



October 13, 2022

Larry Bonafie  
3239 NW Hood Court  
Camas, WA 98607  
[larrybonife51@gmail.com](mailto:larrybonife51@gmail.com)  
(360) 513-8900

Re: Critical Areas findings at Oak Tree Station

Dear Larry,

At your request, Ecological Land Services, Inc. (ELS) prepared the following critical areas determination for Clark County parcel 176162000 (study area) located at NW Friberg-Strunk Street and NW Lake Road in Camas, Washington. The study area is 3.95 acres of the SE ¼ of Section 29, Township 2 North, and Range 3 East of the Willamette Meridian. ELS's findings are formatted in accordance with Camas Municipal Code (CMC) Chapter 16.53 "Wetlands" and Chapter 16.61 "Fish and Wildlife Habitat Conservation Areas", current through August 15, 2022.

#### Study Area Overview and Findings Summary

The study area is 3.95-acre field managed for hay production. It has been in agricultural management for approximately 67 years—at least since 1955, the oldest aerial image available to ELS. One Oregon white oak, approximately 100 years old, is in the middle of the study area. Adjacent land uses include a Clark Public Utility station to the north, NW Lake Rd to the south, unmanaged land to the east, and NW Friberg-Strunk St to the west. Land to the east was previously occupied by a single family residence, beginning sometime prior to 1955 until the early to mid-1990's. Around 1998, the residence was abandoned. Presently, land to the east is occupied by trees and shrubs.

#### Data Collection Methods

##### *Wetlands Determination*

ELS follows the U.S. Army Corps of Engineers (Corps) Routine Determination Method as it is described in the Wetland Delineation Manual (Environmental Laboratory 1987) and the Corps' Regional Supplement, Western Mountains, Valleys, and Coast Region, Version 2.0 (Corps 2010). For regulatory purposes under the Clean Water Act (Section 404), the Environmental Protection Agency (EPA) defines wetlands as "...those areas that are inundated or saturated by surface or ground water 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" (EPA 2014). According to the Corps, wetland hydrology is water table 12 inches below ground to 6.6 feet above ground, sustained for at least 14 consecutive days at least once every two years during the growing season. If an area meets the above-described "wetlands" conditions, those areas may be regulated as "Waters of the United States" by the

## Oak Tree Station Critical Areas Findings

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Corps, “Waters of the State” by the Washington Department of Ecology (Ecology), and/or as “Critical Areas” by the City of Camas.

ELS completed fieldwork on October 4, 2022, collecting vegetation, soils, and hydrology data from two test plots (TP) that together document existing conditions in the study area. ELS also gathered data from historic and current aerial imagery, federal GIS mapping databases, and Clark County GIS to develop historical context and further inform decisions about the presence or absence of wetlands. Using these methods, ELS located and delineated one wetland, identified in this report as Wetland A, in the northeastern part of the study area. ELS physically marked the wetland boundary and TP locations in the field using florescent pin flags and recorded the flag locations using an Arrow 100 GNSS Receiver paired with Amigo Cloud mobile GIS platform. The Arrow consistently provides 60cm accuracy or better; under ideal conditions, accuracy is approximately 3cm. GPS data collected during fieldwork is the base data overlaid onto the Google Earth image in Figure 2.

### Local, State, and Federal Databases

#### *The National Wetlands Inventory (NWI)*

NWI identifies one 0.62-acre freshwater forested/shrub wetland, classified as PSS1Ch, west of the study area (Figure 4). PSS1Ch describes a broad-leaved deciduous scrub shrub wetland seasonally flooded by a man-made impoundment (NWI 2022). In this case, the NWI-mapped wetland is a stormwater pond constructed in 2005 that serves development west of NW Friberg-Strunk St. NWI’s source data for the pond was photo interpretation of  $\leq 1$  meter digital, true color imagery from 2009. NWI mapping does not include wetlands in the study area or on lands immediately north, south, or east.

#### *Clark County GIS*

Clark County’s “Soils and Wetlands Inventory” identifies “Potential Wetlands Presence” west of the study area—in the same location and configuration as the NWI PSS1Ch wetland—and east of the study area in a scrub-shrub/forested riparian area surrounding a “Type F” stream (Figure 5). Clark County’s modeled wetlands are approximately 215 feet east of the study area boundary. Clark County does not map wetlands in the study area.

#### *Natural Resources Conservation Service (NRCS) soils maps*

NRCS maps Cove silty clay loam, thin solum, 0 to 3 percent slopes (CwA) in the northeast portion of the study area and Dollar loam 0 to 5 percent slopes (DoB) in for the remainder (Figure 4).

1. CwA is formed on flood plains. A typical profile includes silty clay loam from 0 to 14 inches, clay from 14 to 21 inches, and silt loam from 21 to 60 inches. It is poorly drained with 0 to 12 inches average depth to the water table during the winter and spring. CwA is a hydric soil (NRCS 2022).
2. DoB is formed on terraces from alluvium. A typical profile includes loam from 0 to 60 inches. It is a moderately well drained soil with 18 to 35 inches average depth to the water table during the winter and spring. DoB is not a hydric soil (NRCS 2022).

### ELS's Findings and Interpretations

#### *Soils*

ELS collected soil samples from two TP locations representative of wetland and upland conditions in the study area.

1. TP-1 was collected near the western edge of Wetland A and consisted of silty loam (10YR 4/2) with 2 percent oxidized roots (7.5YR 6/8) from 0 to 7 inches, and silt (10 YR 4/1) with 5 percent redox concentrations in the matrix, meeting the NRCS hydric soil indicator F3, "depleted matrix".
2. TP-2 was collected in the upland adjacent to Wetland A, about 15 feet west of TP-1. Soils consisted of silty loam (10YR 3/2) from 0 to 16 inches. Redox developed at about 12 inches, persisted to 16 inches, and occupied about 1 percent of the matrix. TP-2 did not meet a hydric soil indicator.

#### *Vegetation*

Vegetation consisted of closely mowed pasture grasses. There were no seed heads or flowers to positively identify grass species. For the purposes of wetland determination, ELS is considering grasses in the wetland and upland to be an even distribution of bluegrass (*Poa spp.*) and bent grass (*Agrostis spp.*). Both genera have the facultative indicator "FAC", meaning they are equally likely to be found in wetlands and uplands, and meet the indicator status for "hydrophytic vegetation" on the Corps wetland determination data form. *Poa* and *Agrostis* are common in wetland and upland pasture settings throughout southwest Washington.

In addition to grasses, one Oregon white oak is in the study area, slightly south and west from Wetland A. The oak canopy is approximately 3,200 square feet and its diameter at breast height (DBH) is greater than 20 inches.

#### *Hydrology*

ELS did not observe ground or surface water during fieldwork; however, TP-1 contained oxidized rhizospheres on living roots (C3), a primary hydrology indicator, and the area delineated as Wetland A is a slight geomorphic depression and has saturation visible in some historic aerial images. The wetland appears to be isolated from other surface waters, including wetlands, streams, and man-made features such as drainage ditches and swales. A "Type F" stream is about 350 feet east of the study area boundary and about 400 feet from Wetland A (Figure 2).

