[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.)

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (min. 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 ☒	Depth (Inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (Inches): _____
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches): _____

Wetland Hydrology Present? **Yes ☐ No ☒**

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

Remarks:

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

Project/Site: Backcounty Delineation City/County: La Center/Clark Sampling Date: 6/6/25
Applicant/Owner: Backcountry Development State: WA Sampling Point: TP-2
Investigator(s): Vaughn, E., Foden, F. Section, Township, Range: S34, T5N. R1E
Landform (hillslope, terrace, etc.): Terrace Local relief: (concave, convex, none): Convex Slope (%): 0-5%
Subregion (LRR): LRRA Lat: 45.8675614 Long: -122.6774386 Datum: NAD
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☐ No☒ (If no, explain 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 ☒	**Is the Sampled Area within a Wetland?** **Yes☐ No☒**
Hydric Soils Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	

Remarks: Test Plot 2 (TP-2) is located within parcel 258902000 within the northeastern portion of the study area.TP-2 did not meet all three of the wetland indicators; therefore TP-2 is located in uplands. Hydrologic conditions within this test plot location were not normal for the time of year, as antecedent rainfall was determined to be drier than normal for the 3 months prior to the study area visit. Although hydrologic conditions were drier than normal, no Oxidized Rhizospheres along Living Roots (C3), a primary hydrology indicator, or any secondary hydrology indicators were present. This location was chosen for TP-2 as it is located in a lower elevation and looked suspicious on aerial imagery.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1. *Prunus emarginata*	50%	yes	FACU
2. *Rubus laciniatus*	5%	no	FACU
3. *Rubus armeniacus*	3%	no	FAC
4.	%		
5.	%		
50% = 25 20% = 10	50%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. **Agrostis* sp.	45%	yes	FAC
2. *Plantago lanceolata*	30%	yes	FACU
3. **Poa* sp.	20%	no	FAC
4. *Alopecurus pratensis*	20%	no	FAC
5. *Leucanthemum vulgare*	15%	no	FACU
6. *Holcus lanatus*	15%	no	FAC
7. *Vicia sativa*	3%	no	UPL
8. *Hypochaeris radicata*	2%	no	FACU
9.	%		
10.	%		
11.	%		
50% = 75 20% = 30	150%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC 33 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 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☒**

Remarks:**Agrostis* sp. and **Poa* sp. indicator status assumed facultative (FAC).

SOIL

Sampling Point: TP-2

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
0-16	10YR 3/2	100%		%			Silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[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.)

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (min. 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 ☒	Depth (Inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (Inches): _____
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches): _____

Wetland Hydrology Present? **Yes ☐ No ☒**

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

Remarks:

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

Project/Site: Backcounty Delineation City/County: La Center/Clark Sampling Date: 6/6/25
Applicant/Owner: Backcountry Development State: WA Sampling Point: TP-3
Investigator(s): Vaughn, E., Foden, F. Section, Township, Range: S34, T5N. R1E
Landform (hillslope, terrace, etc.): Terrace Local relief: (concave, convex, none): Convex Slope (%): 3-8%
Subregion (LRR): LRRA Lat: 45.8676829 Long: -122.6786148 Datum: NAD
Soil Map Unit Name: Hillsboro silt loam, 3 to 8 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☐ No☒ (If no, explain 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 ☒	**Is the Sampled Area within a Wetland?** **Yes☐ No☒**
Hydric Soils Present?	Yes ☐	No ☒	
Wetland Hydrology Present?	Yes ☐	No ☒	

Remarks: Test Plot 3 (TP-3) is located within parcel 258921000 within the northern portion of the site. TP-3 did not meet any of the wetland indicators; therefore TP-3 is located in uplands. Hydrologic conditions within this test plot location were not normal for the time of year, as antecedent rainfall was determined to be drier than normal for the 3 months prior to the study area visit. Although hydrologic conditions were drier than normal, no Oxidized Rhizospheres along Living Roots (C3), a primary hydrology indicator, or any secondary hydrology indicators were present. This location was chosen for TP-3 as it is located in a lower elevation and looked suspicious on aerial imagery.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Leucanthemum vulgare*	30%	yes	FACU
2. **Agrostis* sp.	30%	yes	FAC
3. *Alopecurus pratensis*	15%	no	FAC
4. *Centaurea jacea*	5%	no	FACU
5. *Schedonorus arundinaceus*	5%	no	FAC
6. *Hypochaeris radicata*	5%	no	FACU
7. *Parentucellia viscosa*	5%	no	FAC
8. *Plantago lanceolata*	5%	no	FACU
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC 50 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 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☒**

Remarks: **Agrostis* species indicator status assumed facultative (FAC).