#### *Habitat*

Most of the study area is open field isolated from other habitats to the north, south, and west by existing development. Wetland A, located in the northeast portion of the study area, is Cat IV, emergent, and depressional. Accessible habitat to the east includes the vegetated riparian corridor for the "Type F" stream; while accessible, connectivity is disturbed by haying/mowing, a moderate intensity agricultural land use (Ecology 2014). Mowing/haying includes the entire 50-foot wetland buffer. The stream's designated riparian habitat buffer of 100 feet (CMC 16.61.40.D) is about 250 feet east of the proposed

## Oak Tree Station Critical Areas Findings

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project/study area boundary. When present, hydrology in Wetland A is primarily saturation. Frequent mowing/haying prevents the wetland from providing reproductive habitat for egg-laying amphibians. The nearby oak is considered “Priority Habitat” by Washington Department of Fish and Wildlife (WDFW).

Preliminary Jurisdictional Conclusions

Wetland A is exempt from City of Camas regulation per CMC 16.53.010.C.2. It is likely regulated by the Corps and Ecology as follows:

The Corps doesn’t exempt wetlands from Section 404 review, but they may not require mitigation for wetland fill that is less than 1/10 acre (4,356 sf). Wetland A meets this threshold, but the development application will need to go through the federal review process to determine their mitigation requirement or mitigation exemption. Ecology does not exempt wetlands or mitigation under Section 401. A Water Quality Certification will be required from Ecology to fill Wetland A.

Wetland A is not connected to other wetlands or streams and impacts to the wetland will not adversely affect the offsite “Type F” stream or its buffer. The nearby Oregon white oak is a protected priority habitat. Protection is recommended by WDFW and required by CMC 16.61.101.A.3.a. If the oak tree is impacted, mitigation in accordance with the general habitat conditions outlined in CMC 16.61.010 “Designation of fish and wildlife habitat conservation areas” will be necessary.

## Summary of regulated critical areas:

<i>Critical Area</i>	<i>Buffer Designation</i>
Wetland A, Cat IV	exempt
Oregon white oak	Dripline
“Type F” Stream (offsite)	100 feet

Avoidance, minimization, and mitigation for unavoidable impacts

Avoiding and/or minimizing impacts to the oak tree and Wetland A has been considered by the applicant and implemented in the development proposal. At this time, the proposal will avoid the oak tree and impact Wetland A. Impacts to the wetland will be addressed in a mitigation plan that will be submitted later in the review process.

ELS findings and conclusions are based on standard scientific methodology and best professional judgment; however, our findings and conclusions are preliminary until they have been approved in writing by the City of Camas and any other agencies with jurisdiction as determined by processes of permit review. ELS is not responsible for the impacts of any changes in environmental standards, practices, or regulations after the date of this report.



Oak Tree Station Critical Areas Findings

October 13, 2022

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Thank you for the opportunity to provide the above information. If you have any questions, please contact Francis Naglich or Andrew Allison by phone (360) 578-1371 or email [andrew@eco-land.com](mailto:andrew@eco-land.com) and [francis@eco-land.com](mailto:francis@eco-land.com).

Sincerely,

A handwritten signature in blue ink, appearing to read "Andrew R. Allison".

Andrew R. Allison  
Wetlands Scientist

Attachments:

Figures

Photos

Wetland Rating Form

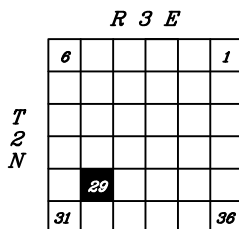
Corps Wetland Determination Data Forms



Latitude: 45.6221°

Longitude: -122.4649°

## LOCATION MAP


$$T_{2N}$$

## PROJECT VICINITY MAP



SCALE IN MILES

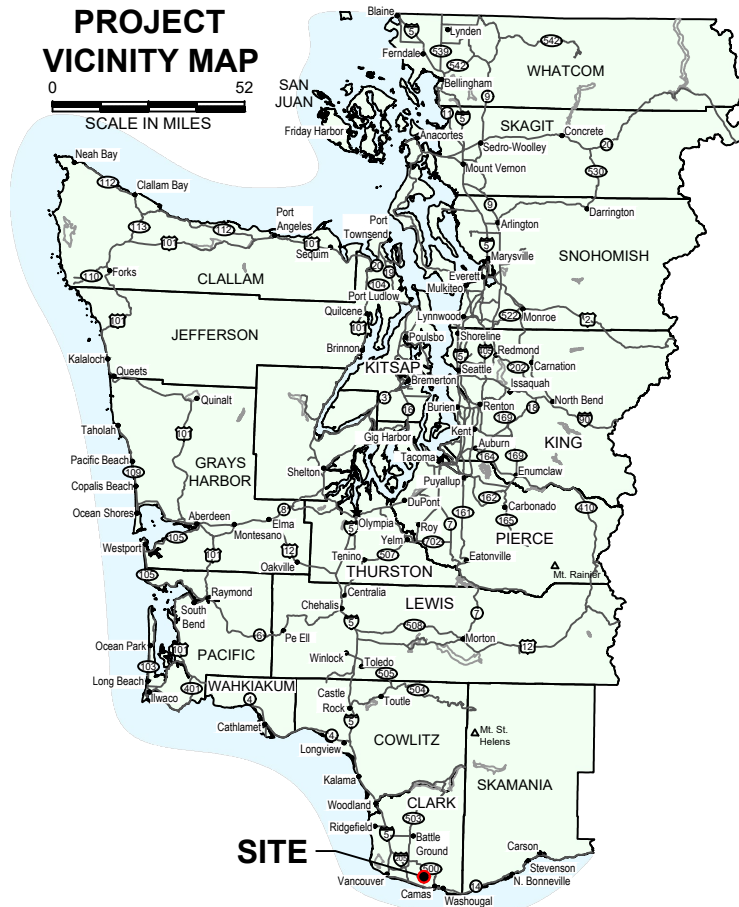
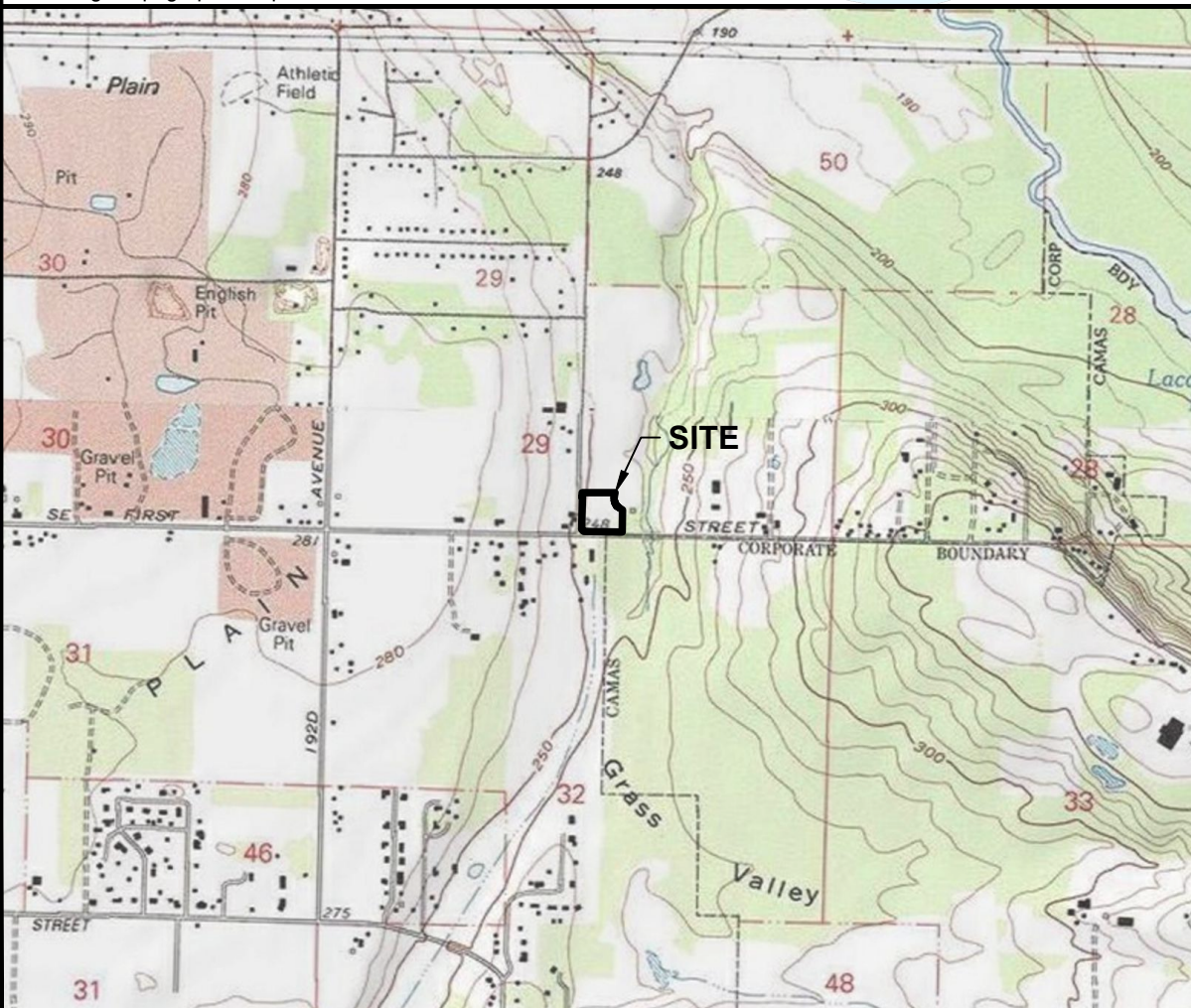


Figure 1  
VICINITY MAP  
Oak Tree Station  
Larry Bonife

City of Camas, Clark County, Washington  
Section 29, Township 2N, Range 3E, W.M.

**NOTE:**

Quadrangle topographic map from USGS.



DATE: 10/7/22

DWN: JLL

REQ. BY:  
DPI MCP.

PRJ. MGR: ARBA  
CHK:

CHK.  
PROJECT N

3818.01

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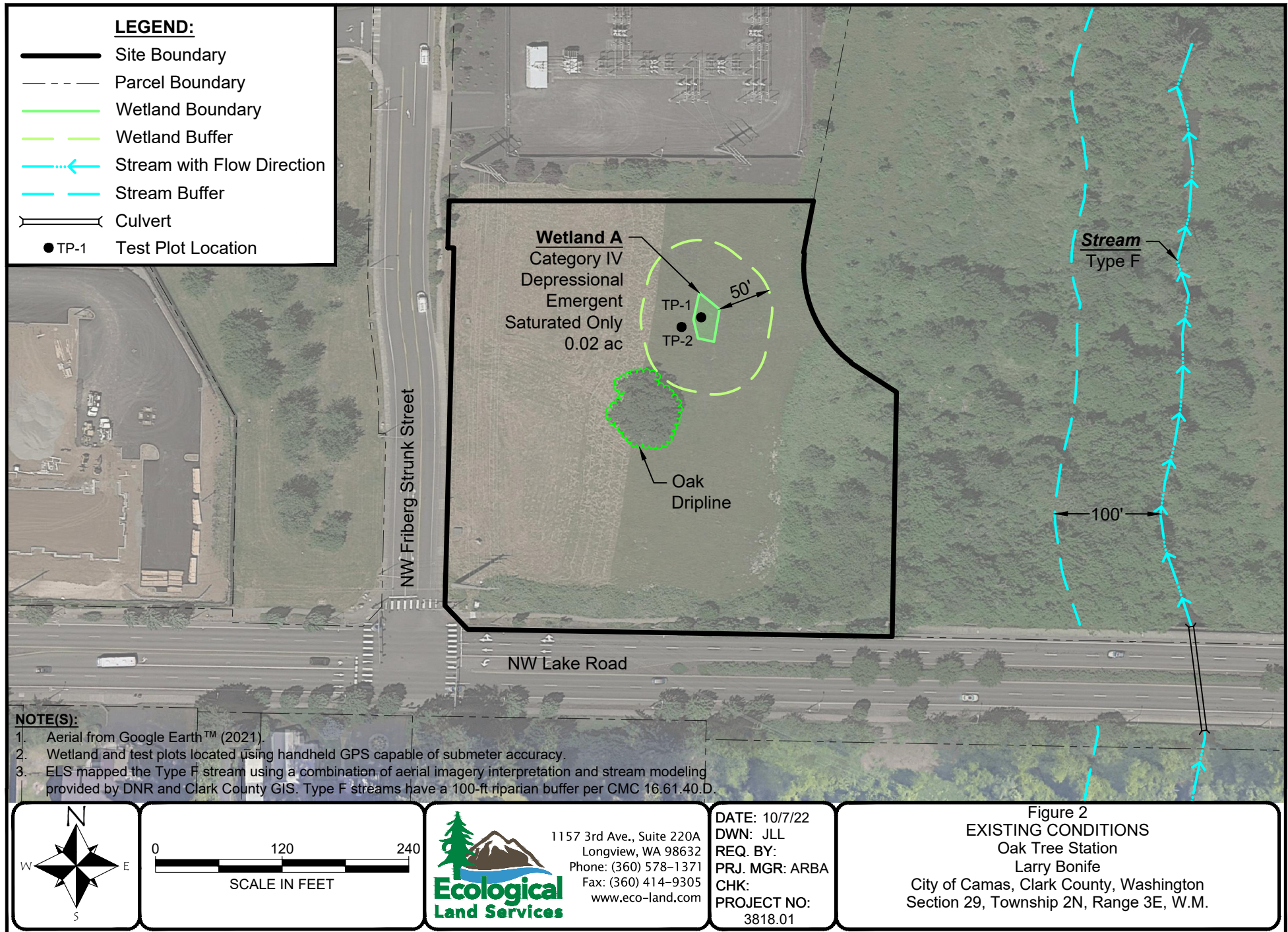