SOIL

Sampling Point: TP-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
0-16	10YR 3/2	100%		%			Silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[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.)

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (min. 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 ☒	Depth (Inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (Inches): _____
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches): _____

Wetland Hydrology Present? **Yes ☐ No ☒**

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

Remarks:

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

Project/Site: Backcounty Delineation City/County: La Center/Clark Sampling Date: 6/6/25
Applicant/Owner: Backcountry Development State: WA Sampling Point: TP-4
Investigator(s): Vaughn, E., Foden, F. Section, Township, Range: S34, T5N. R1E
Landform (hillslope, terrace, etc.): Terrace Local relief: (concave, convex, none): Convex Slope (%): 0-5%
Subregion (LRR): LRRA Lat: 45.8670305 Long: -122.6799477 Datum: NAD
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☐ No☒ (If no, explain 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 ☒	**Is the Sampled Area within a Wetland?** **Yes☐ No☒**
Hydric Soils Present?	Yes ☐	No ☒	
Wetland Hydrology Present?	Yes ☐	No ☒	

Remarks: Test Plot 4 (TP-4) is located within parcel 258921000 within the western portion of the study area. TP-4 did not meet any of the wetland indicators; therefore TP-4 is located in uplands. Hydrologic conditions within this test plot location were not normal for the time of year, as antecedent rainfall was determined to be drier than normal for the 3 months prior to the study area visit. Although hydrologic conditions were drier than normal, no Oxidized Rhizospheres along Living Roots (C3), a primary hydrology indicator, or any secondary hydrology indicators were present. This location was chosen for TP-4 as it is located in a lower elevation and looked suspicious on aerial imagery.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus garryana*	15%	yes	FACU
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Leucanthemum vulgare*	30%	yes	FACU
2. **Agrostis* sp.	20%	yes	FAC
3. *Lotus corniculatus*	10%	no	FAC
4. *Alopecurus pratensis*	10%	no	FAC
5. *Holcus lanatus*	10%	no	FAC
6. *Rumex crispus*	5%	no	FAC
7. *Plantago lanceolata*	5%	no	FACU
8. *Schedonorus arundinaceus*	5%	no	FAC
9. *Vicia sativa*	3%	no	UPL
10. *Hypochaeris radicata*	2%	no	FACU
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC 33 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 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☒**

Remarks: **Agrostis* species indicator status assumed facultative (FAC).

SOIL

Sampling Point: TP-4

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
0-16	10YR 3/2	98%	10YR 5/6	2%	C	M	Silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[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.)

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (min. 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 ☒	Depth (Inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (Inches): _____
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches): _____

Wetland Hydrology Present? **Yes ☐ No ☒**

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

Remarks:

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

Project/Site: Backcounty Delineation City/County: La Center/Clark Sampling Date: 6/6/25
Applicant/Owner: Backcountry Development State: WA Sampling Point: TP-5
Investigator(s): Vaughn, E., Foden, F. Section, Township, Range: S34, T5N. R1E
Landform (hillslope, terrace, etc.): Terrace Local relief: (concave, convex, none): Convex Slope (%): 0-5%
Subregion (LRR): LRRA Lat: 45.8662596 Long: -122.6804944 Datum: NAD
Soil Map Unit Name: Hillsboro silt loam, 0 to 3 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☐ No☒ (If no, explain 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 ☐	**Is the Sampled Area within a Wetland?** **Yes☐ No☒**
Hydric Soils Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	

Remarks: Test Plot 5 (TP-5) is located within parcel 258902000 within the southwestern portion of the study area. TP-5 did not meet all three of the wetland indicators; therefore TP-5 is located in uplands. Hydrologic conditions within this test plot location were not normal for the time of year, as antecedent rainfall was determined to be drier than normal for the 3 months prior to the study area visit. Although hydrologic conditions were drier than normal, no Oxidized Rhizospheres along living roots (C3), a primary hydrology indicator, or any secondary hydrology indicators were present. This location was chosen for TP-5 as it is located in a lower elevation and looked suspicious on aerial imagery.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Alopecurus pratensis*	43%	yes	FAC
2. *Schedonorus arundinaceus*	30%	yes	FAC
3. **Agrostis* sp.	10%	no	FAC
4. *Holcus lanatus*	5%	no	FAC
5. *Plantago lanceolata*	5%	no	FACU
6. *Leucanthemum vulgare*	5%	no	FACU
7. *Rumex acetosella*	2%	no	FACU
8.	%		
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

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

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

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 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☐**

Remarks: **Agrostis* species indicator status assumed facultative (FAC).