SCALE IN FEET

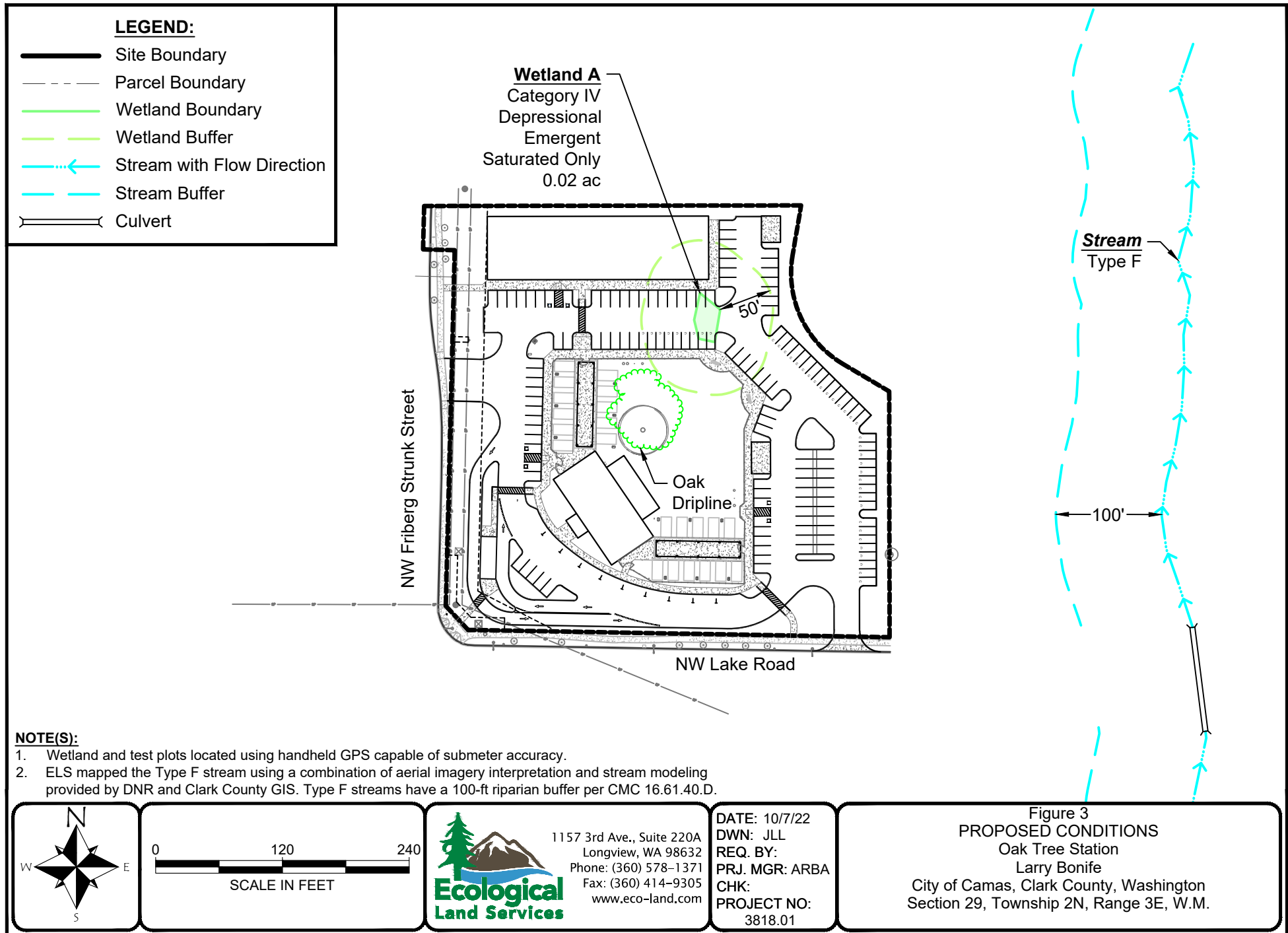




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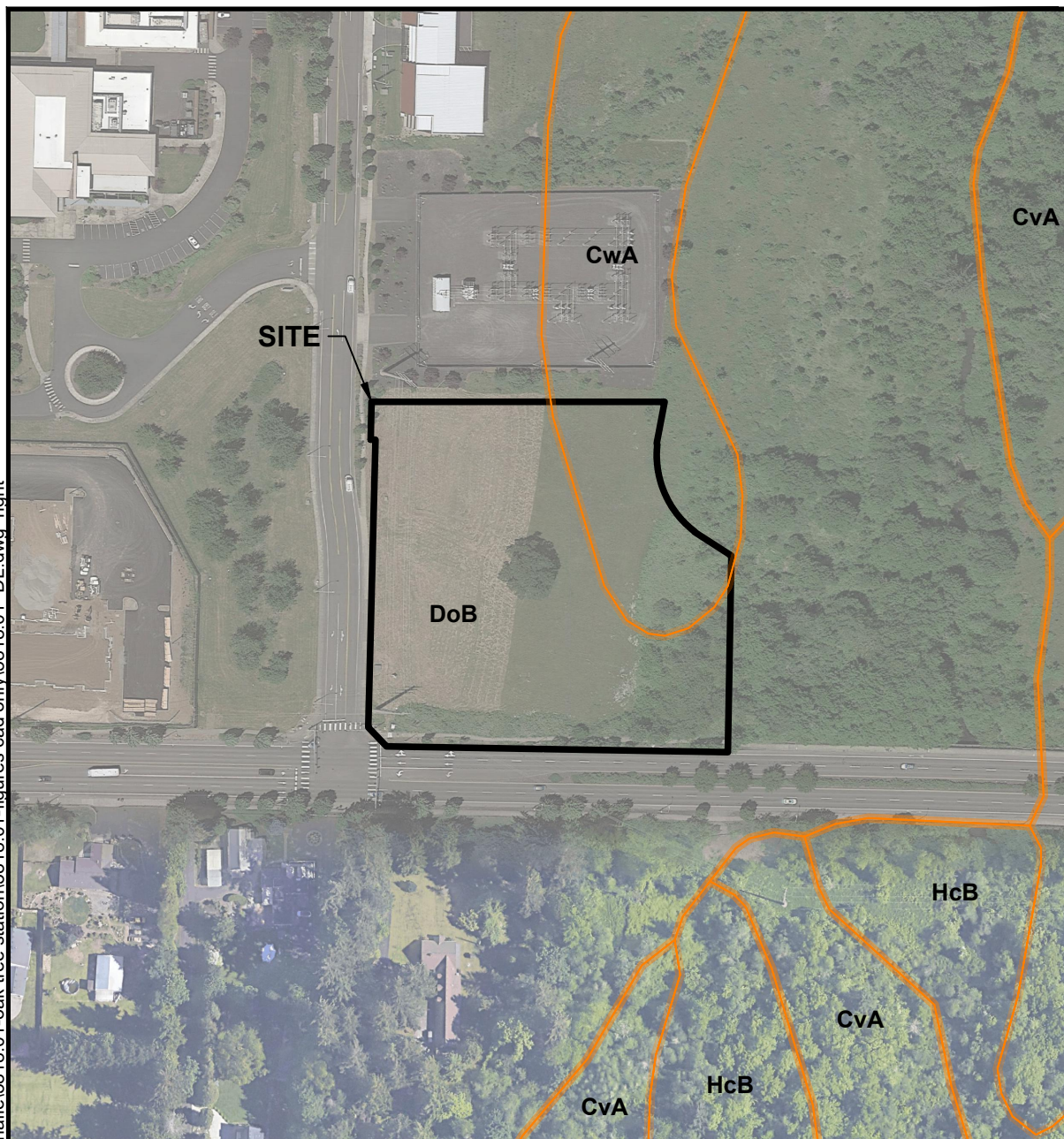


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### LEGEND:

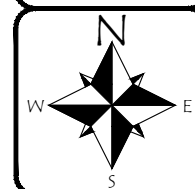
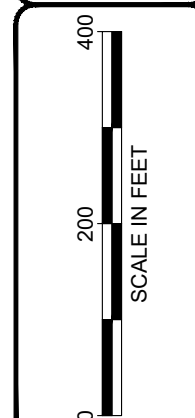
- Site Boundary
- NRCS Soil Boundary

**CwA** Cove silty clay loam, thin solum, 0 to 3 percent slopes. Hydric.

**DoB** Dollar loam, 0 to 5 percent slopes. Not hydric.

### NOTE(S):

1. Map provided on-line by NRCS at web address:  
<http://websoilsurvey.nrcs.usda.gov/app/>



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Figure 4  
NRCS SOIL SURVEY  
Oak Tree Station  
Larry Bonife  
City of Camas, Clark County, Washington  
Section 29, Township 2N, Range 3E, W.M.