SOIL

Sampling Point: TP-5

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
0-16	10YR 3/2	100%		%			Silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[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.)

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (min. 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 ☒	Depth (Inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (Inches): _____
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches): _____

Wetland Hydrology Present? **Yes ☐ No ☒**

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

Remarks:

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

Project/Site: Backcounty Delineation | City/County: La Center/Clark | Sampling Date: 6/6/25
Applicant/Owner: Backcountry Development | State: WA | Sampling Point: TP-6
Investigator(s): Vaughn, E., Foden, F. | Section, Township, Range: S34, T5N, R1E
Landform (hillslope, terrace, etc.): Terrace | Local relief: (concave, convex, none): Convex | Slope (%): 0-5%
Subregion (LRR): LRRA | Lat: 45.8668028 | Long: -122.6775114 | Datum: NAD
Soil Map Unit Name: Cove silty clay loam, o to 3 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☐ No☒ (If no, explain 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 ☐	**Is the Sampled Area within a Wetland?** Yes☐ No☒
Hydric Soils Present?	Yes ☐	No ☒	
Wetland Hydrology Present?	Yes ☐	No ☒	

Remarks: Test Plot 6 (TP-6) is located within parcel 258921000 within the western portion of the study area. TP-6 did not meet all of the wetland indicators; therefore TP-6 is located in uplands. Hydrologic conditions within this test plot location were not normal for the time of year, as antecedent rainfall was determined to be drier than normal for the 3 months prior to the study area visit. Although hydrologic conditions were drier than normal, no Oxidized Rhizospheres along Living Roots (C3), a primary hydrology indicator, or any secondary hydrology indicators were present.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Holcus lanatus*	65%	yes	FAC
2. *Alopecurus pratensis*	20%	yes	FAC
3. *Plantago lanceolata*	5%	no	FACU
4. *Trifolium repens*	5%	no	FAC
5. *Equisetum arvense*	2%	no	FAC
6. *Leucanthemum vulgare*	2%	no	FACU
7. *Ranunculus repens*	1%		FAC
8.	%		
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

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

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

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 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☐

Remarks:

SOIL

Sampling Point: TP-1

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
0-6	10YR 3/3	99%	7.5YR 4/6	1%	C	M	Silt loam	
6-16	10YR 3/3	97%	7.5YR 4/6	3%	C	M	Silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[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.)

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (min. 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 ☒	Depth (Inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (Inches): _____
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches): _____