CvA

CwA

SITE

DoB

HcB

CvA

HcB

CvA





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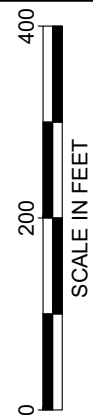
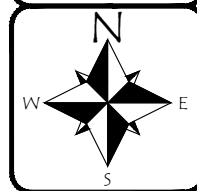
No mapped wetlands indicated onsite by US Fish & Wildlife Service.

**LEGEND:**

-  Site Boundary
- Wetlands**
-  Freshwater Forested/Shrub Wetland

**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>



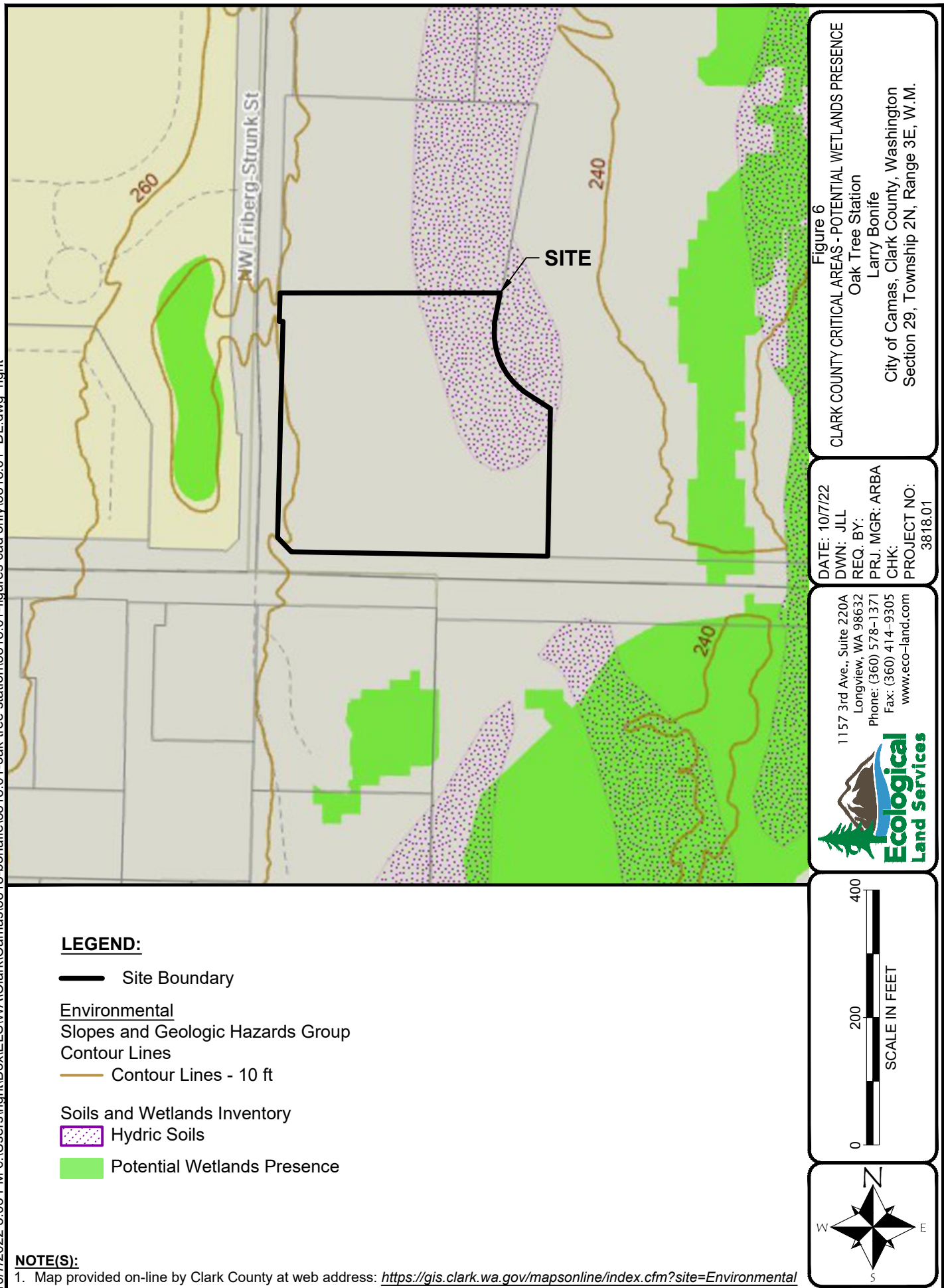
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**Figure 5**  
**USFWS NATIONAL WETLANDS INVENTORY**  
Oak Tree Station  
Larry Bonife  
City of Camas, Clark County, Washington  
Section 29, Township 2N, Range 3E, W.M.







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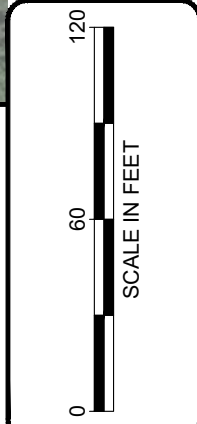
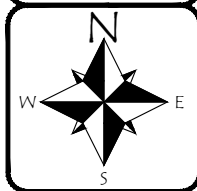


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**Wetland A**  
 Category IV  
 Depressional  
 Emergent  
 Saturated Only  
 0.02 ac

- LEGEND:**
-  Site Boundary
  -  Wetland Unit Boundary
  -  150' Wetland Offset
  -  Impervious/Pollutant Generating Surfaces - 77.3%



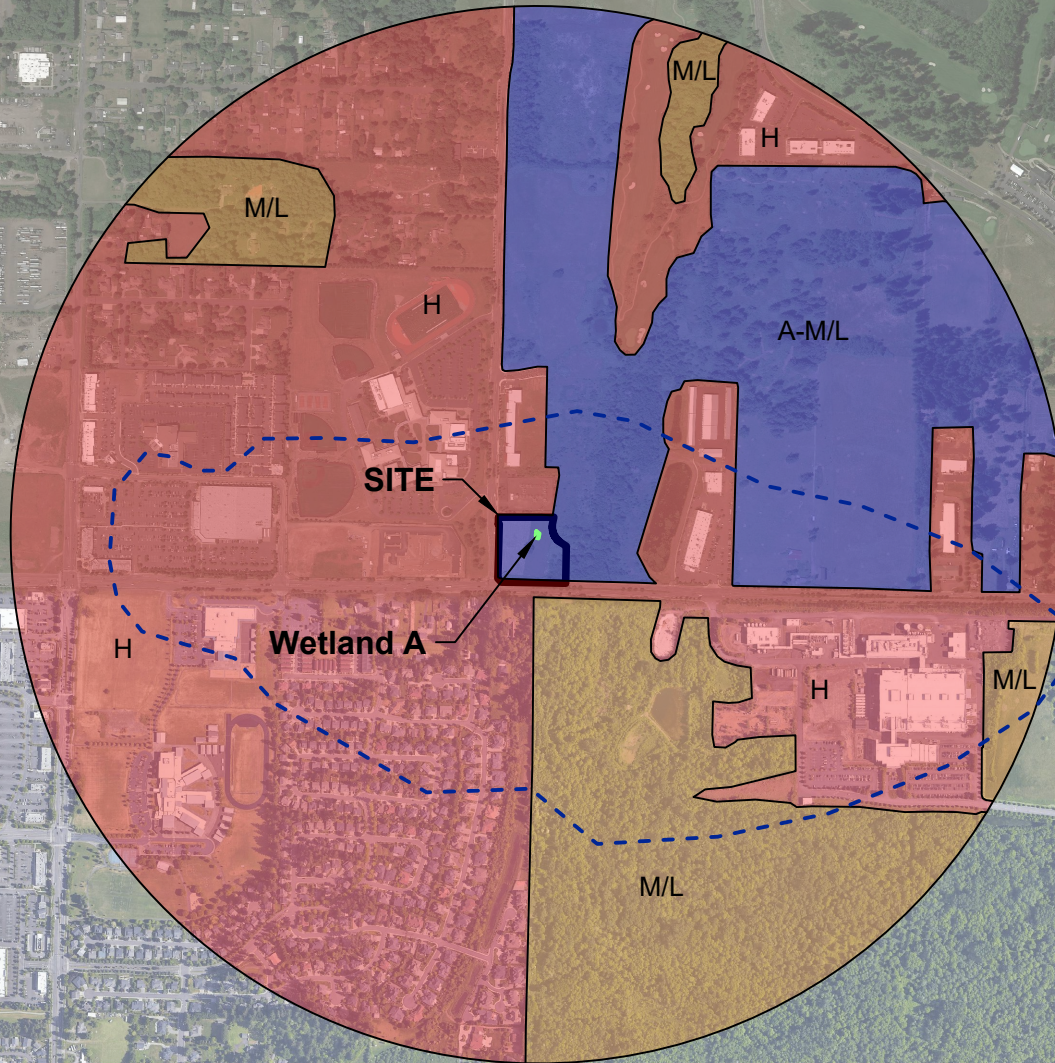
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**Figure 7**  
**WETLAND RATING FORM-150' OFFSET**  
 Oak Tree Station  
 Larry Bonife  
 City of Camas, Clark County, Washington  
 Section 29, Township 2N, Range 3E, W.M.



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**Figure 8**  
**WETLAND RATING FORM-1 km OFFSET**  
 Oak Tree Station  
 Larry Bonife  
 City of Camas, Clark County, Washington  
 Section 29, Township 2N, Range 3E, W.M.

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### LEGEND:

- Site Boundary
- Wetland Unit Boundary
- Contributing Basin  
14,000x area of Wetland A

### H2.1 Accessible Habitat

A-U	A-U (00.0%)
A-M/L	A-M/L (21.5%)

### H2.2 Undisturbed Habitat

U	U (00.0%)
M/L	M/L (17.8%)

### H2.3 Land Use Intensity

H	H (60.70%)
---	------------

### H 2.1. Accessible Habitat Equation

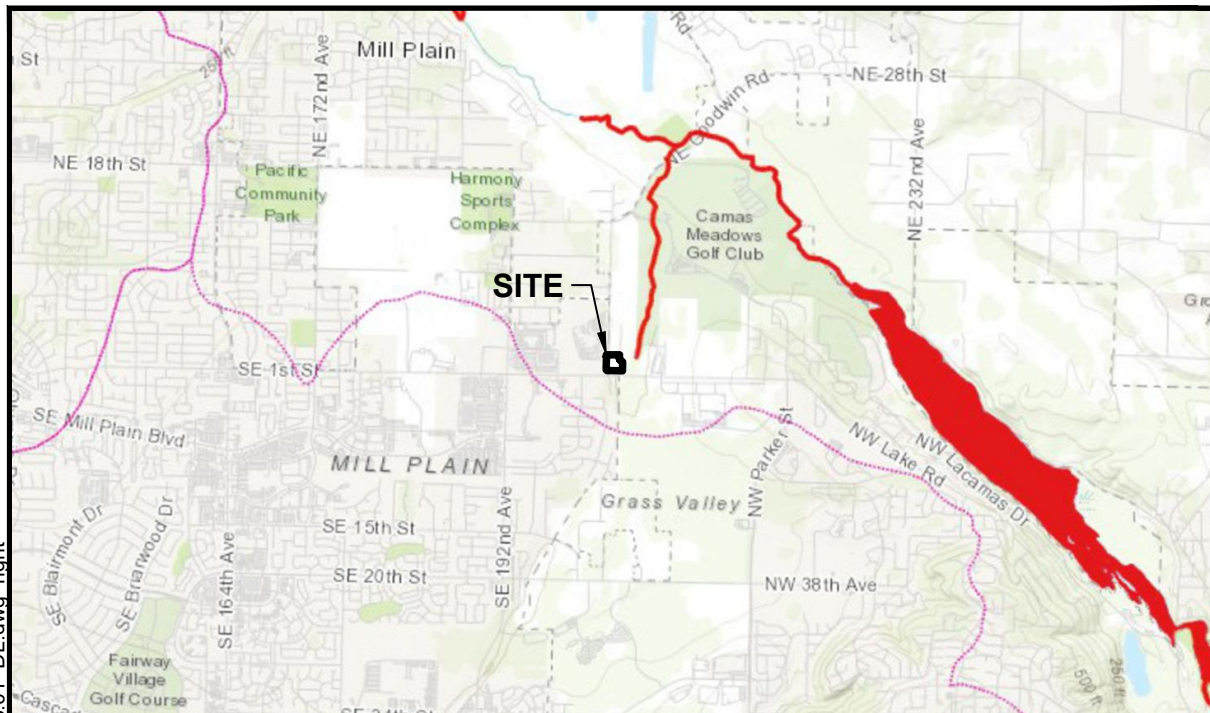
$$\% \text{ [A-U] habitat } 00.0\% + [(\% \text{ [A-M/L] intensity land uses})/2] \text{ } 10.8\% = 10.8\%$$

### H 2.2. Total Undisturbed Habitat Equation

$$\% \text{ [A-U] } + \% \text{ [U] habitat } 00.0\% + [(\% \text{ [A-M/L] } + \% \text{ [M/L] land uses})/2] \text{ } 19.7\% = 19.7\%$$



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### Assessed Waters/Sediment

#### Water

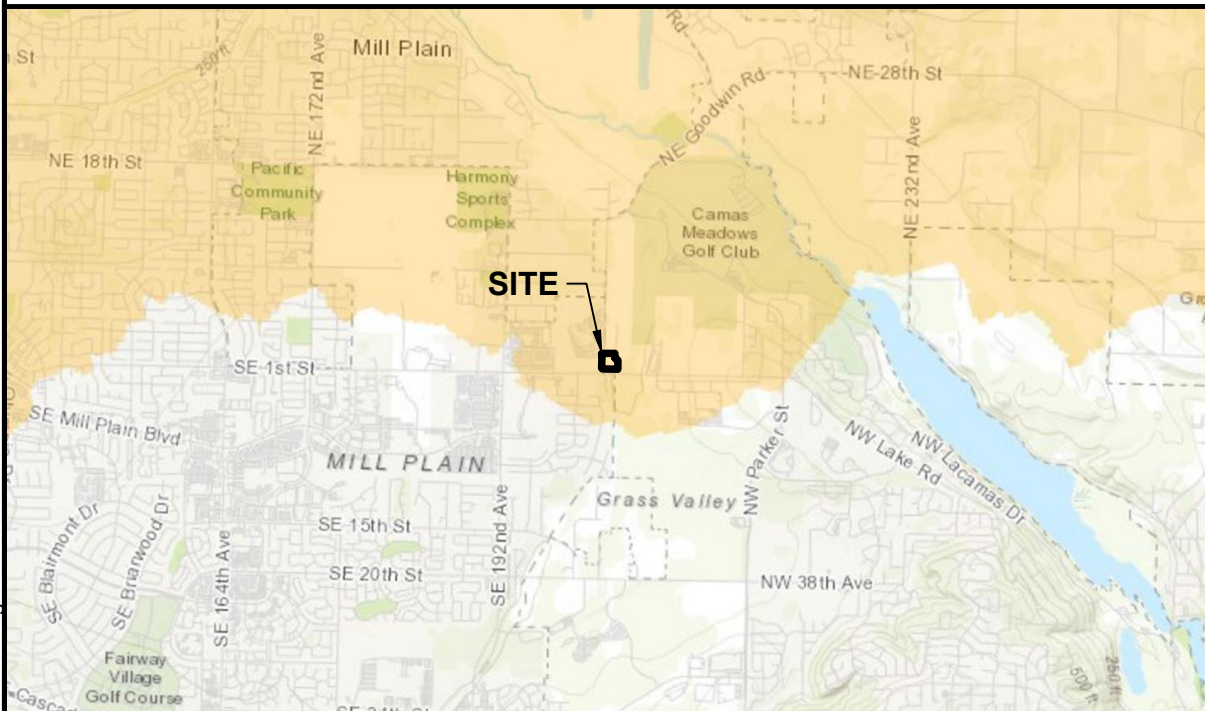
- Category 5 - 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