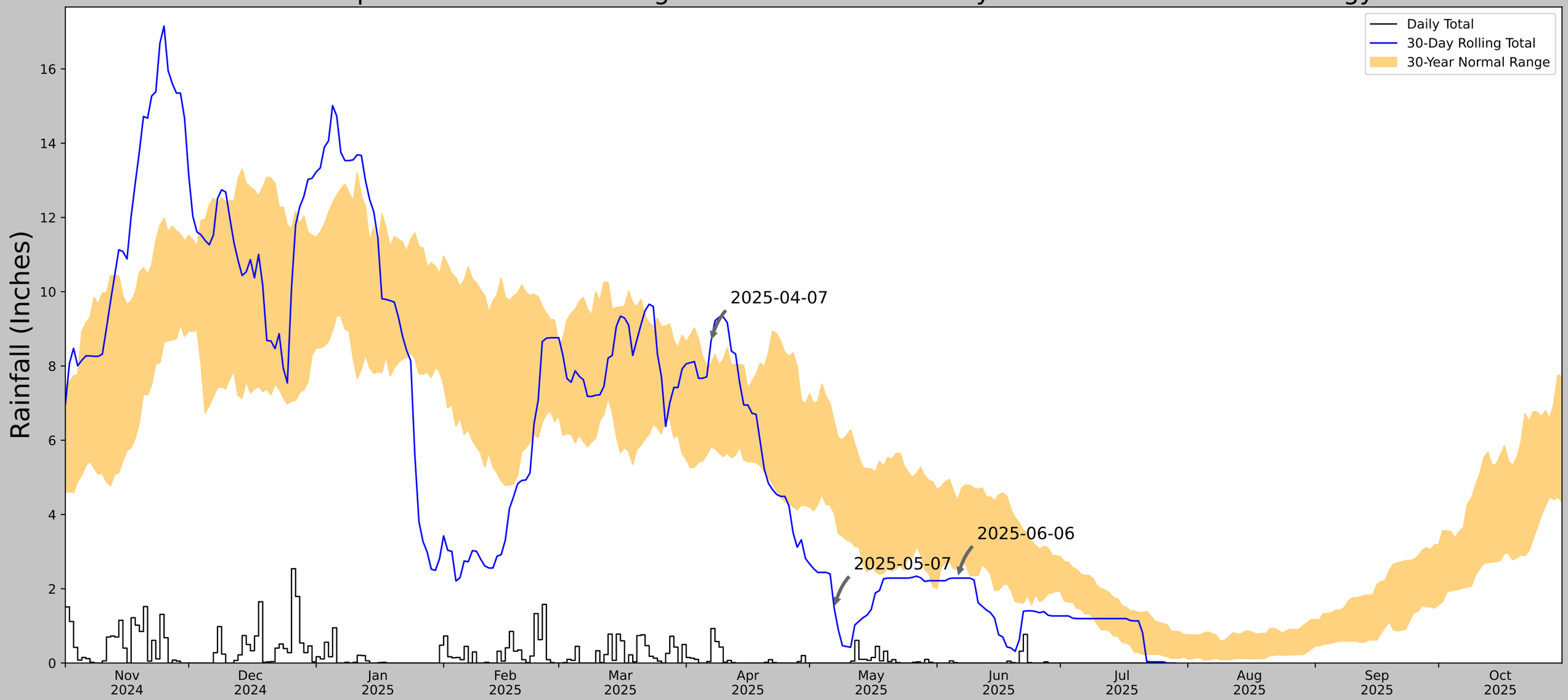
Wetland Hydrology Present? **Yes ☐ No ☒**

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

Remarks:

APPENDIX C

ANTECEDENT PRECIPITATION TOOL DATA



Coordinates	45.8669, -122.67874
Observation Date	2025-06-06
Elevation (ft)	161.089
Drought Index (PDSI)	Moderate drought
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-06-06	2.548425	4.367717	2.287402	Dry	1	3	3
2025-05-07	4.032284	6.493701	1.472441	Dry	1	2	2
2025-04-07	5.809843	8.044882	8.637796	Wet	3	1	3
Result							Drier than Normal - 8

Figures and tables made by the Antecedent Precipitation Tool Version 3.0

US Army Corps of Engineers.
ERDC

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
KALAMA FALLS HATCHERY	46.0158, -122.7325	235.892	10.607	74.803	5.567	10844	90
MERWIN DAM	45.955, -122.5625	224.081	9.179	11.811	4.239	475	0
SAINT HELENS RFD	45.8489, -122.8722	269.029	13.343	33.137	6.446	34	0

APPENDIX D

WETLAND RATING FORMS

Wetland name or number A_____

RATING SUMMARY – Western Washington

Name of wetland (or ID #): **Offsite Wetland A** Date of site visit: **6/6/25**

Rated by: **Elizabeth Vaughn** Trained by Ecology? **X** Yes _No Date of training: **5/2024**

HGM Class used for rating: Depressional Wetland has multiple HGM classes?___Y **X** N

NOTE: **Form is not complete without the required figures** (figures can be combined).
Source of base aerial photo/map **Google Earth**

OVERALL WETLAND CATEGORY III (based on functions **X** or special characteristics__)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 - 27

_____**Category II** – Total score = 20 - 22

X **Category III** – Total score = 16 - 19

_____**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			TOTAL
	Circle the appropriate ratings									
Site Potential	H	(M)	L	H	M	(L)	H	M	(L)	
Landscape Potential	H	(M)	L	(H)	M	L	H	(M)	L	
Value	(H)	M	L	(H)	M	L	H	M	(L)	
Score Based on Ratings	7			7			4			18

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	**I** **II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I** **II**
Interdunal	**I** **II** **III** **IV**
None of the above	(Not Applicable)

Wetland name or number 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	9
Hydroperiods	D 1.4, H 1.2	9
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	9
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	9
Map of the contributing basin	D 4.3, D 5.3	10
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total habitat	H 2.1, H 2.2, H 2.3	10
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	11
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	11

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

Wetland name or number A_____

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

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

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

NO – go to 2 **YES** – the wetland class is **Tidal Fringe** – go to 1.1

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

NO – Saltwater Tidal Fringe (Estuarine) **YES – Freshwater Tidal Fringe**

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe, it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

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

NO – go to 3 **YES** – The wetland class is **Flats**

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet all** of the following criteria?

___The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size,

___At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4 **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

____The wetland is on a slope (slope can be very gradual),

____The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheet flow, or in a swale without distinct banks,

____The water leaves the wetland **without being impounded**.

NO – go to 5 **YES –** The wetland class is **Slope**

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

Wetland name or number A_____

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

   NO – go to 6 **YES** – The wetland class is **Riverine**
   NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

   NO – go to 7 **YES** – The wetland class is **Depressional**

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

   NO – go to 8 **YES** – The wetland class is **Depressional**

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

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

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

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

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

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

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

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

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

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

Wetland name or number A_____

DEPRESSIONAL AND FLATS WETLANDS

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

D 4.0. Does the site have the potential to reduce flooding and erosion?

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

Rating of Site Potential If score is: ___**12-16 = H** ___**6-11 = M** **X**__**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 receive stormwater discharges? Yes = 1 No = 0	**1**
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	**1**
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	**1**
Total for D 5 Add the points in the boxes above	**3**

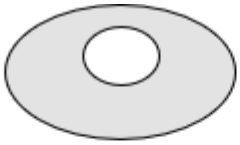
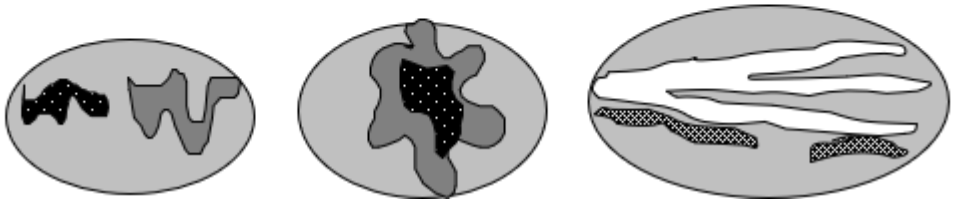
Rating of Landscape Potential If score is: **X**__**3 = H** __**1 or 2 = M** ___**0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?

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

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

Wetland name or number A_____

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac if the unit is at least 2.5 ac, or more than 10% of the unit if it is smaller than 2.5 ac. ____Aquatic bed — 4 structures or more: points = 4 __X__Emergent — 3 structures: points = 2 ____Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1 ____Forested (areas where trees have > 30% cover) — 1 structure: points = 0 *If the unit has a Forested class, check if:* ____The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/groundcover) that each cover 20% within the Forested polygon	**0**
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland if the unit is < 2.5 ac, or ¼ ac if the unit is at least 2.5 ac to count (see text for descriptions of hydroperiods). ____Permanently flooded or inundated — 4 or more types present: points = 3 ____Seasonally flooded or inundated — 3 types present: points = 2 ____Occasionally flooded or inundated — 2 types present: points = 1 __X__Saturated only — 1 type present: points = 0 ____Permanently flowing stream or river in, or adjacent to, the wetland ____Intermittently or seasonally flowing stream in, or adjacent to, the wetland ____**Lake Fringe wetland** — **2 points** ____**Freshwater tidal wetland** — **2 points**	**0**
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. **Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canada thistle** If you counted: > 19 species — points = 2 5 - 19 species — points = 1 < 5 species — points = 0	**1**
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high.  **None** = 0 points  **Low** = 1 point  **Moderate** = 2 points All three diagrams in this row are **High** = 3 points 	**0**

Wetland name or number A_____

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of points. ____Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft long). ____Standing snags (dbh > 4 in.) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extend at least 3.3 ft (1 m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ___Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed) ____At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 above for the list of strata and H 1.5 in the manual for the list of aggressive plant species)	**0**
Total for H 1 Add the points in the boxes above	**1**