#### Sediment

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

#### Subbasins

- 12 Digit HUC Boundary



### WQ Improvement Projects

- Approved
- In Development

#### NOTE(S):

1. Map provided on-line by Washington State Department of Ecology at web address: <https://fortress.wa.gov/ecy/waterqualityatlas/map.aspx?>

Figure 9

WETLAND RATING FORM-303(d) and TMDLs

Oak Tree Station

Larry Bonife

City of Camas, Clark County, Washington  
Section 29, Township 2N, Range 3E, W.M.

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**Photo 1. Data collection in Wetland A.**



**Photo 2. Upland adjacent to Wetland A, east.**



**Photo 3. Adjacent development to the north.**



**Photo 4. Site overview facing south toward the Oregon white oak.**



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MGR: FN  
#: 3818.01

**Photoplate 1**  
**Site Photos**  
Oak Tree Station  
Critical Areas Findings  
City of Camas, Washington



Wetland name or number A

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 10-4-2022Rated by Andrew Allison Trained by Ecology? ☒ Yes ☐ No Date of training 4-2015HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N**NOTE: Form is not complete without the figures requested** (*figures can be combined*).Source of base aerial photo/map Google Earth**OVERALL WETLAND CATEGORY** IV (based on functions ☒ or special characteristics ☐)

### 1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
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	6			5			4			TOTAL
										15

**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
<u>None of the above</u>	n/a

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	7
Hydroperiods	D 1.4, H 1.2	7
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	n/a
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	7
Map of the contributing basin	D 4.3, D 5.3	8
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	8
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	9
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	9

### 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 ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

### Lake Fringe Wetlands

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

### Slope Wetlands

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

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 sheetflow, or in a swale without distinct banks,  
\_\_\_ The water leaves the wetland **without being impounded**.

☒ **NO** – go to 5

**YES** – The wetland class is **Slope**

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

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

- \_\_\_ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,  
\_\_\_ The overbank flooding occurs at least once every 2 years.

Wetland name or number A

**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  

<b>DEPRESSIONAL AND FLATS WETLANDS</b>		
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>		
<b>D 1.0. Does the site have the potential to improve water quality?</b>		
<b>D 1.1. Characteristics of surface water outflows from the wetland:</b> 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	3	
<b>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</b>	0	
<b>D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</b> 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	0	
<b>D 1.4. Characteristics of seasonal ponding or inundation:</b> <i>This is the area that is ponded for at least 2 months. See description in manual.</i> 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	
<b>Total for D 1</b>	Add the points in the boxes above	3

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

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
<b>D 2.1. Does the wetland unit receive stormwater discharges?</b>	Yes = 1 No = 0	0
<b>D 2.2. Is &gt; 10% of the area within 150 ft of the wetland in land uses that generate pollutants?</b>	Yes = 1 No = 0	1
<b>D 2.3. Are there septic systems within 250 ft of the wetland?</b>	Yes = 1 No = 0	0
<b>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?</b>		0
Source _____	Yes = 1 No = 0	
<b>Total for D 2</b>	Add the points in the boxes above	1

**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

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
<b>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?</b>	Yes = 1 No = 0	1
<b>D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?</b>	Yes = 1 No = 0	1
<b>D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?</b>	Yes = 2 No = 0	0
<b>Total for D 3</b>	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

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b> Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0		4
<b>D 4.2. Depth of storage during wet periods:</b> <i>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.</i> 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
<b>D 4.3. Contribution of the wetland to storage in the watershed:</b> <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i> The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5		0
Total for D 4		4

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

<b>D 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>		
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0		0
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		2

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

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.</b> The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): <ul style="list-style-type: none"> <li>Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2</li> <li>Surface flooding problems are in a sub-basin farther down-gradient. points = 1</li> </ul> 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. <i>Explain why</i> _____ points = 0  There are no problems with flooding downstream of the wetland. points = 0		1
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b> Yes = 2 No = 0		0
Total for D 6		1

**Rating of Value** If score is:   2-4   = H   X     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 or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- |   |                                  |   |
|---|----------------------------------|---|
| <input type="checkbox"/> Aquatic bed  | 4 structures or more: points = 4 | 0 |
| <input checked="" type="checkbox"/> Emergent  | 3 structures: points = 2         |   |
| <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover)  | 2 structures: points = 1         |   |
| <input type="checkbox"/> Forested (areas where trees have > 30% cover)  | 1 structure: points = 0          |   |
| <i>If the unit has a Forested class, check if:</i>  |                                  |   |
| <input type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon |                                  |   |

**H 1.2. Hydroperiods**

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

- |  |                                     |                 |
|--|-------------------------------------|-----------------|
| <input type="checkbox"/> Permanently flooded or inundated                                    | 4 or more types present: points = 3 | 0               |
| <input type="checkbox"/> Seasonally flooded or inundated                                     | 3 types present: points = 2         |                 |
| <input type="checkbox"/> Occasionally flooded or inundated                                   | 2 types present: points = 1         |                 |
| <input checked="" type="checkbox"/> Saturated only   | 1 type present: points = 0          |                 |
| <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland |                                     |                 |
| <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland           |                                     |                 |
| <input type="checkbox"/> <b>Lake Fringe wetland</b>  |                                     | <b>2 points</b> |
| <input type="checkbox"/> <b>Freshwater tidal wetland</b>                                     |                                     | <b>2 points</b> |

**H 1.3. Richness of plant species**

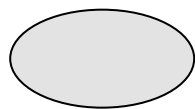
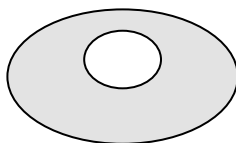
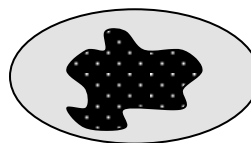
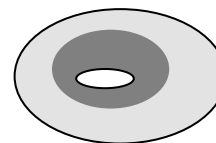
Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. **Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

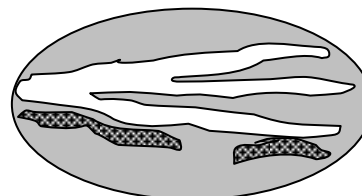
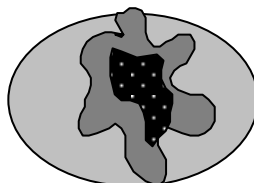
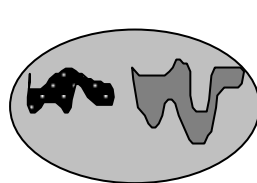
- |                              |            |   |
|------------------------------|------------|---|
| If you counted: > 19 species | points = 2 | 0 |
| 5 - 19 species               | points = 1 |   |
| < 5 species                  | points = 0 |   |