Rating of Site Potential If score is: ___**15-18 = H** ____**7-14 = M** **X**__**0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat polygons accessible from the wetland. *Calculate:* % relatively undisturbed habitat **7.7%**+[(**12.0%** moderate and low intensity land uses)/2]=**6.0%** =**13.7%** Total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	**1**
H 2.2. Total habitat in 1 km Polygon around the wetland. *Calculate:* % relatively undisturbed habitat **26.9%**+[(**24.5%** moderate and low intensity land uses)/2]=**12.3%**= **39.2%** Total habitat > 50% of Polygon points = 3 Total habitat 10-50% and in 1-3 patches points = 2 Total habitat 10-50% and > 3 patches points = 1 Total habitat < 10% of 1 km Polygon points = 0	**1**
H 2.3. Land use intensity in 1 km Polygon: > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	**0**
Total for H 2 Add the points in the boxes above	**2**

Rating of Landscape Potential If score is: ___**4-6 = H** **X**__**1-3 = M** ____**< 1 = L** *Record the rating on the first page*

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

Rating of Value If score is: ___**2 = H** ____**1 = M**__**X**__**0 = L** *Record the rating on the first page*

Wetland name or number A_____

WDFW Priority Habitats

See complete descriptions of Priority Habitats listed by WDFW, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008 (current year, as revised). Priority Habitat and Species List.[133] This list was updated for consistency with guidance from WDFW.

This question is independent of the land use between the wetland unit and the Priority Habitat. All vegetated wetlands are by definition a Priority Habitat but are not included in this list because they are addressed by this rating system.

Count how many of the following Priority Habitats are within 330 ft (100 m) of the wetland unit:

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

— **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife. This habitat automatically counts if mapped on the PHS online map within 100m of the wetland. If not mapped, a determination can be made in the field.

— **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

— **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

— **Fresh Deepwater:** Lands permanently flooded with freshwater, including environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live. Substrate does not support emergent vegetation. Do not select if Instream habitat is also present, or if the entire Deepwater feature is included in the wetland unit being rated (such as a pond with a vegetated fringe).

— **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

— **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Do not select if Fresh Deepwater habitat is also present.

— **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore.

— **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in. (81 cm) diameter at breast height (dbh) or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in. (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

[133] http://wdfw.wa.gov/publications/00165/wdfw00165.pdf

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important. For single oaks or oak stands <0.4 ha in urban areas, WDFW's Management Recommendations for Oregon White Oak[134] provides more detail for determining if they are Priority Habitats
- **Riparian:** The area adjacent to freshwater aquatic systems with flowing or standing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in. (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in. (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie.

[134] https://wdfw.wa.gov/publications/00030/wdfw00030.pdf

Wetland name or number A_____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt Yes – Go to **SC 1.1** No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = **Category I** No – Go to **SC 1.2**	**Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. If non-native species are *Spartina*, see chapter 4.8 in the manual. — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = **Category I** No = **Category II**	**Cat. I** **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) 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?[135] Yes **= Category I** No – Go to **SC 2.2** SC 2.2. Does the wetland have a rare plant species, rare ecosystem (e.g., plant community), or high-quality common ecosystem that may qualify the site as a WHCV? Contact WNHP for resources to help determine the presence of these elements. Yes – Submit data to WA Natural Heritage Program for determination,[136] Go to **SC 2.3** No **= Not a WHCV** SC 2.3. Did WNHP review the site within 30 days and determine that it has a rare plant or ecosystem ~~that meets~~ their criteria? Yes **= Category I** No **= Not a WHCV**	**Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES, you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in. or more of the first 32 in. of the soil profile? Yes – Go to **SC 3.3** No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in. deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to **SC 3.3** No = **Not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = **Category I bog** No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in. deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = **Category I bog** No **= Not a bog**	**Cat. I**

[135] https://www.dnr.wa.gov/NHPdata

[136] https://www.dnr.wa.gov/Publications/amp_nh_sighting_form.pdf

Wetland name or number A_____

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as Priority Habitats? ***If you answer YES, you will still need to rate the wetland based on its functions.*** — **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in. (81 cm) or more. — **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in. (53 cm). Yes = **Category I** No = **Not a forested wetland for this section**	**Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* — The lagoon retains some of its surface water at low tide during spring tides Yes – Go to **SC 5.1** No = **Not a wetland in a coastal lagoon** SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species in H 1.5 in the manual). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) Yes = **Category I** No = **Category II**	**Cat. I** **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer YES, you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 and Ocean Shores Blvd SW, including lands west of E. Oceans Shores Blvd SW. Yes – Go to **SC 6.1** No = **Not an interdunal wetland for rating** SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = **Category I** No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = **Category II** No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = **Category III** No = **Category IV**	**Cat I** **Cat. II** **Cat. III** **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	**Not Applicable**