**H 1.4. Interspersion of habitats**

Decide from the diagrams below whether interspersions 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** = 3points



0

Wetland name or number A

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>	1
<p>Total for H 1</p> <p>Add the points in the boxes above</p>	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?	
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: % undisturbed habitat <u>      </u> + [(% moderate and low intensity land uses)/2] <u>      </u> = <u>10.8</u> %</p> <p>If total accessible habitat is:</p> <p>&gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p>20-33% of 1 km Polygon points = 2</p> <p>10-19% of 1 km Polygon points = 1</p> <p>&lt; 10% of 1 km Polygon points = 0</p>	1
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>      </u> + [(% moderate and low intensity land uses)/2] <u>      </u> = <u>19.7</u> %</p> <p>Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p>Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p>Undisturbed habitat 10-50% and &gt; 3 patches points = 1</p> <p>Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>	1
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>&gt; 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p>≤ 50% of 1 km Polygon is high intensity points = 0</p>	-2
<p>Total for H 2</p> <p>Add the points in the boxes above</p>	0

**Rating of Landscape Potential** If score is: 4-6 = H 1-3 = M X < 1 = L

Record the rating on the first page

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

**Rating of Value** If score is: 2 = H X 1 = M 0 = L

Record the rating on the first page

Wetland name or number   A  

## WDFW Priority Habitats

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

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

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

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

Wetland name or number   A  **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<p><i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i></p> <p><b>SC 1.0. Estuarine wetlands</b>            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 <b>SC 1.1</b>      No = <b>Not an estuarine wetland</b></p>	
<p>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 = <b>Category I</b>      No - Go to <b>SC 1.2</b></p>	<b>Cat. I</b>
<p>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 <i>Spartina</i>, see page 25)            — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.            — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.            Yes = <b>Category I</b>      No = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b>            SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?            Yes – Go to <b>SC 2.2</b>      No – Go to <b>SC 2.3</b>            SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?            Yes = <b>Category I</b>      No = <b>Not a WHCV</b>            SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?  <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>            Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b>      No = <b>Not a WHCV</b>            SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?            Yes = <b>Category I</b>      No = <b>Not a WHCV</b></p>	<b>Cat. I</b>
<p><b>SC 3.0. Bogs</b>            Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i>            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 <b>SC 3.3</b>      No – Go to <b>SC 3.2</b>            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 <b>SC 3.3</b>      No = <b>Is not a bog</b>            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 = <b>Is a Category I bog</b>      No – Go to <b>SC 3.4</b>  <b>NOTE:</b> 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 (&gt; 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 = <b>Is a Category I bog</b>      No = <b>Is not a bog</b></p>	<b>Cat. I</b>

Wetland name or number   A  

<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <ul style="list-style-type: none"> <li>— <b>Old-growth forests</b> (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.</li> <li>— <b>Mature forests</b> (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).</li> </ul> <p>Yes = <b>Category I</b>    <b>No = Not a forested wetland for this section</b></p>	<p><b>Cat. I</b></p>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> <li>— 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</li> <li>— The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</li> </ul> <p>Yes – Go to <b>SC 5.1</b>    <b>No = Not a wetland in a coastal lagoon</b></p> <p><b>SC 5.1. Does the wetland meet all of the following three conditions?</b></p> <ul style="list-style-type: none"> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>— The wetland is larger than <math>\frac{1}{10}</math> ac (4350 ft<sup>2</sup>)</li> </ul> <p>Yes = <b>Category I</b>    No = <b>Category II</b></p>	<p><b>Cat. I</b></p> <p><b>Cat. II</b></p>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <li>— Long Beach Peninsula: Lands west of SR 103</li> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul> <p>Yes – Go to <b>SC 6.1</b>    <b>No = not an interdunal wetland for rating</b></p> <p><b>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)?</b> Yes = <b>Category I</b>    No – Go to <b>SC 6.2</b></p> <p><b>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?</b> Yes = <b>Category II</b>    No – Go to <b>SC 6.3</b></p> <p><b>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?</b> Yes = <b>Category III</b>    No = <b>Category IV</b></p>	<p><b>Cat I</b></p> <p><b>Cat. II</b></p> <p><b>Cat. III</b></p> <p><b>Cat. IV</b></p>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p>n/a</p>

Wetland name or number A

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**SOIL**Sampling Point: TP-1

<b>Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)</b>								
Depth (inches)	Matrix	Redox Features				Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 4/2	98	7.5YR 6/8	2	C	PL	Loamy/Clayey	Prominent redox concentrations
7-16	10YR 4/1	95	7.5YR 6/8	5	C	M	Loamy/Clayey	Prominent redox concentrations

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) ( <b>LRR G</b> ) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (F21) <input type="checkbox"/> Very Shallow Dark Surface (F22) <input type="checkbox"/> Other (Explain in Remarks)  <div style="font-size: x-small;"> <sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         </div>
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<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>				<u>Secondary Indicators (2 or more required)</u>			
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> ) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)					

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present?      Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present?        Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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: Oak Tree Station City/County: Camas Sampling Date: 10-4-2022  
 Applicant/Owner: Larry Bonafie State: WA Sampling Point: TP-2  
 Investigator(s): Andrew Allison Section, Township, Range: SE ¼ of S29, T2N, R3E, W.M.  
 Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 0-3  
 Subregion (LRR): LRR A, MLRA 4A Lat: 45.6222758 Long: -122.46465 Datum: NAD83  
 Soil Map Unit Name: Dollar loam NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>      </u> Hydric Soil Present? Yes <u>      </u> No <u>X</u> Wetland Hydrology Present? Yes <u>      </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>      </u> No <u>X</u>
Remarks: Climatic conditions are drier than the 20-year average.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft. radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1.					<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2.					
3.					
4.					
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15 ft. radius</u> )				<b>Prevalence Index worksheet:</b>  Total % Cover of: <u>      </u> Multiply by: <u>      </u> OBL species <u>      </u> x 1 = <u>      </u> FACW species <u>      </u> x 2 = <u>      </u> FAC species <u>      </u> x 3 = <u>      </u> FACU species <u>      </u> x 4 = <u>      </u> UPL species <u>      </u> x 5 = <u>      </u> Column Totals: <u>      </u> (A) <u>      </u> (B) Prevalence Index = B/A = <u>      </u>
1.					
2.					
3.					
4.					
=Total Cover					<b>Hydrophytic Vegetation Indicators:</b> <u>      </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>      </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>      </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>      </u> 5 - Wetland Non-Vascular Plants <sup>1</sup> <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>Herb Stratum</u>	(Plot size: <u>5 ft. radius</u> )				
1. <u>Poa spp.</u>		<u>50</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Agrostis spp.</u>		<u>50</u>	<u>Yes</u>	<u>FAC</u>	
3.					
4.					
5.					
6.					
7.					
8.					
9.					
=Total Cover					
<u>Woody Vine Stratum</u>	(Plot size: <u>15 ft. radius</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>
1.					
2.					
=Total Cover					
% Bare Ground in Herb Stratum <u>      </u>					
Remarks:					

**SOIL**Sampling Point: TP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/2	100					Loamy/Clayey	
12-16	10YR 3/2	99	7.5YR 6/8	1	C	PL	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) ( <b>LRR G</b> )	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
Remarks:	

**HYDROLOGY**

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> )	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> )	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )	<input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			

<b>Field Observations:</b> Surface Water Present?    Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present?      Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present?        Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	